Phase Two Environmental Site Assessment

Millcroft Golf Club (Block E), 4274 Dundas Street,
Burlington, Ontario

Prepared For:

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Executive Summary

DS Consultants Ltd. (DS) was retained by Millcroft Greens Corporation to complete a Phase Two Environmental Site Assessment (ESA) of a portion of the Millcroft Golf Club, designated "Block E", located at 4274 Dundas Street in the City of Burlington, Ontario, herein referred to as the "Phase Two Property" or "Site". It is DS's understanding that this Phase Two ESA may be used to support the filing of a Record of Site Condition (RSC) as part of the proposed redevelopment of the Site which will consist of a condominium building with 130 units, with a combination of surface and underground parking.

It is the opinion of DS that the intended future property use (residential) constitutes a more sensitive property use than the existing commercial use, as defined under O.Reg. 153/04 (as amended). 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 Property is a 0.61-hectare (1.52 acres) parcel of land situated within a residential neighbourhood in the City of Burlington, Ontario. The property is approximately 140 m southwest of the intersection of Dundas St. and Millcroft Park Drive and was developed with a one (1) storey rectangular structure made of concrete block and bricks with vertical siding exterior walls (Building A) which was used for maintenance and storage of lawn mowers and golf carts.

The Phase One ESA completed in January 2020 indicated that the Phase Two Property was first developed for agricultural purposes from the late 1800s, and was used as such until 2004, when the existing maintenance building was constructed.

A total of nine (9) Potentially Contaminating Activities (PCAs) were identified in the Phase One ESA, from which seven (7) were considered to be contributing to seven (7) APECs on the Phase Two Property. A summary of the APECs, associated PCAs, and Contaminants of Potential Concern (COPCs) identified is presented in the table below:

Table 1-1: Summary of APECs

Area of Potential Environmental Concern	Location of APECs 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	Surroundings of Building A	PCA-1 (#27): Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	On Site	PHC, BTEX VOCs, Metals	Soil and groundwater
APEC-2	Entire Property	PCA-3 (#30): Importation of Fill Material of Unknown Quality	On Site	PHCs, VOCs, BTEX, Metals, As, Sb, Se, B-HWS, CN-, electrical conductivity, Cr (VI), Hg, low or high pH, SAR, PAHs	Soil
APEC-3	Centre portion of the Property	PCA-4 (#28): Gasoline and Associated Products Storage in Fixed Tanks	On Site	PHCs, VOCs, BTEX, Metals,	Soil and groundwater
APEC-4	Northeast corner of Building A	PCA-5 (#40): Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) manufacturing, Processing, Bulk Storage, and large-Scale Applications	On Site	OCPs	Soil and ground water
APEC-5	Southwest portion of Building A	PCA-6 (#28): Transformer Manufacturing, Processing and Use	On Site	PCBs	Soil
APEC-6	Surroundings of Building A	PCA-8 (#N/S): Oil/water separator.	On Site	PHC, BTEX VOCs, Metals	Soil and groundwater
APEC-7	Surroundings of Building A	PCA-7 (#6): Battery Manufacturing, Recycling and Bulk Storage	On Site	PHC, BTEX VOCs, Metals	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 investigation involved the advancement of six (6) boreholes, which were completed between November 28 and 29, 2019 and April 23, 2020. The boreholes were advanced to a maximum depth of 8.0 metres below ground surface (mbgs) under the supervision of DS personnel, and upon completion, groundwater monitoring wells were

installed in six (6) of the boreholes advanced. All APECs were investigated with boreholes and/or monitoring wells in accordance with the requirements of O.Reg. 153/04 (as amended). Soil and groundwater samples were collected and submitted for analysis of all COPCs, including PHCs, VOCs, Metals, As, Sb, Se, B-HWS, CN-, EC, Cr (VI), Hg, SAR, PAHs, PCBs, and OCPs.

The soil and groundwater analytical results were compared to the "Table 3 SCS: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional Use with medium-fine textured soils, Site Condition Standards 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 3 RPS SCS).

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

- A surficial topsoil layer, ranging in thickness from 100 to 125mm was encountered at BH19-1 and BH19-2. Fill material was found in all boreholes, extending to depths ranging from 0.8 to 1.8m. The fill material consisted of clayey silt to silty clay, sand, and gravel with inclusions of trace to some topsoil. The native soils below the fill material consisted of clayey silt to silty clay till deposits, extending to depths between 0.8 to 4.6 metres below ground surface (mbgs). Underlying the clayey silt to silty clay till, a layer of sandy silt till was encounter extending from 2.3 to 7.7 mbgs. A pocket of silty clay was encounter in BH19-2 at 7.6 mbgs up until borehole termination depth. Bedrock was not encountered in any of the boreholes completed.
- Monitoring wells were screened at ranging depths of 1.5 to 7.7 mbgs within the glacial till formation. The groundwater elevation was found to be between 151.86 to 153.51 metres above sea level (masl) in May 13, 2020. 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.
- Soil and groundwater samples were collected and submitted for analysis of Metals & Inorganics (M&I), PHCs, VOCs, PAHs, OCPs, and PCBs. The results of the chemical analyses conducted indicated that all samples analyzed met the applicable Site Condition Standards.

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

- The soil and groundwater samples analyzed for this Phase Two ESA investigation, indicated that the soil and groundwater quality on-Site meet the applicable Table 3 RPI SCS for all the parameter analyzed.
- The result of this Phase Two ESA investigation indicates that the Site Conditions Standards for the Phase Two Property have been meet.
- Based on the findings of this Phase Two ESA no further environmental investigations is required, and a Record of Site Condition may be filed for the Phase Two Property.
- All monitoring wells should be decommissioned in accordance with O.Reg. 903 when no longer required.

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1.0 Introduction

DS Consultants Ltd. (DS) was retained by Millcroft Greens Corporation to complete a Phase Two Environmental Site Assessment (ESA) of a portion of the Millcroft Golf Club, designated "Block E", located at 4274 Dundas Street in the City of Burlington, Ontario, herein referred to as the "Phase Two Property" or "Site". It is DS's understanding that this Phase Two ESA may be used to support the filing of a Record of Site Condition (RSC) as part of the proposed redevelopment of the Site which will consist of a condominium building with 130 units with a combination of surface and underground parking.

It is the opinion of DS that the intended future property use (residential) constitutes a more sensitive property use than the existing commercial use, as defined under O.Reg. 153/04 (as amended). 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 One 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 0.61-hectare (1.52 acres) parcel of land situated within a residential neighbourhood in the City of Burlington, Ontario. The Phase Two Property is located at 4274 Dundas Street, approximately 140 m southwest of the intersection of Dundas St. and Millcroft Park Drive and was occupied by Millcroft Golf Club at the time of this investigation. A Site Location Plan is provided in Figure 1.

For the purposes of this report, Dundas Street is assumed to be aligned in an east-west orientation. A Plan of Survey has not been provided at this time; however, a Plan of Survey will be required prior to submitting an RSC.

The Property currently includes one (1) storey rectangular structure made of concrete block and bricks with vertical siding exterior walls (Building A) that is used for maintenance and storage of lawn mowers and golf carts. The building also functions as the changing and lunchroom for the superintendent and maintenance workers of the golf club. 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	PT LTS 7 TO 9, CON 1 SDS, PTS 1 TO 10 20R13519 S&E LANDS LAID OUT BY PLANS 20M780, 20M811, 20M868, 20M922, PTS 1 & 2, 20R15846, PIN 07182-2263 & PT 1, 20R16891; BURLINGTON. (NEW REFERENCE PLAN TO BE DEPOSITED FOR DESCRIPTION) S/T EASE H302472. S/T EASE 570228 LYING WITHIN THE LIMITS OF PTS 5 & 6 20R13519. S/T EASE NU39399 OVER PTS 7 &8, 20R13519. S/T EASE NU39398 TRANSFERRED BY 95199. S/T EASE H521403 LYING WITHIN THE LIMITS OF PT 5, 20R13519 & PTS 7 & 9 20R13519. T/W EASE 1499 95 OVER PT 8 20R6131. T/W EASE 153572 OVER PTS 9 & 10, 20R6131. S/T EASE IN FAV OF LTS 1, 16, 117 & 119, PL 20M922 & PT LTS 8& 9, CON 1 SDS PT 2, 20R16282 AS IN HR447696, Burlington	Land Registry Office
Property Identification Number (PIN)	0718-2700	Land Registry Office
Current Site Occupants	Millcroft Golf Course	Phase One Site Reconnaissance
Site Area	0.61 hectares (1.52 acres)	Client

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
2079610 Ontario Limited	2155 Country Club Drive, Burlington, Ontario	Client

1.3 Current and Proposed Future Use

The Phase Two Property is currently occupied by Millcroft Golf Course's maintenance building which is considered to be use for commercial purposes under O.Reg. 153/04 (as amended). It is DS's understanding that the Client intends to redevelop the Site 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 3 SCS: Full Depth Generic Site Condition Standards

in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional Use with medium-fine textured soils 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 3 RPI SCS".

The selection of the Table 3 RPI SCS is considered appropriate based on the following rationale:

- The City of Burlington obtains its potable water from Lake Ontario, and does not rely on groundwater as a potable water source;
- The Site is not 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 Site is not located within 30 m of a water body;
- 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

Sheldon Creek, located to the east, approximately 340 m from the Property, and Appleby Creek, located approximately 330 m west of the Phase Two Property, are the closest bodies of water to the Phase Two Property.

The Natural Heritage Areas database published by the Ministry of Natural Resources (MNR) was reviewed in order to identify the presence/absence of areas of natural significance including provincial parks, conservation reserves, areas of natural and scientific interest, wetlands, environmentally significant areas, habitats of threatened or endangered species, and wilderness areas. The regional and municipal Official Plans were also reviewed as part of this assessment.

No areas of natural or scientific interest were identified within the Phase One Study Area.

2.1.2 Topography and Surface Water Draining Features

The Phase Two Property is located in a residential setting, at an elevation of 155 metres above sea level (masl). The topography of the Phase One Property is generally flat, with a

surface elevation of 155 metres above sea level (masl). The topography within the Phase One Study Area generally slopes to the east, towards Lake Ontario, located approximately 7 km southeast of the Phase One Property. The neighbouring property are generally at a similar elevation, and the topography in the vicinity of the Phase Two Property also generally slopes east towards Lake Ontario. There are no drainage features (e.g. ditches, swales, etc.) present on-Site. Surface water flow associated with precipitation events is anticipated to run overland and drain into the municipal storm sewer catch basins.

2.2 Past Investigations

2.2.1 Previous Report Summary

The following environmental and geotechnical reports were provided for DS to review:

- "*Phase One Environmental Site Assessment, Millcroft Golf Club (Block E), 4272 Dundas Street, Burlington, Ontario*" dated January 30, 2020, revised November 5, 2021, prepared for Millcroft Greens Corporation, prepared by DS Consultants Ltd (DS).

A summary of the details pertinent to this investigation is provided below.

Phase One ESA, DS – November 2021

The Phase One ESA was conducted for due diligence purposes in association with the proposed redevelopment of the property .The result of the Phase One ESA identified that the Site appears to have been used for agricultural purposes from the late 1800s until 2004, when the existing maintenance building was constructed. A total of nine (9) PCAs were identified on the Phase One Property, seven (7) of which were considered to result in an area of potential environmental concern (APEC). Seven (7) APECs were identified on the Phase One Property and within the Phase One Study Area. It was concluded that a Phase Two ESA should be conducted in order to investigate the APECs and to assess the environmental soil and groundwater conditions on the Property.

Additional details regarding the Phase One ESA can be found in Section 3.3. below.

2.2.1 Use of Previous Analytical Results

Not applicable, no previous analytical results were available for DS to review.

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 licensed driller to advance a total of seven (7) boreholes on the Phase Two Property, to depths ranging between 5.0 to 8.0 mbgs. Six (6) 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 (RKI Eagle 2 MultiGas Detector, MiniRae), 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	A total of seven (7) boreholes were advanced on the Phase Two Property, to a maximum depth of 8.0 mbgs. Soil samples were collected and submitted for analysis of all relevant COPCs.
Groundwater	A total of six (6) monitoring wells were installed on the Phase Two Property as part of this investigation. Groundwater samples were collected 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, "Block E" located at 4274 Dundas Street on the Millcroft Golf Club in Burlington, Ontario. The Phase One Conceptual Site Model is presented in Drawings 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	#27: Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	The Phase One Property was registered as a waste generator of petroleum distillates, waste oils, lubricants, and aliphatic solvents and residues.	PCA is located on the Phase One Property
PCA-3	#30: Importation of Fill Material of Unknown Quality	Fill material is inferred to have been placed for grading purposes when the Phase One Property started development around 1987 around Building A, and stockpiles of sand, topsoil and tee mix was observed during the site reconnaissance north of the Property.	PCA is located on the Phase One Property
PCA-4	#28: Gasoline and Associated Products Storage in Fixed Tanks	Three ASTs are present in the Property: - One (1) 22,000L gasoline tank, - One (1) 22,000L diesel tank, - One (1) ~20,000L waste oil tank; and - One (1) barrel of lubricant oil	PCA is located on the Phase One Property
PCA-5	#40: Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) manufacturing, Processing, Bulk Storage, and large-Scale Applications	One room is used as storage for pesticides during the site reconnaissance.	PCA is located on the Phase One Property
PCA-6	#28: Transformer Manufacturing, Processing and Use	One (1) transformer was located on Building A, located on the salve on grade floor at the west portion of Building A.	PCA is located on the Phase One Property
PCA-7	#6: Battery Manufacturing, Recycling and Bulk Storage	One pallet with car batteries was observed during the site reconnaissance.	PCA is located on the Phase One Property
PCA-8	# N/S: Oil/water separator.	One (1) oil/water separator was located on the north of Building A, installed above the slab on grade floor.	PCA is located on the Phase One Property

N/S - not specified in Table 2, Schedule D, of O.Reg. 153/04

3.3.2 Contaminants of Potential Concern

The following contaminants of potential concern were identified for the Phase One Property: PHCs, VOCs, BTEX, Metals, As, Sb, Se, B-HWS, CN-, EC, Cr (VI), Hg, low or high pH, SAR, PAHs, PCBs, and OCPs.

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.

One (1) septic tank was identified at the Phase One Property. Plans were not available to confirm the depths of this utility; however, it is estimated to be installed at depths ranging from 1 to 3 metres below ground surface. No other utility services were identified on the Property at the time of the . The depth to groundwater was measured to be between 1.04 to 1.73 mbgs, as such there is the potential for the utility corridors to 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 generally flat with a surface elevation of 155 masl. The topography within the Phase One Study Area generally slopes to the east, towards Lake Ontario, located approximately 7 km southeast of the Phase One Property. The nearest water bodies are Sheldon Creek, located to the east, approximately 340 m from the Property, and Appleby Creek, located approximately 330 m west from the Property. Based on a review of borehole logs and the MECP well records, the depth to groundwater in the vicinity of the Phase One Property is approximately 1.5 mbgs. The majority of the shallow groundwater flow within the Phase One Study Area is inferred to be southwest towards Appleby Creek.

The Site is situated within a south slope physiographic region. The surficial geology within the Phase One Study area is described as “till plains (drumlinized)”, and the bedrock is described as “shale, limestone, dolostone, and siltstone” of the Queenston Formation. Based on a review of MECP Well Records on the vicinity of the Property, the bedrock in the Phase One Study Area is anticipated to be encountered at an approximate depth of 8 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. On December 17, 2019, the MECP FOI found records pertaining to the Site; however, to date DS is still waiting for the MECP to provide a copy of the records for review 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 dose 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 scope of worked planed for this Phase Two ESA was completed in general accordance with the SAP for Site delineation and characterization purposes.

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	Terra Firma Environmental Services Ltd.	Ground Force Environmental Inc.
Drilling Dates	November 28 – 29, 2019	April 13, 2020
Drilling Equipment Used	Truck-mounted CME 55	Geoprobe 7822DT
Measures taken to minimize the potential for cross contamination	◆ 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 50mm stainless steel split spoon sampler. 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. Additional detail regarding the lithology encountered in the boreholes is presented under Section 5.1.

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. No aesthetic impacts (e.g. cinders, slag, hydrocarbon odours) were encountered during this investigation.

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
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

Three (3) monitoring wells were installed upon completion in November 2019 for the purpose of a Geotechnical Investigation for the Site. Three (3) additional monitoring wells were installed on the Phase Two Property in April 2020 to further investigate the APECs identified in the Phase One ESA for soil and groundwater characterization.

All monitoring wells were constructed of 51-millimetre (2-inch) inner diameter (ID) flush-threaded schedule 40 polyvinyl chloride (PVC) risers, equipped with a 1.5 m length No. 10

slot PVC screen for wells BH19-1 and BH19-3, and 3.1 m screen length No. 10 slot PVC screen for the remining four (4) wells. 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 0.6m 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 flush mount casings. Details regarding the monitoring well construction can be found in Table 2, 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 installed on November 2019 and April 2020 were developed by DS at minimum of 24 hours before water samples were taken. 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

Groundwater 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-556™).

The field measurements of water quality parameters were collected at the time of pre-sampling purging. 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 monitoring wells were allowed to recover prior to sampling, and the groundwater samples were collected using a peristaltic pump with dedicated 6.4 mm ID polyethylene tubing.

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 SGS Canada Inc. (SGS) under chain of custody protocols. SGS an independent laboratory accredited by the Canadian Association for Laboratory Accreditation. SGS 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 will be stored in 20-L sealed plastic pails, and disposed overland at the location of the monitoring wells, allowing to re-infiltrate adjacent to the monitoring wells.

4.10.3 Fluids from Equipment Cleaning

Excess equipment cleaning fluids will be 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/monitoring wells were surveyed using a Sokkia GCX-2 GNSS RTK receiver, based on global positioning system satellites. The benchmark reference used to survey the Site was a benchmark station No. 00819818102,

located at the southeast corner of Appleby Line and Highway 5. The monument has a vertical elevation of 152.339 masl, which is consistent with the measured elevations of the subject Site.

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.

Each sample container will be labelled with a unique sample identification, the project number, and the sampling date. All samples are going to be 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 will be 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 (RKI Eagle 2 and 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 rational 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.

A surficial topsoil layer, ranging in thickness from 100 to 125mm was encountered at BH19-1 and BH19-2. Fill materials were found in all boreholes, extending to depths ranging from 0.8 to 1.8m. The fill materials consisted of clayey silt to silty clay, sand and gravel with inclusions of trace to some topsoil. The native soils below the fill material consisted of clayey silt to silty clay till deposits, extending to depths between 0.8 to 4.6 metres below ground surface (mbgs). Underlying the clayey silt to silty clay till, a layer of sandy silt till was encounter extending from 2.3 to 7.7 mbgs. A pocket of silty clay was encounter in BH19-2 at 7.6 mbgs up until the end of excavation.

Bedrock was not encountered in any of the boreholes completed.

Table 5-1: Summary of Geologic Units Investigated

Geologic Unit	Inferred Thickness (m)	Top Elevation (masl)	Bottom Elevation (masl)	Properties
Fill Material/clayey silt to silty clay	0.8 ~1.7	154.7	151.1	Moist and firm,
Clayey Silt Till	0.5 ~0.8	151.1	150.6	Greyish brown, moist, very stiff, 15 % of moisture content.
Sandy Silt Till	~5.4	151.4	145.2	Brown, moist, very dense, contains the water table at approx. 153 masl.
Clayey Silt to Silty Clay	~3.8	153.9	150.1	Brown, trace of gravel moist, very stiff to hard

The sandy silt till was identified as the first water bearing formation and it is considered an unconfined aquifer.

5.2 Ground Water Elevations and Flow Direction

5.2.1 Rationale for Monitoring Well Location and Well Screen Intervals

A total of six (6) monitoring wells were installed on the Phase Two Property 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 screens were installed at depths ranging from 1.5 to 7.7 mbgs intersect the first water bearing formation encountered. This unit is inferred 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 be 1.04 to 1.75 mbgs on May 13, 2020. 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.

The groundwater elevations were calculated based on the last groundwater collection levels taken on May 13, 2020. A summary of the groundwater elevations calculated is presented in Table 1. The groundwater elevation was found to range between 151.86 to 153.51 masl in May 13, 2020.

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 south towards Appleby Creek. 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 1.04 to 1.756 mbgs on the Phase Two Property. Public and private locates were performed in the Property and utilities services including a septic tank, watermain, and a gas line were identified on the Phase Two Property. Based on this and no identified groundwater impacts, the potential for the utility trenches to act as preferential pathways is considered to be low.

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 May 13, 2020.

Table 5-2: Summary of Horizontal Hydraulic Gradient Calculations

Hydrogeological Unit	Calculated Horizontal Hydraulic Gradient
Overburden – (sandy silt till)	Minimum: 0.0048 Average: 0.015 Maximum:0.026

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

5.4.1 Rational for use of Fine-Medium Soil Texture Category

A total of three (3) grain size analyses were conducted as part of this investigation. The results of the grain size analyses indicate that more than two-thirds of the soils encountered on the Phase two property are medium to fine textured.

5.4.2 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
BH19-1 S6	2	35	58	5	Medium-fine textured
BH19-2 SS4	6	22	68	4	Medium-fine textured
BH19-3 SS3	4	22	52	22	Medium-fine textured

5.4.3 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. At least 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 an RKI Eagle 2 in methane elimination mode. The PID readings ranged between 2 to 60 ppm. The CGD readings ranged between 1 to 50 ppm.

The soil samples were also screened for visual and olfactory indicators of impacts (e.g. staining, odours). No staining, orders, sheening, or evidences of LNAPL or DNAPL were present at the time of sampling.

5.6 Soil Quality

The results of the chemical analyses conducted are presented in Tables 5 through 10. A visual summary of the location of the sample locations is provided in Figures 7A through Figure 7F. The laboratory certificates of analysis have been provided under Appendix D.

5.6.1 Metals and Inorganics

A total of eight (8) samples, including two (2) field duplicates for QA/QC purposes were submitted for analysis of metals and inorganics. The results of the analyses are tabulated in Table 5, and presented on Figure 7A. The results indicated that all samples analysed met the Table 3 RPI SCS.

The pH of all samples analysed were within the accepted range of 5-9 for surface soils and 5-11 for subsurface soils.

5.6.2 Petroleum Hydrocarbons

A total of eight (8) samples, including one (1) field duplicate for QA/QC purposes were submitted for analysis of PHCs (incl. BTEX). The results of the analyses are tabulated in Table 6, and presented on Figure 7B. The results indicated that all samples analysed met the Table 3 RPI SCS.

5.6.3 Volatile Organic Compounds

A total of eight (8) samples were submitted for analysis of VOCs. The results of the analyses are tabulated in Table 7, and presented on Figure 7C. The results indicated that all samples analysed met the Table 3 RPI SCS.

5.6.4 Polycyclic Aromatic Hydrocarbons

A total of five (5) samples, including one (1) field duplicates 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. The results indicated that all samples analysed met the Table 3 RPI SCS. However, The reported detection limit for dibenz(a, h)anthracene of 0.2 µg/g was greater than the MECP Table 3 SCS of 0.1 µg/g .

5.6.5 Polychlorinated Biphenyl

A total of one (1) sample was submitted for analysis of PCBs. The results of the analyses are tabulated in Table 9, and presented on Figure 7E. The results indicated that the sample analysed met the Table 3 RPI SCS.

5.6.6 Organochlorine Pesticides

A total of four (4) samples were submitted for analysis of OCPs. The results of the analyses are tabulated in Table 10, and presented on Figure 7F. The results indicated that all samples analysed meet the Table 3 RPI SCS.

5.6.7 Commentary on Soil Quality

The results of the chemical analyses indicated that the site condition standards for the soil samples analysed have been met. The elevated detection limit of dibenz(a,h)anthracene was reportedly caused by sample matrix interference. As all of the remaining samples analysed contained non-detectable concentrations (<0.06 µg/g) of dibenz(a, h)anthracene. Furthermore, all of the remaining PAHs in sample BH19-1 S1 were exhibited concentrations well below the applicable site condition standards, as such, it is the opinion of the QP_{ESA} that there is no indication of potential soil impact in this sample.

It is concluded that all samples analysed indicated that the soil on the Phase Two Property meet the applicable Table 3 RPI SCS for all parameters analyzed.

5.7 Ground Water Quality

The results of the chemical analyses conducted are presented in tables 11 through 14. 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 Inorganics

A total of five (5) samples, including one (1) field duplicate for QA/QC purposes were submitted for analysis of metals and inorganics. The results of the analyses are tabulated in Table 11 and presented on Figure 8A. The results of the analyses indicated that there were no exceedances of the Table 3 SCS.

5.7.2 Petroleum Hydrocarbons

A total of four (4) samples were submitted for analysis of PHCs (incl. BTEX). The results of the analyses are tabulated in Table 12, and presented on Figure 8B. The results of the analyses indicated that there were no exceedances of the Table 3 SCS.

5.7.3 Volatile Organic Compounds

A total of five (5) samples, including one (1) trip blank for QA/QC purposes were submitted for analysis of VOCs. The results of the analyses are tabulated in Table 13, and presented on Figure 8C. The results of the analyses indicated that there were no exceedances of the Table 3 SCS.

5.7.1 Organochlorine Pesticides

A total of one (1) sample was submitted for analysis of OCPs. The results of the analyses are tabulated in Table 14 and presented on Figure 8D. The results of the analyses indicated that there were no exceedances of the Table 3 SCS.

5.7.2 Commentary on Groundwater Quality

The results of the groundwater sampling conducted on the Phase Two Property has indicated that the groundwater quality on the Site meets the applicable MECP Table 3 RPI Site Condition Standards.

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 5-4: Summary of QA/QC Results

Sample ID	QA/QC duplicate	Medium	Parameter Analyzed	QA/QC Result
DUP-1	BH19-2 S2	Soil	M&I	All results were within the analytical protocol criteria for RPD, except for the parameters listed below.
DUP-2	BH19-3 S2	Soil	PAH	All results were within the analytical protocol criteria for RPD.
DUP-3	BH20-2 SS2	Soil	M&I	All results were within the analytical protocol criteria for RPD, except for the parameters listed below.
DUP-4	BH20-2 SS5	Soil	PHCs	All results were within the analytical protocol criteria for RPD.
DUP-1	BH20-3	Groundwater	M&I	All results were within the analytical protocol criteria for RPD.

The following exceptions in the RPD protocols were identified:

- The RPD value for BH19-2 S2 (DUP-1) of 22% exceeded the recommended 20% RPD limit for electrical conductivity. The variance in the analytical result between the parent and duplicate sample are attributed to the heterogeneity of the fill material analyzed.
- The RPD value for BH20-2 SS2 (DUP-3) of 43% exceeded the recommended 30% RPD limit for Barium, the RPD value of 31% exceeded the recommended 30% RPD limit for Lead, and the RPD value of 17% exceeded the recommended 10% RPD limit for Electrical Conductivity. The variance in the analytical result between the parent and duplicate sample are attributed to the heterogeneity of the fill material 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.

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

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 Property meets the applicable MECP SCS.

5.10 Phase Two Conceptual Site Model

The Phase Two Conceptual Site Model is presented under Appendix E.

6.0 Conclusions

This Phase Two ESA involved the advancement of seven (7) boreholes, the installation of six (6) monitoring wells on the Phase Two Property, and the collection of soil and groundwater samples for analysis of the potential contaminants of concern, including: PHCs, VOCs, BTEX, Metals, As, Sb, Se, B-HWS, CN-, EC, Cr (VI), Hg, low or high pH, SAR, PAHs, PCBs, and OCPs.

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

- The soil and groundwater samples analyzed for this Phase Two ESA investigation, indicated that the soil and groundwater quality on-Site meet the applicable Table 3 RPI SCS for all the parameter analyzed.
- The result of this Phase Two ESA investigation indicates that the Site Conditions Standards for the Phase Two Property have been meet.
- Based on the findings of this Phase Two ESA no further environmental investigations is required, and a Record of Site Condition may be filed for the Phase Two Property.
- All monitoring wells should be decommissioned in accordance with O.Reg. 903 when no longer required.

It is the opinion of the QP_{ESA} that the applicable SCS for the soil and groundwater at the Phase Two Property have been met as of the date of this report. No further sub-surface

investigation is required regarding the environmental quality of the soil and groundwater at the Phase Two Property.

6.1 Qualifications of the Assessors

John Gaviria-Ballen, B. Eng., EIT

Mr. Gaviria-Ballen is an Environmental Technician with DS Consultants Ltd. John holds a bachelor's degree in Environmental Engineering from Carleton University and a Post Graduate Certificate in Environmental Engineering Technology from Conestoga College. John is a registered Engineer in Training (EIT) with Professional Engineers of Ontario (PEO) and has been conducting Phase One and Two Environmental Site Assessments since 2018.

Drew Doak, B.Sc.E., P.Eng., QP_{ESA}

Mr. Doak is an Environmental Project Manager with DS Consultants Limited. Drew holds a Bachelor of Science in Engineering from Queen's University, and is a practicing member of the Professional Engineers of Ontario (PEO). Drew has five years of environmental consulting experience and has conducted and/or managed a multitude of projects in his professional experience. Drew 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, and supported many risk assessments and Records of Site Conditions with the Ministry of Environment, Conservation and Parks. He has also conducted a variety of Hydrogeological investigations within the GTA. Drew is considered a Qualified Person to conduct Environmental Site Assessments as defined by Ontario Regulation 153/04 (as amended).

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 nine years of environmental consulting experience and has conducted and/or managed over 200 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 Mr. Drew Doak B.Sc.E., P.Eng., 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:



John Gaviria-Ballen, B. Eng., EIT
Environmental Technician

Reviewed by:



Drew Doak, B.Sc.E., P.Eng., QP$_{ESA}$
Environmental Project Manager



Patrick Fioravanti, B.Sc., P.Geo., QP$_{ESA}$
Manager – Environmental Services

6.3 Limitations

This report was prepared for the sole use of Millcroft Greens Corporation and is intended to provide an assessment of the environmental condition on the property located at Millcroft Golf Club (Block E), Burlington, Ontario. 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.

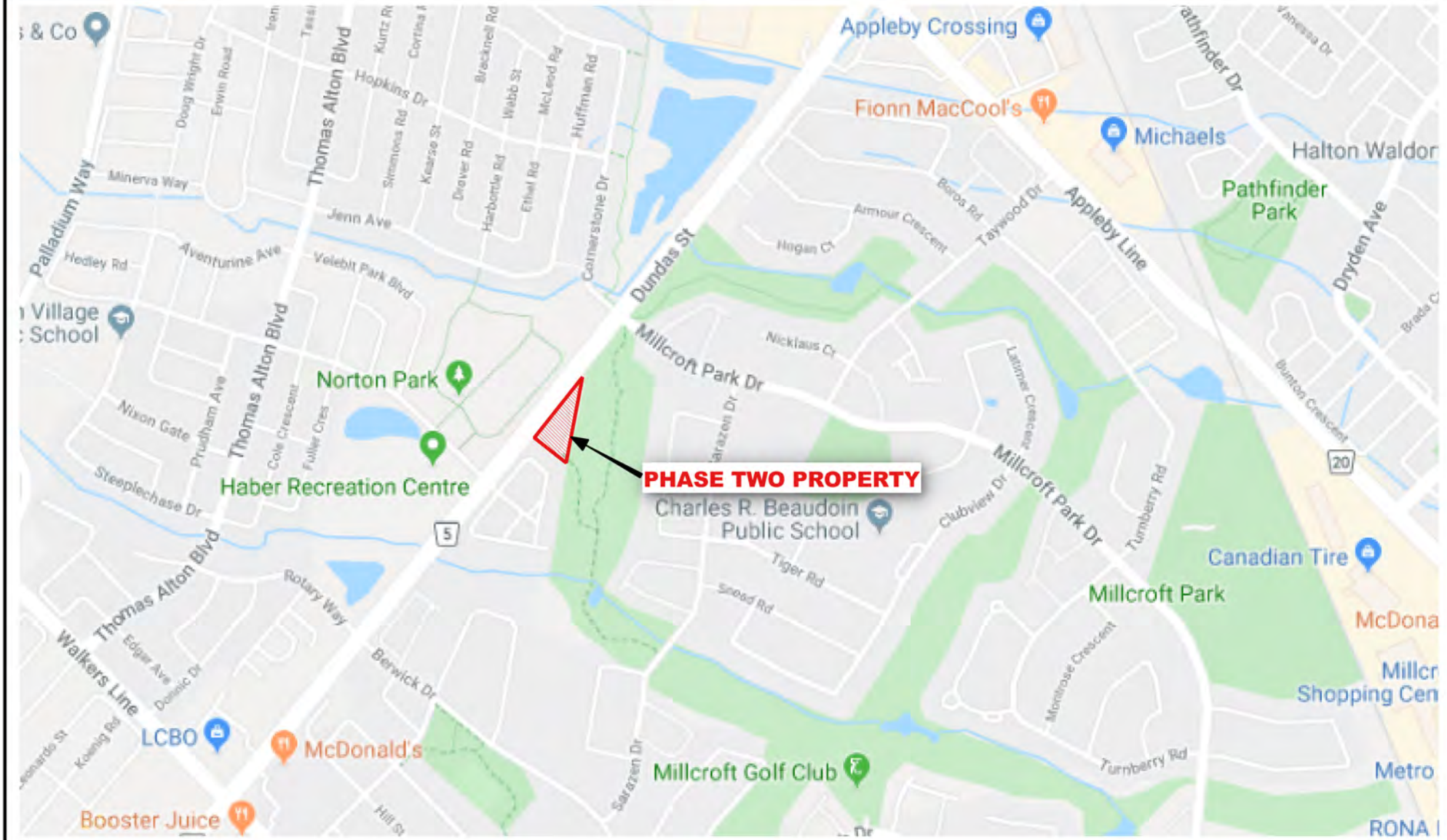
The conclusions drawn from the Phase Two ESA were based on information at selected observation and sampling locations. Conditions between and beyond these locations may become apparent during future investigations or on-site work, which could not be detected or anticipated at the time of this investigation. 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.
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- 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*.
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Figures

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 1- Site Location Plan.qgs



Legend

Approx Site Boundary (Area E)

0 200 400 m

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Title: **SITE LOCATION PLAN**

N

Client: MILLCROFT GREENS CORPORATION

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	D.D	S.Y	May 2020
Rev: 0	Scale: As Shown	Project No.: 19-199-102	Figure No.: 1

Image/Map Source: *Google Street Map*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 2- Phase Two Site Plan.qgs



Legend

- Approx. Site Boundary (Area E)
- ASTs

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Title: **PHASE TWO PROPERTY SITE PLAN**

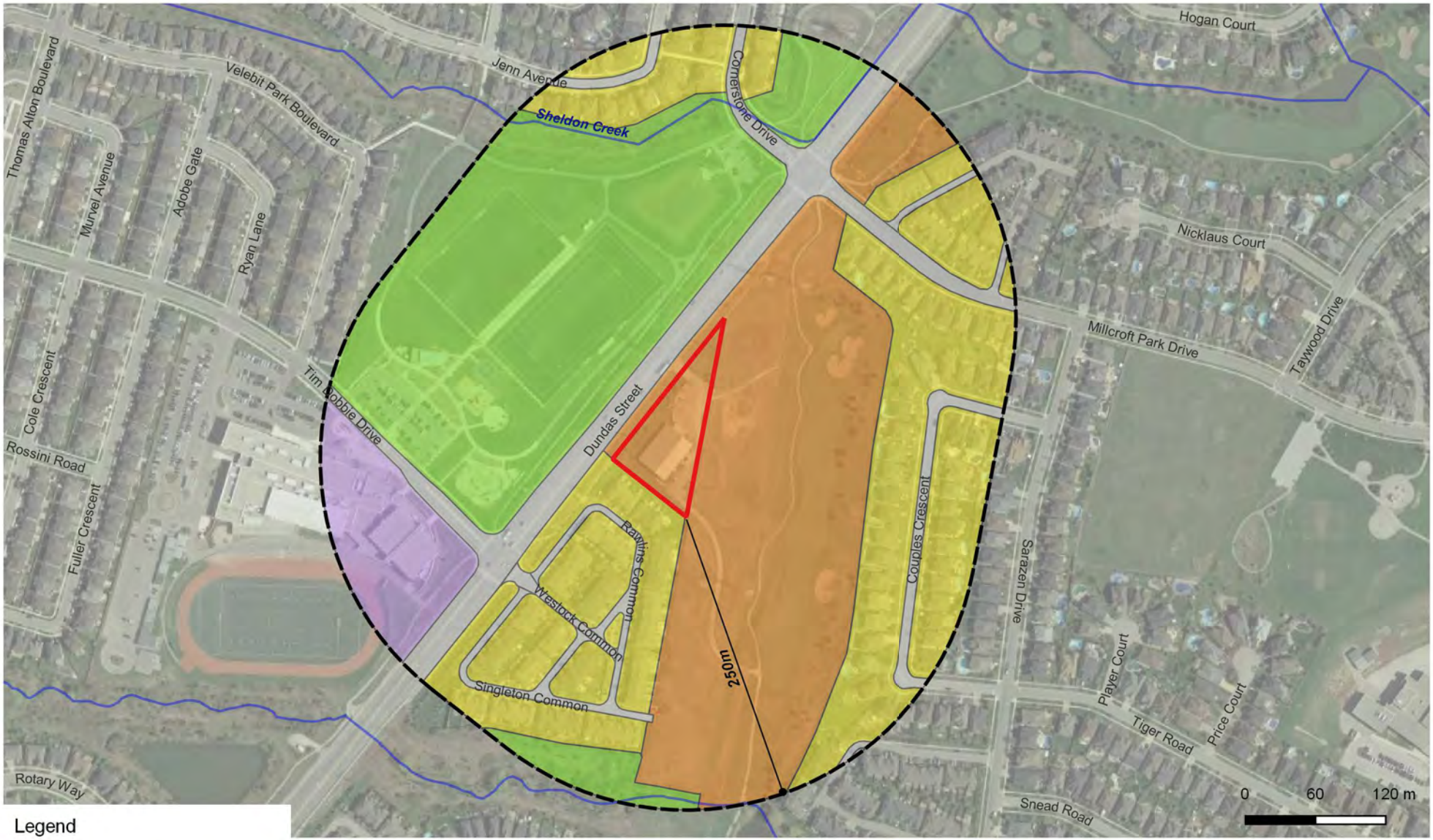
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Image/Map Source: *Google Satellite Image*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 3- Phase Two Study Area.qgs



