



109 East Ridge Drive, Thornbury, Ontario

Phase II Environmental Site Assessment

Client:

NG Lora Bay Limited

Attn: Mr. Patrick Crosby, C.E.T.

Type of Document:

Phase II Environmental Site Assessment – Lora Bay Lands

Project Location:

109 East Ridge Road
Thornbury, Ontario

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Executive Summary

EXP Services Inc. (EXP) was retained by Mr. Patrick Crosby, C.E.T. of NG Lora Bay Limited (hereinafter referred to as 'the Client'), to conduct a Phase II Environmental Site Assessment (ESA) of the properties located at 109 East Ridge Road, Thornbury, Ontario (hereinafter referred to as 'the Site') as shown on Drawing 1. EXP understands that the Site is currently occupied by the Lora Bay Golf Course, including golf courses, historic agricultural structures, future development lands, and maintenance yard. In addition, existing residential buildings running through the Site are not part of this scope. EXP understands that this Phase II ESA is required for due diligence purposes and that the filing of a Record of Site Condition (RSC) is not required at this time.

The Site is an irregular-shaped property and bound by Highway 26 and commercial businesses to the South, residential buildings to the East, Centrally and North. Georgian Bay is located farther north beyond the current residences. A site location plan is provided as Drawing 1.

A Phase I ESA for the Site entitled, "109 East Ridge Drive, Thornbury, Ontario – Draft Phase I Environmental Site Assessment, Lora Bay Lands", dated December 24, 2021, was prepared by EXP Services Inc. At the time of the Phase I ESA, the Site was in the same configuration at the time of the Phase II Environmental Site Assessment.

Based on the findings of EXP's Phase I ESA, the potential environmental concerns at the Site include: (i) engine/hydraulic oil – waste generator; (ii) furnace oil spill (900 L) near Highway 26 and Christie Beach Road intersection (iii) furnace oil spill (200 L) at private residence (iv) old farmstead and two barns (v) berm – fill material (vi) site-wide pesticide usage and (vii) current and former stockpile materials.

The purpose of this Phase II ESA is to identify and assess potential impacts to the subsurface environmental conditions of the Site resulting from the identified subsurface environmental risks to the Site. The locations of the boreholes were established based on the areas of potential environmental concern on the Site resulting from the identified potential environmental risks. This Phase II ESA was conducted in general accordance with CSA Standard Z769-00 and generally accepted professional practices.

Based on the results of the Phase II ESA conducted at the Site, the following findings are presented:

1. The work program for this Phase II ESA consisted of nine (9) boreholes, to depths of 7.6 metres below the ground surface (mbgs) and twenty-one (21) test pits to depths of approximately 1.0 mbgs. All of the boreholes were completed as groundwater monitoring wells.
2. In general, the subsurface profile encountered at the Site, as revealed in the boreholes and test pits, was comprised of asphalt/granular A or topsoil at the surface followed by various fill (generally Granular A or reworked native) layers underlain by a deposit of clayey silt surrounding a layer of till (1.2 – 2.8 mbgs in thickness), before terminating in clayey silt or shale bedrock.

3. Generally, no odours or stains were noted during soil sampling. One note was made within a fill layer at BH/MW 1-1 between 1.22 and 1.52 mbgs however analytical met Table 2 standards.
4. Static water levels in monitoring wells, as measured on March 22nd, ranged from approximately 0.433 mbgs (BH/MW 1-2) to 4.607 mbgs at (BH/MW C-2) with BH/MW A-1 being dry at the time of sampling. Seasonal fluctuations of groundwater levels at the Site are anticipated.
5. No apparent odours were noted in the groundwater samples from the monitoring wells sampled. No apparent sheen or free-phased petroleum products were observed on the recovered groundwater samples recovered from the monitoring wells sampled.
6. The property is currently used for commercial purposes (Lora Bay Golf Course and Maintenance Yard) and vacant land from historic agricultural structures and fields. EXP understands that the areas which are currently vacant agricultural lands will be redeveloped for residential land use which is less sensitive than the current land use. Based on drilling observations, soils are categorized as fine/medium grained. Given these factors, soil and groundwater data were compared to the Ontario Ministry of Environment, Conservation and Parks (MECP) Table 2 Generic Site Condition Standards (SCS) in a Potable Ground Water Condition for residential/parkland/institutional (RPI) property use and industrial/commercial/community (ICC) property use for fine/medium textured soil (Table 2 SCS) listed 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 (hereinafter referred to as 'the MECP Standards').
7. Selected soil samples from the boreholes, including field duplicates, were analyzed for volatile organic compounds (VOCs) including benzene, toluene, ethylbenzene and xylenes (BTEX), petroleum hydrocarbons (PHCs) (F1 to F4), polycyclic aromatic hydrocarbons (PAHs), organochlorine pesticides (OCP), polychlorinated biphenyls (PCBs), metals and inorganic parameters. The analytical results of the soil samples submitted for analysis indicate that the analytes tested were not detectable below reporting limits (RL) or concentrations below the applicable Table 2 criteria.
8. Selected groundwater samples, including one field duplicate sample, were analyzed for Metals & Inorganics, PAHs, PHC (F1-F4), BTEX, and VOCs. All results were not detectable below reporting limits (RL) or met the Table 2 SCS with the exception of Boron in BM/MWA-2 and BH/MWA-3.

Based on the findings of this Phase II ESA, the following conclusions and recommendations are presented.

- No soil exceedances were identified above applicable MECP Table 2 Site Condition Standards for all parameters tested.
- The only exceedances identified in the groundwater samples was for Boron in BH/MWA-2 and BH/MWA-3, which reported levels of 5 340 and 7 810 µg/L, respectively (Table 2 SCS for Boron in groundwater is 5 000

µg/L). Additional sampling and investigations are recommended in this area to determine the extent of the impacts.

- Groundwater monitoring wells installed on Site may be maintained for on-going monitoring purposes. If the monitoring wells are no longer required, they should be decommissioned by a licensed well contractor in accordance with Ontario Regulation 903.

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1 Introduction

1.1 General

EXP Services Inc. (EXP) was retained by Mr. Patrick Crosby, C.E.T. of NG Lora Bay Limited (hereinafter referred to as 'the Client'), to conduct a Phase II Environmental Site Assessment (ESA) of the properties located at 109 East Ridge Road, Thornbury, Ontario (hereinafter referred to as 'the Site') as shown on Drawing 1. EXP understands that the Site is currently occupied by the Lora Bay Golf Course, including golf courses, historic agricultural structures, future development lands, and maintenance yard. In addition, existing residential buildings running through the Site are not part of this scope.

EXP understands that this Phase II ESA is required for due diligence purposes and that the filing of a Record of Site Condition (RSC) is not required at this time. This Phase II ESA was conducted in general accordance with CSA Standard Z769-00 and generally accepted professional practices.

1.2 Site Description and Background

The Site is an irregular-shaped property and bound by Highway 26 and commercial businesses to the South, residential buildings to the East, Centrally and North. Georgian Bay is located farther north beyond the current residences. A site location plan is provided as Drawing 1.

Vehicular access to the Site is available via two locations, first the clubhouse is accessible off East Ridge Drive from Lora Bay Drive and the second is the maintenance yard directly off 39th Side Road from Christie Beach Road. Both locations have paved asphalt surfaces.

A review of historic aerial photographs shows that the Site was used for agricultural and residential land uses purposes prior to 1938, with the golf course being established between 1995 and 2005. Adjacent surroundings have gone from mostly agricultural or undeveloped lands from 1938, to being primarily residential through the Site and north along the shores of Georgian Bay starting around 1962.

A Phase I ESA for the Site entitled, "109 East Ridge Drive, Thornbury, Ontario – Draft Phase I Environmental Site Assessment, Lora Bay Lands", dated December 24, 2021, was prepared by EXP Services Inc. At the time of the Phase I ESA, the Site was in the same configuration at the time of the Phase II Environmental Site Assessment.

Based on the findings of EXP's Phase I ESA, the potential environmental concerns at the Site include: (i) Operation of a Maintenance Yard with ASTs; (ii) Furnace Oil Spill (900 L) near Highway 26 and Christie Beach Road intersection (iii) Furnace Oil Spill (200 L) near Thornbury Self-Storage (iv) Former Homestead and Barns at Three (3) Locations (v) Fill Material from Constructed Berm along Highway 26 (vi) Pesticide and Herbicide usage from Current Golf Course

Operations and Previous Farming Activities (vii) Former and Current Stockpiled Materials Located on Site and (viii) Former Railway Line which Transecting the Site.

1.3 Previous Environmental Investigations

Except the EXP's 2021 Phase I ESA summarized above, no reports from previous investigations at the site were provided to EXP for review.