Legend

- Approx. Site Boundary (Area E)
- 250m Buffer
- Residential
- Commercial
- Institutional
- Parkland

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Title: **PHASE TWO STUDY AREA**

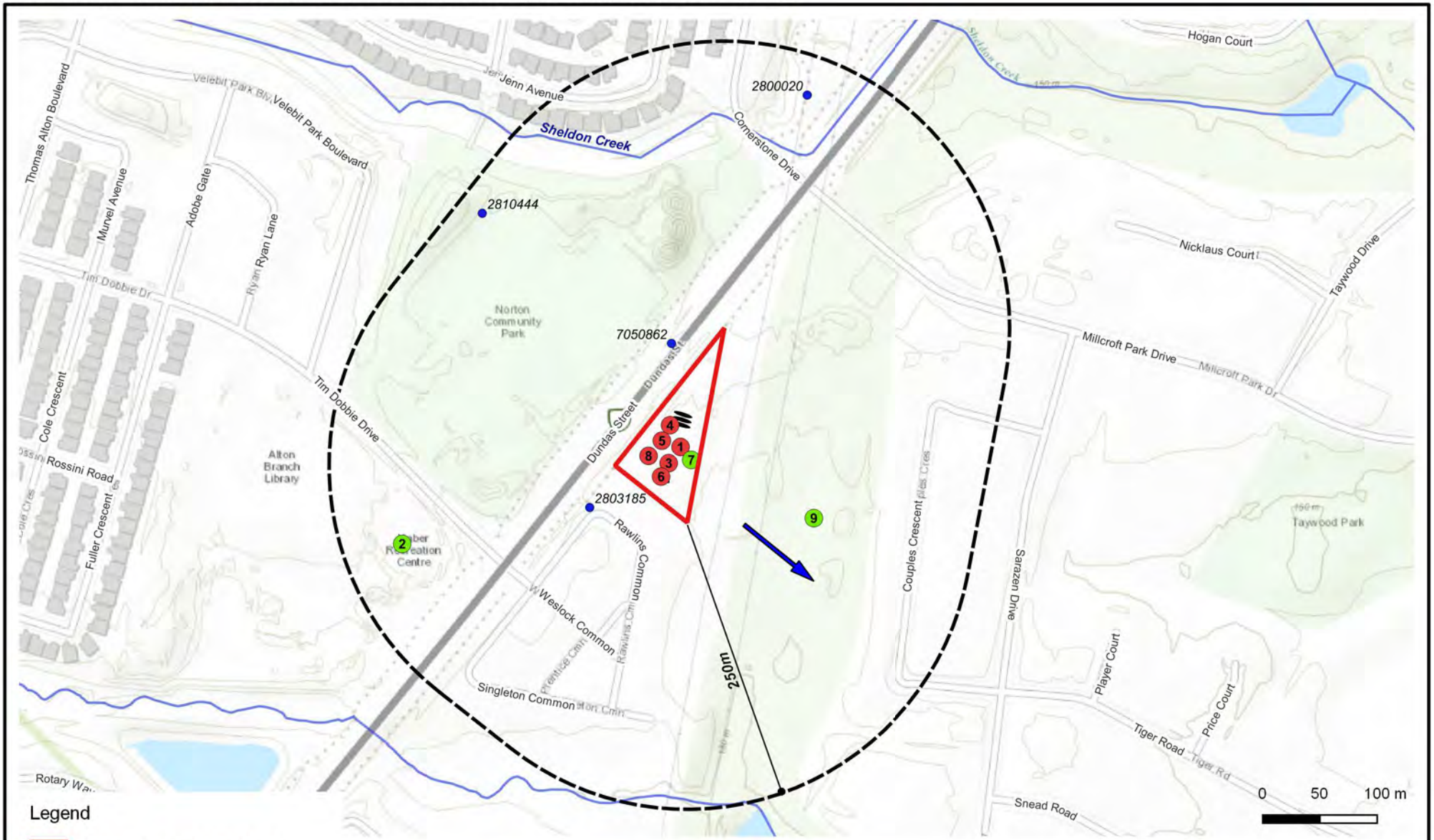
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Client: MILLCROFT GREENS CORPORATION

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Rev: 0	Scale: As Shown	Project No.: 19-199-102	Figure No.: 3

Image/Map Source: *Google Satellite Image*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 4- PCA within Phase Two Study Area.qgs



Legend

- Approx. Site Boundary (Area E)
- 250m Buffer
- Registered Water Well (MECP WWR)
- PCA not contributing to APEC
- PCA contributing to APEC
- Inferred Groundwater Flow Direction

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

Client: MILLCROFT GREENS CORPORATION

Size:	Approved By:	Drawn By:	Date:
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Rev: 0	Scale: As Shown	Project No.: 19-199-102	Figure No.: 4
	Image/Map Source: *Esri Topo Map*		

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 5 – Borehole Location Plan with APECs.qgs



Legend

- Approx. Site Boundary (Area E)
- Borehole
- Monitoring Well
- APEC 1, 6 & 7
- APEC 2
- APEC 3
- APEC 4
- APEC 5
- AST
- Transformer
- Barrel

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Title: **BOREHOLE/MONITORING WELL LOCATIONS WITH APECs**

N

Client: MILLCROFT GREENS CORPORATION

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	D.D	S.Y	May 2020
Rev: 0	Scale: As Shown	Project No.: 19-199-102	Figure No.: 5

Image/Map Source: *Google Satellite Image*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 6 –GW elevation Contours and Flow Dir (Overburden).qgs



Legend

- Approx. Site Boundary (Area E)
- Borehole
- Monitoring Well
- Groundwater Elevation Contour
- Groundwater Flow Direction

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Title: **GROUNDWATER ELEVATION CONTOURS AND FLOW DIRECTION (OVERBURDEN)**

N

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	D.D	S.Y	May 2020
Rev: 0	Scale: As Shown	Project No.: 19-199-102	Figure No.: 6

Image/Map Source: *Google Satellite Image*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 7A – Soil Characterization – MI.qgs



Legend

- Approx. Site Boundary (Area E)
- Borehole
- Monitoring Well
- Sample Met Applicable Standards

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Millcroft Golf Course (Area E), Burlington, ON

Title: SOIL CHARACTERIZATION – METALS AND INORGANICS

N

Client: MILLCROFT GREENS CORPORATION

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	D.D	S.Y	May 2020
Rev: 0	Scale: As Shown	Project No.: 19-199-102	Figure No.: 7A

Image/Map Source: *Google Satellite Image*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 7B – Soil Characterization –PHCs.qgs



Legend

- Approx. Site Boundary (Area E)
- Borehole
- Monitoring Well
- Sample Met Applicable Standards

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Title: **SOIL CHARACTERIZATION – PHCs**

N

Size:	Approved By:	Drawn By:	Date:
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Rev: 0	Scale: As Shown	Project No.: 19-199-102	Figure No.: **7B**

Image/Map Source: *Google Satellite Image*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 7C – Soil Characterization – VOCs.qgs



Legend

- Approx. Site Boundary (Area E)
- Borehole
- Monitoring Well
- Sample Met Applicable Standards

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Title: **SOIL CHARACTERIZATION – VOCs**

N

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Rev: 0	Scale: As Shown	Project No.: 19-199-102	Figure No.: **7C**

Image/Map Source: *Google Satellite Image*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 7D – Soil Characterization –PAHs.qgs



Legend

- Approx. Site Boundary (Area E)
- Borehole
- Monitoring Well
- Sample Met Applicable Standards

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Title: **SOIL CHARACTERIZATION – PAHs**

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Size:	Approved By:	Drawn By:	Date:
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Rev: 0	Scale: As Shown	Project No.: 19-199-102	Figure No.: **7D**

Image/Map Source: *Google Satellite Image*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 7E – Soil Characterization - OCPs.qgs



Legend

- Approx. Site Boundary (Area E)
- Borehole
- Monitoring Well
- Sample Met Applicable Standards

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Title: **SOIL CHARACTERIZATION – OCPs**

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Rev: 0	Scale: As Shown	Project No.: 19-199-102	Figure No.: **7E**

Image/Map Source: *Google Satellite Image*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 7F – Soil Characterization –PCBs.qgs



Legend

- Approx. Site Boundary (Area E)
- Borehole
- Monitoring Well
- Sample Met Applicable Standards

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Title: **SOIL CHARACTERIZATION – PCBs**

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Size:	Approved By:	Drawn By:	Date:
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Image/Map Source: *Google Satellite Image*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 8A – GW Characterization – MI.qgs



Legend

- Approx. Site Boundary (Area E)
- Borehole
- Monitoring Well
- Sample Met Applicable Standards

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Title: **GROUNDWATER CHARACTERIZATION – METALS AND INORGANICS**

N

Size:	Approved By:	Drawn By:	Date:
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Rev: 0	Scale: As Shown	Project No.: 19-199-102	Figure No.: **8A**

Image/Map Source: *Google Satellite Image*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 8B – GW Characterization –PHCs.qgs



Legend

- Approx. Site Boundary (Area E)
- Borehole
- Monitoring Well
- Sample Met Applicable Standards

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Title: **GROUNDWATER CHARACTERIZATION – PHCs**

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Image/Map Source: *Google Satellite Image*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 8C – GW Characterization – VOCs.qgs



Legend

- Approx. Site Boundary (Area E)
- Borehole
- Monitoring Well
- Sample Met Applicable Standards

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Title: **GROUNDWATER CHARACTERIZATION – VOCs**

N

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Size:	Approved By:	Drawn By:	Date:
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Rev: 0	Scale: As Shown	Project No.: 19-199-102	Figure No.: **8C**

Image/Map Source: *Google Satellite Image*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 8D – GW Characterization – OCPs.qgs



Legend

- Approx. Site Boundary (Area E)
- Borehole
- Monitoring Well
- Sample Met Applicable Standards

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Title: **GROUNDWATER CHARACTERIZATION – OCPs**

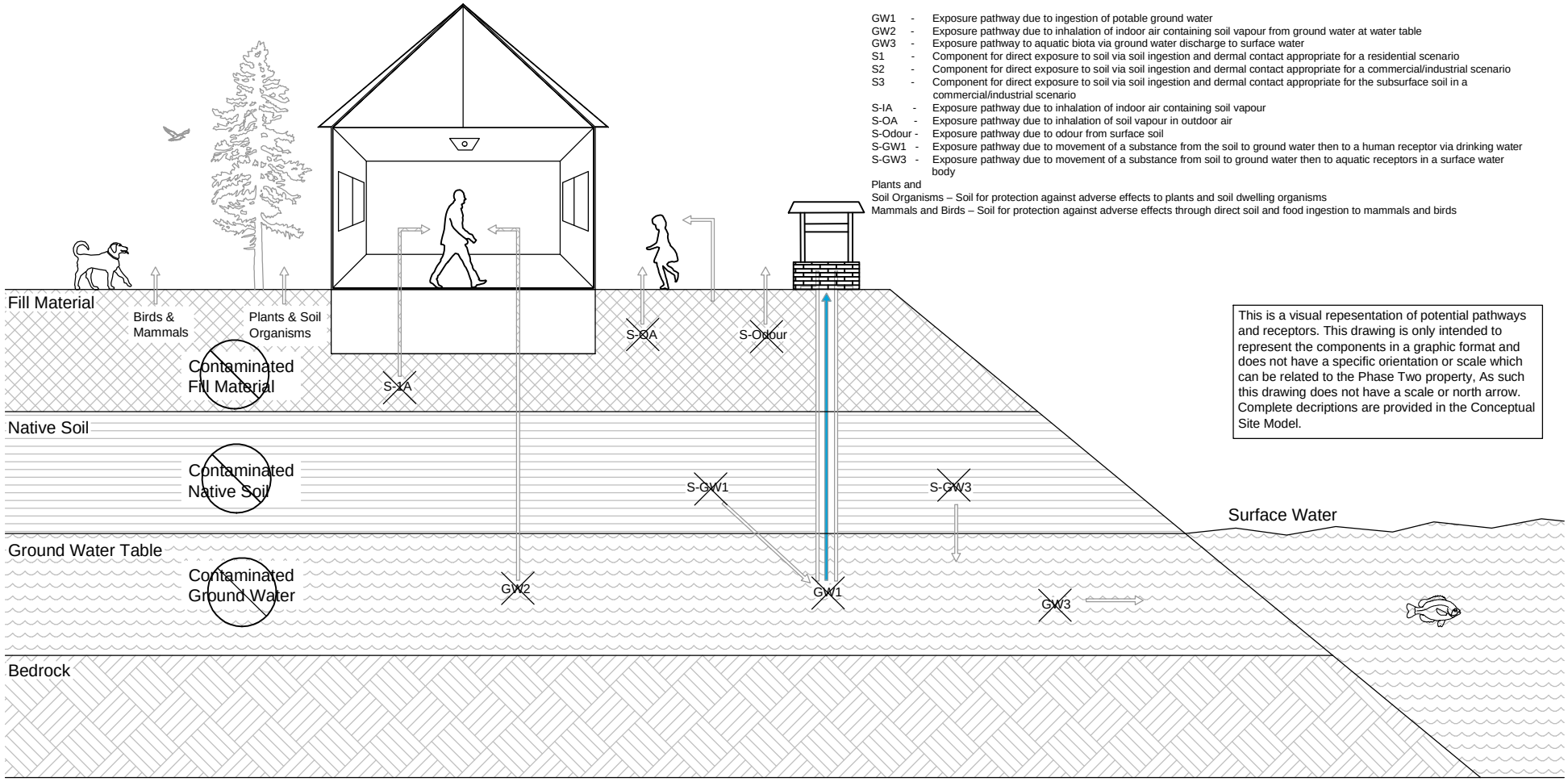
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Image/Map Source: *Google Satellite Image*

Path:c:\0sharon\19-199-100 -102 milcroft golf course\7-misc\cad\figure 8 - contaminant transport diagram-e.dwg



Not Identified

Pathway Not Present

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Title: **CONTAMINANT TRANSPORT DIAGRAM**

Client: MILLCROFT GREENS CORPORATION

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	D.D	S.Y	May 2020
Rev.	Scale: N.T.S	Project No: 19-199-102	Figure No. 9

Tables

Table 1: Summary of Monitoring Well Installation and Groundwater Data

Well ID			BH19-1	BH19-2	BH19-3	BH20-1	BH20-2	BH20-3
Installed By:			DS	DS	DS	DS	DS	DS
Installation Date:			29-Oct-19	28-Oct-19	29-Oct-19	13-Apr-20	13-Apr-20	13-Apr-20
Well Status:			Active	Active	Active	Active	Active	Active
Inner Diameter		(mm)	50	50	50	50	50	50
Surface Elevation		(masl)	152.90	153.70	154.70	153.55	153.67	153.72
Bottom of Concrete Seal/Top of Bentonite Seal		mbgs	0.30	0.30	0.30	0.30	0.30	0.30
		masl	152.60	153.40	154.40	153.25	153.37	153.42
Bottom of Bentonite Seal/Top of Sand Pack		mbgs	4.30	4.30	4.00	0.90	0.90	0.90
		masl	148.60	149.40	150.70	152.65	152.77	152.82
Top of Well Screen		mbgs	4.60	4.60	4.60	1.52	1.52	1.52
		masl	148.30	149.10	150.10	152.03	152.15	152.20
Well Screen Length		m	1.50	3.10	1.50	3.10	3.10	3.10
Bottom of Well Screen		mbgs	6.10	7.60	6.10	4.60	4.60	4.60
		masl	146.80	146.10	148.60	148.95	149.07	149.12
GW Monitoring								
04-Dec-19	Depth to GW	mbgs	2.60	0.60	NM	NM	NM	NM
	GW Elevation	masl	150.30	153.10	-	-	-	-
10-Dec-19	Depth to GW	mbgs	NM	NM	0.70	NM	NM	NM
	GW Elevation	masl	-	-	153.70	-	-	-
29-Apr-20	Depth to GW	mbgs	NM	0.86	0.86	1.57	0.88	0.54
	GW Elevation	masl	-	152.84	-	151.98	152.79	153.18
13-May-20	Depth to GW	mbgs	1.04	1.04	1.19	1.75	1.17	1.16
	GW Elevation	masl	151.86	152.66	153.51	151.80	152.50	152.56

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
BH19-1	S1	0.0 - 0.6	Fill - Sand & Gravel	PAHs	APEC-2
	S2	0.8 - 1.4	Fill-Silty Clay	M&I, OCPs	APEC-2
	DUP1			M&I	APEC-2
	S4	2.3 - 2.9	Sandy Silt Till	PHCs, VOCs	APEC-2
BH19-2	S1	0.0 - 0.6	Fill-Clayey Silt	OCPs	Site Characterization
	S2	0.8 - 1.4	Fill-Clayey Silt	M&I, PAHs	APEC-1, APEC-2, APEC-6, APEC-7
	DUP2			PAHs	
	S5	3.1 - 3.7	Sandy Silt Till	PHCs, VOCs	APEC-1, APEC-2, APEC-6, APEC-7
	S7	6.1 - 6.7	Sandy Silt Till	PHCs, VOCs	APEC-1, APEC-2, APEC-6, APEC-7
BH19-3	S1	0.0 - 0.6	Fill-Clayey Silt	M&I, OCPs	APEC-2
	S2	0.8 - 1.4	Clayey Silt to Silty Clay	PAHs	APEC-2
	S5	3.1 - 3.7	Clayey Silt to Silty Clay	PHCs, VOCs	APEC-2
BH20-1	SS1	0.0 - 0.6	Fill - Silt Till	PCBs, M&I	APEC-1, APEC-2, APEC-5, APEC-6, APEC-7
	SS6	4.6 - 5.2	Silty Sand Till	PHCs, VOCs	APEC-1, APEC-2, APEC-6, APEC-7
BH20-2	SS1	0.0 - 0.6	Fill- Sandy Silt Till	OCPs	APEC-4
	SS2	0.8 - 1.4	Sandy Silt Till	M&I	APEC-1, APEC-2, APEC-6, APEC-7
	DUP3				
	SS5	3.0 - 3.6	Sandy Siltto Silty Sand Till	PHCs, VOCs	APEC-1, APEC-2, APEC-6, APEC-7
	DUP4			PHCs	
BH20-3	SS2	0.8 - 1.4	Clayey Sily Till	M&I, PAHs	APEC-2, APEC-3
	SS3	1.5 - 2.1	Clayey Silt Till	PHCs, VOCs	APEC-2, APEC-3
BH20-4	SS1	6.1 - 6.7	Sandy Silt Till	VOCs	APEC-1, APEC-2, APEC-6, APEC-7

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
BH19-2	149.10	-	146.10	29-Apr-20	M&I, PHCs, VOCs	APEC-1, APEC-6, APEC-7
BH20-1	152.03	-	148.95	29-Apr-20	M&I, PHCs, VOCs	APEC-1, APEC-6, APEC-7
BH20-2	152.15	-	149.07	29-Apr-20	M&I, PHCs, VOCs, OCPs	APEC-1, APEC-4, APEC-6, APEC-7
BH20-3	152.20	-	149.12	29-Apr-20	M&I, PHCs, VOCs	APEC-3
DUP-1				29-Apr-20	M&I	APEC-3

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	One (1) hydraulic hoist was observed on Building A.	M&I, PHC, VOC	Soil	BH19-2	S2	M&I
					S5	PHCs, VOCs
					S7	PHCs, VOCs
				BH20-1	SS1	M&I
					SS1	PHCs, VOCs
				BH20-2	SS2	M&I
					DUP3	M&I
					SS5	PHCs, VOCs
					DUP5	PHCs, VOCs
				BH20-4	SS1	VOCs
	The Phase One Property was registered as a waste generator of petroleum distillates, waste oils, lubricants, and aliphatic solvents and residues.		Groundwater	BH19-2	-	M&I, PHCs, VOCs
				BH20-1	-	M&I, PHCs, VOCs
				BH20-2	-	M&I, PHCs, VOCs
APEC-2	Fill material is inferred to have been placed on the Property around Building A, and stockpiles of sand, topsoil and tee mix was observed during the site reconnaissance north of the Property	M&I, PHC, VOC, PAH	Soil	BH19-1	S1	PAHs
					S2	M&I, OCPs
					S4	PHCs, VOCs
				BH19-2	S1	OCPs
					S2	M&I, PAHs
					S5	PHCs, VOCs
					S7	PHCs, VOCs
				BH19-3	S1	M&I, OCPs
					S2	PAHs
					S5	PHCs, VOCs
				BH20-1	SS1	M&I
					SS1	PHCs, VOCs
				BH20-2	SS2	M&I
					SS5	PHCs, VOCs
				BH20-3	SS2	M&I, PAHs
					SS3	PHCs, VOCs
				BH20-4	SS1	VOCs
APEC-3	Three ASTs are present in the Property: -One (1) 22,000L gasoline tank, -One (1) 22,000L diesel tank, -One (1) ~20,000L waste oil tank, and -One (1) barrel of lubricant oil	M&I, PHC, VOC	Soil	BH20-3	SS2	M&I
					SS3	PHCs, VOCs
			Groundwater	BH20-3	-	M&I, PHC, VOC
				DUP-1	-	M&I
APEC-4	One room in side Building A is used as storage for pesticides during the site reconnaissance	OCPs	Soil	BH20-2	SS1	OCPs
			Groundwater	BH20-2	-	OCPs
APEC-5	One (1) transformer was located on Building A, located on the salve on grade floor at the west portion of Building A.	PCBs	Soil	BH20-1	SS1	PCBs
APEC-6	One (1) oil/water separator was located on the north of Building A, installed above the slab on grade floor.	M&I, PHC, VOC	Soil	BH19-2	S2	M&I, PAHs
					S5	PHCs, VOCs
					S7	PHCs, VOCs

Table 4: Summary of APECs Investigated

APEC	Description	PCOCs	Media	Boreholes Within APEC	Samples Analysed	Parameter Analyzed
APEC-6	One (1) oil/water separator was located on the north of Building A, installed above the slab on grade floor.	M&I, PHC, VOC	Soil	BH20-1	SS1	M&I
					SS1	PHCs, VOCs
				BH20-2	SS2	M&I
					DUP3	M&I
					SS5	PHCs, VOCs
					DUP5	PHCs, VOCs
				BH20-4	SS1	VOCs
			Groundwater	BH19-2	-	M&I, PHCs, VOCs
				BH20-1	-	M&I, PHCs, VOCs
				BH20-2	-	M&I, PHCs, VOCs
APEC-7	One pallet with car batteries was observed during the site reconnaissance.	M&I, PHC, VOC	Soil	BH19-2	S2	M&I, PAHs
					S5	PHCs, VOCs
					S7	PHCs, VOCs
				BH20-1	SS1	M&I
					SS1	PHCs, VOCs
				BH20-2	SS2	M&I
					DUP3	M&I
					SS5	PHCs, VOCs
					DUP5	PHCs, VOCs
				BH20-4	SS1	VOCs
			Groundwater	BH19-2	-	M&I, PHCs, VOCs
				BH20-1	-	M&I, PHCs, VOCs
				BH20-2	-	M&I, PHCs, VOCs

Table 5: Summary of Metals and Inorganics in Soil

Parameter	MECP Table 3 SCS	Units	BH19-1-S2	BH19-2-S2	DUP1 (BH19-2 S2)	BH19-3-S1	BH20-1 SS1	BH20-2 SS2
Date of Collection			29-Nov-19	29-Nov-19	29-Nov-19	29-Nov-19	13-Apr-20	13-Apr-20
Date Reported			17-Dec-19	17-Dec-19	17-Dec-19	17-Dec-19	21-Apr-20	21-Apr-20
Sampling Depth (mbgs)			0.8 - 1.4	0.8 - 1.4	0.8 - 1.4	0.0 - 0.6	0.0 - 0.6	0.8 - 1.4
Analytical Report Reference No.			CA14332-DEC19 R	CA14332-DEC19 R	CA14332-DEC19 R	CA14332-DEC19 R	CA14322-APR20	CA14322-APR20
Antimony	7.5	µg/g	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Arsenic	18	µg/g	5.1	6.2	4.8	5.9	4.1	5.6
Barium	390	µg/g	110	89	91	110	99	130
Beryllium	5	µg/g	0.79	0.75	0.81	1	0.43	0.98
Boron	120	µg/g	11	8	7	5	15	8
Boron (Hot Water Soluble)	1.5	µg/g	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Cadmium	1.2	µg/g	0.27	0.22	0.31	0.2	0.72	0.21
Chromium	160	µg/g	26	22	23	26	22	28
Chromium VI	10	µg/g	0.3	< 0.2	< 0.2	< 0.2	0.3	< 0.2
Cobalt	22	µg/g	14	14	13	16	7.7	14
Copper	180	µg/g	22	33	25	40	25	35
Cyanide	0.051	µg/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Lead	120	µg/g	16	24	25	16	60	15
Mercury	1.8	µg/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Molybdenum	6.9	µg/g	0.9	1.3	1	0.5	1.6	0.5
Nickel	130	µg/g	31	30	25	35	20	36
Selenium	2.4	µg/g	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Silver	25	µg/g	< 0.05	< 0.05	0.05	< 0.05	0.08	0.06
Thallium	1	µg/g	0.15	0.16	0.16	0.18	0.12	0.18
Uranium	23	µg/g	1.1	0.64	0.8	0.63	0.72	0.88
Vanadium	86	µg/g	31	30	31	33	26	36
Zinc	340	µg/g	75	80	82	78	280	79
Electrical Conductivity (2:1)	0.7	mS/cm	0.33	0.2	0.25	0.19	0.28	0.25
Sodium Adsorption Ratio	5	-	1.3	0.4	0.4	0.7	0.5	0.9
pH, 2:1 CaCl2 Extraction	-	µg/g	7.63	7.6	7.43	7.67	7.7	7.74

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

Table 5: Summary of Metals and Inorganics in Soil

Parameter	MECP Table 3 SCS	Units	DUP3 (BH20-2 SS2)	BH20-3 SS2
Date of Collection			13-Apr-20	13-Apr-20
Date Reported			21-Apr-20	21-Apr-20
Sampling Depth (mbgs)			0.8 - 1.4	0.8 - 1.4
Analytical Report Reference No.			CA14322-APR20	CA14322-APR20
Antimony	7.5	µg/g	< 0.8	< 0.8
Arsenic	18	µg/g	4.2	5.7
Barium	390	µg/g	84	110
Beryllium	5	µg/g	0.7	0.87
Boron	120	µg/g	7	9
Boron (Hot Water Soluble)	1.5	µg/g	< 0.5	< 0.5
Cadmium	1.2	µg/g	0.12	0.12
Chromium	160	µg/g	22	28
Chromium VI	10	µg/g	< 0.2	< 0.2
Cobalt	22	µg/g	12	14
Copper	180	µg/g	37	37
Cyanide	0.051	µg/g	< 0.05	< 0.05
Lead	120	µg/g	11	14
Mercury	1.8	µg/g	< 0.05	< 0.05
Molybdenum	6.9	µg/g	0.4	0.5
Nickel	130	µg/g	28	33
Selenium	2.4	µg/g	< 0.7	< 0.7
Silver	25	µg/g	< 0.05	0.06
Thallium	1	µg/g	0.15	0.2
Uranium	23	µg/g	0.78	1.6
Vanadium	86	µg/g	29	36
Zinc	340	µg/g	64	75
Electrical Conductivity (2:1)	0.7	mS/cm	0.21	0.31
Sodium Adsorption Ratio	5	-	0.9	1.2
pH, 2:1 CaCl2 Extraction	-	µg/g	7.7	7.78

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 3 SCS	Units	BH19-1-S4	BH19-2-S5	BH19-2-S7	BH19-3-S5	BH20-1 SS6
Date of Collection			29-Nov-19	29-Nov-19	29-Nov-19	29-Nov-19	13-Apr-20
Date Reported			17-Dec-19	17-Dec-19	17-Dec-19	17-Dec-19	21-Apr-20
Sampling Depth (mbgs)			2.3 - 2.9	3.1 - 3.7	6.1 - 6.7	3.1 - 3.7	4.6 - 5.2
Analytical Report Reference No.			CA14332-DEC19 R	CA14332-DEC19 R	CA14332-DEC19 R	CA14332-DEC19 R	CA14322-APR20
Benzene	0.17	µg/g	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Ethylbenzene	15	µg/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Toluene	6	µg/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Xylenes (Total)	25	µg/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
F1-BTEX	65	µg/g	<10	<10	<10	<10	<10
F2 (C10-C16)	150	µg/g	<10	<10	<10	<10	<10
F3 (C16-C34)	1300	µg/g	<50	<50	<50	<50	<50
F4 (C34-C50)	5600	µg/g	<50	<50	<50	<50	<50

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 3 SCS	Units	BH20-2 SS5	DUP4 (BH20-2 SS5)	BH20-3 SS3
Date of Collection			13-Apr-20	13-Apr-20	13-Apr-20
Date Reported			21-Apr-20	21-Apr-20	21-Apr-20
Sampling Depth (mbgs)			3.0 - 3.6	3.0 - 3.6	1.5 - 2.1
Analytical Report Reference No.			CA14322-APR20	CA14322-APR20	CA14322-APR20
Benzene	0.17	µg/g	< 0.02	< 0.02	< 0.02
Ethylbenzene	15	µg/g	< 0.05	< 0.05	< 0.05
Toluene	6	µg/g	< 0.05	< 0.05	< 0.05
Xylenes (Total)	25	µg/g	< 0.05	< 0.05	< 0.05
F1-BTEX	65	µg/g	<10	<10	<10
F2 (C10-C16)	150	µg/g	<10	<10	<10
F3 (C16-C34)	1300	µg/g	<50	<50	<50
F4 (C34-C50)	5600	µg/g	<50	<50	<50

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 3 SCS	Units	BH19-1-S4	BH19-2-S5	BH19-2-S7
Date of Collection			29-Nov-19	29-Nov-19	29-Nov-19
Date Reported			17-Dec-19	17-Dec-19	17-Dec-19
Sampling Depth (mbgs)			2.3 - 2.9	3.1 - 3.7	6.1 - 6.7
Analytical Report Reference No.			CA14332-DEC19 R	CA14332-DEC19 R	CA14332-DEC19 R
Acetone	28	µg/g	< 0.5	< 0.5	< 0.5
Benzene	0.17	µg/g	< 0.02	< 0.02	< 0.02
Bromodichloromethane	13	µg/g	< 0.05	< 0.05	< 0.05
Bromoform	0.26	µg/g	< 0.05	< 0.05	< 0.05
Bromomethane	0.05	µg/g	< 0.05	< 0.05	< 0.05
Carbon Tetrachloride	0.12	µg/g	< 0.05	< 0.05	< 0.05
Chlorobenzene	2.7	µg/g	< 0.05	< 0.05	< 0.05
Chloroform	0.18	µg/g	< 0.05	< 0.05	< 0.05
Cis- 1,2-Dichloroethylene	4.3	µg/g	< 0.05	< 0.05	< 0.05
Dibromochloromethane	9.4	µg/g	< 0.05	< 0.05	< 0.05
Dichlorobenzene, 1,2-	6	µg/g	< 0.05	< 0.05	< 0.05
Dichlorobenzene, 1,3-	0.097	µg/g	< 0.05	< 0.05	< 0.05
Dichlorobenzene, 1,4-	25	µg/g	< 0.05	< 0.05	< 0.05
Dichlorodifluoromethane	11	µg/g	< 0.05	< 0.05	< 0.05
Dichloroethane, 1,1-	0.05	µg/g	< 0.05	< 0.05	< 0.05
Dichloroethane, 1,2-	0.05	µg/g	< 0.05	< 0.05	< 0.05
Dichloroethylene, 1,1-	30	µg/g	< 0.05	< 0.05	< 0.05
Dichloropropane, 1,2-	0.085	µg/g	< 0.05	< 0.05	< 0.05
Dichloropropene, 1,3-	0.083	µg/g	< 0.05	< 0.05	< 0.05
Ethylbenzene	15	µg/g	< 0.05	< 0.05	< 0.05
Ethylene Dibromide	0.05	µg/g	< 0.05	< 0.05	< 0.05
Methyl Ethyl Ketone	44	µg/g	< 0.5	< 0.5	< 0.5
Methyl Isobutyl Ketone	4.3	µg/g	< 0.5	< 0.5	< 0.5
Methyl tert-butyl Ether	1.4	µg/g	< 0.05	< 0.05	< 0.05
Methylene Chloride	0.96	µg/g	< 0.05	< 0.05	< 0.05
n-Hexane	34	µg/g	< 0.05	< 0.05	< 0.05
Styrene	2.2	µg/g	< 0.05	< 0.05	< 0.05
Tetrachloroethane, 1,1,1,2-	0.05	µg/g	< 0.05	< 0.05	< 0.05
Tetrachloroethane, 1,1,2,2-	0.05	µg/g	< 0.05	< 0.05	< 0.05
Tetrachloroethylene	2.3	µg/g	< 0.05	< 0.05	< 0.05
Toluene	6	µg/g	< 0.05	< 0.05	< 0.05
Trans- 1,2-Dichloroethylene	0.75	µg/g	< 0.05	< 0.05	< 0.05
Trichloroethane, 1,1,1-	3.4	µg/g	< 0.05	< 0.05	< 0.05
Trichloroethane, 1,1,2-	0.05	µg/g	< 0.05	< 0.05	< 0.05
Trichloroethylene	0.52	µg/g	< 0.05	< 0.05	0.08
Trichlorofluoromethane	5.8	µg/g	< 0.05	< 0.05	< 0.05
Vinyl Chloride	0.022	µg/g	< 0.02	< 0.02	< 0.02
Xylene Mixture	25	µg/g	< 0.05	< 0.05	< 0.05

Table 7: Summary of VOCs in Soil

Parameter	MECP Table 3 SCS	Units	BH19-3-S5	BH20-1 SS6	BH20-2 SS5
Date of Collection			29-Nov-19	13-Apr-20	13-Apr-20
Date Reported			17-Dec-19	21-Apr-20	21-Apr-20
Sampling Depth (mbgs)			3.1 - 3.7	4.6 - 5.2	3.0 - 3.6
Analytical Report Reference No.			CA14332-DEC19 R	CA14322-APR20	CA14322-APR20
Acetone	28	µg/g	< 0.5	< 0.5	< 0.5
Benzene	0.17	µg/g	< 0.02	< 0.02	< 0.03
Bromodichloromethane	13	µg/g	< 0.05	< 0.05	< 0.05
Bromoform	0.26	µg/g	< 0.05	< 0.05	< 0.05
Bromomethane	0.05	µg/g	< 0.05	< 0.05	< 0.05
Carbon Tetrachloride	0.12	µg/g	< 0.05	< 0.05	< 0.05
Chlorobenzene	2.7	µg/g	< 0.05	< 0.05	< 0.05
Chloroform	0.18	µg/g	< 0.05	< 0.05	< 0.05
Cis- 1,2-Dichloroethylene	4.3	µg/g	< 0.05	< 0.05	< 0.05
Dibromochloromethane	9.4	µg/g	< 0.05	< 0.05	< 0.05
Dichlorobenzene, 1,2-	6	µg/g	< 0.05	< 0.05	< 0.05
Dichlorobenzene, 1,3-	0.097	µg/g	< 0.05	< 0.05	< 0.05
Dichlorobenzene, 1,4-	25	µg/g	< 0.05	< 0.05	< 0.05
Dichlorodifluoromethane	11	µg/g	< 0.05	< 0.05	< 0.05
Dichloroethane, 1,1-	0.05	µg/g	< 0.05	< 0.05	< 0.05
Dichloroethane, 1,2-	0.05	µg/g	< 0.05	< 0.05	< 0.05
Dichloroethylene, 1,1-	30	µg/g	< 0.05	< 0.05	< 0.05
Dichloropropane, 1,2-	0.085	µg/g	< 0.05	< 0.05	< 0.05
Dichloropropene, 1,3-	0.083	µg/g	< 0.05	< 0.05	< 0.05
Ethylbenzene	15	µg/g	< 0.05	< 0.05	< 0.05
Ethylene Dibromide	0.05	µg/g	< 0.05	< 0.05	< 0.05
Methyl Ethyl Ketone	44	µg/g	< 0.5	< 0.5	< 0.5
Methyl Isobutyl Ketone	4.3	µg/g	< 0.5	< 0.5	< 0.5
Methyl tert-butyl Ether	1.4	µg/g	< 0.05	< 0.05	< 0.05
Methylene Chloride	0.96	µg/g	< 0.05	< 0.05	< 0.05
n-Hexane	34	µg/g	< 0.05	< 0.05	< 0.05
Styrene	2.2	µg/g	< 0.05	< 0.05	< 0.05
Tetrachloroethane, 1,1,1,2-	0.05	µg/g	< 0.05	< 0.05	< 0.05
Tetrachloroethane, 1,1,2,2-	0.05	µg/g	< 0.05	< 0.05	< 0.05
Tetrachloroethylene	2.3	µg/g	< 0.05	< 0.05	< 0.05
Toluene	6	µg/g	< 0.05	< 0.05	< 0.05
Trans- 1,2-Dichloroethylene	0.75	µg/g	< 0.05	< 0.05	< 0.05
Trichloroethane, 1,1,1-	3.4	µg/g	< 0.05	< 0.05	< 0.05
Trichloroethane, 1,1,2-	0.05	µg/g	< 0.05	< 0.05	< 0.05
Trichloroethylene	0.52	µg/g	< 0.05	< 0.05	< 0.05
Trichlorofluoromethane	5.8	µg/g	< 0.05	< 0.05	< 0.05
Vinyl Chloride	0.022	µg/g	< 0.02	< 0.02	< 0.02
Xylene Mixture	25	µg/g	< 0.05	< 0.05	< 0.05

Table 7: Summary of VOCs in Soil

Parameter	MECP Table 3 SCS	Units	BH20-3 SS3	BH20-4 SS1
Date of Collection			13-Apr-20	13-Apr-20
Date Reported			21-Apr-20	21-Apr-20
Sampling Depth (mbgs)			1.5 - 2.1	6.1 - 6.7
Analytical Report Reference No.			CA14322-APR20	CA14322-APR20
Acetone	28	µg/g	< 0.5	< 0.5
Benzene	0.17	µg/g	< 0.04	< 0.05
Bromodichloromethane	13	µg/g	< 0.05	< 0.05
Bromoform	0.26	µg/g	< 0.05	< 0.05
Bromomethane	0.05	µg/g	< 0.05	< 0.05
Carbon Tetrachloride	0.12	µg/g	< 0.05	< 0.05
Chlorobenzene	2.7	µg/g	< 0.05	< 0.05
Chloroform	0.18	µg/g	< 0.05	< 0.05
Cis- 1,2-Dichloroethylene	4.3	µg/g	< 0.05	< 0.05
Dibromochloromethane	9.4	µg/g	< 0.05	< 0.05
Dichlorobenzene, 1,2-	6	µg/g	< 0.05	< 0.05
Dichlorobenzene, 1,3-	0.097	µg/g	< 0.05	< 0.05
Dichlorobenzene, 1,4-	25	µg/g	< 0.05	< 0.05
Dichlorodifluoromethane	11	µg/g	< 0.05	< 0.05
Dichloroethane, 1,1-	0.05	µg/g	< 0.05	< 0.05
Dichloroethane, 1,2-	0.05	µg/g	< 0.05	< 0.05
Dichloroethylene, 1,1-	30	µg/g	< 0.05	< 0.05
Dichloropropane, 1,2-	0.085	µg/g	< 0.05	< 0.05
Dichloropropene, 1,3-	0.083	µg/g	< 0.05	< 0.05
Ethylbenzene	15	µg/g	< 0.05	< 0.05
Ethylene Dibromide	0.05	µg/g	< 0.05	< 0.05
Methyl Ethyl Ketone	44	µg/g	< 0.5	< 0.5
Methyl Isobutyl Ketone	4.3	µg/g	< 0.5	< 0.5
Methyl tert-butyl Ether	1.4	µg/g	< 0.05	< 0.05
Methylene Chloride	0.96	µg/g	< 0.05	< 0.05
n-Hexane	34	µg/g	< 0.05	< 0.05
Styrene	2.2	µg/g	< 0.05	< 0.05
Tetrachloroethane, 1,1,1,2-	0.05	µg/g	< 0.05	< 0.05
Tetrachloroethane, 1,1,2,2-	0.05	µg/g	< 0.05	< 0.05
Tetrachloroethylene	2.3	µg/g	< 0.05	< 0.05
Toluene	6	µg/g	< 0.05	< 0.05
Trans- 1,2-Dichloroethylene	0.75	µg/g	< 0.05	< 0.05
Trichloroethane, 1,1,1-	3.4	µg/g	< 0.05	< 0.05
Trichloroethane, 1,1,2-	0.05	µg/g	< 0.05	< 0.05
Trichloroethylene	0.52	µg/g	< 0.05	< 0.05
Trichlorofluoromethane	5.8	µg/g	< 0.05	< 0.05
Vinyl Chloride	0.022	µg/g	< 0.02	< 0.02
Xylene Mixture	25	µg/g	< 0.05	< 0.05

Table 8: Summary of PAHs in Soil

Parameter	MECP Table 3 SCS	Units	BH19-1-S1	BH19-2-S2	BH19-3-S2	DUP2 (BH19-3 S2)	BH20-3 SS2
Date of Collection			29-Nov-19	29-Nov-19	29-Nov-19	29-Nov-19	13-Apr-20
Date Reported			17-Dec-19	17-Dec-19	17-Dec-19	17-Dec-19	21-Apr-20
Screen Interval (mbgs)			0.0 -0.6	0.8 - 1.4	0.8 - 1.4	0.8 - 1.4	0.8 - 1.4
Analytical Report Reference No.			CA14332-DEC19 R	CA14332-DEC19 R	CA14332-DEC19 R	CA14332-DEC19 R	CA14322-APR20
Acenaphthene	58	µg/g	< 0.2	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	0.17	µg/g	< 0.15	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	0.74	µg/g	< 0.2	< 0.05	< 0.05	< 0.05	< 0.05
Benz(a)anthracene	0.63	µg/g	0.38	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	0.3	µg/g	0.28	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	0.78	µg/g	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(g,h,i)perylene	7.8	µg/g	0.28	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	0.78	µg/g	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	7.8	µg/g	0.32	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	0.1	µg/g	< 0.2	< 0.06	< 0.06	< 0.06	< 0.06
Fluoranthene	0.69	µg/g	0.66	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	69	µg/g	< 0.2	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	0.48	µg/g	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1
Naphthalene	0.75	µg/g	< 0.2	< 0.05	< 0.05	< 0.05	< 0.05
2-and 1-methyl Naphthalene	3.4	µg/g	< 0.2	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	7.8	µg/g	0.22	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	78	µg/g	0.54	< 0.05	< 0.05	< 0.05	< 0.05

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

Table 9: Summary of PCBs in Soil

Parameter	MECP Table 3 SCS	Units	BH20-1 SS1
Date of Collection			13-Apr-20
Date Reported			21-Apr-20
Screen Interval (mbgs)			0.0 0.6
Analytical Report Reference No.			CA14322-APR20
Polychlorinated Biphenyls	1.1	µg/g	< 0.3

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

Table 10: Summary of OCPs in Soil

Parameter	MECP Table 3 SCS	Units	BH19-1-S2	BH19-2-S1	BH19-3-S1	BH20-2 SS1
Date of Collection			29-Nov-19	29-Nov-19	29-Nov-19	13-Apr-20
Date Reported			17-Dec-19	17-Dec-19	17-Dec-19	21-Apr-20
Screen Interval (mbgs)			0.0 - 0.6	0.0 - 0.6	0.0 - 0.6	0.0 - 0.6
Analytical Report Reference No.			CA14332-DEC19 R	CA14332-DEC19 R	CA14332-DEC19 R	CA14322-APR20
Chlordane	0.05	µg/g	< 0.05	< 0.05	< 0.05	< 0.05
DDD	3.3	µg/g	< 0.05	< 0.05	< 0.05	< 0.05
DDE	0.33	µg/g	< 0.05	< 0.05	< 0.05	< 0.05
DDT	1.4	µg/g	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	µg/g	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan	0.04	µg/g	< 0.04	< 0.04	< 0.04	< 0.04
Endrin	0.04	µg/g	< 0.04	< 0.04	< 0.04	< 0.04
Hexachlorocyclohexane Gamma-	0.063	µg/g	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor	0.15	µg/g	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor Epoxide	0.05	µg/g	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobenzene	0.52	µg/g	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	0.014	µg/g	< 0.01	< 0.01	< 0.01	< 0.01
Hexachloroethane	0.071	µg/g	< 0.01	< 0.01	< 0.01	< 0.01
Aldrin	0.05	µg/g	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.13	µg/g	< 0.05	< 0.05	< 0.05	< 0.05

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

Table 11: Summary of Metals and Inorganics in Groundwater

Parameter	MECP Table 3 SCS	Units	BH19-2	BH20-1	BH20-2	BH20-3	DUP-1 (BH20-3)
Date of Collection			29-Apr-20	29-Apr-20	29-Apr-20	29-Apr-20	29-Apr-20
Date Reported			06-May-20	06-May-20	06-May-20	06-May-20	06-May-20
Screen Interval (mbgs)			4.6-7.6	1.5 - 4.6	1.5 - 4.6	1.5 - 4.6	1.5 - 4.6
Analytical Report Reference No.			CA14698-APR20	CA14698-APR20	CA14698-APR20	CA14698-APR20	CA14698-APR20
Antimony	20000	µg/L	0.28	0.23	0.62	0.48	0.38
Arsenic	1900	µg/L	3.2	0.7	2	1.3	1.3
Barium	29000	µg/L	90.7	106	47.8	41.5	39.8
Beryllium	67	µg/L	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
Boron	45000	µg/L	357	153	100	164	166
Cadmium	2.7	µg/L	0.009	0.009	0.023	0.006	0.021
Chloride	2300000	µg/L	290000	440000	45000	180000	180000
Chromium	810	µg/L	0.18	0.38	2.95	0.54	0.49
Chromium VI	140	µg/L	< 0.2	< 0.2	1.6	0.4	0.3
Cobalt	66	µg/L	0.358	0.308	0.91	0.795	0.766
Copper	87	µg/L	0.6	3.3	16.3	1.8	1.6
Cyanide	66	µg/L	< 2	< 2	< 2	< 2	< 2
Lead	25	µg/L	0.02	0.14	0.05	0.08	0.04
Mercury	2.8	µg/L	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Molybdenum	9200	µg/L	19	7.04	12.1	22.4	22.4
Nickel	490	µg/L	1.5	1.1	2.8	2.5	2.7
Selenium	63	µg/L	0.06	0.27	0.29	0.26	0.29
Silver	1.5	µg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Sodium	2300000	µg/L	99400	156000	53800	100000	102000
Thallium	510	µg/L	0.03	0.038	0.02	0.014	0.014
Uranium	420	µg/L	2.17	5.16	2.96	8.08	7.99
Vanadium	250	µg/L	0.32	0.92	3.39	0.58	0.59
Zinc	1100	µg/L	< 2	2	3	2	3
pH	-	-	7.56	7.4	7.83	7.74	7.75

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

Table 12: Summary of PHCs in Groundwater

Parameter	MECP Table 3 SCS	Units	BH19-2	BH20-1	BH20-2	BH20-2	BH20-3
Date of Collection			29-Apr-20	29-Apr-20	29-Apr-20	8-Nov-21	29-Apr-20
Date Reported			06-May-20	06-May-20	06-May-20	15-Nov-20	06-May-20
Screen Interval (mbgs)			4.6-7.6	1.5 - 4.6	1.5 - 4.6	1.5 - 4.6	1.5 - 4.6
Analytical Report Reference No.			CA14698-APR20	CA14698-APR20	CA14698-APR20	CA40125-NOV21	CA14698-APR20
Benzene	430	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	2300	µg/L	< 0.5	< 0.5	3.5	< 0.5	< 0.5
Toluene	18000	µg/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes (Total)	4200	µg/L	< 0.5	< 0.5	24.8	< 0.5	1.6
F1 (C6 to C10) minus BTEX	750	µg/L	<25	<25	<25	Not applicable	<25
F2 (C10 to C16)	150	µg/L	<100	<100	<100	Not applicable	<100
F3 (C16 to C34)	500	µg/L	<200	<200	<200	Not applicable	<200
F4 (C34 to C50) minus PAHs	500	µg/L	<200	<200	<200	Not applicable	<200

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

Table 13: Summary of VOCs in Groundwater

Parameter	MECP Table 3 SCS	Units	BH19-2	BH20-1	BH20-2
Date of Collection			29-Apr-20	29-Apr-20	29-Apr-20
Date Reported			06-May-20	06-May-20	06-May-20
Screen Interval (mbgs)			4.6-7.6	1.5 - 4.6	1.5 - 4.6
Analytical Report Reference No.			CA14698-APR20	CA14698-APR20	CA14698-APR20
Acetone	130000	µg/L	< 30	< 30	124
Benzene	430	µg/L	< 0.5	< 0.5	< 0.5
Bromodichloromethane	85000	µg/L	< 0.5	< 0.5	< 0.5
Bromoform	770	µg/L	< 0.5	< 0.5	< 0.5
Bromomethane	56	µg/L	< 0.5	< 0.5	< 0.5
Carbon Tetrachloride	8.4	µg/L	< 0.2	< 0.2	< 0.2
Chlorobenzene	630	µg/L	< 0.5	< 0.5	< 0.5
Chloroform	22	µg/L	< 0.5	< 0.5	< 0.5
cis- 1,2-Dichloroethylene	17	µg/L	< 0.5	< 0.5	< 0.5
Dibromochloromethane	82000	µg/L	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,2-	9600	µg/L	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	9600	µg/L	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	67	µg/L	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	4400	µg/L	< 2	< 2	< 2
Dichloroethane, 1,1-	3100	µg/L	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	12	µg/L	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	17	µg/L	< 0.5	< 0.5	< 0.5
Dichloropropane, 1,2-	140	µg/L	< 0.5	< 0.5	< 0.5
Dichloropropene, 1,3-	45	µg/L	< 0.5	< 0.5	< 0.5
Ethylbenzene	2300	µg/L	< 0.5	< 0.5	3.5
Ethylene Dibromide	0.83	µg/L	< 0.2	< 0.2	< 0.2
Methyl Ethyl Ketone	1500000	µg/L	< 20	< 20	< 20
Methyl Isobutyl Ketone	580000	µg/L	< 20	< 20	< 20
Methyl tert-butyl ether	1400	µg/L	< 2	< 2	< 2
Methylene Chloride	5500	µg/L	< 0.5	< 0.5	< 0.5
n-Hexane	520	µg/L	< 1	< 1	< 1
Styrene	9100	µg/L	< 0.5	< 0.5	0.9
Tetrachloroethane, 1,1,1,2-	28	µg/L	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	15	µg/L	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	17	µg/L	< 0.5	< 0.5	< 0.5
Toluene	18000	µg/L	< 0.5	< 0.5	< 0.5
trans- 1,2-Dichloroethylene	17	µg/L	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,1-	6700	µg/L	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	30	µg/L	< 0.5	< 0.5	< 0.5
Trichloroethylene	17	µg/L	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	2500	µg/L	< 5	< 5	< 5
Vinyl Chloride	1.7	µg/L	< 0.2	< 0.2	< 0.2
Xylene Mixture	4200	µg/L	< 0.5	24.8	1.6

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

Table 13: Summary of VOCs in Groundwater

Parameter	MECP Table 3 SCS	Units	BH20-3	Trip Blank
Date of Collection			29-Apr-20	-
Date Reported			06-May-20	06-May-20
Screen Interval (mbgs)			1.5 - 4.6	-
Analytical Report Reference No.			CA14698-APR20	CA14698-APR21
Acetone	130000	µg/L	< 30	< 30
Benzene	430	µg/L	< 0.5	< 0.5
Bromodichloromethane	85000	µg/L	< 0.5	< 0.5
Bromoform	770	µg/L	< 0.5	< 0.5
Bromomethane	56	µg/L	< 0.5	< 0.5
Carbon Tetrachloride	8.4	µg/L	< 0.2	< 0.2
Chlorobenzene	630	µg/L	< 0.5	< 0.5
Chloroform	22	µg/L	< 0.5	< 0.5
cis- 1,2-Dichloroethylene	17	µg/L	< 0.5	< 0.5
Dibromochloromethane	82000	µg/L	< 0.5	< 0.5
Dichlorobenzene, 1,2-	9600	µg/L	< 0.5	< 0.5
Dichlorobenzene, 1,3-	9600	µg/L	< 0.5	< 0.5
Dichlorobenzene, 1,4-	67	µg/L	< 0.5	< 0.5
Dichlorodifluoromethane	4400	µg/L	< 2	< 2
Dichloroethane, 1,1-	3100	µg/L	< 0.5	< 0.5
Dichloroethane, 1,2-	12	µg/L	< 0.5	< 0.5
Dichloroethylene, 1,1-	17	µg/L	< 0.5	< 0.5
Dichloropropane, 1,2-	140	µg/L	< 0.5	< 0.5
Dichloropropene, 1,3-	45	µg/L	< 0.5	< 0.5
Ethylbenzene	2300	µg/L	< 0.5	< 0.5
Ethylene Dibromide	0.83	µg/L	< 0.2	< 0.2
Methyl Ethyl Ketone	1500000	µg/L	< 20	< 20
Methyl Isobutyl Ketone	580000	µg/L	< 20	< 20
Methyl tert-butyl ether	1400	µg/L	< 2	< 2
Methylene Chloride	5500	µg/L	< 0.5	< 0.5
n-Hexane	520	µg/L	< 1	< 1
Styrene	9100	µg/L	< 0.5	< 0.5
Tetrachloroethane, 1,1,1,2-	28	µg/L	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	15	µg/L	< 0.5	< 0.5
Tetrachloroethylene	17	µg/L	< 0.5	< 0.5
Toluene	18000	µg/L	< 0.5	< 0.5
trans- 1,2-Dichloroethylene	17	µg/L	< 0.5	< 0.5
Trichloroethane, 1,1,1-	6700	µg/L	< 0.5	< 0.5
Trichloroethane, 1,1,2-	30	µg/L	< 0.5	< 0.5
Trichloroethylene	17	µg/L	< 0.5	< 0.5
Trichlorofluoromethane	2500	µg/L	< 5	< 5
Vinyl Chloride	1.7	µg/L	< 0.2	< 0.2
Xylene Mixture	4200	µg/L	< 0.5	< 0.5

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

Table 14: Summary of OCPs in Groundwater

Parameter	MOECC Table 3 SCS	Units	BH20-2
Date of Collection			29-Apr-20
Date Reported			06-May-20
Screen Interval (mbgs)			1.5 - 4.6
Analytical Report Reference No.			CA14698-APR20
Aldrin	8.5	µg/L	< 0.01
Chlordane	28	µg/L	< 0.02
DDD	45	µg/L	< 0.05
DDE	20	µg/L	< 0.01
DDT	2.8	µg/L	< 0.05
Dieldrin	0.75	µg/L	< 0.01
Endosulfan	1.5	µg/L	< 0.05
Endrin	0.48	µg/L	< 0.05
Hexachlorocyclohexane Gamma-	1.2	µg/L	< 0.01
Heptachlor	2.5	µg/L	< 0.01
Heptachlor Epoxide	0.048	µg/L	< 0.01
Hexachlorobenzene	3.1	µg/L	< 0.01
Hexachlorobutadiene	4.5	µg/L	< 0.01
Hexachloroethane	200	µg/L	< 0.01
Methoxychlor	6.5	µg/L	< 0.01

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

Table 15: Summary of Maximum Concentrations in Soil

	Parameter	Standard	Maximum Concentration	Location
Metals and Inorganics	Antimony	7.5	< 0.8	All Samples
	Arsenic	18	6.2	BH19-2-S2
	Barium	390	130	BH20-2 SS2
	Beryllium	5	1	BH19-3-S1
	Boron	120	15	BH20-1 SS1
	Boron (Hot Water Soluble)	1.5	< 0.5	All Samples
	Cadmium	1.2	0.72	BH20-1 SS1
	Chromium	160	28	BH20-2 SS2
	Chromium VI	10	0.3	BH19-1-S2
	Cobalt	22	16	BH19-3-S1
	Copper	180	40	BH19-3-S1
	Cyanide	0.051	< 0.05	All Samples
	Lead	120	60	BH20-1 SS1
	Mercury	1.8	< 0.05	All Samples
	Molybdenum	6.9	1.6	BH20-1 SS1
	Nickel	130	36	BH20-2 SS2
	Selenium	2.4	< 0.7	All Samples
	Silver	25	0.08	BH20-1 SS1
	Thallium	1	0.2	BH20-3 SS2
	Uranium	23	1.6	BH20-3 SS2
	Vanadium	86	36	BH20-2 SS2
	Zinc	340	280	BH20-1 SS1
	Electrical Conductivity (2:1)	0.7	0.33	BH19-1-S2
	Sodium Adsorption Ratio	5	1.3	BH19-1-S2
	pH, 2:1 CaCl2 Extraction	-	7.78	BH20-3 SS2
PHCs	Benzene	0.17	< 0.02	All Samples
	Ethylbenzene	15	< 0.05	All Samples
	Toluene	6	< 0.05	All Samples
	Xylenes (Total)	25	< 0.05	All Samples
	F1-BTEX	65	<10	All Samples
	F2 (C10-C16)	150	<10	All Samples
	F3 (C16-C34)	1300	<50	All Samples
	F4 (C34-C50)	5600	<50	All Samples
VOCs	Acetone	28	< 0.5	All Samples
	Benzene	0.17	< 0.02	All Samples
	Bromodichloromethane	13	< 0.05	All Samples
	Bromoform	0.26	< 0.05	All Samples
	Bromomethane	0.05	< 0.05	All Samples
	Carbon Tetrachloride	0.12	< 0.05	All Samples
	Chlorobenzene	2.7	< 0.05	All Samples
	Chloroform	0.18	< 0.05	All Samples
	Cis- 1,2-Dichloroethylene	4.3	< 0.05	All Samples
	Dibromochloromethane	9.4	< 0.05	All Samples
	Dichlorobenzene, 1,2-	6	< 0.05	All Samples

Table 15: Summary of Maximum Concentrations in Soil

	Parameter	Standard	Maximum Concentration	Location
VOCs	Dichlorobenzene, 1,3-	0.097	< 0.05	All Samples
	Dichlorobenzene, 1,4-	25	< 0.05	All Samples
	Dichlorodifluoromethane	11	< 0.05	All Samples
	Dichloroethane, 1,1-	0.05	< 0.05	All Samples
	Dichloroethane, 1,2-	0.05	< 0.05	All Samples
	Dichloroethylene, 1,1-	30	< 0.05	All Samples
	Dichloropropane, 1,2-	0.085	< 0.05	All Samples
	Dichloropropene, 1,3-	0.083	< 0.05	All Samples
	Ethylbenzene	15	< 0.05	All Samples
	Ethylene Dibromide	0.05	< 0.05	All Samples
	Methyl Ethyl Ketone	44	< 0.5	All Samples
	Methyl Isobutyl Ketone	4.3	< 0.5	All Samples
	Methyl tert-butyl Ether	1.4	< 0.05	All Samples
	Methylene Chloride	0.96	< 0.05	All Samples
	n-Hexane	34	< 0.05	All Samples
	Styrene	2.2	< 0.05	All Samples
	Tetrachloroethane, 1,1,1,2-	0.05	< 0.05	All Samples
	Tetrachloroethane, 1,1,2,2-	0.05	< 0.05	All Samples
	Tetrachloroethylene	2.3	< 0.05	All Samples
	Toluene	6	< 0.05	All Samples
	Trans- 1,2-Dichloroethylene	0.75	< 0.05	All Samples
	Trichloroethane, 1,1,1-	3.4	< 0.05	All Samples
	Trichloroethane, 1,1,2-	0.05	< 0.05	All Samples
	Trichloroethylene	0.52	0.08	BH19-2-S7
	Trichlorofluoromethane	5.8	< 0.05	All Samples
	Vinyl Chloride	0.022	< 0.02	All Samples
	Xylene Mixture	25	< 0.05	All Samples
PAHs	Acenaphthene	58	< 0.2	All Samples
	Acenaphthylene	0.17	< 0.15	All Samples
	Anthracene	0.74	< 0.2	All Samples
	Benz(a)anthracene	0.63	0.38	BH19-1-S1
	Benzo(a)pyrene	0.3	0.28	BH19-1-S1
	Benzo(b)fluoranthene	0.78	< 0.5	All Samples
	Benzo(g,h,i)perylene	7.8	0.28	BH19-1-S1
	Benzo(k)fluoranthene	0.78	< 0.5	All Samples
	Chrysene	7.8	0.32	BH19-1-S1
	Dibenz(a,h)anthracene	0.1	< 0.2	All Samples
	Fluoranthene	0.69	0.66	BH19-1-S1
	Fluorene	69	< 0.2	All Samples
	Indeno(1,2,3-cd)pyrene	0.48	< 0.2	All Samples
	Naphthalene	0.75	< 0.2	All Samples
	2-and 1-methyl Naphthalene	3.4	< 0.2	All Samples
	Phenanthrene	7.8	0.22	BH19-1-S1
	Pyrene	78	0.54	BH19-1-S1

Table 15: Summary of Maximum Concentrations in Soil

Parameter		Standard	Maximum Concentration	Location
PCBs	Polychlorinated Biphenyls	1.1	< 0.3	All Samples
OCPs	Chlordane	0.05	< 0.05	All Samples
	DDD	3.3	< 0.05	All Samples
	DDE	0.33	< 0.05	All Samples
	DDT	1.4	< 0.05	All Samples
	Dieldrin	0.05	< 0.05	All Samples
	Endosulfan	0.04	< 0.04	All Samples
	Endrin	0.04	< 0.04	All Samples
	Hexachlorocyclohexane Gamma-	0.063	< 0.01	All Samples
	Heptachlor	0.15	< 0.01	All Samples
	Heptachlor Epoxide	0.05	< 0.01	All Samples
	Hexachlorobenzene	0.52	< 0.01	All Samples
	Hexachlorobutadiene	0.014	< 0.01	All Samples
	Hexachloroethane	0.071	< 0.01	All Samples
	Aldrin	0.05	< 0.05	All Samples
	Methoxychlor	0.13	< 0.05	All Samples

Table 16: Summary of Maximum Concentrations in Groundwater

	Parameter	Standard	Maximum Concentration	Location
Metals and Inorganics	Antimony	20000	0.62	BH20-2
	Arsenic	1900	3.2	BH19-2
	Barium	29000	106	BH20-1
	Beryllium	67	< 0.007	All Samples
	Boron	45000	357	BH19-2
	Cadmium	2.7	0.023	BH20-2
	Chloride	2300000	440000	BH20-1
	Chromium	810	2.95	BH20-2
	Chromium VI	140	1.6	BH20-2
	Cobalt	66	0.91	BH20-2
	Copper	87	16.3	BH20-2
	Cyanide	66	< 2	All Samples
	Lead	25	0.14	BH20-1
	Mercury	2.8	< 0.01	All Samples
	Molybdenum	9200	22.4	BH20-3
	Nickel	490	2.8	BH20-2
	Selenium	63	0.29	BH20-2
	Silver	1.5	< 0.05	All Samples
	Sodium	2300000	156000	BH20-1
	Thallium	510	0.038	BH20-1
	Uranium	420	8.08	BH20-3
	Vanadium	250	3.39	BH20-2
	Zinc	1100	3	BH20-2
PHCs	Benzene	430	< 0.5	All Samples
	Ethylbenzene	2300	3.5	BH20-2
	Toluene	18000	< 0.5	All Samples
	Xylenes (Total)	4200	24.8	BH20-2
	F1 (C6 to C10) minus BTEX	750	<25	All Samples
	F2 (C10 to C16)	150	<100	All Samples
	F3 (C16 to C34)	500	<200	All Samples
	F4 (C34 to C50) minus PAHs	500	<200	All Samples
VOCs	Acetone	130000	124	BH20-2
	Benzene	430	< 0.5	All Samples
	Bromodichloromethane	85000	< 0.5	All Samples
	Bromoform	770	< 0.5	All Samples
	Bromomethane	56	< 0.5	All Samples
	Carbon Tetrachloride	8.4	< 0.2	All Samples
	Chlorobenzene	630	< 0.5	All Samples
	Chloroform	22	< 0.5	All Samples
	cis- 1,2-Dichloroethylene	17	< 0.5	All Samples
	Dibromochloromethane	82000	< 0.5	All Samples
	Dichlorobenzene, 1,2-	9600	< 0.5	All Samples
	Dichlorobenzene, 1,3-	9600	< 0.5	All Samples
	Dichlorobenzene, 1,4-	67	< 0.5	All Samples

Table 16: Summary of Maximum Concentrations in Groundwater

	Parameter	Standard	Maximum Concentration	Location
VOCs	Dichlorodifluoromethane	4400	< 2	All Samples
	Dichloroethane, 1,1-	3100	< 0.5	All Samples
	Dichloroethane, 1,2-	12	< 0.5	All Samples
	Dichloroethylene, 1,1-	17	< 0.5	All Samples
	Dichloropropane, 1,2-	140	< 0.5	All Samples
	Dichloropropene, 1,3-	45	< 0.5	All Samples
	Ethylbenzene	2300	3.5	BH20-2
	Ethylene Dibromide	0.83	< 0.2	All Samples
	Methyl Ethyl Ketone	1500000	< 20	All Samples
	Methyl Isobutyl Ketone	580000	< 20	All Samples
	Methyl tert-butyl ether	1400	< 2	All Samples
	Methylene Chloride	5500	< 0.5	All Samples
	n-Hexane	520	< 1	All Samples
	Styrene	9100	0.9	BH20-2
	Tetrachloroethane, 1,1,1,2-	28	< 0.5	All Samples
	Tetrachloroethane, 1,1,2,2-	15	< 0.5	All Samples
	Tetrachloroethylene	17	< 0.5	All Samples
	Toluene	18000	< 0.5	All Samples
	trans- 1,2-Dichloroethylene	17	< 0.5	All Samples
	Trichloroethane, 1,1,1-	6700	< 0.5	All Samples
	Trichloroethane, 1,1,2-	30	< 0.5	All Samples
	Trichloroethylene	17	< 0.5	All Samples
	Trichlorofluoromethane	2500	< 5	All Samples
	Vinyl Chloride	1.7	< 0.2	All Samples
	Xylene Mixture	4200	24.8	BH20-1
OCPs	Aldrin	8.5	< 0.01	All Samples
	Chlordane	28	< 0.02	All Samples
	DDD	45	< 0.05	All Samples
	DDE	20	< 0.01	All Samples
	DDT	2.8	< 0.05	All Samples
	Dieldrin	0.75	< 0.01	All Samples
	Endosulfan	1.5	< 0.05	All Samples
	Endrin	0.48	< 0.05	All Samples
	Hexachlorocyclohexane Gamma-	1.2	< 0.01	All Samples
	Heptachlor	2.5	< 0.01	All Samples
	Heptachlor Epoxide	0.048	< 0.01	All Samples
	Hexachlorobenzene	3.1	< 0.01	All Samples
	Hexachlorobutadiene	4.5	< 0.01	All Samples
	Hexachloroethane	200	< 0.01	All Samples
	Methoxychlor	6.5	< 0.01	All Samples

Notes for Soil & Groundwater Summary Tables

1.	mbgs =	Meters below ground surface
2.	masl =	Meters above sea level
3.		Units for all soil analyses are in µg/g (ppm) unless otherwise indicated
4.		Units for all groundwater analyses are in µg/L (ppb) unless otherwise indicated
5.	MECP Table 3 SCS =	Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional Use with medium-fine textured soils as contained in Table 3 of the "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act", published by the MOECC on April 15, 2011
6.		For soil and groundwater analytical results, concentration exceeds the applicable Standards
7.		Detection Limit greater than regulation
8.	NM =	Not Monitored
9.	M&I	Metals and Inorganics
10.	PHC =	Petroleum Hydrocarbon
11.	PAH =	Polyaromatic Hydrocarbon
12.	BTEX =	Benzene, Toluene, Ethylbenzene, Xylene
13.	OCPs =	Organochlorine Pesticides

Appendix A

PLAN OF SURVEY OF
PART OF LOT 8
CONCESSION 1,
SOUTH OF DUNDAS STREET
(GEOGRAPHIC TOWNSHIP OF NELSON)
CITY OF BURLINGTON
REGIONAL MUNICIPALITY OF HALTON

SCALE 1:500

10m 5m 0m 10m 20m 30m 40 metres

R-PE SURVEYING LTD., O.L.S.

METRIC

DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

NOTES

□	DENOTES MONUMENT SET
■	DENOTES MONUMENT FOUND
SIB	DENOTES STANDARD IRON BAR
P.I.N.	DENOTES PROPERTY IDENTIFIER NUMBER
PL1	DENOTES PLAN 20R-21883
PL2	DENOTES PLAN 20R-16675
(1128)	DENOTES DAVID HORWOOD LTD., O.L.S.
(1724)	DENOTES R. D. McCONNELL O.L.S.
(MTO)	DENOTES MINISTRY OF TRANSPORTATION OF ONTARIO
ORP	DENOTES OBSERVED REFERENCE POINT

BEARINGS ARE GRID, UTM ZONE 17, NAD83 (CSRS) (2010.0), DERIVED FROM ORP (A) AND ORP (B) ORPs ARE DERIVED FROM REAL TIME NETWORK STATION No. 20120110009 (NORTH: 4801633.53, EAST: 597944.44).

POINTS	NORTHING	EASTING
ORP A	4805755.62	595856.17
ORP B	4805879.90	595952.57

COORDINATES ARE UTM ZONE 17, NAD83 (CSRS) (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 0.999702.

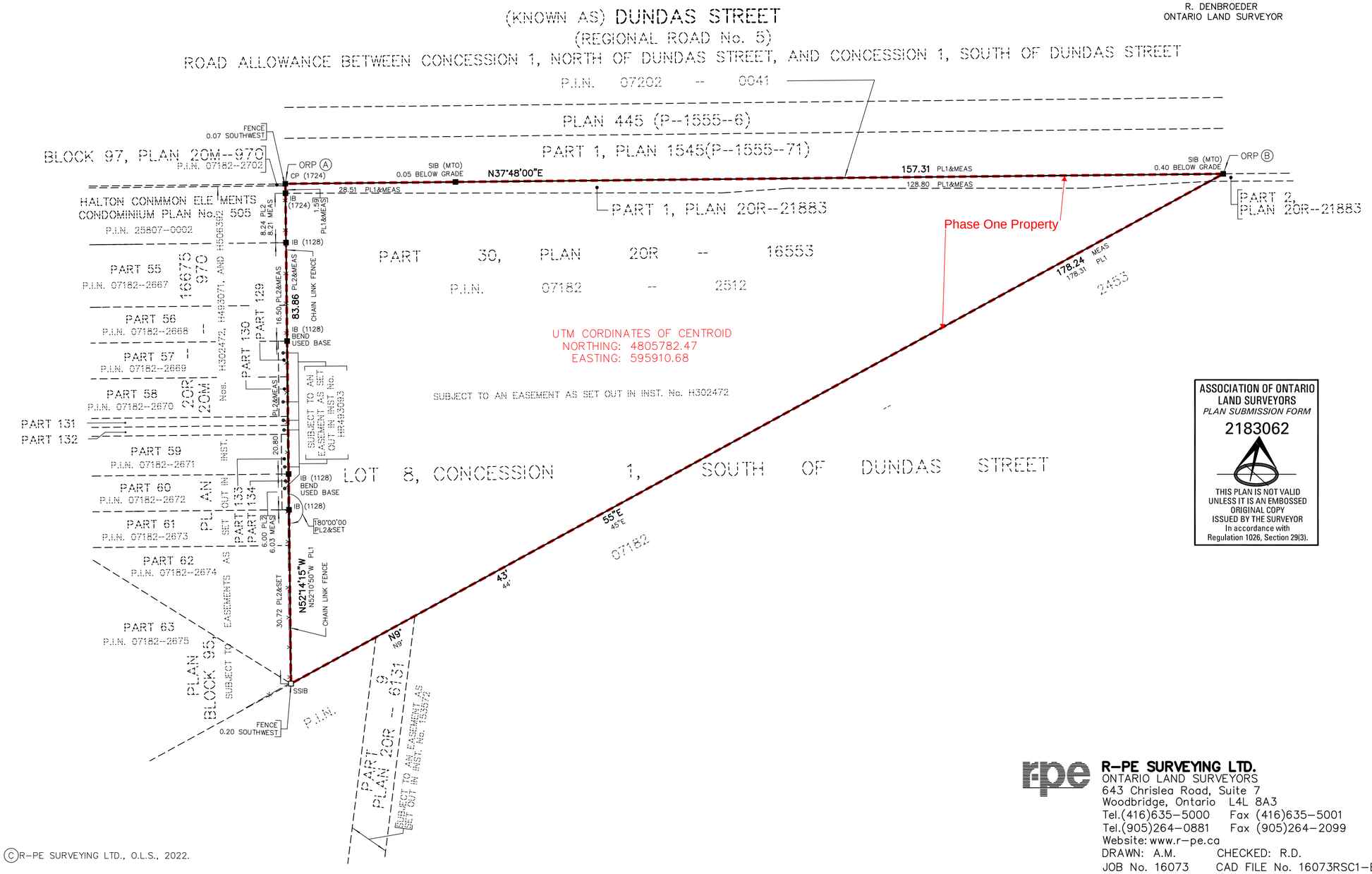
SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON THE 10th DAY OF JANUARY 2022

DATE JANUARY 12 2022

R. DENBROEDER
ONTARIO LAND SURVEYOR



ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
2183062

THIS PLAN IS NOT VALID UNLESS IT IS AN EMBOSSED ORIGINAL COPY ISSUED BY THE SURVEYOR In accordance with Regulation 1026, Section 29(3).