1.4 Scope of Work

The Phase II ESA program is summarized below:

- 1) Conduct underground utility clearance at the proposed new borehole locations by public and private utility locator to clear the boreholes of any underground utilities prior to drilling.
- 2) Advance nine (9) boreholes across to a maximum depth of 8 mbgs, instrumented with groundwater monitoring wells for subsequent groundwater monitoring and sampling.
- 3) Monitor the advancement of twenty-one (21) test pit locations across the Site advanced by client provided excavating equipment.
- 4) Conduct a field screening program on the recovered soil samples for total organic vapours (TOV) using a portable photo-ionizing detector (PID).
- 5) Develop, purge, and sample the new monitoring well installed by EXP.
- 6) Submit selected soil samples from the boreholes or test pits for chemical analysis of volatile organic compounds (VOCs) including benzene, toluene, ethylbenzene, xylenes (BTEX), and petroleum hydrocarbons (PHCs) F1 to F4, organochloride pesticides (OCPs), polycyclic aromatic hydrocarbons (PAH) and/or heavy metals and inorganic parameters.
- 7) Submit selected groundwater samples from the monitoring wells for chemical analysis of VOCs, PHCs F1 to F4 and/or heavy metals and inorganic parameters.
- 8) Complete a report outlining the results of the investigation in accordance with CSA Standard Z769-00, "Phase II Environmental Site Assessment." The analytical results will be compared to the applicable criteria listed in "Soil, Groundwater and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act."

1.5 Site Assessment Criteria

The assessment criteria, Site Condition Standards (SCS), applicable to a given site in Ontario are established under subsection 168.4(1) of the Environmental Protection Act. Tabulated generic criteria are provided in the Ministry of the Environment, Conservation and Parks (MECP) document entitled "Soil, Ground Water and Sediment Standards

for Use Under Part XV.1 of the Environmental Protection Act”, dated April 15, 2011 (hereinafter referred to as “the MECP Standards”). These criteria are based on site sensitivity (sensitive or non-sensitive), groundwater use (potable or non-potable), property use (residential, parkland, institutional, commercial, industrial, community and agricultural/other), soil type (coarse or medium to fine textured) and restoration depth (full or stratified restoration). In addition, site specific criteria may be established on the basis of the findings of a Risk Assessment carried out in accordance with Part IX and Schedule C of Ontario Regulation 153/04 (O. Reg. 153/04).

The MECP Standards specify SCS for soil, groundwater and sediment that are tabulated as follows:

- Table 1 - applicable to sites where background concentrations must be met (full depth) such as sensitive sites where site-specific criteria have not been derived;
- Table 2 - applicable to sites with potable groundwater and full depth restoration;
- Table 3 - applicable to sites with non-potable groundwater and full depth restoration;
- Table 4 - applicable to sites with potable groundwater and stratified restoration;
- Table 5 - applicable to sites with non-potable groundwater and stratified restoration;
- Table 6 - applicable to sites with potable groundwater and less than 2 m of overburden above bedrock;
- Table 7 - applicable to sites with non-potable groundwater and less than 2 m of overburden above bedrock;
- Table 8 - applicable to sites with potable groundwater and less than 30 m from a water body; and
- Table 9 - applicable to sites with non-potable groundwater and less than 30 m from a water body.

According to O. Reg. 153/04, a property is considered an environmentally sensitive area, warranting the use of Table 1 SCS, if one or more of the following is considered representative of the Site conditions and/or its location:

- The property is
 - within an area of natural significance,
 - includes or is adjacent to an area of natural significance or part of such an area, or,
 - includes land that is within 30 metres of an area of natural significance or part of such an area.
- The soil at the property has a pH value as follows:
 - for surface soil, less than 5 or greater than 9
 - for sub-surface soil, less than 5 or greater than 11
- A qualified person is of the opinion that, given the characteristics of the property and the certification the qualified person would be required to make in a record of site condition in relation to the property as specified in Schedule A, it is appropriate to deem the property environmentally sensitive.

An “area of natural significance” means any of the following:

1. An area reserved or set apart as a provincial park or conservation reserve under the Provincial Parks and Conservation Reserves Act, 2006;
2. An area of natural and scientific interest (life science or earth science) identified by the Ministry of Natural Resources and Forestry as having provincial significance;
3. A wetland identified by the Ministry of Natural Resources and Forestry as having provincial significance;
4. An area designated by a municipality in its official plan as environmentally significant, however expressed, including designations of areas as environmentally sensitive, as being of environmental concern and as being ecologically significant;
5. An area designated as an escarpment natural area or an escarpment protection area by the Niagara Escarpment Plan under the Niagara Escarpment Planning and Development Act;
6. An area identified by the Ministry of Natural Resources and Forestry as significant habitat of a threatened or endangered species;
7. An area which is habitat of a species that is classified under section 7 of the Endangered Species Act, 2007 as a threatened or endangered species;
8. Property within an area designated as a natural core area or natural linkage area within the area to which the Oak Ridges Moraine Conservation Plan under the Oak Ridges Moraine Conservation Act, 2001 applies;
9. An area set apart as a wilderness area under the Wilderness Areas Act.