R-PE SURVEYING LTD.
ONTARIO LAND SURVEYORS
643 Chrislea Road, Suite 7
Woodbridge, Ontario L4L 8A3
Tel.(416)635-5000 Fax (416)635-5001
Tel.(905)264-0881 Fax (905)264-2099
Website: www.r-pe.ca

DRAWN: A.M. CHECKED: R.D.
JOB No. 16073 CAD FILE No. 16073RSC1-E

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Appendix B

Project Number: 19-199-102 2020-04-06

Argo (Millcroft) Limited
2173 Turnberry Road
Burlington, Ontario
L7M 4P8

Attention: Mr. Mattew Marsili
Sent via email: matthew@argoland.com

RE: Sampling and Analysis Plan
Phase Two Environmental Site Assessment
Millcroft Golf Club (Block E), Burlington, Ontario

Dear: Mr. Mattew Marsili

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 Millcroft Golf Club (Block E), Burlington, Ontario , (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

It is DS's understanding that the Site is a 0.61 hectare (1.48 acres) parcel of land which is currently used for commercial purposes. The first developed use of the Site is interpreted to be Agricultural based on the findings of the Phase One ESA. A total of seven (7) 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 APECs 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	Surroundings of Building A	PCA-1 (#27): Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	On Site	PHC, BTEX VOCs, Metals	Soil and groundwater
APEC-2	Entire Property	PCA-3 (#30): Importation of Fill Material of Unknown Quality	On Site	PHCs, VOCs, BTEX, Metals, As, Sb, Se, B-HWS, CN-, electrical conductivity, Cr (VI), Hg, low or high pH, SAR, PAHs	Soil
APEC-3	Centre portion of the Property	PCA-4 (#28): Gasoline and Associated Products Storage in Fixed Tanks	On Site	PHCs, VOCs, BTEX, Metals,	Soil and ground water
APEC-4	Northeast corner of Building A	PCA-5 (#40): Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) manufacturing, Processing, Bulk Storage and large-Scale Applications	On Site	OCPs	Soil and ground water
APEC-5	Southwest portion of Building A	PCA-6 (#28): Transformer Manufacturing, Processing and Use	On Site	PCBs	Soil
APEC-6	Surroundings of Building A	PCA-8 (#N/S): Oil/water separator.	On Site	PHC, BTEX VOCs, Metals	Soil and groundwater
APEC-7	Surroundings of Building A	PCA-7 (#6): Battery Manufacturing, Recycling and Bulk Storage	On Site	PHC, BTEX VOCs, Metals	Soil and groundwater

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

3. Site Investigation Program

The Site Investigation Program will be completed as follows:

- Public and private underground utilities and services will be cleared prior to commencement of intrusive investigation activities;
- A Health and Safety Plan will be prepared, and all work will be executed safely;
- Seven (7) boreholes will be advanced on the Phase Two Property, to an approximate maximum depth of 6.0 mbgs, using a truck-mounted drill rig. The soil profile from each borehole will be logged in the field and samples will be screened for total organic vapours (TOV) with a photoionization detector (PID) and combustible gas detector (CGD). The location of the boreholes will be selected to investigate any APECs identified during the Phase One ESA, as well as to delineate the horizontal and vertical extents of relevant parameters of concern; it is anticipated that bedrock will be encountered at an approximate depth of 2.5 mbgs. Select boreholes will be cored into bedrock to further investigate impacts previously identified in groundwater.
- Groundwater monitoring wells will be installed on six (6) of the boreholes advanced in order to facilitate the collection of groundwater samples to assess the groundwater quality below the Site and to establish the direction of groundwater flow;
- Based on field screening and visual/olfactory observations, worst-case/representative soil samples from the boreholes will be submitted for laboratory testing of relevant parameters of concern;
- The groundwater levels in the wells will be measured at least 24 hours after well development has been completed, to determine the groundwater elevation. The wells will be surveyed to a geodetic benchmark to determine groundwater flow direction;
- The groundwater wells will be purged to remove stagnant water and sampled for laboratory testing of relevant parameters of concern;
- Both soil and groundwater samples will be submitted for chemical analysis by a CALA laboratory in accordance with the Ontario MOECC standards and requirements of O.Reg. 153/04 under the Environmental Protection Act.

All field equipment is to be calibrated at the start of each field day, in accordance with DS's Standard Operating Procedures (SOPs). Clean, disposable Nitrile™ gloves will be used at each sampling interval to reduce the risk of cross contamination. All non-dedicated equipment (e.g. split spoon sampler, interface probe, etc.) will be decontaminated between each borehole. The equipment will be brushed free of debris, washed with phosphate-free detergent, and then rinsed with analyte free

water.

The proposed monitoring wells will be installed using 50 mm inner diameter Schedule 40 polyvinyl chloride (PVC), equipped with 50 mm inner diameter Schedule 40 PVC with #10 slot well screens. A silica sand filter pack will be placed around the well screen and up to 0.61 metres above the top of the well screen. The well annulus will be sealed with hydrated bentonite. All wells will be protected with either a flush mount well casing, or a locked monument style casing.

The proposed analytical program is outlined below (proposed program subject to change as a result of site observations/findings). All soil and groundwater sampling will be carried out in accordance with DS's SOPs.

Soils:

- Six (6) soil samples for analysis of metals and inorganics, seven (7) samples for petroleum hydrocarbons (PHCs) (F1-F4) and BTEX, eight (8) samples for volatile organic compounds (VOCs), four (4) sample for polycyclic aromatic hydrocarbons (PAHs), one (1) sample for polychlorinated biphenyls (PCBs) and four (4) samples for organochlorine pesticides (OCPs). Two (2) sample will be submitted for QA/QC purposes.

One quality control/quality assurance (QAQC) sample will be submitted for analysis per ten (10) samples analyzed in accordance with O.Reg. 153/04.

Groundwater:

- Four (4) groundwater samples for analysis of metals and inorganics, four (4) samples for PHCs, four (4) samples for volatile organic compounds (VOCs), and one (1) sample for OCPs. One (1) trip blank will be submitted for QA/QC purposes.

One quality control/quality assurance (QAQC) sample will be submitted for analysis per ten (10) samples analyzed in accordance with O.Reg. 153/04. One laboratory supplied trip blank will be submitted as part of each sample submission event for analysis of volatile parameters (i.e. VOCs, BTEX, PHCs F1-BTEX).

Following receipt of all of the results, a report in accordance with O.Reg. 153/04 will be prepared.

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.

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.



Drew Doak, B.Sc.E., P.Eng., QP_{ESA}
Environmental Project Manager

Appendix C

LOG OF BOREHOLE BH19-01

PROJECT: Phase Two ESA- Millcroft Golf Club - "Block "E"
CLIENT: Argo (Milcroft) Limited
PROJECT LOCATION: 4252 Dundas Street, Burlington, ON
DATUM: Geodetic
BH LOCATION: See Figure 5 N 4805736.249 E 595924.117

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Nov/29/2019

REF. NO.: 19-199-102
ENCL NO.: 2

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	PID (ppm)	CGD (ppm)	PLASTIC LIMIT w_P	NATURAL MOISTURE CONTENT w	LIQUID LIMIT w_L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
152.9								40 80 120 160	40 80 120 160		WATER CONTENT (%) 10 20 30				
152.8	**TOPSOIL:** 125mm														
0.1	**FILL:** sand and gravel, some asphalt, black, moist, compact		1	SS	15										PAHs
1	- at 0.8 mbgs, silty clay, trace gravel, trace to some topsoil, greyish brown to reddish brown, moist, stiff to very stiff		2	SS	10		152								M&I, OCPs
151.1			3	SS	17		W. L. 151.9 m May 13, 2020						225		PHC, VOCs
1.8	**CLAYEY SILT TILL:** sandy, trace gravel, occasional cobble, greyish brown, moist, very stiff						151								
2							Bentonite								
150.6															
2.3	**SANDY SILT TILL:** trace clay, trace gravel, occasional cobble/boulder, brown, moist, very dense		4	SS	60		W. L. 150.4 m Dec 04, 2019								
3			5	SS	50/ 100mm		150								
4							149								
			6	SS	50/ 75mm										2 35 58 5
5							148								
							Filter Pack Slotted Pipe								
6							147								
	reddish brown below 6.1m		7	SS	50/ 75mm										
7							146								
145.2	Auger refusal at 7.7m on a possible boulder		8	SS	50/ 25mm										
7.7	**END OF BOREHOLE:**														

Notes:
1) 50mm dia. monitoring well installed upon completion.
2) Water level Reading:

Date:	Water Level (mbgs):
Dec 04, 2019	2.6
May 13, 2020	1.04

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

0~200 PPM AND 0~200PPM-CGD-2016 19-199-102_A-BOREHOLE LOGS - ENV.GPJ DS.GDT 5/21/20

LOG OF BOREHOLE BH19-02

PROJECT: Phase Two ESA- Millcroft Golf Club - "Block "E"
CLIENT: Argo (Milcroft) Limited
PROJECT LOCATION: 4252 Dundas Street, Burlington, ON
DATUM: Geodetic
BH LOCATION: See Figure 5 N 4805760.982 E 595873.498

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Nov/28/2019

REF. NO.: 19-199-102
ENCL NO.: 3

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	Soil Head Space Vapors PID (ppm)	Soil Head Space Vapors CGD (ppm)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L — WATER CONTENT (%)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
153.7								40 80 120 160	40 80 120 160	10 20 30			
153.6	**TOPSOIL:** 100mm												
0.1	**FILL:** clayey silt, trace gravel, trace to some topsoil, greyish brown, moist, firm		1	SS	7								OCPs
						▽							
							W. L. 153.1 m Dec 04, 2019						
1	trace organics below 1.0m		2	SS	7	▼	W. L. 152.6 m May 13, 2020						PAHs,M&I, DUP-1(M&I)
152.2													
1.5	**CLAYEY SILT TILL:** sandy, trace gravel, greyish brown, moist, very stiff		3	SS	17		152				200		
2							Bentonite						
151.4													
2.3	**SANDY SILT TILL:** trace clay, trace gravel, occasional cobble/boulder, brown, wet, very dense		4	SS	71		151				225		6 22 68 4
3			5	SS	50/ 100mm						225		PHC, VOCs
							150						
4													
			6	SS	50/ 50mm		149						
5													PHC, VOCs
							148						
6			7	SS	50/ 100mm		Slotted Pipe Filter Pack						
							147						
7													
146.1													
7.6	**SILTY CLAY:** trace shale fragments, reddish brown, moist, hard		7	SS	50/ 125mm		146						
8 145.7													
8.0	**END OF BOREHOLE:** Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water level Reading: Date: Water Level (mbgs): Dec 04, 2019 0.6 May 13, 2020 1.04												

0~200 PPM AND 0~200PPM-CGD-2016 19-199-102_A-BOREHOLE LOGS - ENV.GPJ DS.GDT 5/21/20

GROUNDWATER ELEVATIONS
Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ○ $^{\varepsilon}$=3% Strain at Failure

LOG OF BOREHOLE BH19-03

PROJECT: Phase Two ESA- Millcroft Golf Club - "Block "E"
CLIENT: Argo (Milcroft) Limited
PROJECT LOCATION: 4252 Dundas Street, Burlington, ON
DATUM: Geodetic
BH LOCATION: See Figure 5 N 4805834.534 E 595934.811

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Nov/29/2019

REF. NO.: 19-199-102
ENCL NO.: 4

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	Soil Head Space Vapors PID (ppm) 40 80 120 160	Soil Head Space Vapors CGD (ppm) 40 80 120 160	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L WATER CONTENT (%) 10 20 30	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
154.7													
0.0	**FILL:** clayey silt, trace gravel, trace rootlets, brown, moist, firm		1	SS	7								OCPs, M&I
153.9							W. L. 154.1 m Dec 10, 2019						
0.8	**CLAYEY SILT TILL:** sandy, trace gravel, occasional cobble/ boulder, brown, moist, firm to hard		2	SS	24		W. L. 153.5 m May 13, 2020				225		PAHs, DUP-2(PAHs)
			3	SS	28		153 Bentonite						4 22 52 22
	greyish brown below 2.3m		4	SS	23		152						
			5	SS	32		151						PHCs, VOCs
150.1													
4.6	**SANDY SILT TILL:** trace clay, trace gravel, cobble/boulder, greyish brown, moist, very dense		6	SS	50/ 50mm		150 Filter Pack Slotted Pipe						
	Auger refusal at 6.1m on a possible boulder						149						
148.6													
6.1	**END OF BOREHOLE:** Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water level Reading: Date: Water Level (mbgs): Dec 10, 2019 0.7 May 13, 2020 1.19		7	NR	50/ no penetration								

0~200 PPM AND 0~200PPM-CGD-2016 19-199-102_A-BOREHOLE LOGS - ENV.GPJ DS.GDT 5/21/20

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

LOG OF BOREHOLE BH20-1

PROJECT: Phase Two ESA- Millcroft Golf Club - "Block "E"
CLIENT: Argo (Milcroft) Limited
PROJECT LOCATION: 4252 Dundas Street, Burlington, ON
DATUM: Geodetic
BH LOCATION: See Figure 5 N 4805737.327 E 595902.712

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Apr/13/2020

REF. NO.: 19-199-102
ENCL NO.:

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	Soil Head Space Vapors PID (ppm) 40 80 120 160	CGD (ppm) 40 80 120 160	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L WATER CONTENT (%) 10 20 30	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
153.6													
153.5 0.1	**GRAVEL:** 50 mm												
	FILL: sandy silt, some clay, brown, moist, compact		1	SS			Bentonite						PCBs, M&I
1			2	SS			153 Filter Pack						
152.0 1.5	**CLAYEY SILT TILL:** some sand, trace gravel, red to brown, moist		3	SS		W. L. 151.8 m May 13, 2020	152						
2			4	SS			151						
150.5 3.1	**SANDY SILT TILL:** trace clay, trace gravel, brown, moist to very moist		5	SS			Slotted Pipe 150						
4	- very wet at 4.5 mbgs						149						
5 148.4			6	SS									PHCs, VOCs
5.2	**END OF BOREHOLE:** Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water level Reading: Date: Water Level (mbgs): Dec 04, 2019 - May 13, 2020 1.75												

0~200 PPM AND 0~200PPM-CGD-2016 19-199-102_A-BOREHOLE LOGS - ENV.GPJ DS.GDT 5/21/20

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

LOG OF BOREHOLE BH20-2

PROJECT: Phase Two ESA- Millcroft Golf Club - "Block "E"
CLIENT: Argo (Milcroft) Limited
PROJECT LOCATION: 4252 Dundas Street, Burlington, ON
DATUM: Geodetic
BH LOCATION: See Figure 5 N 4805792.585 E 595900.168

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Apr/13/2020

REF. NO.: 19-199-102
ENCL NO.:

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	Soil Head Space Vapors PID (ppm) 40 80 120 160	Soil Head Space Vapors CGD (ppm) 40 80 120 160	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L — WATER CONTENT (%) 10 20 30	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
153.7													
153.6	**TOPSOIL:**50 mm												
0.1	**FILL:** sandy silt, some clay, tyrace gravel, red		1	SS									OCPs
			2	SS			Bentonite 153						M&I, DUP-3(M&I)
1							W. L. 152.5 m May 13, 2020						
152.1							152						
1.5	**CLAYEY SILT TILL:** some sand, occacional cobbles, brown, moist very moist to wet		3	SS									
2													
151.4													
2.3	**SANDY SILT TO SILTY SAND TILL:** sand seams, trace cobble, brown moist		4	SS			151						
3							Slotted Pipe						
	- wet at 3.3 mbgs		5	SS									PHCs, VOCs, DUP-4(PHCs)
							150						
4			6	SS									
							149						
5			7	SS									
148.5													
5.2	**END OF BOREHOLE:**												

Notes:
1) 50mm dia. monitoring well installed upon completion.
2) Water level Reading:

Date:	Water Level (mbgs):
Dec 04, 2019	-
May 13, 2020	1.17

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^{3}$, $\times^{3}$: Numbers refer to Sensitivity; ○ 8=3% Strain at Failure

0~200 PPM AND 0~200PPM-CGD-2016 19-199-102_A-BOREHOLE LOGS - ENV.GPJ DS.GDT 5/21/20

LOG OF BOREHOLE BH20-3

PROJECT: Phase Two ESA- Millcroft Golf Club - "Block "E"
CLIENT: Argo (Milcroft) Limited
PROJECT LOCATION: 4252 Dundas Street, Burlington, ON
DATUM: Geodetic
BH LOCATION: See Figure 5 N 4805800.273 E 595912.52

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Apr/13/2020

REF. NO.: 19-199-102
ENCL NO.:

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	ELEVATION	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
153.7						
0.0	**FILL:** clayey silt , 1" of gravely sand, trace topsoil, black, moist	1	SS			
153.1						
0.6	**CLAYEY SILT TILL:** some sand, red to brown, moist	2	SS			M&I, PAHs
	- wet at 1.52 mbgs	3	SS			PHCs, VOCs
151.3						
2.4	**SANDY SILT TILL:** brown, very moist to wet	4	SS			
		5	SS			
148.5		6	SS			
5.2	**END OF BOREHOLE:**					

Notes:
1) 50mm dia. monitoring well installed upon completion.
2) Water level Reading:

Date:	Water Level (mbgs):
Dec 04, 2019	-
May 13, 2020	1.16

Bentonite
W. L. 152.6 m May 13, 2020
Slotted Pipe

Soil Head Space Vapors
PID (ppm) 40 80 120 160
CGD (ppm) 40 80 120 160

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%) 10 20 30

POCKET PEN. (Cu) (kPa)
NATURAL UNIT WT (kN/m³)

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

0~200 PPM AND 0~200PPM-CGD-2016 19-199-102_A-BOREHOLE LOGS - ENV.GPJ DS.GDT 5/21/20

LOG OF BOREHOLE BH20-4

PROJECT: Phase Two ESA- Millcroft Golf Club - "Block "E"
CLIENT: Argo (Milcroft) Limited
PROJECT LOCATION: 4252 Dundas Street, Burlington, ON
DATUM: Geodetic
BH LOCATION: See Figure 5 N 4805759.996 E 595872.888

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Apr/13/2020

REF. NO.: 19-199-102
ENCL NO.:

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" BLOWS / 0.3 m	GROUND WATER CONDITIONS	ELEVATION	Soil Head Space Vapors PID (ppm)	Soil Head Space Vapors CGD (ppm)	PLASTIC LIMIT / NATURAL MOISTURE CONTENT / LIQUID LIMIT (w_P w w_L) WATER CONTENT (%)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
153.6								40 80 120 160	40 80 120 160	10 20 30			
0.0	Straight drilled up to 6.0 mbgs						153						
							152						
							151						
							150						
							149						
							148						
147.5													
6.1	**SANDY SILT TILL:** brown, very moist to wet		1	SS			147						VOCs
	-some clay at 7.6 mbgs		2	SS			146						
145.4													
8.2	**END OF BOREHOLE:**												

0~200 PPM AND 0~200PPM-CGD-2016 19-199-102_A-BOREHOLE LOGS - ENV.GPJ DS.GDT 5/21/20

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

Appendix D





FINAL REPORT

CA14322-APR20 R1

19-199-102 Milcroft Half Lounge, Burlington

Prepared for

DS Consultants

FINAL REPORT

CA14322-APR20 R1

First Page

CLIENT DETAILS		LABORATORY DETAILS	
Client	DS Consultants	Project Specialist	Jill Campbell, B.Sc.,GISAS
		Laboratory	SGS Canada Inc.
Address	6221 Highway 7 Vaughan, Ontario L4H 0K8. Canada	Address	185 Concession St., Lakefield ON, K0L 2H0
Contact	Drew Doak	Telephone	2165
Telephone	905-264-9393	Facsimile	705-652-6365
Facsimile	905-264-2685	Email	jill.campbell@sgs.com
Email	drew.doak@dsconsultants.ca	SGS Reference	CA14322-APR20
Project	19-199-102 Milcroft Half Lounge, Burlington	Received	04/14/2020
Order Number		Approved	04/21/2020
Samples	Soil (10)	Report Number	CA14322-APR20 R1
		Date Reported	05/22/2020

COMMENTS

CCME Method Compliance: Analyses were conducted using analytical procedures that comply with the Reference Method for the CWS for Petroleum Hydrocarbons in Soil and have been validated for use at the SGS laboratory, Lakefield, ON site.

Quality Compliance: Instrument performance / calibration quality criteria were met and extraction and analysis limits for holding times were met.

nC6 and nC10 response factors within 30% of response factor for toluene: YES

nC10, nC16 and nC34 response factors within 10% of the average response for the three compounds: YES

C50 response factors within 70% of nC10 + nC16 + nC34 average: YES

Linearity is within 15%: YES

F4G - gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.
The results for F4 and F4G are both reported and the greater of the two values is to be used in application to the CWS PHC.

Hydrocarbon results are expressed on a dry weight basis.

Benzo(b)fluoranthene results for comparison to the standard are reported as benzo(b+j)fluoranthene. Benzo(b)fluoranthene and benzo(j)fluoranthene co-elute and cannot be reported individually by the analytical method used.

Temperature of Sample upon Receipt: 9 degrees C
Cooling Agent Present:Yes
Custody Seal Present:Yes

Chain of Custody Number:012409

Methylene Chloride Method Blank; Recovery is outside control limits; the overall quality control for this analysis has been assessed and meets method acceptability criteria.

SIGNATORIES

Jill Campbell, B.Sc.,GISAS



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Client: DS Consultants

Project: 19-199-102 Milcroft Half Lounge, Burlington

Project Manager: Drew Doak

Samplers: Sarth Sheth

PACKAGE: **REG153 - BTEX** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

			Sample Number	9	12	15	16
			Sample Name	BH20-1 SS6	BH20-2 SS5	BH20-3 SS3	BH20-4 SS1
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	13/04/2020	13/04/2020	13/04/2020	13/04/2020
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
BTEX							
Benzene	µg/g	0.02	0.17	< 0.02	< 0.02	< 0.02	< 0.02
Ethylbenzene	µg/g	0.05	15	< 0.05	< 0.05	< 0.05	< 0.05
Toluene	µg/g	0.05	6	< 0.05	< 0.05	< 0.05	< 0.05
Xylene (total)	µg/g	0.05	25	< 0.05	< 0.05	< 0.05	< 0.05
m/p-xylene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05
o-xylene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05

PACKAGE: **REG153 - Hydrides** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

			Sample Number	8	11	14
			Sample Name	BH20-1 SS1	BH20-2 SS2	BH20-3 SS2
			Sample Matrix	Soil	Soil	Soil
			Sample Date	13/04/2020	13/04/2020	13/04/2020
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**
Hydrides						
Antimony	µg/g	0.8	7.5	< 0.8	< 0.8	< 0.8
Arsenic	µg/g	0.5	18	4.1	5.6	5.7
Selenium	µg/g	0.7	2.4	< 0.7	< 0.7	< 0.7

Client: DS Consultants

Project: 19-199-102 Milcroft Half Lounge, Burlington

Project Manager: Drew Doak

Samplers: Sarth Sheth

PACKAGE: **REG153 - Metals and Inorganics** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

Sample Number				8	9	10	11	12	14	15	16
Sample Name				BH20-1 SS1	BH20-1 SS6	BH20-2 SS1	BH20-2 SS2	BH20-2 SS5	BH20-3 SS2	BH20-3 SS3	BH20-4 SS1
Sample Matrix				Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample Date				13/04/2020	13/04/2020	13/04/2020	13/04/2020	13/04/2020	13/04/2020	13/04/2020	13/04/2020
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Metals and Inorganics											
Moisture Content	%	-		9.7	11.4	15.9	13.5	11.6	15.7	15.8	12.0
Barium	µg/g	0.1	390	99			130		110		
Beryllium	µg/g	0.02	5	0.43			0.98		0.87		
Boron	µg/g	1	120	15			8		9		
Cadmium	µg/g	0.02	1.2	0.72			0.21		0.12		
Chromium	µg/g	0.5	160	22			28		28		
Cobalt	µg/g	0.01	22	7.7			14		14		
Copper	µg/g	0.1	180	25			35		37		
Lead	µg/g	0.1	120	60			15		14		
Molybdenum	µg/g	0.1	6.9	1.6			0.5		0.5		
Nickel	µg/g	0.5	130	20			36		33		
Silver	µg/g	0.05	25	0.08			0.06		0.06		
Thallium	µg/g	0.02	1	0.12			0.18		0.20		
Uranium	µg/g	0.002	23	0.72			0.88		1.6		
Vanadium	µg/g	3	86	26			36		36		
Zinc	µg/g	0.7	340	280			79		75		
Water Soluble Boron	µg/g	0.5	1.5	< 0.5			< 0.5		< 0.5		

Client: DS Consultants
Project: 19-199-102 Milcroft Half Lounge, Burlington
Project Manager: Drew Doak
Samplers: Sarth Sheth

PACKAGE: **REG153 - Organochlorine Pests (OCs)**
(SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

Sample Number	10
Sample Name	BH20-2 SS1
Sample Matrix	Soil
Sample Date	13/04/2020

Organochlorine Pests (OCs)

Parameter	Units	RL	L1	Result
Aldrin	µg/g	0.05	0.05	< 0.05
alpha-Chlordane	µg/g	0.02		< 0.02
gamma-Chlordane	µg/g	0.02		< 0.02
Chlordane (total)	µg/g	0.05	0.05	< 0.05
o,p-DDD	µg/g	0.02		< 0.02
pp-DDD	µg/g	0.02		< 0.02
DDD (total)	µg/g	0.05	3.3	< 0.05
o,p-DDE	µg/g	0.02		< 0.02
pp-DDE	µg/g	0.02		< 0.02
DDE (total)	µg/g	0.05	0.33	< 0.05
op-DDT	µg/g	0.02		< 0.02
pp-DDT	µg/g	0.02		< 0.02
DDT (total)	µg/g	0.05	1.4	< 0.05
Dieldrin	µg/g	0.05	0.05	< 0.05
gamma-BHC	µg/g	0.01	0.063	< 0.01
Endosulfan I	µg/g	0.02		< 0.02
Endosulfan II	µg/g	0.02		< 0.02
Endosulfan (total)	µg/g	0.04	0.04	< 0.04
Endrin	µg/g	0.04	0.04	< 0.04
Heptachlor	µg/g	0.01	0.15	< 0.01
Heptachlor epoxide	µg/g	0.01	0.05	< 0.01
Hexachlorobenzene	µg/g	0.01	0.52	< 0.01

PACKAGE: **REG153 - Organochlorine Pests (OCs)** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

			Sample Number	10
			Sample Name	BH20-2 SS1
			Sample Matrix	Soil
			Sample Date	13/04/2020
Parameter	**Units**	**RL**	**L1**	**Result**
Organochlorine Pests (OCs) (continued)				
Hexachlorobutadiene	µg/g	0.01	0.014	< 0.01
Hexachloroethane	µg/g	0.01	0.071	< 0.01
Methoxychlor	µg/g	0.05	0.13	< 0.05

PACKAGE: **REG153 - Other (ORP)** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

				Sample Number	8	11	14
				Sample Name	BH20-1 SS1	BH20-2 SS2	BH20-3 SS2
				Sample Matrix	Soil	Soil	Soil
				Sample Date	13/04/2020	13/04/2020	13/04/2020
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**
Other (ORP)						
Mercury	µg/g	0.05	1.8	< 0.05	< 0.05	< 0.05
Sodium Adsorption Ratio	---	0.2	5	0.5	0.9	1.2
SAR Calcium	mg/L	0.09		28.8	18.9	16.6
SAR Magnesium	mg/L	0.02		5.7	6.4	10.0
SAR Sodium	mg/L	0.15		10.6	17.4	24.1
Conductivity	mS/cm	0.002	0.7	0.28	0.25	0.31
pH	pH Units	0.05		7.70	7.74	7.78
Chromium VI	µg/g	0.2	10	0.3	< 0.2	< 0.2
Free Cyanide	µg/g	0.05	0.051	< 0.05	< 0.05	< 0.05

Client: DS Consultants

Project: 19-199-102 Milcroft Half Lounge, Burlington

Project Manager: Drew Doak

Samplers: Sarth Sheth

PACKAGE: **REG153 - PAHs** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

Sample Number	14
Sample Name	BH20-3 SS2
Sample Matrix	Soil
Sample Date	13/04/2020

Parameter	Units	RL	L1	Result
PAHs				
Acenaphthene	µg/g	0.05	58	< 0.05
Acenaphthylene	µg/g	0.05	0.17	< 0.05
Anthracene	µg/g	0.05	0.74	< 0.05
Benzo(a)anthracene	µg/g	0.05	0.63	< 0.05
Benzo(a)pyrene	µg/g	0.05	0.3	< 0.05
Benzo(b+j)fluoranthene	µg/g	0.05	0.78	< 0.05
Benzo(ghi)perylene	µg/g	0.1	7.8	< 0.1
Benzo(k)fluoranthene	µg/g	0.05	0.78	< 0.05
Chrysene	µg/g	0.05	7.8	< 0.05
Dibenzo(a,h)anthracene	µg/g	0.06	0.1	< 0.06
Fluoranthene	µg/g	0.05	0.69	< 0.05
Fluorene	µg/g	0.05	69	< 0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.1	0.48	< 0.1
1-Methylnaphthalene	µg/g	0.05		< 0.05
2-Methylnaphthalene	µg/g	0.05		< 0.05
Methylnaphthalene, 2-(1-)	µg/g	0.05	3.4	< 0.05
Naphthalene	µg/g	0.05	0.75	< 0.05
Phenanthrene	µg/g	0.05	7.8	< 0.05
Pyrene	µg/g	0.05	78	< 0.05

PACKAGE: **REG153 - PCBs** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

			Sample Number	8
			Sample Name	BH20-1 SS1
			Sample Matrix	Soil
			Sample Date	13/04/2020
Parameter	**Units**	**RL**	**L1**	**Result**
PCBs				
Polychlorinated Biphenyls (PCBs) - Total	µg/g	0.3	0.35	< 0.3

PACKAGE: **REG153 - Pesticides Surrogate** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

			Sample Number	10
			Sample Name	BH20-2 SS1
			Sample Matrix	Soil
			Sample Date	13/04/2020
Parameter	**Units**	**RL**	**L1**	**Result**
Pesticides Surrogate				
Surr Decachlorobiphenyl	Surr Rec %	-		97

PACKAGE: **REG153 - PHCs** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

				Sample Number	9	12	15
				Sample Name	BH20-1 SS6	BH20-2 SS5	BH20-3 SS3
				Sample Matrix	Soil	Soil	Soil
				Sample Date	13/04/2020	13/04/2020	13/04/2020
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**
PHCs						
F1 (C6-C10)	µg/g	10	65	< 10	< 10	< 10
F1-BTEX (C6-C10)	µg/g	10		< 10	< 10	< 10
F2 (C10-C16)	µg/g	10	150	< 10	< 10	< 10
F3 (C16-C34)	µg/g	50	1300	< 50	< 50	< 50
F4 (C34-C50)	µg/g	50	5600	< 50	< 50	< 50
Chromatogram returned to baseline at nC50	Yes / No	-		YES	YES	YES

Client: DS Consultants

Project: 19-199-102 Milcroft Half Lounge, Burlington

Project Manager: Drew Doak

Samplers: Sarth Sheth

PACKAGE: **REG153 - SVOC Surrogates** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

Sample Number	14
Sample Name	BH20-3 SS2
Sample Matrix	Soil
Sample Date	13/04/2020

Parameter	Units	RL	L1	Result
SVOC Surrogates				
Surr Nitrobenzene-d5	Surr Rec %	-		84
Surr 2-Fluorobiphenyl	Surr Rec %	-		79
Surr 4-Terphenyl-d14	Surr Rec %	-		91
Surr 2-Fluorophenol	Surr Rec %	-		87
Surr Phenol-d6	Surr Rec %	-		88
Surr 2,4,6-Tribromophenol	Surr Rec %	-		87

PACKAGE: **REG153 - THMs (VOC)** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

Sample Number				9	12	15	16
Sample Name				BH20-1 SS6	BH20-2 SS5	BH20-3 SS3	BH20-4 SS1
Sample Matrix				Soil	Soil	Soil	Soil
Sample Date				13/04/2020	13/04/2020	13/04/2020	13/04/2020
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
THMs (VOC)							
Bromodichloromethane	µg/g	0.05	13	< 0.05	< 0.05	< 0.05	< 0.05
Bromoform	µg/g	0.05	0.26	< 0.05	< 0.05	< 0.05	< 0.05
Dibromochloromethane	µg/g	0.05	9.4	< 0.05	< 0.05	< 0.05	< 0.05

Client: DS Consultants

Project: 19-199-102 Milcroft Half Lounge, Burlington

Project Manager: Drew Doak

Samplers: Sarth Sheth

PACKAGE: **REG153 - VOC Surrogates** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

			Sample Number	9	10	12	15	16
			Sample Name	BH20-1 SS6	BH20-2 SS1	BH20-2 SS5	BH20-3 SS3	BH20-4 SS1
			Sample Matrix	Soil	Soil	Soil	Soil	Soil
			Sample Date	13/04/2020	13/04/2020	13/04/2020	13/04/2020	13/04/2020
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	**Result**
VOC Surrogates								
Surr 1,2-Dichloroethane-d4	Surr Rec %	-		99		99	98	99
Surr 4-Bromofluorobenzene	Surr Rec %	-		96		96	96	96
Surr 2-Bromo-1-Chloropropane	Surr Rec %	-		92		92	91	91
Surr TCMX	Surr Rec %	-			80			

PACKAGE: **REG153 - VOCs** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

			Sample Number	9	12	15	16
			Sample Name	BH20-1 SS6	BH20-2 SS5	BH20-3 SS3	BH20-4 SS1
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	13/04/2020	13/04/2020	13/04/2020	13/04/2020
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
VOCs							
Acetone	µg/g	0.5	28	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Carbon tetrachloride	µg/g	0.05	0.12	< 0.05	< 0.05	< 0.05	< 0.05
Chlorobenzene	µg/g	0.05	2.7	< 0.05	< 0.05	< 0.05	< 0.05
Chloroform	µg/g	0.05	0.18	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/g	0.05	4.3	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/g	0.05	6	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/g	0.05	0.097	< 0.05	< 0.05	< 0.05	< 0.05
Dichlorodifluoromethane	µg/g	0.05	25	< 0.05	< 0.05	< 0.05	< 0.05
1,1-Dichloroethane	µg/g	0.05	11	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichloroethane	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1-Dichloroethylene	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05

Client: DS Consultants

Project: 19-199-102 Milcroft Half Lounge, Burlington

Project Manager: Drew Doak

Samplers: Sarth Sheth

PACKAGE: **REG153 - VOCs** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

	Sample Number	9	12	15	16		
	Sample Name	BH20-1 SS6	BH20-2 SS5	BH20-3 SS3	BH20-4 SS1		
	Sample Matrix	Soil	Soil	Soil	Soil		
	Sample Date	13/04/2020	13/04/2020	13/04/2020	13/04/2020		
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
VOCs (continued)							
trans-1,2-Dichloroethylene	µg/g	0.05	0.75	< 0.05	< 0.05	< 0.05	< 0.05
cis-1,2-Dichloroethylene	µg/g	0.05	30	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichloropropane	µg/g	0.05	0.085	< 0.05	< 0.05	< 0.05	< 0.05
cis-1,3-dichloropropene	µg/g	0.03		< 0.03	< 0.03	< 0.03	< 0.03
trans-1,3-dichloropropene	µg/g	0.03		< 0.03	< 0.03	< 0.03	< 0.03
1,3-dichloropropene (total)	µg/g	0.05	0.083	< 0.05	< 0.05	< 0.05	< 0.05
Ethylenedibromide	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05
n-Hexane	µg/g	0.05	34	< 0.05	< 0.05	< 0.05	< 0.05
Methyl ethyl ketone	µg/g	0.5	44	< 0.5	< 0.5	< 0.5	< 0.5
Methyl isobutyl ketone	µg/g	0.5	4.3	< 0.5	< 0.5	< 0.5	< 0.5
Methyl-t-butyl Ether	µg/g	0.05	1.4	< 0.05	< 0.05	< 0.05	< 0.05
Methylene Chloride	µg/g	0.05	0.96	< 0.05	< 0.05	< 0.05	< 0.05
Styrene	µg/g	0.05	2.2	< 0.05	< 0.05	< 0.05	< 0.05
Tetrachloroethylene	µg/g	0.05	2.3	< 0.05	< 0.05	< 0.05	< 0.05
1,1,1,2-Tetrachloroethane	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1,2,2-Tetrachloroethane	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1,1-Trichloroethane	µg/g	0.05	3.4	< 0.05	< 0.05	< 0.05	< 0.05
1,1,2-Trichloroethane	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Trichloroethylene	µg/g	0.05	0.52	< 0.05	< 0.05	< 0.05	< 0.05
Trichlorofluoromethane	µg/g	0.05	5.8	< 0.05	< 0.05	< 0.05	< 0.05
Vinyl Chloride	µg/g	0.02	0.022	< 0.02	< 0.02	< 0.02	< 0.02

EXCEEDANCE SUMMARY

No exceedances are present above the regulatory limit(s) indicated

QC SUMMARY

Conductivity

Method: EPA 6010/SM 2510 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Conductivity	EWL0222-APR20	mS/cm	0.002	<0.002	0	10	99	90	110	NA		

Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-IENVISFA-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Free Cyanide	SKA0106-APR20	µg/g	0.05	<0.05	ND	20	104	80	120	104	75	125

Hexavalent Chromium by SFA

Method: EPA218.6/EPA3060A | Internal ref.: ME-CA-IENVISKA-LAK-AN-012

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Chromium VI	SKA5063-APR20	ug/g	0.2	<0.2	ND	20	92	80	120	105	75	125

QC SUMMARY

Mercury by CVAAS

Method: EPA 7471A/EPA 245 | Internal ref.: ME-CA-IENVISPE-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Mercury	EMS0075-APR20	µg/g	0.05	<0.05	ND	20	104	80	120	110	70	130