For assessment purposes, Table 2 Generic SCS in a Potable Ground Water Condition for Residential/Parkland/Institutional (RPI) and Industrial/Commercial/ Community (ICC) property use for medium to fine textured soil would apply. The selection of MECP Table 2 ICC Site Condition Standards for the proposed property use is based on the following factors:

- The portion of the site used by the golf course will continue to be used as a golf course (ICC use) and the undeveloped portion of the site which is currently agricultural land use will be redeveloped as residential in the future (RPI land use);
- A review of the ERIS report shows 45 well records (21 for domestic use) within a 250 m radius of the site that are being used for potable water supply;
- Review of the Ministry of Natural Resources and Forestry’s (MNR) Natural Heritage Mapping Web Application identified no records of species at risk (SAR) within the 1 km grid square;
- As such, the Site is not considered to be located within an area of natural significance; does not include, nor is it adjacent to an area of natural significance, nor is it part of such an area; and it does not include land that is within 30 m of an area of natural significance;

- Small water bodies for golf course activities were identified on Site; no open water bodies directly adjacent; and it does not include land that is within 30 m of an open water body. The closest body of water is Georgian Bay which is located approximately 200 m northeast of the site;
- There is no intention to carry out a stratified restoration at the Site;
- The native soil at the Site has a pH value between 5 and 9 for surficial soils (less than 1.5 mbgs); and between 5 and 11 for subsurface soils (greater than 1.5 mbgs);
- Soil at the Site is categorized as medium to fine textured for the purpose of this report based on field observation which indicated that more than 30% of soil particles would pass a #200 Sieve (0.075 mm); and,
- More than two-thirds of the Site has an overburden thickness greater than 2 metres.

2 Methodology

2.1 Drilling Program

Prior to the commencement of drilling activities, the locations of public underground utilities were located by Ontario One Call and private locates were obtained by Faults and Locators.

The drilling fieldwork for the Phase II ESA was completed on March 14th, 16th, and 17th 2022. A total of nine (9) boreholes were drilled to depth 7.6 metres below the ground surface, of which all were completed as groundwater monitoring wells. Approximate borehole locations are shown on Drawing 2, Borehole Location Plan. The rationale for the borehole locations is summarized in the table below:

Table 1 – Rationale of Borehole Locations

Boreholes	Media	Source / Rationale
BH/MW A-1	Soil and groundwater	<ul style="list-style-type: none"> Evaluate potential impacts from exterior battery storage area.
BH/MW A-2	Soil and groundwater	<ul style="list-style-type: none"> Evaluate potential impacts from storage of drums filled with engine oils, etc.
BH/MW A-3	Soil and groundwater	<ul style="list-style-type: none"> Evaluate potential impacts due to current ASTs and pump station.
BH/MW A-4	Soil and groundwater	<ul style="list-style-type: none"> Evaluate potential impacts from machinery storage and activities.
BH/MW 1-1	Soil and groundwater	<ul style="list-style-type: none"> Evaluate potential impacts from prior homestead.
BH/MW 1-2	Soil and groundwater	<ul style="list-style-type: none"> Evaluate potential impacts from large, 900 L spill which occurred directly across Highway 26.
BH/MW 1-3	Soil and groundwater	<ul style="list-style-type: none"> Evaluate potential impacts from an abandoned residence and structures related to past agricultural land use.
BH/MW C-1	Soil and groundwater	<ul style="list-style-type: none"> Evaluate potential impacts from large, 200 L spill which occurred directly across Highway 26.
BH/MW C-2	Soil and groundwater	<ul style="list-style-type: none"> Evaluate potential impacts around historical and current residence and barn.

The boreholes were drilled by a specialist drilling contractor utilizing a track-mounted drilling rig with solid stem continuous flight augers.

The drilling activities were continuously monitored by EXP field personnel to record the physical characteristics of the soil, depth of soil sample collection and total depth of boreholes. No petroleum-based greases or solvents were used during the drilling or test pitting procedures. A photoionization detector was used to field screen samples for the presence of VOCs in the field. Field observations are summarized on the borehole logs provided in Appendix B. Copies of the laboratory Certificates of Analysis for the tested soil and groundwater samples are provided in Appendix C.

Representative samples of the subsoils were recovered in the boreholes at regular intervals using a split-spoon sampler. The sampling equipment was cleaned between sampling intervals using phosphate-free soap followed by rinsing with distilled water to reduce the potential for cross-contamination.

The fieldwork was supervised by an EXP geo-environmental engineering staff member who monitored the drilling, sampling operations and logging the borings. The borehole locations were established by EXP personnel based on the rationale as outlined in Table 1, above.

2.2 Test Pit Program

On March 15th, 2022, twenty-one (21) test pits were completed with an excavator and licensed operator. Test pits were advanced approximately 1 mbgs before collecting a representative soil sample. Nitrile gloves were worn during collection and disposed after completion of each test pit. See Table 2 for rationale for location and analysis.

Table 2 – Rationale of Test Pits Locations

Boreholes	Analysis	Source / Rationale
TPB-7	OCP, PCB, PAH, M&I	<ul style="list-style-type: none"> APEC 3 – Former Railway Tracks
TP1-1	OCP, PCB, PAH, M&I	<ul style="list-style-type: none"> APEC 1 and 5 – Former Railway Tracks and Agricultural Usage
TP1-2	OCP, PCB, PAH, M&I	<ul style="list-style-type: none"> APEC 1 and 5 – Former Railway Tracks and Agricultural Usage
TP1-3	OCP, PCB, PAH, M&I	<ul style="list-style-type: none"> APEC 1 and 5– Former Railway Tracks and Agricultural Usage
TP1-6	M&I, OCP	<ul style="list-style-type: none"> APEC 1 and 1A – Former Homestead and Pesticide Usage
TP1-7	M&I, OCP	<ul style="list-style-type: none"> APEC 1 – Former Homestead
TP1-8	M&I, OCP	<ul style="list-style-type: none"> APEC 1 – Former Homestead
TP1-10	M&I, PAH, PHC	<ul style="list-style-type: none"> APEC 4 – Berm/Fill Material
TP1-11	M&I, PAH, PHC	<ul style="list-style-type: none"> APEC 4 – Berm/Fill Material
TP1-12	M&I, PAH, PHC	<ul style="list-style-type: none"> APEC 4 – Berm/Fill Material
TP1-13	M&I, PAH, PHC	<ul style="list-style-type: none"> APEC 4 – Berm/Fill Material
TP1-14	M&I, PAH, PHC	<ul style="list-style-type: none"> APEC 4 – Berm/Fill Material

Boreholes	Analysis	Source / Rationale
TP1-15	M&I, PAH, PHC	<ul style="list-style-type: none"> APEC 4 – Berm/Fill Material
TP2-3	M&I	<ul style="list-style-type: none"> APEC 1 – General Coverage
TP2-6	M&I, PAH (OCP if topsoil is present)	<ul style="list-style-type: none"> APEC 1 – Fill Material Stockpile
TP2-7	M&I, PAH (OCP if topsoil is present)	<ul style="list-style-type: none"> APEC 1– Fill Material Stockpile
TP2-8	M&I, PAH (OCP if topsoil is present)	<ul style="list-style-type: none"> APEC 1– Fill Material Stockpile
TP3-1	M&I, PAH	<ul style="list-style-type: none"> APEC 1 – Former Fill Stockpile for Construction
TP3-2	M&I, PAH	<ul style="list-style-type: none"> APEC 1– Former Fill Stockpile for Construction
TP3-3	M&I, PAH	<ul style="list-style-type: none"> APEC 1– Former Fill Stockpile for Construction
TP5-3	BTEX/PHC	<ul style="list-style-type: none"> APEC 3 – Old AST in Historic Barn

Notes: PHCs = petroleum hydrocarbons; VOCs = volatile organic compounds; BTEX = benzene, toluene, ethylbenzene, xylenes; PAHs = polycyclic aromatic hydrocarbons; Metals & Inorganics = antimony, arsenic, selenium, barium, beryllium, boron, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, silver, thallium, uranium, vanadium, zinc, hot water extractable boron, hexavalent chromium, electrical conductivity, SAR and pH.

2.3 Soil Sampling – Drilling and Test Pit Program

Dedicated nitrile gloves (i.e., one pair per sample) were used during sample handling. A portion of each soil sample was placed in a sealed “zip-lock” plastic bag and allowed to reach ambient temperature prior to field screening using a portable photoionization detector (RKI Eagle PID). The measurements were made by inserting the instrument’s probe into the plastic bag while manipulating the sample to ensure volatilization of the soil gases. These readings provide a real-time indication of the relative concentration of combustible vapours encountered in the subsurface during drilling and are used to aid in the assessment of the vertical and horizontal extent of soil contamination and the selection of soil samples for analysis. The vapour readings, in parts per million by volume (ppmv), are provided in the borehole logs in Appendix B. Samples were returned to EXP’s laboratory for visual, textural and olfactory classification.