Metals in aqueous samples - ICP-OES

Method: MOE 4696e01/EPA 6010 | Internal ref.: ME-CA-IENVISPE-LAK-AN-003

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
SAR Calcium	ESG0032-APR20	mg/L	0.09	<0.09	7	20	100	80	120	85	70	130
SAR Magnesium	ESG0032-APR20	mg/L	0.02	<0.02	8	20	98	80	120	87	70	130
SAR Sodium	ESG0032-APR20	mg/L	0.15	<0.15	7	20	98	80	120	89	70	130

QC SUMMARY

Metals in Soil - Aqua-regia/ICP-MS

Method: EPA 3050/EPA 200.8 | Internal ref.: ME-CA-[ENVISPE-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver	EMS0075-APR20	ug/g	0.05	<0.05	ND	20	108	70	130	116	70	130
Arsenic	EMS0075-APR20	µg/g	0.5	<0.5	1	20	100	70	130	101	70	130
Barium	EMS0075-APR20	ug/g	0.1	<0.1	6	20	108	70	130	110	70	130
Beryllium	EMS0075-APR20	µg/g	0.02	<0.02	4	20	98	70	130	100	70	130
Boron	EMS0075-APR20	µg/g	1	<1	10	20	109	70	130	110	70	130
Cadmium	EMS0075-APR20	µg/g	0.02	<0.02	11	20	97	70	130	108	70	130
Cobalt	EMS0075-APR20	µg/g	0.01	<0.01	0	20	99	70	130	113	70	130
Chromium	EMS0075-APR20	µg/g	0.5	<0.5	5	20	99	70	130	113	70	130
Copper	EMS0075-APR20	µg/g	0.1	<0.1	15	20	104	70	130	109	70	130
Molybdenum	EMS0075-APR20	µg/g	0.1	<0.1	13	20	101	70	130	113	70	130
Nickel	EMS0075-APR20	ug/g	0.5	<0.5	4	20	101	70	130	112	70	130
Lead	EMS0075-APR20	µg/g	0.1	<0.1	13	20	104	70	130	101	70	130
Antimony	EMS0075-APR20	µg/g	0.8	<0.8	ND	20	94	70	130	130	70	130
Selenium	EMS0075-APR20	µg/g	0.7	<0.7	ND	20	100	70	130	101	70	130
Thallium	EMS0075-APR20	µg/g	0.02	<0.02	8	20	104	70	130	101	70	130
Uranium	EMS0075-APR20	µg/g	0.002	<0.002	6	20	99	70	130	102	70	130
Vanadium	EMS0075-APR20	µg/g	3	<3	5	20	99	70	130	113	70	130
Zinc	EMS0075-APR20	µg/g	0.7	<0.7	1	20	100	70	130	105	70	130

QC SUMMARY

Pesticides

Method: EPA 3541/8270D | Internal ref.: ME-CA-[ENVIGC-LAK-AN-018

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Hexachlorobutadiene	GCM0222-APR20	µg/g	0.01	< 0.01	ND	40	74	50	140	65	50	140
Hexachloroethane	GCM0222-APR20	µg/g	0.01	< 0.01	ND	40	88	50	140	78	50	140
Methoxychlor	GCM0222-APR20	µg/g	0.05	< 0.05	ND	40	80	50	140	87	50	140
o,p-DDD	GCM0222-APR20	µg/g	0.02	< 0.02	ND	40	76	50	140	73	50	140
o,p-DDE	GCM0222-APR20	µg/g	0.02	< 0.02	ND	40	84	50	140	79	50	140
op-DDT	GCM0222-APR20	µg/g	0.02	< 0.02	ND	40	72	50	140	69	50	140
pp-DDD	GCM0222-APR20	µg/g	0.02	< 0.02	ND	40	73	50	140	74	50	140
pp-DDE	GCM0222-APR20	µg/g	0.02	< 0.02	ND	40	82	50	140	77	50	140
pp-DDT	GCM0222-APR20	µg/g	0.02	< 0.02	ND	40	80	50	140	84	50	140
Dieldrin	GCM0222-APR20	µg/g	0.05	< 0.05	ND	40	92	50	140	88	50	140
Aldrin	GCM0222-APR20	µg/g	0.05	< 0.05	ND	40	82	50	140	74	50	140
alpha-Chlordane	GCM0222-APR20	µg/g	0.02	< 0.02	ND	40	81	50	140	74	50	140
Endosulfan I	GCM0222-APR20	µg/g	0.02	< 0.02	ND	40	80	50	140	74	50	140
Endosulfan II	GCM0222-APR20	µg/g	0.02	< 0.02	ND	40	79	50	140	72	50	140
Endrin	GCM0222-APR20	µg/g	0.04	< 0.04	ND	40	79	50	140	79	50	140
gamma-BHC	GCM0222-APR20	µg/g	0.01	< 0.01	ND	40	82	50	140	73	50	140
gamma-Chlordane	GCM0222-APR20	µg/g	0.02	< 0.02	ND	40	78	50	140	72	50	140
Heptachlor epoxide	GCM0222-APR20	µg/g	0.01	< 0.01	ND	40	81	50	140	75	50	140
Heptachlor	GCM0222-APR20	µg/g	0.01	< 0.01	ND	40	81	50	140	75	50	140
Hexachlorobenzene	GCM0222-APR20	µg/g	0.01	< 0.01	ND	40	79	50	140	71	50	140

QC SUMMARY

Petroleum Hydrocarbons (F1)

Method: CCME Tier 1 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F1 (C6-C10)	GCM0196-APR20	µg/g	10	<10	ND	30	98	80	120	91	60	140

Petroleum Hydrocarbons (F2-F4)

Method: CCME Tier 1 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F2 (C10-C16)	GCM0172-APR20	µg/g	10	<10	ND	30	115	80	120	97	60	140
F3 (C16-C34)	GCM0172-APR20	µg/g	50	<50	ND	30	115	80	120	97	60	140
F4 (C34-C50)	GCM0172-APR20	µg/g	50	<50	ND	30	115	80	120	97	60	140

QC SUMMARY

pH

Method: SM 4500 I Internal ref.: ME-CA-[ENVIEWL-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	ARD0041-APR20	pH Units	0.05		0	20	100	80	120			

Polychlorinated Biphenyls

Method: EPA 3570/8082A/8270C I Internal ref.: ME-CA-[ENVIGC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Polychlorinated Biphenyls (PCBs) - Total	GCM0179-APR20	µg/g	0.3	< 0.3	ND	40	96	60	140	94	60	140

QC SUMMARY

Semi-Volatile Organics

Method: EPA 3541/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1-Methylnaphthalene	GCM0177-APR20	µg/g	0.05	< 0.05	ND	40	88	50	140	87	50	140
2-Methylnaphthalene	GCM0177-APR20	µg/g	0.05	< 0.05	ND	40	83	50	140	83	50	140
Acenaphthene	GCM0177-APR20	µg/g	0.05	< 0.05	ND	40	92	50	140	91	50	140
Acenaphthylene	GCM0177-APR20	µg/g	0.05	< 0.05	ND	40	91	50	140	92	50	140
Anthracene	GCM0177-APR20	µg/g	0.05	< 0.05	ND	40	89	50	140	89	50	140
Benzo(a)anthracene	GCM0177-APR20	µg/g	0.05	< 0.05	ND	40	91	50	140	93	50	140
Benzo(a)pyrene	GCM0177-APR20	µg/g	0.05	< 0.05	ND	40	92	50	140	96	50	140
Benzo(b+j)fluoranthene	GCM0177-APR20	µg/g	0.05	< 0.05	ND	40	85	50	140	89	50	140
Benzo(ghi)perylene	GCM0177-APR20	µg/g	0.1	< 0.1	ND	40	89	50	140	88	50	140
Benzo(k)fluoranthene	GCM0177-APR20	µg/g	0.05	< 0.05	ND	40	89	50	140	88	50	140
Chrysene	GCM0177-APR20	µg/g	0.05	< 0.05	ND	40	91	50	140	90	50	140
Dibenzo(a,h)anthracene	GCM0177-APR20	µg/g	0.06	< 0.06	ND	40	86	50	140	87	50	140
Fluoranthene	GCM0177-APR20	µg/g	0.05	< 0.05	ND	40	91	50	140	92	50	140
Fluorene	GCM0177-APR20	µg/g	0.05	< 0.05	ND	40	87	50	140	86	50	140
Indeno(1,2,3-cd)pyrene	GCM0177-APR20	µg/g	0.1	< 0.1	ND	40	87	50	140	89	50	140
Naphthalene	GCM0177-APR20	µg/g	0.05	< 0.05	ND	40	88	50	140	88	50	140
Phenanthrene	GCM0177-APR20	µg/g	0.05	< 0.05	ND	40	91	50	140	91	50	140
Pyrene	GCM0177-APR20	µg/g	0.05	< 0.05	ND	40	97	50	140	97	50	140

QC SUMMARY

Volatile Organics

Method: EPA 5035A/5030B/8260C | Internal ref.: ME-CA-IENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1,1,1,2-Tetrachloroethane	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	94	60	130	93	50	140
1,1,1-Trichloroethane	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	87	60	130	86	50	140
1,1,2,2-Tetrachloroethane	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	94	60	130	93	50	140
1,1,2-Trichloroethane	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	94	60	130	88	50	140
1,1-Dichloroethane	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	88	60	130	91	50	140
1,1-Dichloroethylene	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	88	60	130	80	50	140
1,2-Dichlorobenzene	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	96	60	130	94	50	140
1,2-Dichloroethane	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	90	60	130	89	50	140
1,2-Dichloropropane	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	93	60	130	92	50	140
1,3-Dichlorobenzene	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	96	60	130	95	50	140
1,4-Dichlorobenzene	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	95	60	130	95	50	140
Acetone	GCM0195-APR20	µg/g	0.5	< 0.5	ND	50	106	50	140	95	50	140
Benzene	GCM0195-APR20	µg/g	0.02	< 0.02	ND	50	91	60	130	92	50	140
Bromodichloromethane	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	94	60	130	91	50	140
Bromoform	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	94	60	130	89	50	140
Bromomethane	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	92	50	140	75	50	140
Carbon tetrachloride	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	92	60	130	90	50	140
Chlorobenzene	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	93	60	130	94	50	140
Chloroform	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	92	60	130	92	50	140
cis-1,2-Dichloroethylene	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	91	60	130	91	50	140

QC SUMMARY

Volatile Organics (continued)

Method: EPA 5035A/5030B/8260C | Internal ref.: ME-CA-IENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
cis-1,3-dichloropropene	GCM0195-APR20	µg/g	0.03	< 0.03	ND	50	93	60	130	90	50	140
Dibromochloromethane	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	93	60	130	89	50	140
Dichlorodifluoromethane	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	85	50	140	58	50	140
Ethylbenzene	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	94	60	130	95	50	140
Ethylenedibromide	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	94	60	130	92	50	140
n-Hexane	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	97	60	130	82	50	140
m/p-xylene	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	95	60	130	96	50	140
Methyl ethyl ketone	GCM0195-APR20	µg/g	0.5	< 0.5	ND	50	97	50	140	92	50	140
Methyl isobutyl ketone	GCM0195-APR20	µg/g	0.5	< 0.5	ND	50	97	50	140	95	50	140
Methyl-t-butyl Ether	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	96	60	130	93	50	140
Methylene Chloride	GCM0195-APR20	µg/g	0.05	0.050216	ND	50	84	60	130	80	50	140
o-xylene	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	95	60	130	96	50	140
Styrene	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	95	60	130	96	50	140
Tetrachloroethylene	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	93	60	130	91	50	140
Toluene	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	93	60	130	92	50	140
trans-1,2-Dichloroethylene	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	86	60	130	83	50	140
trans-1,3-dichloropropene	GCM0195-APR20	µg/g	0.03	< 0.03	ND	50	93	60	130	88	50	140
Trichloroethylene	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	94	60	130	92	50	140
Trichlorofluoromethane	GCM0195-APR20	µg/g	0.05	< 0.05	ND	50	97	50	140	89	50	140
Vinyl Chloride	GCM0195-APR20	µg/g	0.02	< 0.02	ND	50	84	50	140	71	50	140

QC SUMMARY

Water Soluble Boron

Method: O.Reg. 153/04 | Internal ref.: ME-CA-IENVI SPE-LAK-AN-003

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Water Soluble Boron	ESG0030-APR20	µg/g	0.5	<0.5	ND	20	101	80	120	108	70	130

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND

FOOTNOTES

NSS	Insufficient sample for analysis.
RL	Reporting Limit.
↑	Reporting limit raised.
↓	Reporting limit lowered.
NA	The sample was not analysed for this analyte
ND	Non Detect

Samples analysed as received. Solid samples expressed on a dry weight basis. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated. This document is issued, on the Client's behalf, by the Company under its General Conditions of Service available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any other holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents.

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-- End of Analytical Report --

Request for Laboratory Services and CHAIN OF CUSTODY

No: 012409

Page 1 of 1

Environment, Health & Safety - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment
- London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

Laboratory Information Section - Lab use only

Received By: Scott Rom
Received Date: 04, 14, 2020 (mm/dd/yy)
Received Time: 12:00 hr (hr : min)
Received By (signature):
Custody Seal Present: Yes ☑ No ☐
Custody Seal Intact: Yes ☑ No ☐
Cooling Agent Present: Yes ☑ No ☐ Type: Ice
Temperature Upon Receipt (°C) 9.2, 9.2, 9.2
LAB LIMS #: CA14322-apr20

REPORT INFORMATION

Company: DS Consultants
Contact: Drew Doak
Address:
Phone:
Fax:
Email:

INVOICE INFORMATION

☐ (same as Report Information)
Company: DS
Contact: Paola Derveni
Address:
Phone:
Email:

Quotation #:
Project #: 19-199-100 102 As per Clients email
P.O. #:
Site Location/ID: Mitcroft Holt Course, Burlington

TURNAROUND TIME (TAT) REQUIRED

☑ Regular TAT (5-7days)

TAT's are quoted in business days (exclude statutory holidays & weekends). Samples received after 6pm or on weekends: TAT begins next business day

RUSH TAT (Additional Charges May Apply): ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days

PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION

Specify Due Date:

NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

REGULATIONS

Regulation 153/04: ☐ Table 1 ☑ Res/Park ☐ Table 2 ☐ Ind/Com ☑ Table 3 ☐ Agri/Other ☐ Table ____ Soil Texture: ☐ Coarse ☐ Medium ☐ Fine

Other Regulations: ☐ Reg 347/558 (3 Day min TAT) ☐ PWQO ☐ MMER ☐ CCME ☐ Other: ☐ MISA

Sewer By-Law: ☐ Sanitary ☐ Storm Municipality:

RECORD OF SITE CONDITION (RSC) ☐ YES ☐ NO

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	Field Filtered (Y/N)	M&I: Metals & Inorganics (incl CrVI, CN, Hg pH,(B(HWS),EC,SAR–soil) (Cl, Na–water)	M&I: Full Metals Suite (ICP metals plus B(HWS-soil only) Hg, CrVI	M&I: ICP Metals only (Sb,As,Ba,Be,B,Cd,Cr,Co,Cu,Pb,Mo,Ni, Se,Ag,Tl,U,V,Zn	SVOC: PAHs only	SVOC: SVOCs (all incl PAHs, ABNs, CPs	PCB: PCBs Total ☐ Aroclor ☐	PHC: F1-F4 + BTEX	PHC: F1-F4 only (no BTEX	VOC: VOCs (all incl BTEX	VOC: BTEX only	Pest: Pesticides (Organochlorine or specify other	Other (please specify)	Other (please specify)	Other (please specify)	Other (please specify)	Other (please specify)	Other (please specify)	Other (please specify): Sewer Use: (Specify pkg:)	Other (please specify): Water Characterization Pkg (General ☐ Extended ☐)	TCLP (Specify TCLP tests ☐M&I ☐VOC ☐PCB ☐B(a)P ☐ABN ☐Ignit.)	COMMENTS:
1	BH20-1-SS1	April 13, 2020	AM-PM	2	Soil		X					X	✓													
2	BH20-1-SS6			3									X		X											
3	BH20-2-SS1			1													X									
4	BH20-2 SS2			1			X																			
5	BH20-2 SS5			3									X		X											
6	BH 20-2 SS7			3									X		X											(On Hold)
7	BH20-3 SS2			2			X			X																
8	BH 20-3 SS3			3									X		X											
9	BH20-4 SS1			2											X											
10	BH20-4 SS2			2											X											(On Hold)
11	Area C GS1	April 14, 2020	11 AM	1	Soil							X														
12	Area D GS1	"	"	1	"							X														

Observations/Comments/Special Instructions

Sampled By (NAME): Sarah Sheth	**Signature:**	Date: 2020, 13, 04 (mm/dd/yy)	Pink Copy - Client
Relinquished by (NAME): Sarah Sheth	**Signature:**	Date: 2020, 13, 04 (mm/dd/yy)	Yellow & White Copy - SGS

Revision #: 1.2
Date of Issue: 09 Sept, 2019

Note: Submission of samples to SGS is acknowledgement that you have been provided direction on sample collection/handling and transportation of samples. {2} Submission of samples to SGS is considered authorization for completion of work. Signatures may appear on this form or be retained on file in the contract, or in an alternative format (e.g. shipping documents). {3} Results may be sent by email to an unlimited number of addresses for no additional cost. Fax is available upon request. This document is issued by the Company under its General Conditions of Service accessible at http://www.sgs.com/terms_and_conditions.htm. (Printed copies are available upon request.) Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.





FINAL REPORT

CA14332-DEC19 R1

19-199-102

Prepared for

DS Consultants

FINAL REPORT

CA14332-DEC19 R1

First Page

CLIENT DETAILS		LABORATORY DETAILS	
Client	DS Consultants	Project Specialist	Brad Moore Hon. B.Sc
		Laboratory	SGS Canada Inc.
Address	6221 Highway 7 Vaughan, Ontario L4H 0K8. Canada	Address	185 Concession St., Lakefield ON, K0L 2H0
Contact	Drew Doak	Telephone	705-652-2143
Telephone	905-264-9393	Facsimile	705-652-6365
Facsimile	905-264-2685	Email	brad.moore@sgs.com
Email	drew.doak@dsconsultants.ca	SGS Reference	CA14332-DEC19
Project	19-199-102	Received	12/10/2019
Order Number		Approved	12/17/2019
Samples	Soil (12)	Report Number	CA14332-DEC19 R1
		Date Reported	05/22/2020

COMMENTS

CCME Method Compliance: Analyses were conducted using analytical procedures that comply with the Reference Method for the CWS for Petroleum Hydrocarbons in Soil and have been validated for use at the SGS laboratory, Lakefield, ON site.

Quality Compliance: Instrument performance / calibration quality criteria were met and extraction and analysis limits for holding times were met.

nC6 and nC10 response factors within 30% of response factor for toluene: YES

nC10, nC16 and nC34 response factors within 10% of the average response for the three compounds: YES

C50 response factors within 70% of nC10 + nC16 + nC34 average: YES

Linearity is within 15%: YES

F4G - gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.
The results for F4 and F4G are both reported and the greater of the two values is to be used in application to the CWS PHC.

Hydrocarbon results are expressed on a dry weight basis.

Benzo(b)fluoranthene results for comparison to the standard are reported as benzo(b+j)fluoranthene. Benzo(b)fluoranthene and benzo(j)fluoranthene co-elute and cannot be reported individually by the analytical method used.

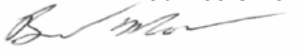
Temperature of Sample upon Receipt: 8 degrees C
Cooling Agent Present:Yes
Custody Seal Present:Yes

Chain of Custody Number:012374

BH19-1-S1: PAH; Sample was diluted due to sample matrix interference, which caused an increase in the RLs.

SIGNATORIES

Brad Moore Hon. B.Sc



PHC F3 (C16-C34) and F4 (C34-C50) Duplicate: RPD for these parameters are outside control limits to sample heterogeneity.

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Client: DS Consultants

Project: 19-199-102

Project Manager: Drew Doak

Samplers: Drew Doak

PACKAGE: **REG153 - BTEX** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

			Sample Number	11	15	16	19
			Sample Name	BH19-1-S4	BH19-2-S5	BH19-2-S7	BH19-3-S5
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	29/11/2019	28/11/2019	28/11/2019	29/11/2019
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
BTEX							
Benzene	µg/g	0.02	0.17	< 0.02	< 0.02	< 0.02	< 0.02
Ethylbenzene	µg/g	0.05	15	< 0.05	< 0.05	< 0.05	< 0.05
Toluene	µg/g	0.05	6	< 0.05	< 0.05	< 0.05	< 0.05
Xylene (total)	µg/g	0.05	25	< 0.05	< 0.05	< 0.05	< 0.05
m/p-xylene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05
o-xylene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05

PACKAGE: **REG153 - Hydrides** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

			Sample Number	10	13	14	17
			Sample Name	BH19-1-S2	BH19-2-S2	DUP1	BH19-3-S1
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	29/11/2019	28/11/2019	28/11/2019	29/11/2019
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
Hydrides							
Antimony	µg/g	0.8	7.5	< 0.8	< 0.8	< 0.8	< 0.8
Arsenic	µg/g	0.5	18	5.1	6.2	4.8	5.9
Selenium	µg/g	0.7	2.4	< 0.7	< 0.7	< 0.7	< 0.7

Client: DS Consultants
Project: 19-199-102
Project Manager: Drew Doak
Samplers: Drew Doak

PACKAGE: **REG153 - Metals and Inorganics** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

	Sample Number	9	10	11	12	13	14	15	16
	Sample Name	BH19-1-S1	BH19-1-S2	BH19-1-S4	BH19-2-S1	BH19-2-S2	DUP1	BH19-2-S5	BH19-2-S7
	Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
	Sample Date	29/11/2019	29/11/2019	29/11/2019	28/11/2019	28/11/2019	28/11/2019	28/11/2019	28/11/2019
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Metals and Inorganics											
Moisture Content	%	-		4.5	13.2	12.2	17.3	15.9	18.2	11.4	10.8
Barium	µg/g	0.1	390		110			89	91		
Beryllium	µg/g	0.02	5		0.79			0.75	0.81		
Boron	µg/g	1	120		11			8	7		
Cadmium	µg/g	0.02	1.2		0.27			0.22	0.31		
Chromium	µg/g	0.5	160		26			22	23		
Cobalt	µg/g	0.01	22		14			14	13		
Copper	µg/g	0.1	180		22			33	25		
Lead	µg/g	0.1	120		16			24	25		
Molybdenum	µg/g	0.1	6.9		0.9			1.3	1.0		
Nickel	µg/g	0.5	130		31			30	25		
Silver	µg/g	0.05	25		< 0.05			< 0.05	0.05		
Thallium	µg/g	0.02	1		0.15			0.16	0.16		
Uranium	µg/g	0.002	23		1.1			0.64	0.80		
Vanadium	µg/g	3	86		31			30	31		
Zinc	µg/g	0.7	340		75			80	82		
Water Soluble Boron	µg/g	0.5	1.5		< 0.5			< 0.5	< 0.5		

Client: DS Consultants
Project: 19-199-102
Project Manager: Drew Doak
Samplers: Drew Doak

PACKAGE: **REG153 - Metals and Inorganics** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

	Sample Number	17	18	19	20		
	Sample Name	BH19-3-S1	BH19-3-S2	BH19-3-S5	DUP2		
	Sample Matrix	Soil	Soil	Soil	Soil		
	Sample Date	29/11/2019	29/11/2019	29/11/2019	29/11/2019		
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
Metals and Inorganics							
Moisture Content	%	-		14.2	11.4	10.8	12.0
Barium	µg/g	0.1	390	110			
Beryllium	µg/g	0.02	5	1.00			
Boron	µg/g	1	120	5			
Cadmium	µg/g	0.02	1.2	0.20			
Chromium	µg/g	0.5	160	26			
Cobalt	µg/g	0.01	22	16			
Copper	µg/g	0.1	180	40			
Lead	µg/g	0.1	120	16			
Molybdenum	µg/g	0.1	6.9	0.5			
Nickel	µg/g	0.5	130	35			
Silver	µg/g	0.05	25	< 0.05			
Thallium	µg/g	0.02	1	0.18			
Uranium	µg/g	0.002	23	0.63			
Vanadium	µg/g	3	86	33			
Zinc	µg/g	0.7	340	78			
Water Soluble Boron	µg/g	0.5	1.5	< 0.5			

Client: DS Consultants
Project: 19-199-102
Project Manager: Drew Doak
Samplers: Drew Doak

PACKAGE: **REG153 - Organochlorine Pests (OCs)**
(SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

Sample Number	10	12	17
Sample Name	BH19-1-S2	BH19-2-S1	BH19-3-S1
Sample Matrix	Soil	Soil	Soil
Sample Date	29/11/2019	28/11/2019	29/11/2019

Parameter	Units	RL	L1	Result	Result	Result
Organochlorine Pests (OCs)						
Aldrin	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
alpha-Chlordane	µg/g	0.02		< 0.02	< 0.02	< 0.02
gamma-Chlordane	µg/g	0.02		< 0.02	< 0.02	< 0.02
Chlordane (total)	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
o,p-DDD	µg/g	0.02		< 0.02	< 0.02	< 0.02
pp-DDD	µg/g	0.02		< 0.02	< 0.02	< 0.02
DDD (total)	µg/g	0.05	3.3	< 0.05	< 0.05	< 0.05
o,p-DDE	µg/g	0.02		< 0.02	< 0.02	< 0.02
pp-DDE	µg/g	0.02		< 0.02	< 0.02	< 0.02
DDE (total)	µg/g	0.05	0.33	< 0.05	< 0.05	< 0.05
op-DDT	µg/g	0.02		< 0.02	< 0.02	< 0.02
pp-DDT	µg/g	0.02		< 0.02	< 0.02	< 0.02
DDT (total)	µg/g	0.05	1.4	< 0.05	< 0.05	< 0.05
Dieldrin	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
gamma-BHC	µg/g	0.01	0.063	< 0.01	< 0.01	< 0.01
Endosulfan I	µg/g	0.02		< 0.02	< 0.02	< 0.02
Endosulfan II	µg/g	0.02		< 0.02	< 0.02	< 0.02
Endosulfan (total)	µg/g	0.04	0.04	< 0.04	< 0.04	< 0.04
Endrin	µg/g	0.04	0.04	< 0.04	< 0.04	< 0.04
Heptachlor	µg/g	0.01	0.15	< 0.01	< 0.01	< 0.01
Heptachlor epoxide	µg/g	0.01	0.05	< 0.01	< 0.01	< 0.01
Hexachlorobenzene	µg/g	0.01	0.52	< 0.01	< 0.01	< 0.01

Client: DS Consultants
Project: 19-199-102
Project Manager: Drew Doak
Samplers: Drew Doak

PACKAGE: **REG153 - Organochlorine Pests (OCs)** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

Parameter	Units	RL	L1	Sample Number 10	12	17
				Sample Name BH19-1-S2	BH19-2-S1	BH19-3-S1
				Sample Matrix Soil	Soil	Soil
				Sample Date 29/11/2019	28/11/2019	29/11/2019
Organochlorine Pests (OCs) (continued)						
Hexachlorobutadiene	µg/g	0.01	0.014	< 0.01	< 0.01	< 0.01
Hexachloroethane	µg/g	0.01	0.071	< 0.01	< 0.01	< 0.01
Methoxychlor	µg/g	0.05	0.13	< 0.05	< 0.05	< 0.05

PACKAGE: **REG153 - Other (ORP)** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

Parameter	Units	RL	L1	Sample Number 10	13	14	17
				Sample Name BH19-1-S2	BH19-2-S2	DUP1	BH19-3-S1
				Sample Matrix Soil	Soil	Soil	Soil
				Sample Date 29/11/2019	28/11/2019	28/11/2019	29/11/2019
Other (ORP)							
Mercury	µg/g	0.05	1.8	< 0.05	< 0.05	< 0.05	< 0.05
Sodium Adsorption Ratio	---	0.2	5	1.3	0.4	0.4	0.7
SAR Calcium	mg/L	0.09		32.5	25.1	34.6	28.8
SAR Magnesium	mg/L	0.02		9.9	9.0	9.1	3.3
SAR Sodium	mg/L	0.15		32.4	9.2	9.0	15.7
Conductivity	mS/cm	0.002	0.7	0.33	0.20	0.25	0.19
pH	pH Units	0.05		7.63	7.60	7.43	7.67
Chromium VI	µg/g	0.2	10	0.3	< 0.2	< 0.2	< 0.2
Free Cyanide	µg/g	0.05	0.051	< 0.05	< 0.05	< 0.05	< 0.05

Client: DS Consultants

Project: 19-199-102

Project Manager: Drew Doak

Samplers: Drew Doak

PACKAGE: **REG153 - PAHs** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

	Sample Number	9	13	18	20		
	Sample Name	BH19-1-S1	BH19-2-S2	BH19-3-S2	DUP2		
	Sample Matrix	Soil	Soil	Soil	Soil		
	Sample Date	29/11/2019	28/11/2019	29/11/2019	29/11/2019		
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
PAHs							
Acenaphthene	µg/g	0.05	58	< 0.2↑	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/g	0.05	0.17	< 0.15↑	< 0.05	< 0.05	< 0.05
Anthracene	µg/g	0.05	0.74	< 0.2↑	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/g	0.05	0.63	0.38	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	µg/g	0.05	0.3	0.28	< 0.05	< 0.05	< 0.05
Benzo(b+j)fluoranthene	µg/g	0.05	0.78	< 0.5↑	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	µg/g	0.1	7.8	0.28	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	µg/g	0.05	0.78	< 0.5↑	< 0.05	< 0.05	< 0.05
Chrysene	µg/g	0.05	7.8	0.32	< 0.05	< 0.05	< 0.05
Dibenzo(a,h)anthracene	µg/g	0.06	0.1	< 0.2↑	< 0.06	< 0.06	< 0.06
Fluoranthene	µg/g	0.05	0.69	0.66	< 0.05	< 0.05	< 0.05
Fluorene	µg/g	0.05	69	< 0.2↑	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.1	0.48	< 0.2↑	< 0.1	< 0.1	< 0.1
1-Methylnaphthalene	µg/g	0.05		< 0.2↑	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/g	0.05		< 0.2↑	< 0.05	< 0.05	< 0.05
Methylnaphthalene, 2-(1-)	µg/g	0.05	3.4	< 0.2↑	< 0.05	< 0.05	< 0.05
Naphthalene	µg/g	0.05	0.75	< 0.2↑	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/g	0.05	7.8	0.22	< 0.05	< 0.05	< 0.05
Pyrene	µg/g	0.05	78	0.54	< 0.05	< 0.05	< 0.05

PACKAGE: **REG153 - Pesticides Surrogate** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

			Sample Number	10	12	17	
			Sample Name	BH19-1-S2	BH19-2-S1	BH19-3-S1	
			Sample Matrix	Soil	Soil	Soil	
			Sample Date	29/11/2019	28/11/2019	29/11/2019	
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	
Pesticides Surrogate							
Surr Decachlorobiphenyl	Surr Rec %	-		111	97	100	

PACKAGE: **REG153 - PHCs** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

			Sample Number	11	15	16	19
			Sample Name	BH19-1-S4	BH19-2-S5	BH19-2-S7	BH19-3-S5
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	29/11/2019	28/11/2019	28/11/2019	29/11/2019
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
PHCs							
F1 (C6-C10)	µg/g	10	65	< 10	< 10	< 10	< 10
F1-BTEX (C6-C10)	µg/g	10		< 10	< 10	< 10	< 10
F2 (C10-C16)	µg/g	10	150	< 10	< 10	< 10	< 10
F3 (C16-C34)	µg/g	50	1300	< 50	< 50	< 50	< 50
F4 (C34-C50)	µg/g	50	5600	< 50	< 50	< 50	< 50
Chromatogram returned to baseline at nC50	Yes / No	-		YES	YES	YES	YES

PACKAGE: **REG153 - SVOC Surrogates** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

			Sample Number	9	13	18	20
			Sample Name	BH19-1-S1	BH19-2-S2	BH19-3-S2	DUP2
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	29/11/2019	28/11/2019	29/11/2019	29/11/2019
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
SVOC Surrogates							
Surr Nitrobenzene-d5	Surr Rec %	-		87	89	88	87
Surr 2-Fluorobiphenyl	Surr Rec %	-		83	65	77	66
Surr 4-Terphenyl-d14	Surr Rec %	-		102	85	91	82
Surr 2-Fluorophenol	Surr Rec %	-		80	79	72	64
Surr Phenol-d6	Surr Rec %	-		80	81	77	70
Surr 2,4,6-Tribromophenol	Surr Rec %	-		71	81	71	68

PACKAGE: **REG153 - THMs (VOC)** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

			Sample Number	11	15	16	19
			Sample Name	BH19-1-S4	BH19-2-S5	BH19-2-S7	BH19-3-S5
			Sample Matrix	Soil	Soil	Soil	Soil
			Sample Date	29/11/2019	28/11/2019	28/11/2019	29/11/2019
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
THMs (VOC)							
Bromodichloromethane	µg/g	0.05	13	< 0.05	< 0.05	< 0.05	< 0.05
Bromoform	µg/g	0.05	0.26	< 0.05	< 0.05	< 0.05	< 0.05
Dibromochloromethane	µg/g	0.05	9.4	< 0.05	< 0.05	< 0.05	< 0.05

Client: DS Consultants
Project: 19-199-102
Project Manager: Drew Doak
Samplers: Drew Doak

PACKAGE: **REG153 - VOC Surrogates** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

	Sample Number	10	11	12	15	16	17	19		
	Sample Name	BH19-1-S2	BH19-1-S4	BH19-2-S1	BH19-2-S5	BH19-2-S7	BH19-3-S1	BH19-3-S5		
	Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil		
	Sample Date	29/11/2019	29/11/2019	28/11/2019	28/11/2019	28/11/2019	29/11/2019	29/11/2019		
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOC Surrogates										
Surr 1,2-Dichloroethane-d4	Surr Rec %	-			97		95	97		96
Surr 4-Bromofluorobenzene	Surr Rec %	-			88		88	88		87
Surr 2-Bromo-1-Chloropropane	Surr Rec %	-			86		85	86		86
Surr TCMX	Surr Rec %	-		94		83			77	

PACKAGE: **REG153 - VOCs** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

	Sample Number	11	15	16	19		
	Sample Name	BH19-1-S4	BH19-2-S5	BH19-2-S7	BH19-3-S5		
	Sample Matrix	Soil	Soil	Soil	Soil		
	Sample Date	29/11/2019	28/11/2019	28/11/2019	29/11/2019		
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
VOCs							
Acetone	µg/g	0.5	28	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Carbon tetrachloride	µg/g	0.05	0.12	< 0.05	< 0.05	< 0.05	< 0.05
Chlorobenzene	µg/g	0.05	2.7	< 0.05	< 0.05	< 0.05	< 0.05
Chloroform	µg/g	0.05	0.18	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/g	0.05	4.3	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/g	0.05	6	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/g	0.05	0.097	< 0.05	< 0.05	< 0.05	< 0.05
Dichlorodifluoromethane	µg/g	0.05	25	< 0.05	< 0.05	< 0.05	< 0.05
1,1-Dichloroethane	µg/g	0.05	11	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichloroethane	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1-Dichloroethylene	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05

Client: DS Consultants
Project: 19-199-102
Project Manager: Drew Doak
Samplers: Drew Doak

PACKAGE: **REG153 - VOCs** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED

	Sample Number	11	15	16	19		
	Sample Name	BH19-1-S4	BH19-2-S5	BH19-2-S7	BH19-3-S5		
	Sample Matrix	Soil	Soil	Soil	Soil		
	Sample Date	29/11/2019	28/11/2019	28/11/2019	29/11/2019		
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
VOCs (continued)							
trans-1,2-Dichloroethylene	µg/g	0.05	0.75	< 0.05	< 0.05	< 0.05	< 0.05
cis-1,2-Dichloroethylene	µg/g	0.05	30	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dichloropropane	µg/g	0.05	0.085	< 0.05	< 0.05	< 0.05	< 0.05
cis-1,3-dichloropropene	µg/g	0.03		< 0.03	< 0.03	< 0.03	< 0.03
trans-1,3-dichloropropene	µg/g	0.03		< 0.03	< 0.03	< 0.03	< 0.03
1,3-dichloropropene (total)	µg/g	0.05	0.083	< 0.05	< 0.05	< 0.05	< 0.05
Ethylenedibromide	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05
n-Hexane	µg/g	0.05	34	< 0.05	< 0.05	< 0.05	< 0.05
Methyl ethyl ketone	µg/g	0.5	44	< 0.5	< 0.5	< 0.5	< 0.5
Methyl isobutyl ketone	µg/g	0.5	4.3	< 0.5	< 0.5	< 0.5	< 0.5
Methyl-t-butyl Ether	µg/g	0.05	1.4	< 0.05	< 0.05	< 0.05	< 0.05
Methylene Chloride	µg/g	0.05	0.96	< 0.05	< 0.05	< 0.05	< 0.05
Styrene	µg/g	0.05	2.2	< 0.05	< 0.05	< 0.05	< 0.05
Tetrachloroethylene	µg/g	0.05	2.3	< 0.05	< 0.05	< 0.05	< 0.05
1,1,1,2-Tetrachloroethane	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1,2,2-Tetrachloroethane	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1,1-Trichloroethane	µg/g	0.05	3.4	< 0.05	< 0.05	< 0.05	< 0.05
1,1,2-Trichloroethane	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Trichloroethylene	µg/g	0.05	0.52	< 0.05	< 0.05	0.08	< 0.05
Trichlorofluoromethane	µg/g	0.05	5.8	< 0.05	< 0.05	< 0.05	< 0.05
Vinyl Chloride	µg/g	0.02	0.022	< 0.02	< 0.02	< 0.02	< 0.02