A portion of selected soil samples was field preserved using laboratory-supplied vials filled and pre-weighed with methanol. The field preservation reduces the potential for induced volatilization during storage/transport prior to analysis for VOCs and PHC F1 parameters. Soil samples intended for analysis of other non-volatile chemical parameters were placed directly into pre-cleaned, laboratory-supplied glass sample jars/vials. All soil samples were placed in clean ice-packed coolers prior to and during transportation to the subcontract laboratory, Caduceon Laboratories of Barrie, Ontario. The samples were transported/submitted under Chain of Custody documentation.

Soil samples were selected for laboratory analysis on the basis of their visual appearance or olfactory evidence of impacts, area of potential environmental concern being investigated, Site background and/or potential water-bearing zones, where applicable. The soil samples submitted for laboratory analysis are summarized in Table 3.

Table 3: Summary of Soil Samples Submitted for Chemical Analyses

Sample ID	Depth (m)	Matrix	Rationale		Analysis
BH/MW A-1 SS1	0 – 0.6	Sand and Gravel Fill	Surface sample for stored items		Metals & Inorganics
BH/MW A-1 SS2A	0.8 – 1.1	Clayey Silt	Highest ppm value from BH		PHC, BTEX and VOCs
BH/MW A-2 SS1	0 – 0.6	Sand and Gravel Fill	Surface sample for drum's storage		Metals & Inorganics
BH/MW A-2 SS2B	0.9 – 1.4	Clayey Silt	Highest ppm value from BH		PHC, BTEX and VOCs
BH/MW A-3 SS1	0 – 0.6	Sand and Gravel Fill	Surface sample for AST and pump area		Metals & Inorganics
BH/MW A-3 SS2	0.8 – 1.4	Clayey Silt	Highest ppm value from BH		PHC, PAH, BTEX and VOCs
BH/MW A-4 SS1	0 – 0.6	Sand and Gravel Fill	Surface sample for Maintenance Yard activities		Metals & Inorganics
BH/MW A-4 SS3	1.5 – 2.1	Sandy Silt, some Clay	Highest ppm value from BH		PHC, PAH, BTEX and VOCs
BH/MW C-1 SS1A	0 – 0.25	Topsoil	Highest ppm value from BH		PHC, BTEX
BH/MW C-2 SS1	0 – 0.1	Topsoil	Highest ppm value from BH		PHC, BTEX
BH/MW 1-1 SS2B	1.2 – 1.4	Sandy Clayey Silt Fill	End of Fill layer		PAHs, Metals & Inorganics
BH/MW 1-1 SS3	1.5 – 2.1	Clayey Silt	Highest ppm value from BH, native soil		PHC, BTEX
BH/MW 1-2 SS2	0.8 – 1.4	Clayey Silt	Highest ppm value from BH		PHC, BTEX
BH/MW 1-3 SS2	0.8 – 1.4	Clayey Silt	Highest ppm value from BH		PHC, BTEX
Dup 1	1.5 – 2.1	Sandy Silt, some Clay	Highest ppm value from BH Duplicate of BH/MW A-4 SS3		PHC, PAH, BTEX and VOCs
Dup 2	0 – 0.6	Sand and Gravel Fill	Surface sample for AST and pump area Duplicate of BH/MW A-3 SS1		Metals & Inorganics
Test Pits	0 – 1	Varies	See Table 2	See Table 2	

Notes: PHCs = petroleum hydrocarbons; VOCs = volatile organic compounds; BTEX = benzene, toluene, ethylbenzene, xylenes; PAHs = polycyclic aromatic hydrocarbons; Metals & Inorganics = antimony, arsenic, selenium, barium, beryllium, boron, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, silver, thallium, uranium, vanadium, zinc, hot water extractable boron, hexavalent chromium, electrical conductivity, SAR and pH.

2.4 Monitoring Wells

Groundwater levels were measured in the open boreholes during the course of the fieldwork and in monitoring wells installed during this investigation.

Groundwater monitoring wells were installed in all nine (9) boreholes upon completion of drilling. The monitoring wells were installed in general accordance with the Ontario Water Resources Act - R.R.O. 1990, Regulation 903 - Amended by O. Reg. 128/03 by a licensed well driller.