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	REG153 / SOIL / FINE - TABLE 3 - Residential/Parkland - UNDEFINED L1
BH19-1-S1				
Dibenz(a,h)anthracene	EPA 3541/8270D	µg/g	< 0.2	0.1

QC SUMMARY

Conductivity

Method: EPA 6010/SM 2510 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Conductivity	EWL0203-DEC19	mS/cm	0.002	<0.002	0	10	99	90	110	NA		

Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-IENVISFA-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Free Cyanide	SKA5038-DEC19	µg/g	0.05	<0.05	ND	20	89	80	120	88	75	125
Free Cyanide	SKA5073-DEC19	µg/g	0.05	<0.05	ND	20	96	80	120	87	75	125

Hexavalent Chromium by SFA

Method: EPA218.6/EPA3060A | Internal ref.: ME-CA-IENVISKA-LAK-AN-012

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Chromium VI	SKA5061-DEC19	ug/g	0.2	<0.2	ND	20	100	80	120	100	75	125

QC SUMMARY

Mercury by CVAAS

Method: EPA 7471A/EPA 245 | Internal ref.: ME-CA-IENVISPE-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Mercury	EMS0067-DEC19	µg/g	0.05	<0.05	ND	20	NV	80	120	103	70	130

Metals in aqueous samples - ICP-OES

Method: MOE 4696e01/EPA 6010 | Internal ref.: ME-CA-IENVISPE-LAK-AN-003

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
SAR Calcium	ESG0038-DEC19	mg/L	0.09	-0.0058	2	20	102	80	120	101	70	130
SAR Magnesium	ESG0038-DEC19	mg/L	0.02	<0.02	ND	20	101	80	120	104	70	130
SAR Sodium	ESG0038-DEC19	mg/L	0.15	<0.15	ND	20	99	80	120	107	70	130

QC SUMMARY

Metals in Soil - Aqua-regia/ICP-MS

Method: EPA 3050/EPA 200.8 | Internal ref.: ME-CA-[ENV]SPE-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver	EMS0067-DEC19	ug/g	0.05	<0.05	8	20	102	70	130	100	70	130
Arsenic	EMS0067-DEC19	µg/g	0.5	<0.5	0	20	106	70	130	105	70	130
Barium	EMS0067-DEC19	ug/g	0.1	<0.1	2	20	102	70	130	98	70	130
Beryllium	EMS0067-DEC19	µg/g	0.02	<0.02	3	20	104	70	130	107	70	130
Boron	EMS0067-DEC19	µg/g	1	<1	3	20	105	70	130	108	70	130
Cadmium	EMS0067-DEC19	µg/g	0.02	<0.02	11	20	107	70	130	119	70	130
Cobalt	EMS0067-DEC19	µg/g	0.01	<0.01	7	20	107	70	130	115	70	130
Chromium	EMS0067-DEC19	µg/g	0.5	<0.5	4	20	109	70	130	113	70	130
Copper	EMS0067-DEC19	µg/g	0.1	<0.1	3	20	110	70	130	105	70	130
Molybdenum	EMS0067-DEC19	µg/g	0.1	<0.1	8	20	104	70	130	128	70	130
Nickel	EMS0067-DEC19	ug/g	0.5	<0.5	3	20	107	70	130	110	70	130
Lead	EMS0067-DEC19	ug/g	0.1	<0.1	2	20	107	70	130	102	70	130
Antimony	EMS0067-DEC19	µg/g	0.8	<0.8	ND	20	100	70	130	104	70	130
Selenium	EMS0067-DEC19	µg/g	0.7	<0.7	ND	20	105	70	130	106	70	130
Thallium	EMS0067-DEC19	µg/g	0.02	<0.02	8	20	106	70	130	115	70	130
Uranium	EMS0067-DEC19	µg/g	0.002	<0.002	3	20	104	70	130	100	70	130
Vanadium	EMS0067-DEC19	µg/g	3	<3	2	20	107	70	130	114	70	130
Zinc	EMS0067-DEC19	µg/g	0.7	<0.7	3	20	107	70	130	101	70	130

QC SUMMARY

Pesticides

Method: EPA 3541/8270D | Internal ref.: ME-CA-[ENVIGC-LAK-AN-018

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Hexachloroethane	GCM0224-DEC19	µg/g	0.01	< 0.01	ND	40	94	50	140	95	50	140
Methoxychlor	GCM0224-DEC19	µg/g	0.05	< 0.05	ND	40	94	50	140	99	50	140
o,p-DDD	GCM0224-DEC19	µg/g	0.02	< 0.02	ND	40	89	50	140	100	50	140
o,p-DDE	GCM0224-DEC19	µg/g	0.02	< 0.02	ND	40	95	50	140	96	50	140
op-DDT	GCM0224-DEC19	µg/g	0.02	< 0.02	ND	40	90	50	140	83	50	140
pp-DDD	GCM0224-DEC19	µg/g	0.02	< 0.02	ND	40	84	50	140	99	50	140
pp-DDE	GCM0224-DEC19	µg/g	0.02	< 0.02	ND	40	94	50	140	97	50	140
pp-DDT	GCM0224-DEC19	µg/g	0.02	< 0.02	ND	40	95	50	140	94	50	140
Aldrin	GCM0224-DEC19	µg/g	0.05	< 0.05	ND	40	94	50	140	98	50	140
alpha-Chlordane	GCM0224-DEC19	µg/g	0.02	< 0.02	ND	40	92	50	140	96	50	140
Dieldrin	GCM0224-DEC19	µg/g	0.05	< 0.05	ND	40	91	50	140	87	50	140
Endosulfan I	GCM0224-DEC19	µg/g	0.02	< 0.02	ND	40	88	50	140	98	50	140
Endosulfan II	GCM0224-DEC19	µg/g	0.02	< 0.02	ND	40	88	50	140	104	50	140
Endrin	GCM0224-DEC19	µg/g	0.04	< 0.04	ND	40	92	50	140	111	50	140
gamma-BHC	GCM0224-DEC19	µg/g	0.01	< 0.01	ND	40	95	50	140	95	50	140
gamma-Chlordane	GCM0224-DEC19	µg/g	0.02	< 0.02	ND	40	91	50	140	94	50	140
Heptachlor epoxide	GCM0224-DEC19	µg/g	0.01	< 0.01	ND	40	91	50	140	94	50	140
Heptachlor	GCM0224-DEC19	µg/g	0.01	< 0.01	ND	40	90	50	140	92	50	140
Hexachlorobenzene	GCM0224-DEC19	µg/g	0.01	< 0.01	ND	40	95	50	140	98	50	140
Hexachlorobutadiene	GCM0224-DEC19	µg/g	0.01	< 0.01	ND	40	95	50	140	94	50	140

QC SUMMARY

Petroleum Hydrocarbons (F1)

Method: CCME Tier 1 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F1 (C6-C10)	GCM0130-DEC19	µg/g	10	<10	ND	30	90	80	120	111	60	140

Petroleum Hydrocarbons (F2-F4)

Method: CCME Tier 1 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F2 (C10-C16)	GCM0179-DEC19	µg/g	10	<10	ND	30	108	80	120	128	60	140
F3 (C16-C34)	GCM0179-DEC19	µg/g	50	<50	54	30	108	80	120	128	60	140
F4 (C34-C50)	GCM0179-DEC19	µg/g	50	<50	59	30	108	80	120	128	60	140

QC SUMMARY

pH

Method: SM 4500 I Internal ref.: ME-CA-[ENV]EWL-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	ARD0038-DEC19	pH Units	0.05		0	20	100	80	120			

QC SUMMARY

Semi-Volatile Organics

Method: EPA 3541/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1-Methylnaphthalene	GCM0134-DEC19	µg/g	0.05	< 0.05	ND	40	83	50	140	72	50	140
2-Methylnaphthalene	GCM0134-DEC19	µg/g	0.05	< 0.05	ND	40	80	50	140	68	50	140
Acenaphthene	GCM0134-DEC19	µg/g	0.05	< 0.05	ND	40	90	50	140	89	50	140
Acenaphthylene	GCM0134-DEC19	µg/g	0.05	< 0.05	ND	40	85	50	140	80	50	140
Anthracene	GCM0134-DEC19	µg/g	0.05	< 0.05	ND	40	87	50	140	86	50	140
Benzo(a)anthracene	GCM0134-DEC19	µg/g	0.05	< 0.05	ND	40	89	50	140	89	50	140
Benzo(a)pyrene	GCM0134-DEC19	µg/g	0.05	< 0.05	ND	40	80	50	140	82	50	140
Benzo(b+j)fluoranthene	GCM0134-DEC19	µg/g	0.05	< 0.05	ND	40	81	50	140	84	50	140
Benzo(ghi)perylene	GCM0134-DEC19	µg/g	0.1	< 0.1	ND	40	85	50	140	81	50	140
Benzo(k)fluoranthene	GCM0134-DEC19	µg/g	0.05	< 0.05	ND	40	83	50	140	82	50	140
Chrysene	GCM0134-DEC19	µg/g	0.05	< 0.05	ND	40	89	50	140	86	50	140
Dibenzo(a,h)anthracene	GCM0134-DEC19	µg/g	0.06	< 0.06	ND	40	82	50	140	78	50	140
Fluoranthene	GCM0134-DEC19	µg/g	0.05	< 0.05	ND	40	89	50	140	92	50	140
Fluorene	GCM0134-DEC19	µg/g	0.05	< 0.05	ND	40	91	50	140	95	50	140
Indeno(1,2,3-cd)pyrene	GCM0134-DEC19	µg/g	0.1	< 0.1	ND	40	83	50	140	81	50	140
Naphthalene	GCM0134-DEC19	µg/g	0.05	< 0.05	ND	40	84	50	140	85	50	140
Phenanthrene	GCM0134-DEC19	µg/g	0.05	< 0.05	ND	40	90	50	140	88	50	140
Pyrene	GCM0134-DEC19	µg/g	0.05	< 0.05	ND	40	93	50	140	95	50	140

QC SUMMARY

Volatile Organics

Method: EPA 5035A/5030B/8260C | Internal ref.: ME-CA-IENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1,1,1,2-Tetrachloroethane	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	88	60	130	88	50	140
1,1,1-Trichloroethane	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	82	60	130	86	50	140
1,1,2,2-Tetrachloroethane	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	83	60	130	72	50	140
1,1,2-Trichloroethane	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	83	60	130	74	50	140
1,1-Dichloroethane	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	82	60	130	85	50	140
1,1-Dichloroethylene	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	75	60	130	73	50	140
1,2-Dichlorobenzene	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	88	60	130	79	50	140
1,2-Dichloroethane	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	83	60	130	75	50	140
1,2-Dichloropropane	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	86	60	130	86	50	140
1,3-Dichlorobenzene	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	89	60	130	83	50	140
1,4-Dichlorobenzene	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	88	60	130	81	50	140
Acetone	GCM0129-DEC19	µg/g	0.5	< 0.5	ND	50	70	50	140	59	50	140
Benzene	GCM0129-DEC19	µg/g	0.02	< 0.02	ND	50	87	60	130	86	50	140
Bromodichloromethane	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	87	60	130	88	50	140
Bromoform	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	82	60	130	79	50	140
Bromomethane	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	105	50	140	79	50	140
Carbon tetrachloride	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	87	60	130	88	50	140
Chlorobenzene	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	89	60	130	88	50	140
Chloroform	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	88	60	130	86	50	140
cis-1,2-Dichloroethylene	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	86	60	130	86	50	140

QC SUMMARY

Volatile Organics (continued)

Method: EPA 5035A/5030B/8260C | Internal ref.: ME-CA-[ENV]GC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
cis-1,3-dichloropropene	GCM0129-DEC19	µg/g	0.03	< 0.03	ND	50	87	60	130	88	50	140
Dibromochloromethane	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	84	60	130	79	50	140
Dichlorodifluoromethane	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	70	50	140	59	50	140
Ethylbenzene	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	91	60	130	95	50	140
Ethylenedibromide	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	85	60	130	75	50	140
n-Hexane	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	90	60	130	79	50	140
m/p-xylene	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	91	60	130	93	50	140
Methyl ethyl ketone	GCM0129-DEC19	µg/g	0.5	< 0.5	ND	50	75	50	140	70	50	140
Methyl isobutyl ketone	GCM0129-DEC19	µg/g	0.5	< 0.5	ND	50	80	50	140	72	50	140
Methyl-t-butyl Ether	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	86	60	130	82	50	140
Methylene Chloride	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	82	60	130	81	50	140
o-xylene	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	91	60	130	92	50	140
Styrene	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	90	60	130	89	50	140
Tetrachloroethylene	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	90	60	130	85	50	140
Toluene	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	89	60	130	88	50	140
trans-1,2-Dichloroethylene	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	80	60	130	85	50	140
trans-1,3-dichloropropene	GCM0129-DEC19	µg/g	0.03	< 0.03	ND	50	85	60	130	83	50	140
Trichloroethylene	GCM0129-DEC19	µg/g	0.05	< 0.05	3	50	88	60	130	89	50	140
Trichlorofluoromethane	GCM0129-DEC19	µg/g	0.05	< 0.05	ND	50	87	50	140	75	50	140
Vinyl Chloride	GCM0129-DEC19	µg/g	0.02	< 0.02	ND	50	73	50	140	71	50	140

QC SUMMARY

Water Soluble Boron

Method: O.Reg. 153/04 | Internal ref.: ME-CA-IENVI SPE-LAK-AN-003

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Water Soluble Boron	ESG0028-DEC19	µg/g	0.5	<0.5	7	20	98	80	120	90	70	130

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND

FOOTNOTES

NSS	Insufficient sample for analysis.
RL	Reporting Limit.
↑	Reporting limit raised.
↓	Reporting limit lowered.
NA	The sample was not analysed for this analyte
ND	Non Detect

Samples analysed as received. Solid samples expressed on a dry weight basis. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated. This document is issued, on the Client's behalf, by the Company under its General Conditions of Service available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any other holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents.

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-- End of Analytical Report --

Request for Laboratory Services and CHAIN OF CUSTODY

SGS Environment, Health & Safety - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment
- London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

No: 012374 Page 1 of 1

Laboratory Information Section - Lab use only

Received By: Oleg Mozhiv
Received Date: 12,10,19 (mm/dd/yy)
Received Time: 12:20 (hr : min)
Received By (signature):
Custody Seal Present: Yes ☑ No ☐
Custody Seal Intact: Yes ☑ No ☐
Cooling Agent Present: Yes ☑ No ☐ Type: ICE
Temperature Upon Receipt (°C) 8.8.8
LAB LIMS #: CA 14332-DEC19

REPORT INFORMATION	INVOICE INFORMATION
Company: DS consultants	☐ (same as Report Information)
Contact: Drew Dodk	Company:
Address: 16 - 6221 Hwy 7 Vaughan ON	Contact: Accounting
Phone: 905-264-9397	Address:
Fax:	Phone:
Email: drew.dodk@dsconsultants.ca	Email:

Quotation #: P.O. #:
Project #: 19-199-102 Site Location/ID:

TURNAROUND TIME (TAT) REQUIRED

☑ Regular TAT (5-7days) — TAT's are quoted in business days (exclude statutory holidays & weekends). Samples received after 6pm or on weekends: TAT begins next business day

RUSH TAT (Additional Charges May Apply): ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days

PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION

Specify Due Date:

NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

REGULATIONS

Regulation 153/04: ☐ Table 1 ☑ Res/Park ☐ Table 2 ☐ Ind/Com ☐ Table 3 ☐ Agri/Other ☐ Table ____ — Soil Texture: ☑ Coarse ☐ Medium ☐ Fine

Other Regulations: ☐ Reg 347/558 (3 Day min TAT) ☐ PWQO ☐ MMER ☐ CCME ☐ Other: ☐ MISA

Sewer By-Law: ☐ Sanitary ☐ Storm Municipality:

RECORD OF SITE CONDITION (RSC) ☐ YES ☐ NO

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	Field Filtered (Y/N)	M&I: Metals & Inorganics (incl Cr/VI, CN, Hg pH,(B(HWS),EC,SAR-soil) (Cl, Na-water)	M&I: Full Metals Suite (ICP metals plus B(HWS-soil only) Hg, Cr/VI	M&I: ICP Metals only (Sb,As,Ba,Be,B,Cd,Cr,Co,Cu,Pb,Mo,Ni, Se,Ag,Tl,U,V,Zn	SVOC: PAHs only	SVOC: SVOCs all incl PAHs, ABNs, CPs	PCB: PCBs Total ☐ Aroclor ☐	PHC: F1-F4 + BTEX	PHC: F1-F4 only no BTEX	VOC: VOCs all incl BTEX	VOC: BTEX only	Pest: Pesticides Organochlorine or specify other	Other (please specify)	Other (please specify)	Other (please specify)	Other (please specify)	Other (please specify)	Other (please specify)	Other (please specify)	TCLP: Specify TCLP tests ☐M&I ☐VOC ☐PCB ☐B(a)P ☐ABN ☐Ignit.	COMMENTS:
																					Sewer Use: Specify pkg:	Water Characterization Pkg ☐ General ☐ Extended			
1	BH19-1-S1	29/12/19	4PM		Soil					X															
2	BH19-1-S2	↓	↓		↓		X										X								
3	BH19-1-S4	↓	↓		↓								X		X										
4	BH19-2-S1	29/12/19															X								
5	BH19-2-S2						X			X															
6	DUP1						X																		
7	BH19-2-S5												X		X										
8	BH19-2-S7	↓											X		X										
9	BH19-3-S1	29/12/19					X										X								
10	BH19-3-S2	↓								X															
11	BH19-3-S5	↓	↓		↓								X		X										
12	DUP2	↓	↓		↓					X															

Observations/Comments/Special Instructions

Sampled By (NAME): Drew Dodk Signature: Date: 12/6/19 (mm/dd/yy)

Relinquished by (NAME): Drew Dodk Signature: Date: 12/10/19 (mm/dd/yy)

Pink Copy - Client
Yellow & White Copy - SGS

Revision #: 1.2
Date of Issue: 09 Sept, 2019

Note: Submission of samples to SGS is acknowledgement that you have been provided direction for sample collection/handling and transportation of samples. (2) Submission of samples to SGS is considered authorization for completion of work. Signatures may appear on this form or be retained on file in the contract, or in an alternative format (e.g. shipping documents). (3) Results may be sent by email to an unlimited number of addresses for no additional cost. Fax is available upon request. This document is issued by the Company under its General Conditions of Service accessible at http://www.sgs.com/terms_and_conditions.htm. (Printed copies are available upon request.) Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.





FINAL REPORT

CA14355-APR20 R1

19-199-102 Millcroft, Area 3

Prepared for

DS Consultants

FINAL REPORT

First Page

CLIENT DETAILS

Client	DS Consultants
Address	6221 Highway 7 Vaughan, Ontario L4H 0K8. Canada
Contact	Drew Doak
Telephone	905-264-9393
Facsimile	905-264-2685
Email	drew.doak@dsconsultants.ca
Project	19-199-102 Millcroft, Area 3
Order Number	
Samples	Soil (2)

LABORATORY DETAILS

Project Specialist	Jill Campbell, B.Sc.,GISAS
Laboratory	SGS Canada Inc.
Address	185 Concession St., Lakefield ON, K0L 2H0
Telephone	2165
Facsimile	705-652-6365
Email	jill.campbell@sgs.com
SGS Reference	CA14355-APR20
Received	04/15/2020
Approved	04/22/2020
Report Number	CA14355-APR20 R1
Date Reported	05/22/2020

COMMENTS

CCME Method Compliance: Analyses were conducted using analytical procedures that comply with the Reference Method for the CWS for Petroleum Hydrocarbons in Soil and have been validated for use at the SGS laboratory, Lakefield, ON site.

Quality Compliance: Instrument performance / calibration quality criteria were met and extraction and analysis limits for holding times were met.

nC6 and nC10 response factors within 30% of response factor for toluene: YES

nC10, nC16 and nC34 response factors within 10% of the average response for the three compounds: YES

C50 response factors within 70% of nC10 + nC16 + nC34 average: YES

Linearity is within 15%: YES

F4G - gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.
The results for F4 and F4G are both reported and the greater of the two values is to be used in application to the CWS PHC.

Hydrocarbon results are expressed on a dry weight basis.

Benzo(b)fluoranthene results for comparison to the standard are reported as benzo(b+j)fluoranthene. Benzo(b)fluoranthene and benzo(j)fluoranthene co-elute and cannot be reported individually by the analytical method used.

Temperature of Sample upon Receipt: 10 degrees C
Cooling Agent Present:Yes
Custody Seal Present:Yes

Chain of Custody Number:015894

SIGNATORIES

Jill Campbell, B.Sc.,GISAS



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Client: DS Consultants
Project: 19-199-102 Millcroft, Area 3
Project Manager: Drew Doak
Samplers: John Gavira

PACKAGE: **REG153 - BTEX** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 2 - Residential/Parkland - UNDEFINED

Sample Number	9
Sample Name	Dup-4
Sample Matrix	Soil
Sample Date	13/04/2020

Parameter	Units	RL	L1	Result
BTEX				
Benzene	µg/g	0.02	0.17	< 0.02
Ethylbenzene	µg/g	0.05	1.6	< 0.05
Toluene	µg/g	0.05	6	< 0.05
Xylene (total)	µg/g	0.05	25	< 0.05
m/p-xylene	µg/g	0.05		< 0.05
o-xylene	µg/g	0.05		< 0.05

PACKAGE: **REG153 - Hydrides** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 2 - Residential/Parkland - UNDEFINED

Sample Number	8
Sample Name	Dup-3
Sample Matrix	Soil
Sample Date	13/04/2020

Parameter	Units	RL	L1	Result
Hydrides				
Antimony	µg/g	0.8	7.5	< 0.8
Arsenic	µg/g	0.5	18	4.2
Selenium	µg/g	0.7	2.4	< 0.7

Client: DS Consultants

Project: 19-199-102 Millcroft, Area 3

Project Manager: Drew Doak

Samplers: John Gavira

PACKAGE: **REG153 - Metals and Inorganics** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 2 - Residential/Parkland - UNDEFINED

Sample Number	8	9
Sample Name	Dup-3	Dup-4
Sample Matrix	Soil	Soil
Sample Date	13/04/2020	13/04/2020

Parameter	Units	RL	L1	Result	Result
Metals and Inorganics					
Moisture Content	%	-		12.5	12.1
Barium	µg/g	0.1	390	84	
Beryllium	µg/g	0.02	5	0.70	
Boron	µg/g	1	120	7	
Cadmium	µg/g	0.02	1.2	0.12	
Chromium	µg/g	0.5	160	22	
Cobalt	µg/g	0.01	22	12	
Copper	µg/g	0.1	180	37	
Lead	µg/g	0.1	120	11	
Molybdenum	µg/g	0.1	6.9	0.4	
Nickel	µg/g	0.5	130	28	
Silver	µg/g	0.05	25	< 0.05	
Thallium	µg/g	0.02	1	0.15	
Uranium	µg/g	0.002	23	0.78	
Vanadium	µg/g	3	86	29	
Zinc	µg/g	0.7	340	64	
Water Soluble Boron	µg/g	0.5	1.5	< 0.5	

Client: DS Consultants

Project: 19-199-102 Millcroft, Area 3

Project Manager: Drew Doak

Samplers: John Gavira

PACKAGE: **REG153 - Other (ORP)** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 2 - Residential/Parkland - UNDEFINED

Sample Number	8
Sample Name	Dup-3
Sample Matrix	Soil
Sample Date	13/04/2020

Parameter	Units	RL	L1	Result
Other (ORP)				
Mercury	µg/g	0.05	1.8	< 0.05
Sodium Adsorption Ratio	---	0.2	5	0.9
SAR Calcium	mg/L	0.09		16.3
SAR Magnesium	mg/L	0.02		6.5
SAR Sodium	mg/L	0.15		17.7
Conductivity	mS/cm	0.002	0.7	0.21
pH	pH Units	0.05		7.70
Chromium VI	µg/g	0.2	10	< 0.2
Free Cyanide	µg/g	0.05	0.051	< 0.05

Client: DS Consultants

Project: 19-199-102 Millcroft, Area 3

Project Manager: Drew Doak

Samplers: John Gavira

PACKAGE: **REG153 - PHCs** (SOIL)

L1 = REG153 / SOIL / FINE - TABLE 2 - Residential/Parkland - UNDEFINED

Sample Number	9
Sample Name	Dup-4
Sample Matrix	Soil
Sample Date	13/04/2020

Parameter	Units	RL	L1	Result
PHCs				
F1 (C6-C10)	µg/g	10	65	< 10
F1-BTEX (C6-C10)	µg/g	10		< 10
F2 (C10-C16)	µg/g	10	150	< 10
F3 (C16-C34)	µg/g	50	1300	< 50
F4 (C34-C50)	µg/g	50	5600	< 50
Chromatogram returned to baseline at nC50	Yes / No	-		YES

EXCEEDANCE SUMMARY

No exceedances are present above the regulatory limit(s) indicated

QC SUMMARY

Conductivity

Method: EPA 6010/SM 2510 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Conductivity	EWL0255-APR20	mS/cm	0.002	<0.002	0	10	99	90	110	NA		

Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-IENVISFA-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Free Cyanide	SKA5068-APR20	µg/g	0.05	<0.05	ND	20	100	80	120	119	75	125

Hexavalent Chromium by SFA

Method: EPA218.6/EPA3060A | Internal ref.: ME-CA-IENVISKA-LAK-AN-012

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Chromium VI	SKA5081-APR20	ug/g	0.2	<0.2	5	20	100	80	120	97	75	125

QC SUMMARY

Mercury by CVAAS

Method: EPA 7471A/EPA 245 | Internal ref.: ME-CA-IENVISPE-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Mercury	EMS0088-APR20	µg/g	0.05	<0.05	ND	20	109	80	120	114	70	130

Metals in aqueous samples - ICP-OES

Method: MOE 4696e01/EPA 6010 | Internal ref.: ME-CA-IENVISPE-LAK-AN-003

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
SAR Calcium	ESG0037-APR20	mg/L	0.09	<0.09	1	20	103	80	120	111	70	130
SAR Magnesium	ESG0037-APR20	mg/L	0.02	<0.02	1	20	99	80	120	111	70	130
SAR Sodium	ESG0037-APR20	mg/L	0.15	<0.15	1	20	103	80	120	114	70	130

QC SUMMARY

Metals in Soil - Aqua-regia/ICP-MS

Method: EPA 3050/EPA 200.8 | Internal ref.: ME-CA-[ENVISPE-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver	EMS0088-APR20	ug/g	0.05	<0.05	ND	20	105	70	130	106	70	130
Arsenic	EMS0088-APR20	µg/g	0.5	<0.5	12	20	103	70	130	99	70	130
Barium	EMS0088-APR20	ug/g	0.1	<0.1	2	20	102	70	130	103	70	130
Beryllium	EMS0088-APR20	µg/g	0.02	<0.02	2	20	104	70	130	106	70	130
Boron	EMS0088-APR20	µg/g	1	<1	0	20	100	70	130	100	70	130
Cadmium	EMS0088-APR20	µg/g	0.02	<0.02	12	20	106	70	130	111	70	130
Cobalt	EMS0088-APR20	µg/g	0.01	<0.01	5	20	107	70	130	122	70	130
Chromium	EMS0088-APR20	µg/g	0.5	<0.5	6	20	108	70	130	124	70	130
Copper	EMS0088-APR20	µg/g	0.1	<0.1	3	20	101	70	130	107	70	130
Molybdenum	EMS0088-APR20	µg/g	0.1	<0.1	7	20	100	70	130	119	70	130
Nickel	EMS0088-APR20	ug/g	0.5	<0.5	4	20	105	70	130	121	70	130
Lead	EMS0088-APR20	µg/g	0.1	<0.1	4	20	109	70	130	104	70	130
Antimony	EMS0088-APR20	µg/g	0.8	<0.8	ND	20	105	70	130	128	70	130
Selenium	EMS0088-APR20	µg/g	0.7	<0.7	ND	20	105	70	130	105	70	130
Thallium	EMS0088-APR20	µg/g	0.02	<0.02	3	20	109	70	130	106	70	130
Uranium	EMS0088-APR20	µg/g	0.002	<0.002	2	20	105	70	130	101	70	130
Vanadium	EMS0088-APR20	µg/g	3	<3	11	20	107	70	130	121	70	130
Zinc	EMS0088-APR20	µg/g	0.7	<0.7	3	20	107	70	130	113	70	130

QC SUMMARY

Petroleum Hydrocarbons (F1)

Method: CCME Tier 1 I Internal ref.: ME-CA-[ENVIGC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F1 (C6-C10)	GCM0231-APR20	µg/g	10	<10	ND	30	95	80	120	106	60	140

Petroleum Hydrocarbons (F2-F4)

Method: CCME Tier 1 I Internal ref.: ME-CA-[ENVIGC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F2 (C10-C16)	GCM0221-APR20	µg/g	10	<10	ND	30	111	80	120	108	60	140
F3 (C16-C34)	GCM0221-APR20	µg/g	50	<50	ND	30	111	80	120	108	60	140
F4 (C34-C50)	GCM0221-APR20	µg/g	50	<50	ND	30	111	80	120	108	60	140

QC SUMMARY

pH

Method: SM 4500 I Internal ref.: ME-CA-[ENVIEWL-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	ARD0046-APR20	pH Units	0.05		1	20	100	80	120			

Volatile Organics

Method: EPA 5035A/5030B/8260C I Internal ref.: ME-CA-[ENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Benzene	GCM0231-APR20	µg/g	0.02	<0.02	ND	50	76	60	130	82	50	140
Ethylbenzene	GCM0231-APR20	µg/g	0.05	<0.05	ND	50	61	60	130	74	50	140
m/p-xylene	GCM0231-APR20	µg/g	0.05	<0.05	ND	50	63	60	130	78	50	140
o-xylene	GCM0231-APR20	µg/g	0.05	<0.05	ND	50	64	60	130	76	50	140
Toluene	GCM0231-APR20	µg/g	0.05	<0.05	ND	50	65	60	130	77	50	140

QC SUMMARY

Water Soluble Boron

Method: O.Reg. 153/04 | Internal ref.: ME-CA-IENVI SPE-LAK-AN-003

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Water Soluble Boron	ESG0034-APR20	µg/g	0.5	<0.5	ND	20	100	80	120	107	70	130

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND

FOOTNOTES

NSS	Insufficient sample for analysis.
RL	Reporting Limit.
↑	Reporting limit raised.
↓	Reporting limit lowered.
NA	The sample was not analysed for this analyte
ND	Non Detect

Samples analysed as received. Solid samples expressed on a dry weight basis. “Temperature Upon Receipt” is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act” published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated. This document is issued, on the Client's behalf, by the Company under its General Conditions of Service available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any other holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents.

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-- End of Analytical Report --

Request for Laboratory Services and CHAIN OF CUSTODY

SGS Environment, Health & Safety - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment
- London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

No: 015894
Page 1 of 1

Laboratory Information Section - Lab use only

Received By: Ahmed Al-Mandalawi
Received Date: 04/15/20 (mm/dd/yy)
Received Time: 11:30 (hr : min)
Received By (signature):
Custody Seal Present: Yes [X] No [ ]
Custody Seal Intact: Yes [X] No [ ]
Cooling Agent Present: Yes [X] No [ ] Type: ICEPACK
Temperature Upon Receipt (°C) 10.0, 10.1
LAB LIMS #: CA14355-APR20

REPORT INFORMATION	INVOICE INFORMATION
Company: DS	[ ] (same as Report Information)
Contact: Drew Dook	Company: DS
Address: 6221 Hwy 7 Unit 16	Contact: Accounting
Phone:	Address:
Fax:	Phone:
Email: drew.dook@dsconsultants.ca	Email:

Quotation #:
Project #: ~~PG4988-1~~ 19-199-102
P.O. #:
Site Location/ID: Millcroft, Area 3

TURNAROUND TIME (TAT) REQUIRED

[X] Regular TAT (5-7days)
TAT's are quoted in business days (exclude statutory holidays & weekends). Samples received after 6pm or on weekends: TAT begins next business day

RUSH TAT (Additional Charges May Apply): [ ] 1 Day [ ] 2 Days [ ] 3 Days [ ] 4 Days
PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION

Specify Due Date:
NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

REGULATIONS

Regulation 153/04: [ ] Table 1 [X] Res/Park [ ] Table 2 [ ] Ind/Com [X] Table 3 [ ] Agri/Other [ ] Table ____ Soil Texture: [ ] Coarse [ ] Medium [ ] Fine
Other Regulations: [ ] Reg 347/558 (3 Day min TAT) [ ] PWQO [ ] MMER [ ] CCME [ ] Other: [ ] MISA
Sewer By-Law: [ ] Sanitary [ ] Storm Municipality:

RECORD OF SITE CONDITION (RSC) [ ] YES [ ] NO

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX
1	DUP-3	04/13/20		1	Soil
2	DUP-4	↓		3	↓
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

	Field Filtered (Y/N)	M & I: Metals & Inorganics incl CrVI, CN,Hg pH,(B(HWS),EC,SAR–soil) (Cl, Na–water)	M & I: Full Metals Suite ICP metals plus B(HWS–soil only) Hg, CrVI	M & I: ICP Metals only Sb,As,Ba,Be,B,Cd,Cr,Co,Cu,Pb,Mo,Ni, Se,Ag,Tl,U,V,Zn	SVOC: PAHs only	SVOC: SVOCs all incl PAHs, ABNs, CPs	PCB: PCBs Total [ ] Aroclor [ ]	PHC: F1-F4 + BTEX	PHC: F1-F4 only no BTEX	VOC: VOCs all incl BTEX	VOC: BTEX only	Pest: Pesticides Organochlorine or specify other	Other (please specify)	Other	Other	Other	Other	Other	Sewer Use: Specify pkg:	Water Characterization Pkg [ ] General [ ] Extended	TCLP: Specify TCLP tests [ ] M&I [ ] VOC [ ] PCB [ ] B(a)P [ ] ABN [ ] Ignit.	COMMENTS:
1		X																			
2								X													
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Observations/Comments/Special Instructions

Sampled By (NAME): John Gavin Signature: Date: 04/15/20 (mm/dd/yy)
Relinquished by (NAME): John Gavin Signature: Date: 04/15/20 (mm/dd/yy)

Pink Copy - Client
Yellow & White Copy - SGS

Revision #: 1.2
Date of Issue: 09 Sept, 2019

Note: Submission of samples to SGS is acknowledgement that you have been provided direction on sample collection/handling and transportation of samples. {2} Submission of samples to SGS is considered authorization for completion of work. Signatures may appear on this form or be retained on file in the contract, or in an alternative format (e.g. shipping documents). {3} Results may be sent by email to an unlimited number of addresses for no additional cost. Fax is available upon request. This document is issued by the Company under its General Conditions of Service accessible at http://www.sgs.com/terms_and_conditions.htm. (Printed copies are available upon request.) Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.





FINAL REPORT

CA14698-APR20 R1

19-199-102

Prepared for

DS Consultants

FINAL REPORT

First Page

CLIENT DETAILS

Client	DS Consultants
Address	6221 Highway 7 Vaughan, Ontario L4H 0K8. Canada
Contact	Drew Doak
Telephone	905-264-9393
Facsimile	905-264-2685
Email	drew.doak@dsconsultants.ca
Project	19-199-102
Order Number	
Samples	Ground Water (6)

LABORATORY DETAILS

Project Specialist	Brad Moore Hon. B.Sc
Laboratory	SGS Canada Inc.
Address	185 Concession St., Lakefield ON, K0L 2H0
Telephone	705-652-2143
Facsimile	705-652-6365
Email	brad.moore@sgs.com
SGS Reference	CA14698-APR20
Received	04/29/2020
Approved	05/06/2020
Report Number	CA14698-APR20 R1
Date Reported	05/22/2020

COMMENTS

CCME Method Compliance: Analyses were conducted using analytical procedures that comply with the Reference Method for the CWS for Petroleum Hydrocarbons in Soil and have been validated for use at the SGS laboratory, Lakefield, ON site.

Quality Compliance: Instrument performance / calibration quality criteria were met and extraction and analysis limits for holding times were met.

nC6 and nC10 response factors within 30% of response factor for toluene: YES

nC10, nC16 and nC34 response factors within 10% of the average response for the three compounds: YES

C50 response factors within 70% of nC10 + nC16 + nC34 average: YES

Linearity is within 15%: YES

F4G - gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.
The results for F4 and F4G are both reported and the greater of the two values is to be used in application to the CWS PHC.

Benzo(b)fluoranthene results for comparison to the standard are reported as benzo(b+j)fluoranthene. Benzo(b)fluoranthene and benzo(j)fluoranthene co-elute and cannot be reported individually by the analytical method used.

Temperature of Sample upon Receipt: 6 degrees C
Cooling Agent Present:Yes
Custody Seal Present:No

Chain of Custody Number:016477

BH20-2: Pesticides: Decachlorobiphenyl Surrogate recovery is outside of control limits due to sample matrix.

SIGNATORIES

Brad Moore Hon. B.Sc

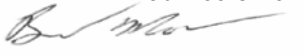


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Client: DS Consultants
Project: 19-199-102
Project Manager: Drew Doak
Samplers: Tanner Leonhardt

PACKAGE: **REG153 - BTEX** (WATER)

L1 = REG153 / GROUND WATER / FINE - TABLE 3 - All Types of Property Uses - UNDEFINED

			Sample Number	7	8	9	10	12
			Sample Name	BH20-1	BH20-2	BH20-3	BH19-2	Trip Blank
			Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
			Sample Date	29/04/2020	29/04/2020	29/04/2020	29/04/2020	29/04/2020
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	**Result**
BTEX								
Benzene	µg/L	0.5	430	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	µg/L	0.5	2300	< 0.5	3.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	0.5	18000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Xylene (total)	µg/L	0.5	4200	< 0.5	24.8	1.6	< 0.5	< 0.5
m/p-xylene	µg/L	0.5		< 0.5	16.1	1.0	< 0.5	< 0.5
o-xylene	µg/L	0.5		< 0.5	8.6	0.6	< 0.5	< 0.5

PACKAGE: **REG153 - Hydrides** (WATER)

L1 = REG153 / GROUND WATER / FINE - TABLE 3 - All Types of Property Uses - UNDEFINED

			Sample Number	7	8	9	10	11
			Sample Name	BH20-1	BH20-2	BH20-3	BH19-2	Dup-1
			Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
			Sample Date	29/04/2020	29/04/2020	29/04/2020	29/04/2020	29/04/2020
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	**Result**
Hydrides								
Antimony	µg/L	0.09	20000	0.23	0.62	0.48	0.28	0.38
Arsenic	µg/L	0.2	1900	0.7	2.0	1.3	3.2	1.3
Selenium	µg/L	0.04	63	0.27	0.29	0.26	0.06	0.29

Client: DS Consultants

Project: 19-199-102

Project Manager: Drew Doak

Samplers: Tanner Leonhardt

PACKAGE: **REG153 - Metals and Inorganics** (WATER)

L1 = REG153 / GROUND WATER / FINE - TABLE 3 - All Types of Property Uses - UNDEFINED

	Sample Number	7	8	9	10	11		
	Sample Name	BH20-1	BH20-2	BH20-3	BH19-2	Dup-1		
	Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water		
	Sample Date	29/04/2020	29/04/2020	29/04/2020	29/04/2020	29/04/2020		
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	**Result**
Metals and Inorganics								
Barium	µg/L	0.02	29000	106	47.8	41.5	90.7	39.8
Beryllium	µg/L	0.007	67	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
Boron	µg/L	2	45000	153	100	164	357	166
Cadmium	µg/L	0.003	2.7	0.009	0.023	0.006	0.009	0.021
Chromium	µg/L	0.08	810	0.38	2.95	0.54	0.18	0.49
Cobalt	µg/L	0.004	66	0.308	0.910	0.795	0.358	0.766
Copper	µg/L	0.2	87	3.3	16.3	1.8	0.6	1.6
Lead	µg/L	0.01	25	0.14	0.05	0.08	0.02	0.04
Molybdenum	µg/L	0.04	9200	7.04	12.1	22.4	19.0	22.4
Nickel	µg/L	0.1	490	1.1	2.8	2.5	1.5	2.7
Silver	µg/L	0.05	1.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Thallium	µg/L	0.005	510	0.038	0.020	0.014	0.030	0.014
Uranium	µg/L	0.002	420	5.16	2.96	8.08	2.17	7.99
Vanadium	µg/L	0.01	250	0.92	3.39	0.58	0.32	0.59
Zinc	µg/L	2	1100	2	3	2	< 2	3

Client: DS Consultants
Project: 19-199-102
Project Manager: Drew Doak
Samplers: Tanner Leonhardt

PACKAGE: **REG153 - Na** (WATER)

L1 = REG153 / GROUND WATER / FINE - TABLE 3 - All Types of Property Uses - UNDEFINED

Sample Number			7	8	9	10	11	
Sample Name			BH20-1	BH20-2	BH20-3	BH19-2	Dup-1	
Sample Matrix			Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	
Sample Date			29/04/2020	29/04/2020	29/04/2020	29/04/2020	29/04/2020	
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	**Result**
Na								
Sodium	µg/L	10	2.3e+006	156000	53800	100000	99400	102000

PACKAGE: **REG153 - Organochlorine Pests (OCs)** (WATER)

L1 = REG153 / GROUND WATER / FINE - TABLE 3 - All Types of Property Uses - UNDEFINED

Sample Number			8		
Sample Name			BH20-2		
Sample Matrix			Ground Water		
Sample Date			29/04/2020		
Parameter	**Units**	**RL**	**L1**	**Result**	
Organochlorine Pests (OCs)					
Aldrin	µg/L	0.01	8.5	< 0.01	
a-chlordane	µg/L	0.01		< 0.01	
g-chlordane	µg/L	0.01		< 0.01	
Chlordane (total)	µg/L	0.02	28	< 0.02	
o,p-DDD	µg/L	0.05		< 0.05	
pp-DDD	µg/L	0.01		< 0.01	
DDD (total)	µg/L	0.05	45	< 0.05	
o,p-DDE	µg/L	0.01		< 0.01	
pp-DDE	µg/L	0.01		< 0.01	
DDE (total)	µg/L	0.01	20	< 0.01	
op-DDT	µg/L	0.01		< 0.01	
pp-DDT	µg/L	0.01		< 0.01	
DDT (total)	µg/L	0.05	2.8	< 0.05	
Dieldrin	µg/L	0.01	0.75	< 0.01	

Client: DS Consultants
Project: 19-199-102
Project Manager: Drew Doak
Samplers: Tanner Leonhardt

PACKAGE: **REG153 - Organochlorine Pests (OCs)**
(WATER)

L1 = REG153 / GROUND WATER / FINE - TABLE 3 - All Types of Property Uses - UNDEFINED

Sample Number	8
Sample Name	BH20-2
Sample Matrix	Ground Water
Sample Date	29/04/2020

Parameter	Units	RL	L1	Result
Organochlorine Pests (OCs) (continued)				
gamma-BHC	µg/L	0.01	1.2	< 0.01
Endosulfan I	µg/L	0.02		< 0.02
Endosulfan II	µg/L	0.05		< 0.05
Endosulfan (total)	µg/L	0.05	1.5	< 0.05
Endrin	µg/L	0.05	0.48	< 0.05
Heptachlor	µg/L	0.01	2.5	< 0.01
Heptachlor epoxide	µg/L	0.01	0.048	< 0.01
Hexachlorobenzene	µg/L	0.01	3.1	< 0.01
Hexachlorobutadiene	µg/L	0.01	4.5	< 0.01
Hexachloroethane	µg/L	0.01	200	< 0.01
Methoxychlor	µg/L	0.01	6.5	< 0.01

PACKAGE: **REG153 - Other (ORP)** (WATER)

L1 = REG153 / GROUND WATER / FINE - TABLE 3 - All Types of Property Uses - UNDEFINED

			Sample Number	7	8	9	10	11
			Sample Name	BH20-1	BH20-2	BH20-3	BH19-2	Dup-1
			Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
			Sample Date	29/04/2020	29/04/2020	29/04/2020	29/04/2020	29/04/2020
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	**Result**
Other (ORP)								
Mercury (total)	µg/L	0.01	2.8	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
pH	no unit	0.05		7.40	7.83	7.74	7.56	7.75
Chloride	µg/L	200	2.3e+006	440000	45000	180000	290000	180000
Chromium VI	µg/L	0.2	140	< 0.2	1.6	0.4	< 0.2	0.3
Cyanide (free)	µg/L	2	66	< 2	< 2	< 2	< 2	< 2

PACKAGE: **REG153 - Pesticides Surrogate** (WATER)

L1 = REG153 / GROUND WATER / FINE - TABLE 3 - All Types of Property Uses - UNDEFINED

			Sample Number	8	
			Sample Name	BH20-2	
			Sample Matrix	Ground Water	
			Sample Date	29/04/2020	
Parameter	**Units**	**RL**	**L1**	**Result**	
Pesticides Surrogate					
Surr Decachlorobiphenyl	Surr Rec %	-		38	

PACKAGE: **REG153 - PHCs** (WATER)

L1 = REG153 / GROUND WATER / FINE - TABLE 3 - All Types of Property Uses - UNDEFINED

			Sample Number	7	8	9	10
			Sample Name	BH20-1	BH20-2	BH20-3	BH19-2
			Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water
			Sample Date	29/04/2020	29/04/2020	29/04/2020	29/04/2020
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
PHCs							
F1 (C6-C10)	µg/L	25	750	< 25	46	< 25	< 25
F1-BTEX (C6-C10)	µg/L	25		< 25	< 25	< 25	< 25
F2 (C10-C16)	µg/L	100	150	< 100	< 100	< 100	< 100

Client: DS Consultants
Project: 19-199-102
Project Manager: Drew Doak
Samplers: Tanner Leonhardt

PACKAGE: **REG153 - PHCs** (WATER)

L1 = REG153 / GROUND WATER / FINE - TABLE 3 - All Types of Property Uses - UNDEFINED

				Sample Number	7	8	9	10
				Sample Name	BH20-1	BH20-2	BH20-3	BH19-2
				Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water
				Sample Date	29/04/2020	29/04/2020	29/04/2020	29/04/2020
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	
PHCs (continued)								
F3 (C16-C34)	µg/L	200	500	< 200	< 200	< 200	< 200	
F4 (C34-C50)	µg/L	200	500	< 200	< 200	228	< 200	
Chromatogram returned to baseline at nC50	Yes / No	-		YES	YES	YES	YES	

PACKAGE: **REG153 - THMs (VOC)** (WATER)

L1 = REG153 / GROUND WATER / FINE - TABLE 3 - All Types of Property Uses - UNDEFINED

				Sample Number	7	8	9	10	12
				Sample Name	BH20-1	BH20-2	BH20-3	BH19-2	Trip Blank
				Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
				Sample Date	29/04/2020	29/04/2020	29/04/2020	29/04/2020	29/04/2020
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	**Result**	
THMs (VOC)									
Bromodichloromethane	µg/L	0.5	85000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Bromoform	µg/L	0.5	770	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Dibromochloromethane	µg/L	0.5	82000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	

PACKAGE: **REG153 - VOC Surrogates** (WATER)

L1 = REG153 / GROUND WATER / FINE - TABLE 3 - All Types of Property Uses - UNDEFINED

				Sample Number	7	8	9	10	12
				Sample Name	BH20-1	BH20-2	BH20-3	BH19-2	Trip Blank
				Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
				Sample Date	29/04/2020	29/04/2020	29/04/2020	29/04/2020	29/04/2020
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	**Result**	
VOC Surrogates									
Surr 1,2-Dichloroethane-d4	Surr Rec %	-		102	101	102	104	102	
Surr 2-Bromo-1-Chloropropane	Surr Rec %	-		97	95	90	97	96	
Surr 4-Bromofluorobenzene	Surr Rec %	-		97	98	96	96	96	
Surr TCMX	Surr Rec %	-			69				

Client: DS Consultants
Project: 19-199-102
Project Manager: Drew Doak
Samplers: Tanner Leonhardt

PACKAGE: **REG153 - VOC Surrogates** (WATER)

L1 = REG153 / GROUND WATER / FINE - TABLE 3 - All Types of Property Uses - UNDEFINED

			Sample Number	7	8	9	10	12
			Sample Name	BH20-1	BH20-2	BH20-3	BH19-2	Trip Blank
			Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
			Sample Date	29/04/2020	29/04/2020	29/04/2020	29/04/2020	29/04/2020
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	**Result**
VOC Surrogates (continued)								

PACKAGE: **REG153 - VOCs** (WATER)

L1 = REG153 / GROUND WATER / FINE - TABLE 3 - All Types of Property Uses - UNDEFINED

			Sample Number	7	8	9	10	12
			Sample Name	BH20-1	BH20-2	BH20-3	BH19-2	Trip Blank
			Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
			Sample Date	29/04/2020	29/04/2020	29/04/2020	29/04/2020	29/04/2020
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	**Result**
VOCs								
Acetone	µg/L	30	130000	< 30	124	< 30	< 30	< 30
Bromomethane	µg/L	0.5	56	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon tetrachloride	µg/L	0.2	8.4	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	µg/L	0.5	630	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	µg/L	0.5	22	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichlorobenzene	µg/L	0.5	9600	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,3-Dichlorobenzene	µg/L	0.5	9600	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4-Dichlorobenzene	µg/L	0.5	67	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	µg/L	2.0	4400	< 2	< 2	< 2	< 2	< 2
1,1-Dichloroethane	µg/L	0.5	3100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloroethane	µg/L	0.5	12	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethylene	µg/L	0.5	17	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,2-Dichloroethene	µg/L	0.5	17	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,2-Dichloroethene	µg/L	0.5	17	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloropropane	µg/L	0.5	140	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,3-Dichloropropene	µg/L	0.5		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

Client: DS Consultants

Project: 19-199-102

Project Manager: Drew Doak

Samplers: Tanner Leonhardt

PACKAGE: **REG153 - VOCs** (WATER)

L1 = REG153 / GROUND WATER / FINE - TABLE 3 - All Types of Property Uses - UNDEFINED

	Sample Number	7	8	9	10	12		
	Sample Name	BH20-1	BH20-2	BH20-3	BH19-2	Trip Blank		
	Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water		
	Sample Date	29/04/2020	29/04/2020	29/04/2020	29/04/2020	29/04/2020		
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	**Result**
VOCs (continued)								
trans-1,3-Dichloropropene	µg/L	0.5		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,3-dichloropropene (total)	µg/L	0.5	45	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethylenedibromide	µg/L	0.2	0.83	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
n-Hexane	µg/L	1.0	520	< 1	< 1	< 1	< 1	< 1
Methyl ethyl ketone	µg/L	20	1.5e+006	< 20	< 20	< 20	< 20	< 20
Methyl Isobutyl Ketone	µg/L	20	580000	< 20	< 20	< 20	< 20	< 20
Methyl-t-butyl Ether	µg/L	2.0	1400	< 2	< 2	< 2	< 2	< 2
Methylene Chloride	µg/L	0.5	5500	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	µg/L	0.5	9100	< 0.5	0.9	< 0.5	< 0.5	< 0.5
Tetrachloroethylene (perchloroethylene)	µg/L	0.5	17	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,1,2-Tetrachloroethane	µg/L	0.5	28	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2,2-Tetrachloroethane	µg/L	0.5	15	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,1-Trichloroethane	µg/L	0.5	6700	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	µg/L	0.5	30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	µg/L	0.5	17	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	µg/L	5.0	2500	< 5	< 5	< 5	< 5	< 5
Vinyl Chloride	µg/L	0.2	1.7	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2

EXCEEDANCE SUMMARY

No exceedances are present above the regulatory limit(s) indicated

QC SUMMARY

Anions by IC

Method: EPA300/MA300-Ions1.3 | Internal ref.: ME-CA-[ENV]IC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Chloride	DIO0027-MAY20	µg/L	200	<200	19	20	97	80	120	98	75	125
Chloride	DIO0054-MAY20	µg/L	200	<200	NV	20	97	80	120	NV	75	125

Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Cyanide (free)	SKA0273-APR20	µg/L	2	<2	ND	10	104	90	110	94	75	125

Hexavalent Chromium by SFA

Method: EPA218.6/EPA3060A | Internal ref.: ME-CA-[ENV]SKA-LAK-AN-012

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Chromium VI	SKA0276-APR20	ug/L	0.2	<0.2	1	20	103	80	120	92	75	125

QC SUMMARY

Mercury by CVAAS

Method: SM 3112/SM 3112B | Internal ref.: ME-CA-[ENV]SPE-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Mercury (total)	EHG0034-APR20	ug/L	0.01	<0.01	ND	20	104	80	120	109	70	130

QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver	EMS0173-APR20	ug/L	0.05	<0.05	ND	20	104	90	110	104	70	130
Arsenic	EMS0173-APR20	µg/L	0.2	<0.2	14	20	104	90	110	111	70	130
Barium	EMS0173-APR20	µg/L	0.02	<0.02	0	20	94	90	110	NV	70	130
Beryllium	EMS0173-APR20	µg/L	0.007	<0.007	ND	20	95	90	110	100	70	130
Boron	EMS0173-APR20	µg/L	2	<2	3	20	102	90	110	NV	70	130
Cadmium	EMS0173-APR20	µg/L	0.003	<0.003	ND	20	99	90	110	102	70	130
Cobalt	EMS0173-APR20	µg/L	0.004	<0.004	12	20	103	90	110	107	70	130
Chromium	EMS0173-APR20	ug/L	0.08	<0.08	6	20	99	90	110	106	70	130
Copper	EMS0173-APR20	ug/L	0.2	<0.2	1	20	106	90	110	NV	70	130
Molybdenum	EMS0173-APR20	ug/L	0.04	<0.04	ND	20	104	90	110	108	70	130
Sodium	EMS0173-APR20	µg/L	10	< 10	1	20	103	90	110	NV	70	130
Nickel	EMS0173-APR20	µg/L	0.1	<0.1	15	20	102	90	110	110	70	130
Lead	EMS0173-APR20	µg/L	0.01	<0.01	2	20	95	90	110	103	70	130
Antimony	EMS0173-APR20	ug/L	0.09	<0.09	1	20	100	90	110	96	70	130
Selenium	EMS0173-APR20	µg/L	0.04	<0.04	ND	20	102	90	110	122	70	130
Thallium	EMS0173-APR20	µg/L	0.005	<0.005	ND	20	100	90	110	112	70	130
Uranium	EMS0173-APR20	µg/L	0.002	<0.002	ND	20	94	90	110	110	70	130
Vanadium	EMS0173-APR20	µg/L	0.01	<0.01	ND	20	103	90	110	113	70	130
Zinc	EMS0173-APR20	µg/L	2	<2	6	20	101	90	110	116	70	130

QC SUMMARY

Pesticides

Method: EPA 3510C/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-018

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
a-chlordane	GCM0012-MAY20	µg/L	0.01	< 0.01	ND	30	97	50	140	NSS	50	140
Aldrin	GCM0012-MAY20	µg/L	0.01	< 0.01	ND	30	90	50	140	NSS	50	140
Dieldrin	GCM0012-MAY20	µg/L	0.01	< 0.01	ND	30	99	50	140	NSS	50	140
Endosulfan I	GCM0012-MAY20	ug/L	0.02	< 0.02	ND	30	103	50	140	NSS	50	140
Endosulfan II	GCM0012-MAY20	ug/L	0.05	< 0.05	ND	30	96	50	140	NSS	50	140
Endrin	GCM0012-MAY20	ug/L	0.05	< 0.05	ND	30	115	50	140	NSS	50	140
g-chlordane	GCM0012-MAY20	µg/L	0.01	< 0.01	ND	30	97	50	140	NSS	50	140
gamma-BHC	GCM0012-MAY20	µg/L	0.01	< 0.01	ND	30	88	50	140	NSS	50	140
Heptachlor	GCM0012-MAY20	µg/L	0.01	< 0.01	ND	30	93	50	140	NSS	50	140
Heptachlor epoxide	GCM0012-MAY20	µg/L	0.01	< 0.01	ND	30	95	50	140	NSS	50	140
Hexachlorobenzene	GCM0012-MAY20	µg/L	0.01	< 0.01	ND	30	81	50	140	NSS	50	140
Hexachlorobutadiene	GCM0012-MAY20	µg/L	0.01	< 0.01	ND	30	76	50	140	NSS	50	140
Hexachloroethane	GCM0012-MAY20	µg/L	0.01	< 0.01	ND	30	75	50	140	NSS	50	140
Methoxychlor	GCM0012-MAY20	µg/L	0.01	< 0.01	ND	30	122	50	140	NSS	50	140
o,p-DDD	GCM0012-MAY20	µg/L	0.05	< 0.05	ND	30	100	50	140	NSS	50	140
o,p-DDE	GCM0012-MAY20	ug/L	0.01	< 0.01	ND	30	95	50	140	NSS	50	140
op-DDT	GCM0012-MAY20	µg/L	0.01	< 0.01	ND	30	105	50	140	NSS	50	140
pp-DDD	GCM0012-MAY20	µg/L	0.01	< 0.01	ND	30	104	50	140	NSS	50	140
pp-DDE	GCM0012-MAY20	µg/L	0.01	< 0.01	ND	30	98	50	140	NSS	50	140
pp-DDT	GCM0012-MAY20	µg/L	0.01	< 0.01	ND	30	111	50	140	NSS	50	140

QC SUMMARY

Petroleum Hydrocarbons (F1)

Method: CCME Tier 1 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F1 (C6-C10)	GCM0023-MAY20	µg/L	25	<25	ND	30	99	60	140	87	60	140

Petroleum Hydrocarbons (F2-F4)

Method: CCME Tier 1 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F2 (C10-C16)	GCM0411-APR20	µg/L	100	<100	ND	30	95	60	140	99	60	140
F3 (C16-C34)	GCM0411-APR20	µg/L	200	<200	ND	30	95	60	140	99	60	140
F4 (C34-C50)	GCM0411-APR20	µg/L	200	<200	ND	30	95	60	140	99	60	140

QC SUMMARY

pH

Method: SM 4500 I Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	EWL0456-APR20	no unit	0.05	NA	0		100			NA		

QC SUMMARY

Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-[ENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1,1,1,2-Tetrachloroethane	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	106	60	130	99	50	140
1,1,1-Trichloroethane	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	98	60	130	94	50	140
1,1,2,2-Tetrachloroethane	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	107	60	130	115	50	140
1,1,2-Trichloroethane	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	104	60	130	100	50	140
1,1-Dichloroethane	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	99	60	130	95	50	140
1,1-Dichloroethylene	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	101	60	130	95	50	140
1,2-Dichlorobenzene	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	109	60	130	98	50	140
1,2-Dichloroethane	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	101	60	130	96	50	140
1,2-Dichloropropane	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	104	60	130	100	50	140
1,3-Dichlorobenzene	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	108	60	130	98	50	140
1,4-Dichlorobenzene	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	108	60	130	98	50	140
Acetone	GCM0004-MAY20	µg/L	30	<30	ND	30	108	60	130	91	50	140
Benzene	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	104	60	130	98	50	140
Bromodichloromethane	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	105	60	130	98	50	140
Bromoform	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	102	60	130	95	50	140
Bromomethane	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	102	50	140	94	50	140
Carbon tetrachloride	GCM0004-MAY20	µg/L	0.2	<0.2	ND	30	104	60	130	99	50	140
Chlorobenzene	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	106	60	130	98	50	140
Chloroform	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	103	60	130	99	50	140
cis-1,2-Dichloroethene	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	104	60	130	98	50	140

QC SUMMARY

Volatile Organics (continued)

Method: EPA 5030B/8260C | Internal ref.: ME-CA-[ENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
cis-1,3-Dichloropropene	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	104	60	130	95	50	140
Dibromochloromethane	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	103	60	130	98	50	140
Dichlorodifluoromethane	GCM0004-MAY20	µg/L	2.0	<2	ND	30	111	50	140	110	50	140
Ethylbenzene	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	107	60	130	99	50	140
Ethylenedibromide	GCM0004-MAY20	µg/L	0.2	<0.2	ND	30	104	60	130	99	50	140
n-Hexane	GCM0004-MAY20	µg/L	1.0	<1	ND	30	111	60	130	103	50	140
m/p-xylene	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	107	60	130	99	50	140
Methyl ethyl ketone	GCM0004-MAY20	ug/L	20	<20	ND	30	106	60	130	101	50	140
Methyl Isobutyl Ketone	GCM0004-MAY20	µg/L	20	<20	ND	30	104	50	140	102	50	140
Methyl-t-butyl Ether	GCM0004-MAY20	µg/L	2.0	<2	ND	30	104	60	130	105	50	140
Methylene Chloride	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	100	60	130	97	50	140
o-xylene	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	107	60	130	98	50	140
Styrene	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	106	60	130	99	50	140
Tetrachloroethylene (perchloroethylene)	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	106	60	130	99	50	140
Toluene	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	105	60	130	99	50	140
trans-1,2-Dichloroethene	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	97	60	130	93	50	140
trans-1,3-Dichloropropene	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	98	60	130	94	50	140
Trichloroethylene	GCM0004-MAY20	µg/L	0.5	<0.5	ND	30	103	60	130	87	50	140
Trichlorofluoromethane	GCM0004-MAY20	µg/L	5.0	<5	ND	30	110	50	140	106	50	140
Vinyl Chloride	GCM0004-MAY20	µg/L	0.2	<0.2	ND	30	97	60	130	92	50	140

QC SUMMARY

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND

FOOTNOTES

NSS	Insufficient sample for analysis.
RL	Reporting Limit.
↑	Reporting limit raised.
↓	Reporting limit lowered.
NA	The sample was not analysed for this analyte
ND	Non Detect

Samples analysed as received. Solid samples expressed on a dry weight basis. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act" published by the Ministry and dated March 9, 2004 as amended.

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-- End of Analytical Report --

SGS Request for Laboratory Services and CHAIN OF CUSTODY

No: 016477

Page 1 of 1

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- London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

Laboratory Information Section - Lab use only

Received By: Kim Sheard
Received Date: 04/29/20 (mm/dd/yy)
Received Time: 14:30 (hr : min)
Received By (signature):
Custody Seal Present: Yes ☐ No ☒
Custody Seal Intact: Yes ☐ No ☐
Cooling Agent Present: Yes ☑ No ☐ Type: ice
Temperature Upon Receipt (°C) 6.66
LAB LIMS #: CA-14698-APR20

REPORT INFORMATION	INVOICE INFORMATION
Company: DS Consultants	☐ (same as Report Information)
Contact: Drew Dook	Company: DS
Address:	Contact: Pavidra Dervent
	Address:
Phone:	
Fax:	Phone:
Email: drew.dook@dsconsultants.ca	Email: accounting@dsconsultants.ca

Quotation #: P.O. #:
Project #: 19-199-102 Site Location/ID:

TURNAROUND TIME (TAT) REQUIRED

☒ Regular TAT (5-7days) TAT's are quoted in business days (exclude statutory holidays & weekends). Samples received after 6pm or on weekends: TAT begins next business day

RUSH TAT (Additional Charges May Apply): ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days

PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION

Specify Due Date:

NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

REGULATIONS

Regulation 153/04: ☐ Table 1 ☒ Res/Park ☐ Table 2 ☐ Ind/Com ☐ Table 3 ☐ Agri/Other ☐ Table ____ Soil Texture: ☐ Coarse ☐ Medium ☐ Fine

Other Regulations: ☐ Reg 347/558 (3 Day min TAT) ☐ PWQO ☐ MMER ☐ CCME ☐ Other: ☐ MISA

Sewer By-Law: ☐ Sanitary ☐ Storm Municipality:

RECORD OF SITE CONDITION (RSC) ☐ YES ☐ NO

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	Field Filtered (Y/N)	M&I: Metals & Inorganics (Incl CrVI, CN, Hg pH,(B(HWS),EC,SAR–soil) (Cl, Na–water)	M&I: Full Metals Suite (ICP metals plus B(HWS–soil only) Hg, CrVI	M&I: ICP Metals only (Sb,As,Ba,Be,B,Cd,Cr,Co,Cu,Pb,Mo,Ni, Se,Ag,Ti,U,V,Zn	SVOC: PAHs only	SVOC: SVOCs all incl PAHs, ABNs, CPs	PCB: PCBs Total ☐ Aroclor ☐	PHC: F1-F4 + BTEX	PHC: F1-F4 only no BTEX	VOC: VOCs all incl BTEX	VOC: BTEX only	Pest: Pesticides Organochlorine or specify other	Other (please specify)	Other	Other	Other	Other	Other: Sewer Use: Specify pkg:	Other: Water Characterization Pkg General ☐ Extended ☐	TCLP: Specify TCLP tests ☐M&I ☐VOC ☐PCB ☐B(a)P ☐ABN ☐Ignit.	COMMENTS:
1	BH20-1	29/04/20	1:30	12	GW	X	X						X		X										
2	BH20-2		12:30	13		X	X						X		X		X									
3	BH20-3		11:30	12		X	X						X		X											
4	BH19-2		10:30	12		X	X						X		X											
5	Dup-1		11:30	8		X	X																			
6	Trip Blank	29/04/20	—	2	water										X											
7																										
8																										
9																										
10																										
11																										
12																										

Observations/Comments/Special Instructions

Sampled By (NAME): Tanner Leonhardt Signature: Date: 04/29/20 (mm/dd/yy)

Relinquished by (NAME): Tanner Leonhardt Signature: Date: 04/29/20 (mm/dd/yy)

Pink Copy - Client
Yellow & White Copy - SGS

Revision #: 1.2
Date of Issue: 09 Sept, 2019

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FINAL REPORT

CA40125-NOV21 R

19-199-102

Prepared for

DS Consultants

FINAL REPORT

CA40125-NOV21 R

First Page

CLIENT DETAILS		LABORATORY DETAILS	
Client	DS Consultants	Project Specialist	Maarit Wolfe, Hon.B.Sc
		Laboratory	SGS Canada Inc.
Address	6221 Highway 7 Vaughan, Ontario L4H 0K8. Canada	Address	185 Concession St., Lakefield ON, K0L 2H0
Contact	Drew Doak	Telephone	705-652-2000
Telephone	905-264-9393	Facsimile	705-652-6365
Facsimile	905-264-2685	Email	Maarit.Wolfe@sgs.com
Email	drew.doak@dsconsultants.ca	SGS Reference	CA40125-NOV21
Project	19-199-102	Received	11/09/2021
Order Number		Approved	11/15/2021
Samples	Ground Water (1)	Report Number	CA40125-NOV21 R
		Date Reported	11/15/2021

COMMENTS

CCME Method Compliance: Analyses were conducted using analytical procedures that comply with the Reference Method for the CWS for Petroleum Hydrocarbons in Soil and have been validated for use at the SGS laboratory, Lakefield, ON site.

Quality Compliance: Instrument performance / calibration quality criteria were met and extraction and analysis limits for holding times were met.

nC6 and nC10 response factors within 30% of response factor for toluene: YES

nC10, nC16 and nC34 response factors within 10% of the average response for the three compounds: YES

C50 response factors within 70% of nC10 + nC16 + nC34 average: YES

Linearity is within 15%: YES

F4G - gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.
The results for F4 and F4G are both reported and the greater of the two values is to be used in application to the CWS PHC.

Benzo(b)fluoranthene results for comparison to the standard are reported as benzo(b+j)fluoranthene. Benzo(b)fluoranthene and benzo(j)fluoranthene co-elute and cannot be reported individually by the analytical method used.

Temperature of Sample upon Receipt: 7 degrees C
Cooling Agent Present: Yes
Custody Seal Present: Yes

Chain of Custody Number: 023495

SIGNATORIES

Maarit Wolfe, Hon.B.Sc



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Annexes..... 8

Client: DS Consultants
Project: 19-199-102
Project Manager: Drew Doak
Samplers: Norina

PACKAGE: **REG153 - BTEX** (WATER)

L1 = REG153 / GROUND WATER / COARSE - TABLE 2 - All Types of Property Uses - UNDEFINED

Sample Number	7
Sample Name	MW20-2
Sample Matrix	Ground Water
Sample Date	08/11/2021

Parameter	Units	RL	L1	Result
BTEX				
Benzene	µg/L	0.5	5	< 0.5
Ethylbenzene	µg/L	0.5	2.4	< 0.5
Toluene	µg/L	0.5	24	< 0.5
Xylene (total)	µg/L	0.5	300	< 0.5
m/p-xylene	µg/L	0.5		< 0.5
o-xylene	µg/L	0.5		< 0.5

EXCEEDANCE SUMMARY

No exceedances are present above the regulatory limit(s) indicated

QC SUMMARY

Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-[ENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Benzene	GCM0258-NOV21	µg/L	0.5	<0.5	ND	30	91	60	130	75	50	140
Ethylbenzene	GCM0258-NOV21	µg/L	0.5	<0.5	ND	30	97	60	130	66	50	140
m/p-xylene	GCM0258-NOV21	µg/L	0.5	<0.5	ND	30	94	60	130	67	50	140
o-xylene	GCM0258-NOV21	µg/L	0.5	<0.5	ND	30	95	60	130	69	50	140
Toluene	GCM0258-NOV21	µg/L	0.5	<0.5	ND	30	92	60	130	71	50	140

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

QC SUMMARY

LEGEND

FOOTNOTES

NSS Insufficient sample for analysis.
RL Reporting Limit.
↑ Reporting limit raised.
↓ Reporting limit lowered.
NA The sample was not analysed for this analyte
ND Non Detect

Samples analysed as received. Solid samples expressed on a dry weight basis. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated. This document is issued, on the Client's behalf, by the Company under its General Conditions of Service available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any other holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents.

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Request for Laboratory Services and CHAIN OF CUSTODY

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- London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

No: 023495 Page ____ of ____

Laboratory Information Section - Lab use only

Received By: Jeff Ren | Received By (signature): S
Received Date: 11 / 08 / 2021 (mm/dd/yy) | Custody Seal Present: Yes ☒ No ☐ | Cooling Agent Present: Yes ☒ No ☐ Type: Ice
Received Time: 08 : 02 (hr : min) | Custody Seal Intact: Yes ☒ No ☐ | Temperature Upon Receipt (°C) 7.0 7.2 7.2 | LAB LIMS # CA.40125-NOV21

REPORT INFORMATION	INVOICE INFORMATION
Company: DS Consultants	☐ (same as Report Information)
Contact: Drew Doak	Company:
Address: 6321 Hwy 7 Unit 16, U94 7M3 ON	Contact:
Phone: 905-264-9393	Address:
Fax:	Phone:
Email: Drew.Doak@dsconsultants.ca	Email:

Quotation #: | P.O. #:
Project #: 19-199-102 | Site Location/ID:

TURNAROUND TIME (TAT) REQUIRED

☒ Regular TAT (5-7days) — TAT's are quoted in business days (exclude statutory holidays & weekends). Samples received after 6pm or on weekends: TAT begins next business day

RUSH TAT (Additional Charges May Apply): ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days

PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION

Specify Due Date: | *NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

REGULATIONS

☐ O.Reg 153/04 ☐ O.Reg 406/19
☐ Table 1 ☐ Res/Park Soil Texture: ☐ Coarse
☒ Table 2 ☐ Ind/Com ☐ Medium/Fine
☐ Table 3 ☐ Agri/Other
☐ Table ____ Appx. ____
Soil Volume ☐ <350m3 ☐ >350m3

Other Regulations: ☐ Reg 347/558 (3 Day min TAT) ☐ PWQO ☐ MMER ☐ CCME ☐ Other: ☐ MISA ☐ ODWS Not Reportable *See note

Sewer By-Law: ☐ Sanitary ☐ Storm Municipality:

RECORD OF SITE CONDITION (RSC) ☐ YES ☐ NO

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	Field Filtered (Y/N)	M&I: Metals & Inorganics (incl CrVI, CN, Hg pH,(B(HWS),EC,SAR–soil) (Cl, Na–water))	M&I: Full Metals Suite (ICP metals plus B(HWS-soil only) Hg, CrVI)	M&I: ICP Metals only (Sb,As,Ba,Be,B,Cd,Cr,Co,Cu,Pb,Mo,Ni,)	SVOC: PAHs only	SVOC: SVOCs (all incl PAHs, ABNs, CPs)	PCB: PCBs Total ☐ Aroclor ☐	PHC: F1-F4 + BTEX	PHC: F1-F4 only (no BTEX)	VOC: VOCs (all incl BTEX)	VOC: BTEX only	Pest: Pesticides (Organochlorine or specify other)	Other (please specify)	Other	Other	Other	Other: Sewer Use: (Specify pkg:)	Other: Water Characterization Pkg (General ☐ Extended ☐)	SPLP: Specify tests	TCLP: Specify tests	COMMENTS:
1	NW20-2	11/08/21	PM	6	GW											☒							☐ Metals ☐ VOC ☐ 1,4-Dioxane ☐ OCP ☐ ABN	☐ M&I ☐ VOC ☐ PCB ☐ B(a)P ☐ ABN ☐ Ignit.	
2																									
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									

Observations/Comments/Special Instructions

Sampled By (NAME): Norma G.	Signature:	Date: 11/08/21 (mm/dd/yy)	Pink Copy - Client
Relinquished by (NAME):	Signature:	Date: 11/08/21 (mm/dd/yy)	Yellow & White Copy - SGS

Revision #: 1.5
Date of Issue: 11 June 2021

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Appendix E

Phase Two Conceptual Site Model

This Phase Two Conceptual Site Model (CSM) has been prepared for a portion of the Millcroft Golf Club, designated "Block E", located at 4274 Dundas Street in the City of Burlington, Ontario. This Phase Two CSM has developed through a synthesis of the information obtained through the completion of the Phase One ESA, and the data collected as part of the Phase Two ESA.

The Phase Two CSM is comprised of the following figures and text:

Figure 1 – Site Location Plan
Figure 2 – Phase Two Property Site Plan
Figure 3 – Phase Two Property Study Area
Figure 4 – PCA within Phase Two Property Study Area
Figure 5 – Borehole Location Plan with APECs
Figure 6 – Groundwater Elevation Contours and Flow Direction (Overburden)
Figure 7A – Soil Characterization – Metals and Inorganics
Figure 7B – Soil Characterization –PHCs
Figure 7C – Soil Characterization – VOCs
Figure 7D – Soil Characterization –PAHs
Figure 7E – Soil Characterization - PCBs
Figure 7F – Soil Characterization –OCPs
Figure 8A – Groundwater Characterization – Metals and Inorganics
Figure 8B – Groundwater Characterization –PHCs
Figure 8C – Groundwater Characterization – VOCs
Figure 8D – Groundwater Characterization – OCPs PAHs
Figure 9 - Exposure Pathways and Receptors

The Phase Two Property is a 0.61-hectare (1.52 acres) parcel of land situated within a residential neighbourhood in the City of Burlington, Ontario. The Phase Two Property was first developed for agricultural purposes from the late 1800s, and was used as such until 2004, when the existing maintenance building was constructed. The maintenance building is used for the maintenance, storage of supplies and golf carts and lawnmowers used at Millcroft Golf Club.