Monitoring wells were constructed of 50 mm diameter polyvinyl chloride (PVC) screen measuring approximately 3 m in length and an appropriate length of PVC riser pipe, as shown on Table 3. The annular space around the wells was backfilled with sand to a height of approximately 0.3 m above the top of the screen. A bentonite seal was added from the top of the sand pack to approximately 0.3 m below ground surface. The monitoring wells were completed with either a stick-up or flush mount well casing and backfilled with concrete to grade. Well construction diagrams are shown on the borehole logs in Appendix B.

The newly installed wells were developed on March 21, 2022, to remove fine sediment particles from the sand pack and enhance hydraulic communication with the surrounding formation waters. The monitoring wells were developed using Waterra® tubing with a foot valve to remove at least three (3) well volumes.

When the monitoring wells are no longer required, they must be decommissioned in accordance with the procedure outlined in the Ontario Water Resources Act - R.R.O. 1990, Regulation 903 - Amended by O. Reg. 128/03.

The installation details of the monitoring wells are summarized in Table 3.

Table 4: Summary of Monitoring Well Installation Details

Monitoring Well	Screened Interval (mbgs)	Depth of Well (mbgs)	Formation(s) Screened
BH/MW A-1	1.5 – 4.8	4.8	Clayey Silt
BH/MW A-2	4.6 – 7.6	7.6	Clayey Silt
BH/MW A-3	4.6 – 7.6	7.6	Clayey Silt
BH/MW A-4	4.3 – 7.3	7.3	Clayey Silt
BH/MW C-1	4.6 – 7.6	7.6	Clayey Silt

Monitoring Well	Screened Interval (mbgs)	Depth of Well (mbgs)	Formation(s) Screened
BH/MW C-2	4.6 – 7.6	7.6	Clayey Silt
BH/MW 1-1	2.4 – 5.5	5.5	Clayey Silt
BH/MW 1-2	2.4 – 5.5	5.5	Clayey Silt
BH/MW 1-3	2.1 – 5.2	5.2	Clayey Silt

Note: mbgs - metres below ground surface

2.5 Groundwater Sampling

Groundwater level monitoring, purging, and sampling of all installed monitoring was conducted during the fieldwork.

On March 21, 2022, all nine (9) monitoring wells were purged using Waterra® tubing with a foot valve attached to remove at least three (3) well volume had been purged. A grab groundwater sample was collected on March 22, 2022, from eight of the nine wells using a 2-foot bailer, due to BH/MW A-1 having no water present. No apparent odours, sheens or free-phased petroleum products were observed on the groundwater samples recovered from any of the monitoring wells.

The samples were collected directly into containers supplied by the laboratory and stored in an ice-packed field cooler for transport. Analytical results are discussed in Section 4.0. A summary of the groundwater analyses carried out is provided in Table 4.

Table 5: Summary of Groundwater Samples Submitted for Analysis

BH/MW Identification	Sample Identification	Sample Date	Analysis
BH/MW A-2	BH/MW A-2	March 22, 2022	Metals & Inorganics, PHC and VOCs
BH/MW A-3	BH/MW A-3	March 22, 2022	Metals & Inorganics, PHC, PAHs and VOCs
BH/MW A-4	BH/MW A-4	March 22, 2022	Metals & Inorganics, PHC, PAHs and VOCs
BH/MW C-1	BH/MW C-1	March 22, 2022	PHC, BTEX
BH/MW C-2	BH/MW C-2	March 22, 2022	PHC, BTEX
BH/MW 1-1	BH/MW 1-1	March 22, 2022	PHCs
BH/MW 1-2	BH/MW 1-2	March 22, 2022	PHC, BTEX
BH/MW 1-3	BH/MW 1-3	March 22, 2022	PHC, BTEX
Dup 1	Dup 1 Duplicate of BH/MW A-2	March 22, 2022	Metals & Inorganics, PHC and VOCs

3 Findings

3.1 Subsurface Conditions

The detailed soil profiles encountered in each borehole are provided on the attached borehole logs (Appendix B). Boundaries of soil indicated on the log sheets are inferred from non-continuous sampling and observations made in the field and are intended to reflect approximate transition zones for the purpose of environmental assessment and should not be interpreted as exact planes of geological change. The "Notes on Sample Descriptions" preceding the borehole logs form an integral part of and should be read in conjunction with this report.

In general, the subsurface profile encountered at the Site, as revealed in the boreholes, was comprised of asphalt/granular A or topsoil at the surface followed by various fill (generally Granular A or reworked native) layers underlain by a deposit of clayey silt surrounding a layer of till (1.2 – 2.8 mbgs in thickness), before terminating in clayey silt or shale bedrock.