A total of nine (9) Potentially Contaminating Activities (PCAs) were identified in the Phase One ESA, from which seven (7) were considered to be contributing to seven (7) APECs on the Phase Two Property.

DS completed the Phase Two ESA fieldwork in December 2019, and April 2020. The investigation included the advancement of seven (7) boreholes to a maximum depth of 8.0 mbgs, and the collection of soil and groundwater samples that were submitted for chemical analysis of Metals and Inorganics, Petroleum Hydrocarbons (PHCs), Volatile Organic

Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs), Organochlorine Pesticides (OCPs) and Polychlorinated Biphenyls (PCBs).

I. Description and Assessment of:

A. Areas where potentially contaminating activity has occurred

A total of nine (9) PCAs were identified in the Phase One ESA. A summary of the PCAs considered to be contributing to APECs on the Phase Two Property is provided in the table below.

PCA Item.	PCA Description (Per. Table 2, Schedule D of O.Reg. 153/04)	Description	Rationale
PCA-1	# 27: Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	The Phase One Property was registered as a waste generator of petroleum distillates, waste oils, lubricants, and aliphatic solvents and residues.	PCA is located on the Phase One Property
PCA-3	# 30: Importation of Fill Material of Unknown Quality	Fill material is inferred to have been placed for grading purposes when the Phase One Property started development around 1987 around Building A, and stockpiles of sand, topsoil and tee mix was observed during the site reconnaissance north of the Property.	PCA is located on the Phase One Property
PCA-4	#28: Gasoline and Associated Products Storage in Fixed Tanks	Three ASTs are present in the Property: - One (1) 22,000L gasoline tank, - One (1) 22,000L diesel tank, - One (1) ~20,000L waste oil tank; and - One (1) barrel of lubricant oil	PCA is located on the Phase One Property
PCA-5	#40: Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) manufacturing, Processing, Bulk Storage and large-Scale Applications	One room is used as storage for pesticides during the site reconnaissance.	PCA is located on the Phase One Property
PCA-6	#28: Transformer Manufacturing, Processing and Use	One (1) transformer was located on Building A, located on the salve on grade floor at the west portion of Building A.	PCA is located on the Phase One Property
PCA-7	#6: Battery Manufacturing, Recycling and Bulk Storage	One pallet with car batteries was observed during the site reconnaissance.	PCA is located on the Phase One Property
PCA-8	# N/S: Oil/water separator.	One (1) oil/water separator was located on the north of Building A, installed above the slab on grade floor.	PCA is located on the Phase One Property

B. Areas of potential environmental concern

A total of seven (7) APECs were identified to be present on the Phase Two Property through the completion of the Phase One ESA. A summary of the APECs identified, and the associated COPCs is provided in the table below.

Area of Potential Environmental Concern	Location of APECs 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	Surroundings of Building A	PCA-1 (#27): Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	On Site	PHC, BTEX VOCs, Metals	Soil and groundwater
APEC-2	Entire Property	PCA-3 (#30): Importation of Fill Material of Unknown Quality	On Site	PHCs, VOCs, BTEX, Metals, As, Sb, Se, B-HWS, CN-, electrical conductivity, Cr (VI), Hg, low or high pH, SAR, PAHs	Soil
APEC-3	Centre portion of the Property	PCA-4 (#28): Gasoline and Associated Products Storage in Fixed Tanks	On Site	PHCs, VOCs, BTEX, Metals,	Soil and ground water
APEC-4	Northeast corner of Building A	PCA-5 (#40): Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) manufacturing, Processing, Bulk Storage and large-Scale Applications	On Site	OCPs	Soil and ground water
APEC-5	Southwest portion of Building A	PCA-6 (#28): Transformer Manufacturing, Processing and Use	On Site	PCBs	Soil
APEC-6	Surroundings of Building A	PCA-8 (#N/S): Oil/water separator.	On Site	PHC, BTEX VOCs, Metals	Soil and groundwater
APEC-7	Surroundings of Building A	PCA-7 (#6): Battery Manufacturing, Recycling and Bulk Storage	On Site	PHC, BTEX VOCs, Metals	Soil and groundwater

C. Any subsurface structures and utilities on, in or under the Phase Two Property that may affect contaminant distribution and transport

The groundwater table was encountered at depths ranging from 1.04 to 1.75 mbgs on the Phase Two Property. Public and private locates were performed in the Property and not

buried utility services were present on the Phase Two Property; thus, the potential for preferential migration of contaminants is not of concern at this time.

II. Description of, and as appropriate, figures illustrating, the physical setting of the Phase Two Property and any areas under it including:

A. Stratigraphy from ground surface to the deepest aquifer or aquitard investigated

A surficial topsoil layer, ranging in thickness from 100 to 125mm was encountered at BH19-1 and BH19-2. Fill materials were found in all boreholes, extending to depths ranging from 0.8 to 1.8m. The fill materials consisted of clayey silt to silty clay, sand and gravel with inclusions of trace to some topsoil. The native soils below the fill material consisted of clayey silt to silty clay till deposits, extending to depths between 0.8 to 4.6 metres below ground surface (mbgs). Underlying the clayey silt to silty clay till, a layer of sandy silt till was encounter extending from 2.3 to 7.7 mbgs. A pocket of silty clay was encounter in BH19-2 at 7.6 mbgs up until the end of excavation.

Bedrock was not encountered during this investigation.

The borehole locations are depicted on Figure 5. A visual representation of the stratigraphy investigated is presented on the borehole logs provided in Appendix C.

B. Hydrogeological Characteristics, including aquifers, aquitards and, in each hydrostratigraphic unit where one or more contaminants is present at concentrations above the applicable site condition standards, lateral and vertical gradients

Based on the groundwater levels collected on May 2020, the groundwater table was encountered in a sandy silt till unit, which is considered to be an unconfined aquifer, and the groundwater flow direction is inferred to be generally southwest towards Appleby Creek.

C. Depth to bedrock

Based on a review of MECP Well Records on the vicinity of the Property, the bedrock in the Phase Two is anticipated to be encountered at an approximate depth of 8 mbgs.

D. Approximate depth to water table

The depth to groundwater was found to be from 1.04 to 1.75 in May 13, 2020.

E. Any respect in which section 41 or 43.1 of the regulation applies to the property

The pH values measured were within the acceptable limits for non-sensitive sites. There are no areas of natural significance on the Phase Two Property, or within 30 m of the Phase Two Property. As such the Phase Two Property is not considered to be environmentally sensitive as defined by Section 41.

F. Areas where soil has been brought from another property and placed on, in or under the Phase Two Property

According to observed aerial photograph fill material may have been imported around 1987 for landscaping and/or grading purposes.

G. Approximate locations, if known, of any proposed buildings and other structures

It is our understanding that redevelopment of the Site for residential purposes has been proposed, and that the development will feature a 6-storey apartment building with 130 units with a combination of surface and underground parking.

III. Where a contaminant is present on, in or under the Phase Two Property at a concentration greater than the applicable site condition standard, identification of

A. Each area where a contaminant is present on, in or under the Phase Two Property at a concentration greater than the applicable SCS

No impacts were encounter in the soil and groundwater investigated. All samples met Table 3 RPI SCS.

B. The contaminants associated with each of the areas

No impacts were encounter in the soil or groundwater investigated.

C. Medium that contaminants were identified in

No contaminants were identified at concentrations greater than the applicable SCS in soil or groundwater.

D. Description and assessment of what is know about each of the areas

No impacts were encounter in the areas where COPCs were a potential for contamination.

E. Distribution in which the areas of each contaminant is present in the area at a concentration greater than the applicable SCS, for each medium

in which the contaminant is present, together with figures showing the distribution

No impacts were encounter in the soil or groundwater investigated.

F. Anything know about the reason for the discharge of the contaminants present on, in or under the Phase Two Property at a concentrations greater than the applicable SCS

No discharge of contaminants was present on, in or under the Phase Two Property. No impacts were encounter in the soil or groundwater investigated. All samples met Table 3 RPI SCS.

G. Anything known about migration of the contaminants present on, in or under the phase two property at a concentration greater than the applicable SCS away from any area of potential environmental concern, including the identification of any preferential pathways

No impacts were encounter in the soil or groundwater investigated. All samples met Table 3 RPI SCS; as a result, there is no migration of contaminants on, in, or under the Phase Two Property.

H. Climatic or meteorological conditions that may have influenced distribution and migration of the contaminants, such as temporal fluctuations in groundwater levels

The groundwater levels may 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 Phase Two Property was primarily covered by gravel and grass. This is expected to have a considerable effect of meteorological and climatic conditions on the contaminant distribution and migration in the subsurface. Therefore, it is the opinion of the QP that the meteorological and climatic conditions may have an influence on the migration of contaminants on the Phase Two Property. However, no contaminants were identified in the soil or groundwater at the site.

I. Information concerning soil vapour intrusion of the contaminants into buildings

No volatile parameters were identified at concentrations greater than the applicable SCS, therefore vapour intrusion is not considered to be an exposure pathway at this time.

IV. Where contaminants on, in or under the Phase Two Property are present at concentrations greater than the applicable SCS, one or more cross-sections showing

A. The lateral and vertical distribution of a contaminant in each area where the contaminants are present at concentrations greater than the applicable SCS in soil, groundwater and sediment

There are no contaminants present on, in or under the Phase Two Property exceeding the SCS in the soil or groundwater.

B. Approximate depth to water table

Based on the groundwater level collected on May 13, 2020, the groundwater was found to range between 151.80 to 152.66 meters above sea level (masl).

C. Stratigraphy from ground surface to the deepest aquifer or aquitard investigated

No impacts were encounter in the soil or groundwater investigated. All samples met Table 3 RPI SCS.

D. Any subsurface structures and utilities that may affect contaminants distribution and transport

The groundwater table was encountered at depths ranging from 1.04 to 1.75 mbgs on May 13, 2020 on the Phase Two Property. One (1) septic tank was identified at the Phase One Property, as well as a gas line, and watermain. Plans were not available to confirm the depths of these utilities; however, utilities are estimated to be installed at depths ranging from 1 to 3 metres below ground surface. The depth to groundwater was measured to be between 1.04 to 1.73 mbgs, as such there is the potential for the utility corridors to act as preferential pathways. However, no groundwater impacts were identified during the investigation; therefore, the potential for preferential migration of contaminants is not of concern at this time

V. For each area where a contaminant is present on, in or under the property at a concentration greater than the applicable SCS for the contaminant, a diagram identifying, with narrative explanatory notes

A. The release mechanisms

B. Contaminant transport pathway

C. The human and ecological receptors located on, in or under the phase two property

D. Receptor exposure points

E. Routes of exposure

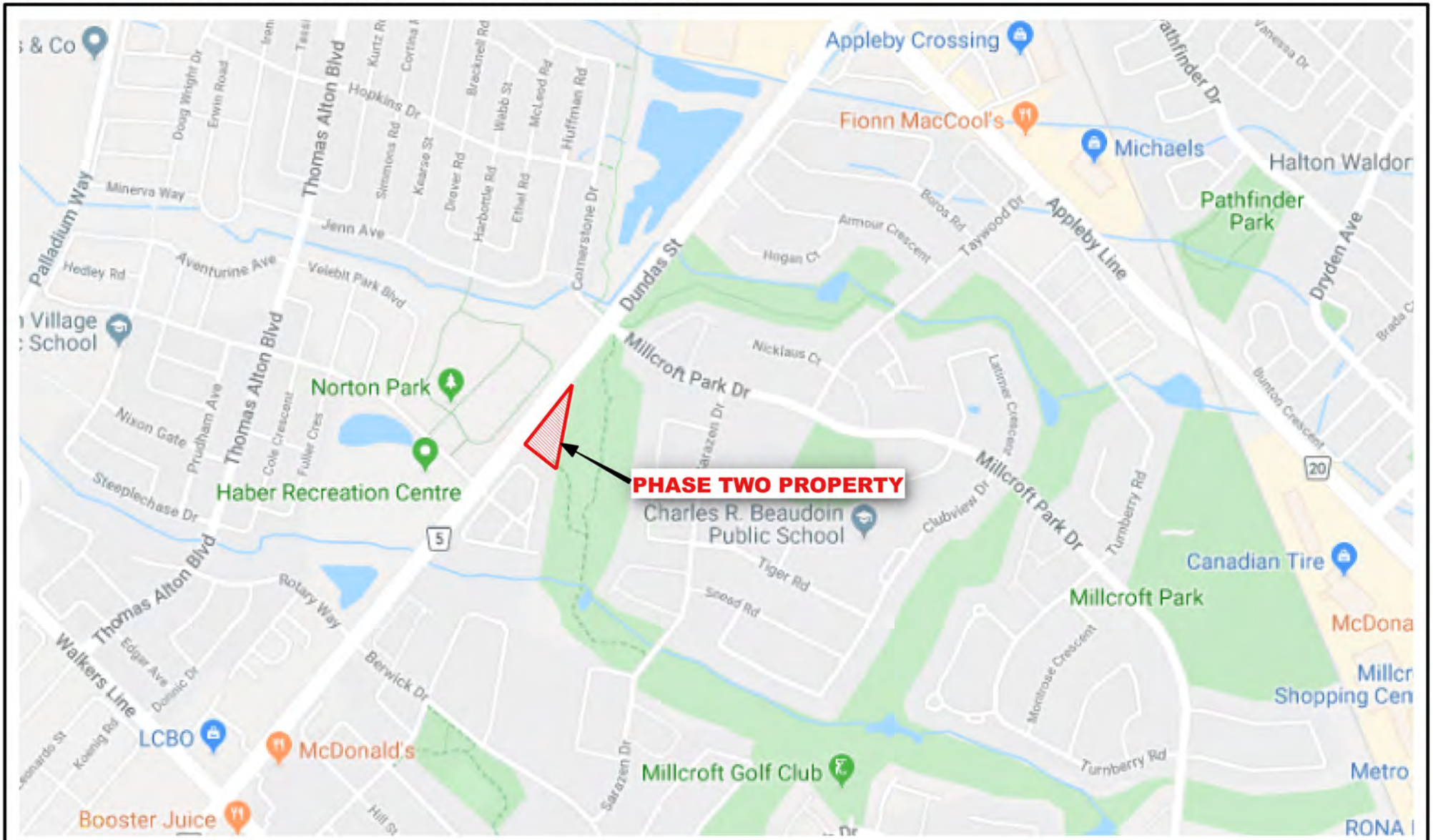
There were no contaminants identified to exceed the Table 3 RPI SCS for the Phase Two Property. The route exposure is depicted in Figure 9.

I. If a non-standard delineation was conducted in accordance with section 7.1 of this Schedule as part of preparing the phase two environmental site assessment report, provide a narrative description of how the non-standard delineation satisfies the requirements in that section.

There were no contaminants identified to exceed the Table 3 RPI SCS for the Phase Two Property in the soil.

Figures

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 1- Site Location Plan.qgs



Legend

Approx Site Boundary (Area E)

0 200 400 m

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Telephone: (905) 264-9393
www.dsconsultants.ca

Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Millcroft Golf Course (Area E), Burlington, ON

Title: **SITE LOCATION PLAN**

N

Client: ARGO (MILLCROFT) LIMITED

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	D.D	S.Y	May 2020
Rev: 0	Scale: As Shown	Project No.: 19-199-102	Figure No.: 1

Image/Map Source: *Google Street Map*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 2- Phase Two Site Plan.qgs



Legend

- Approx. Site Boundary (Area E)
- ASTs

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Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Millcroft Golf Course (Area E), Burlington, ON

Title: **PHASE TWO PROPERTY SITE PLAN**

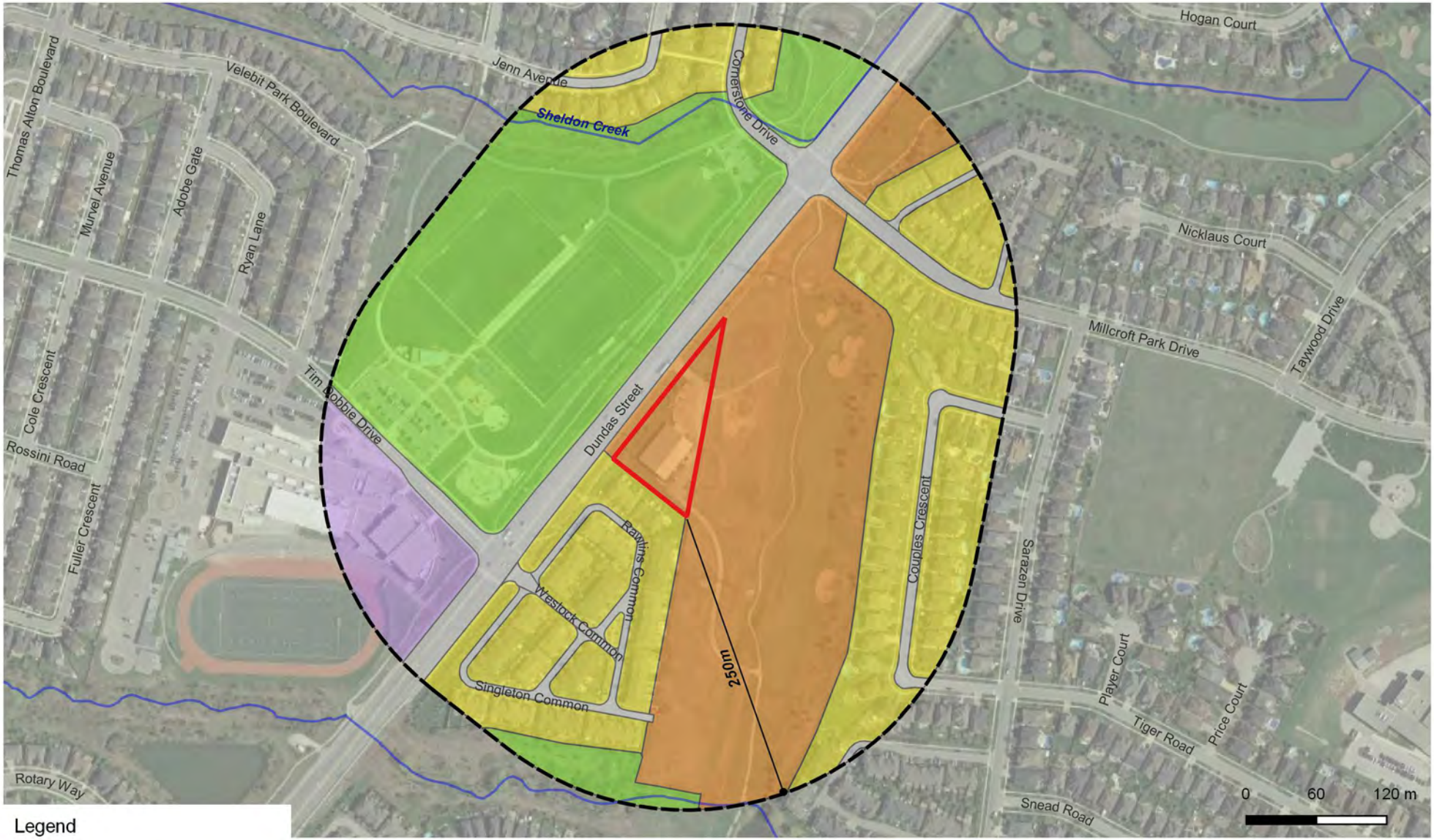
N

Client: ARGO (MILLCROFT) LIMITED

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	D.D	S.Y	May 2020
Rev: 0	Scale: As Shown	Project No.: 19-199-102	Figure No.: 2

Image/Map Source: *Google Satellite Image*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 3- Phase Two Study Area.qgs



Legend

- Approx. Site Boundary (Area E)
- 250m Buffer
- Residential
- Commercial
- Institutional
- Parkland

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Client: ARGO (MILLCROFT) LIMITED

Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Millcroft Golf Course (Area E), Burlington, ON

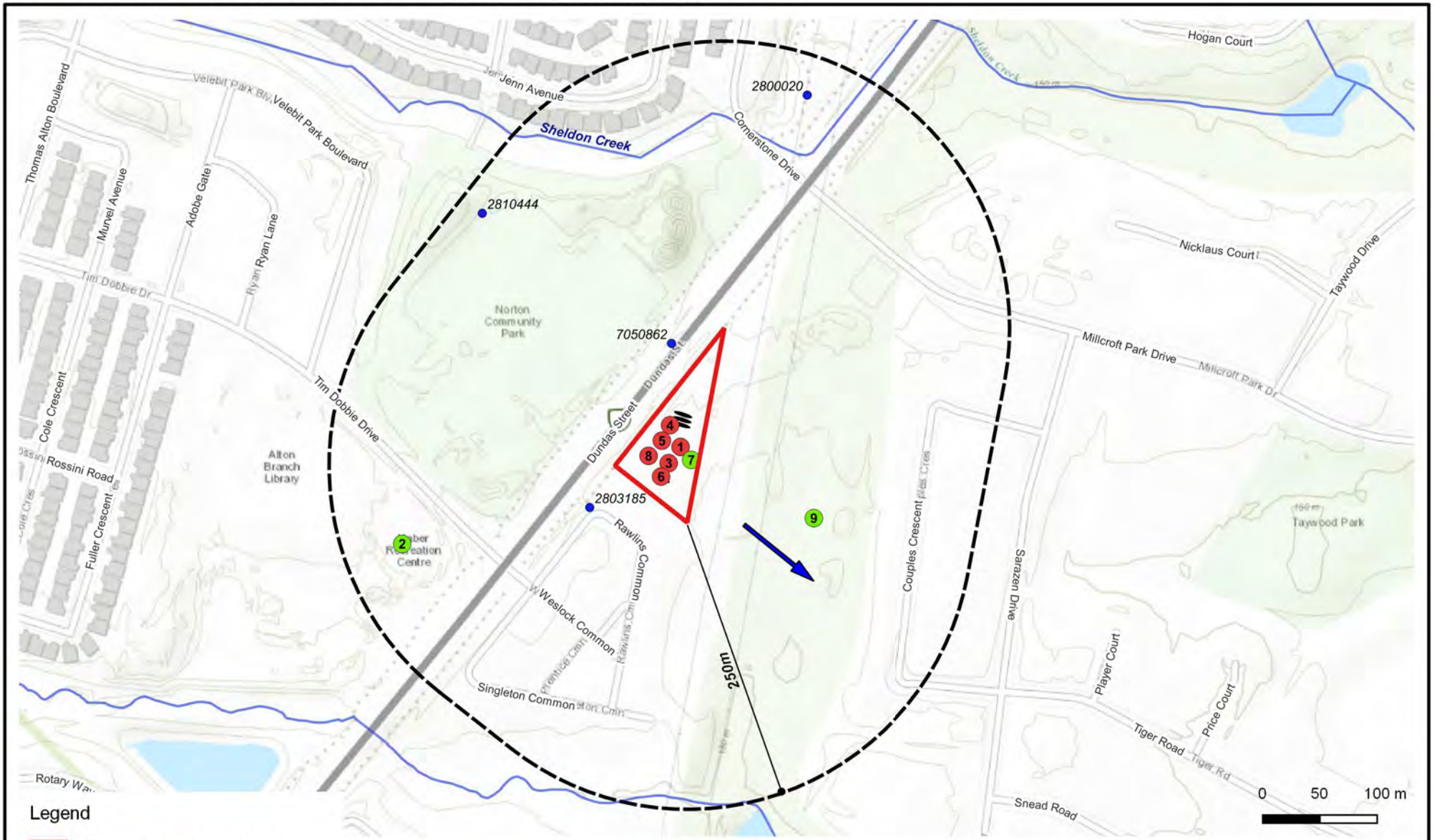
Title: **PHASE TWO STUDY AREA**

N

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	D.D	S.Y	May 2020
Rev: 0	Scale: As Shown	Project No.: 19-199-102	Figure No.: 3

Image/Map Source: *Google Satellite Image*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 4- PCA within Phase Two Study Area.qgs



Legend

- Approx. Site Boundary (Area E)
- 250m Buffer
- Registered Water Well (MECP WWR)
- PCA not contributing to APEC
- PCA contributing to APEC
- Inferred Groundwater Flow Direction

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Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Millcroft Golf Course (Area E), Burlington, ON

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

N

Client: ARGO (MILLCROFT) LIMITED

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	D.D	S.Y	May 2020
Rev: 0	Scale: As Shown	Project No.: 19-199-102	Figure No.: 4

Image/Map Source: *Google Satellite Image*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 5 – Borehole Location Plan with APECs.qgs



Legend

- Approx. Site Boundary (Area E)
- Borehole
- Monitoring Well
- APEC 1, 6 & 7
- APEC 2
- APEC 3
- APEC 4
- APEC 5
- AST
- Transformer
- Barrel

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Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Millcroft Golf Course (Area E), Burlington, ON

Title: **BOREHOLE/MONITORING WELL LOCATIONS WITH APECs**

N

Client: ARGO (MILLCROFT) LIMITED

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	D.D	S.Y	May 2020
Rev: 0	Scale: As Shown	Project No.: 19-199-102	Figure No.: 5

Image/Map Source: *Google Satellite Image*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 6 –GW elevation Contours and Flow Dir (Overburden).qgs



Legend

- Approx. Site Boundary (Area E)
- Borehole
- Monitoring Well
- Groundwater Elevation Contour
- Groundwater Flow Direction

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Client: ARGO (MILLCROFT) LIMITED

Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Millcroft Golf Course (Area E), Burlington, ON

Title: **GROUNDWATER ELEVATION CONTOURS AND FLOW DIRECTION (OVERBURDEN)**

N

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	D.D	S.Y	May 2020
Rev: 0	Scale: As Shown	Project No.: 19-199-102	Figure No.: **6**

Image/Map Source: *Google Satellite Image*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 7A – Soil Characterization – Ml.qgs



Legend

- Approx. Site Boundary (Area E)
- Borehole
- Monitoring Well
- Sample Met Applicable Standards

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Client: ARGO (MILLCROFT) LIMITED

Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Millcroft Golf Course (Area E), Burlington, ON

Title: SOIL CHARACTERIZATION – METALS AND INORGANICS

N

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	D.D	S.Y	May 2020
Rev:	Scale:	Project No.:	Figure No.:
0	As Shown	19-199-102	7A

Image/Map Source: *Google Satellite Image*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 7B – Soil Characterization –PHCs.qgs



Legend

- Approx. Site Boundary (Area E)
- Borehole
- Monitoring Well
- Sample Met Applicable Standards

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www.dsconsultants.ca

Client: ARGO (MILLCROFT) LIMITED

Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Millcroft Golf Course (Area E), Burlington, ON

Title: **SOIL CHARACTERIZATION – PHCs**

N

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	D.D	S.Y	May 2020
Rev: 0	Scale: As Shown	Project No.: 19-199-102	Figure No.: **7B**

Image/Map Source: *Google Satellite Image*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 7C – Soil Characterization – VOCs.qgs



Legend

- Approx. Site Boundary (Area E)
- Borehole
- Monitoring Well
- Sample Met Applicable Standards

DS CONSULTANTS LTD.
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Client: ARGO (MILLCROFT) LIMITED

Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Millcroft Golf Course (Area E), Burlington, ON

Title: **SOIL CHARACTERIZATION – VOCs**

N

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	D.D	S.Y	May 2020
Rev: 0	Scale: As Shown	Project No.: 19-199-102	Figure No.: **7C**

Image/Map Source: *Google Satellite Image*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 7D – Soil Characterization –PAHs.qgs



Legend

- Approx. Site Boundary (Area E)
- Borehole
- Monitoring Well
- Sample Met Applicable Standards

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Client: ARGO (MILLCROFT) LIMITED

Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Millcroft Golf Course (Area E), Burlington, ON

Title: **SOIL CHARACTERIZATION – PAHs**

N

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	D.D	S.Y	May 2020
Rev: 0	Scale: As Shown	Project No.: 19-199-102	Figure No.: **7D**

Image/Map Source: *Google Satellite Image*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 7E – Soil Characterization - OCPs.qgs



Legend

- Approx. Site Boundary (Area E)
- Borehole
- Monitoring Well
- Sample Met Applicable Standards

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Client: ARGO (MILLCROFT) LIMITED

Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Millcroft Golf Course (Area E), Burlington, ON

Title: **SOIL CHARACTERIZATION – OCPs**

N

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	D.D	S.Y	May 2020
Rev: 0	Scale: As Shown	Project No.: 19-199-102	Figure No.: **7E**

Image/Map Source: *Google Satellite Image*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 7F – Soil Characterization –PCBs.qgs



Legend

- Approx. Site Boundary (Area E)
- Borehole
- Monitoring Well
- Sample Met Applicable Standards

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Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Millcroft Golf Course (Area E), Burlington, ON

Title: **SOIL CHARACTERIZATION – PCBs**

N

Client: ARGO (MILLCROFT) LIMITED

Size:	Approved By:	Drawn By:	Date:
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Rev: 0	Scale: As Shown	Project No.: 19-199-102	Figure No.: **7F**

Image/Map Source: *Google Satellite Image*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 8A – GW Characterization – MI.qgs



Legend

- Approx. Site Boundary (Area E)
- Borehole
- Monitoring Well
- Sample Met Applicable Standards

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Client: ARGO (MILLCROFT) LIMITED

Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Millcroft Golf Course (Area E), Burlington, ON

Title: **GROUNDWATER CHARACTERIZATION – METALS AND INORGANICS**

N

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	D.D	S.Y	May 2020
Rev: 0	Scale: As Shown	Project No.: 19-199-102	Figure No.: **8A**

Image/Map Source: *Google Satellite Image*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 8B – GW Characterization –PHCs.qgs



Legend

- Approx. Site Boundary (Area E)
- Borehole
- Monitoring Well
- Sample Met Applicable Standards

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Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Millcroft Golf Course (Area E), Burlington, ON

Title: **GROUNDWATER CHARACTERIZATION – PHCs**

N

Client: ARGO (MILLCROFT) LIMITED

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	D.D	S.Y	May 2020
Rev: 0	Scale: As Shown	Project No.: 19-199-102	Figure No.: **8B**

Image/Map Source: *Google Satellite Image*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 8C – GW Characterization – VOCs.qgs



Legend

- Approx. Site Boundary (Area E)
- Borehole
- Monitoring Well
- Sample Met Applicable Standards

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Client: ARGO (MILLCROFT) LIMITED

Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Millcroft Golf Course (Area E), Burlington, ON

Title: **GROUNDWATER CHARACTERIZATION – VOCs**

N

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	D.D	S.Y	May 2020
Rev: 0	Scale: As Shown	Project No.: 19-199-102	Figure No.: **8C**

Image/Map Source: *Google Satellite Image*

C:\0Sharon\19-199-100 -102 Milcroft Golf Course\1-QGIS\Phase Two\102 - Area E\Figure 8D – GW Characterization – OCPs.qgs



Legend

- Approx. Site Boundary (Area E)
- Borehole
- Monitoring Well
- Sample Met Applicable Standards

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Client: ARGO (MILLCROFT) LIMITED

Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
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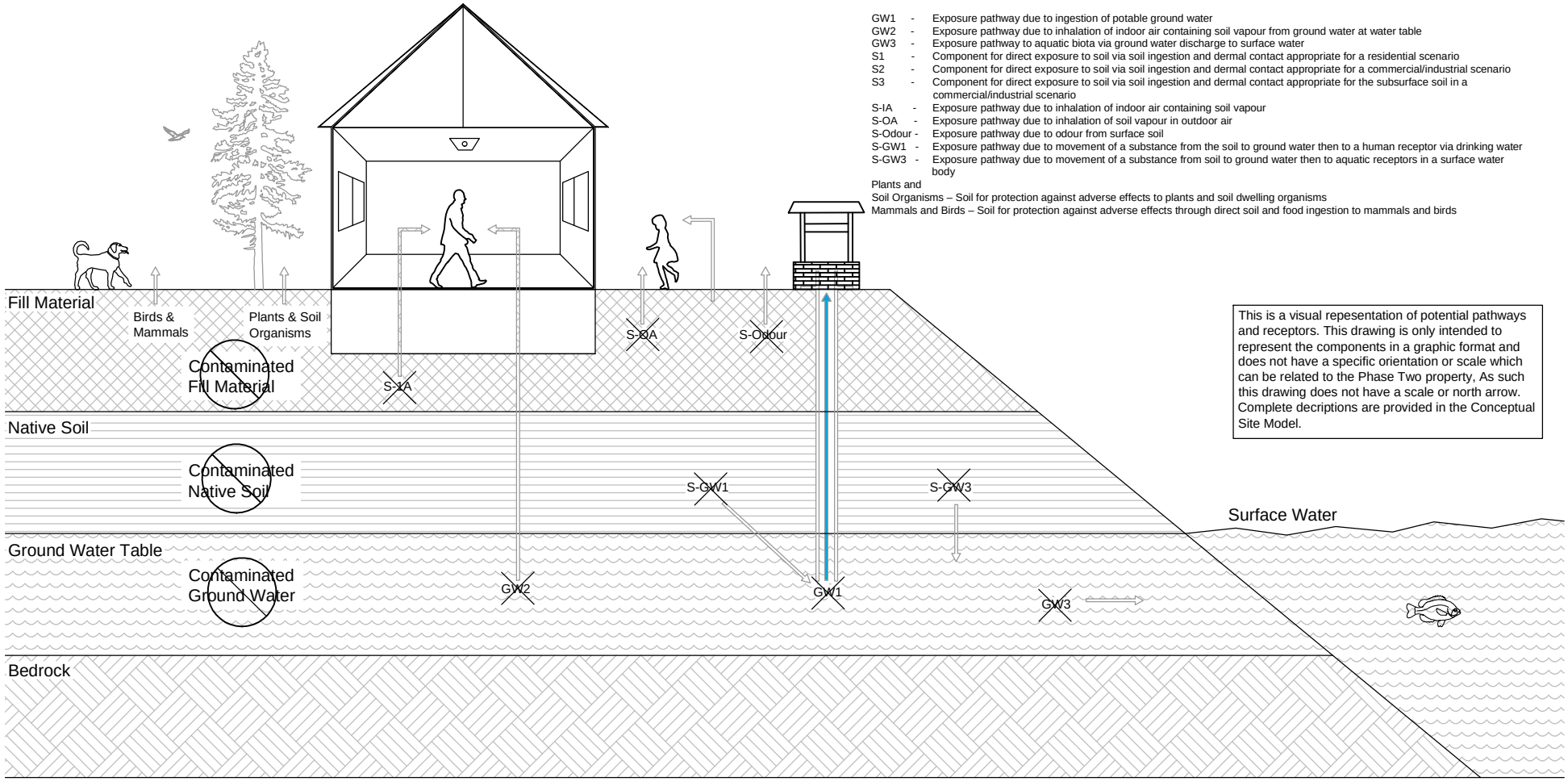
Title: **GROUNDWATER CHARACTERIZATION – OCPs**

N

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	D.D	S.Y	May 2020
Rev: 0	Scale: As Shown	Project No.: 19-199-102	Figure No.: **8D**

Image/Map Source: *Google Satellite Image*

Path:c:\0sharon\19-199-100 -102 milcroft golf course\7-misc\cad\figure 8 - contaminant transport diagram-e.dwg



Not Identified

Pathway Not Present

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Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Millcroft Golf Course (Area E), Burlington, ON

Title: **CONTAMINANT TRANSPORT DIAGRAM**

Client: ARGO (MILLCROFT) LIMITED

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	D.D	S.Y	May 2020
Rev.	Scale: N.T.S	Project No: 19-199-102	Figure No. 8

Appendix F

Planning & Public Works
Tel: 905-825-6000 Fax: 905-825-8822
Toll Free: 1-866-4HALTON (1-866-442-5866)
www.halton.ca

Environmental Site-Screening Questionnaire

Legal/Municipal Address 4274 Dundas Street, Burlington, Ontario **Applicant:** Argo (Millcroft) Limited

1.	Was the subject property ever used for industrial purposes?	yes	(no)	uncertain
2.	Was the subject property ever used for commercial purposes that may have caused contamination (e.g. gasoline station, dry cleaners, etc.)	yes	(no)	uncertain
3.	Has fill ever been placed on the property?	(yes)	no	uncertain
4.	Is there any reason to believe that the subject property is potentially contaminated based on historic use of the property or a neighbouring lot located within 100m of the property?	yes	(no)	uncertain
5.	Are there or were there ever any above-ground or underground storage tanks or waste disposal activities on the property?	(yes)	no	uncertain
6.	For existing or previous buildings on the property, are there building materials that may be potentially hazardous to human health (i.e. asbestos, lead-based paints, etc.)?	yes	(no)	uncertain
7.	For agricultural properties, were pesticides or herbicides ever applied to the property?	(yes)	no	uncertain
8.	Have any of the buildings on the property been heated by fuel oil?	yes	(no)	uncertain
9.	Is the land use changing to a more sensitive land use (e.g. industrial/ commercial to residential/institutional)? Note: Daycare uses are defined in O.Reg.153/04 as institutional.	(yes)	no	uncertain

General Information:

1.	Have any environmental documents (e.g. Phase I and II Environmental Site Assessments, Records of Site Condition, etc) ever been prepared for the property? If yes, please submit these documents in digital and hardcopy format with your application together with a letter of reliance granting third party reliance on the documents to the Region of Halton.	(yes)	no

Certification

I, _____ am the registered owner of the land that is the subject of this document and to the best of my knowledge, the information provided in this questionnaire is true.

Sworn (or declared) and stamped before me _____
Commissioner of Oaths (Print Name)

in the _____ , this _____ day of _____ 20____
City/Town/Municipality Day Month Year

_____ _____
Commissioner of Oaths (Signature) Registered Owner (Signature)

Regional File #: _____ Local Municipal File #: _____