A brief description of the stratigraphy, in order of depth, follows:

3.1.1 Concrete and/or Asphalt

Three (3) boreholes had asphalt at the surface. Asphalt was encountered at BH/MW A-1, BH/MW A-3 and BH/MW A-4 which encircles the Maintenance Yard. The thickness of the asphalt was noted to be approximately 3.8 cm to 5.1 cm in thickness.

3.1.2 Fill Material

The three (3) boreholes mentioned above (BH/MW A-1, BH/MW A-3 and BH/MW A-4) encountered a Granular A fill layer directly under burdened asphalt and BH/MW A-2 had Granular A from the surface. This layer extended to approximately 0.61 m to 1.82 m metres below the existing grade. In addition, BH/MW A-3 and BH/MW A-4 had a layer of reworked native extending to 1.98 m to 3.5 m respectively.

No staining or apparent odours were noted.

Two (2) boreholes (BH/MW C-2 and BH/MW 1-1) had a fill layer underneath a thin layer of topsoil. This layer extended to 1.22 m below surface grade and used for golf cart path and former remains of a homestead. In addition, at the homestead location (BH/MW 1-1) had an additional fill layer, from 1.22 m to 1.52 m below surface, which was noted to have a green discolouration with a possible, unknown odour. This layer was submitted for analysis (BH/MW 1-1 SS2B).

3.1.3 Clayey Silt

All boreholes encountered a layer of silty clay to clayey silt underlying the fill materials, which varied across the Site starting from 0.05 m to the 2.0 m below surface and would extend until bedrock. Within this layer, six (6) boreholes had a clayey silt till or till-like layer, ranging from approximately 1 mbgs to 4.5 mbgs which a thickness of around 1.2 mbgs to 2.8 mbgs.

No staining or apparent odours were noted.

3.1.4 Bedrock

Four (4) boreholes (BH/MWA-1 to BH/MWA-4) encountered shale bedrock started at 2.8 mbgs to 4.6 mbgs. No staining or apparent odours were noted.

3.2 Groundwater

Groundwater conditions were observed in the open boreholes during the course of the fieldwork. Boreholes encountered groundwater between 1.8 and 7.4 mbgs. Nine boreholes were outfitted with monitoring wells to observe the long-term groundwater conditions. EXP returned to site on March 21st and 22nd to develop the wells and take groundwater level measurements. On March 22nd, the water levels in the boreholes varied from 0.4 m to 4.6 mbgs.

Purging and sampling of the groundwater was conducted on March 21st and 22nd, respectfully. Groundwater samples were retrieved and submitted to Caduceon Labs in Barrie, Ontario for further testing. Groundwater testing included metals and inorganics, VOCs, BTEX, PHCs, and PAHs. A blind duplicate was also included for quality assurance purposes.

Based on the water level measurements obtained on March 22nd, 2022, the interpreted direction of groundwater flow is predominantly to the southwest in the area of the maintenance yard. It is noted that there is some uncertainty with respect to the direction of groundwater flow in the rest of the site due to the limited number of monitoring wells and uneven distribution of monitoring wells across the remainder of the Site. Regional groundwater flow is expected to be towards Georgian Bay. Groundwater levels are subject to seasonal fluctuations and can vary in response to prevailing climate conditions.

No apparent odours were noted in the monitoring wells. No apparent sheens or floating product (i.e., gasoline, diesel) were observed on recovered groundwater samples from any of the monitoring wells.

Table 6: Summary of Water Levels Measured in Monitoring Wells

Monitoring Well Details					
Monitoring Well	Screened Interval (mbgs)	Depth of Well (mbgs)	Formation(s) Screened	Before Well Development – March 21, 2022 (mbgs)	Static Water Level Before Sampling – March 22, 2022 (mbgs)
BH/MW A-1	1.5 – 4.8	4.8	Clayey Silt	4.721	Dry
BH/MW A-2	4.6 – 7.6	7.6	Clayey Silt	2.852	2.994
BH/MW A-3	4.6 – 7.6	7.6	Clayey Silt	2.648	2.806
BH/MW A-4	4.3 – 7.3	7.3	Clayey Silt	2.496	3.060
BH/MW C-1	4.6 – 7.6	7.6	Clayey Silt	0.710	1.253
BH/MW C-2	4.6 – 7.6	7.6	Clayey Silt	1.839	4.607
BH/MW 1-1	2.4 – 5.5	5.5	Clayey Silt	0.737	1.090
BH/MW 1-2	2.4 – 5.5	5.5	Clayey Silt	0.388	0.433
BH/MW 1-3	2.1 – 5.2	5.2	Clayey Silt	1.705	1.932

Note: mbgs - metres below ground surface

3.3 Total Organic Vapour Monitoring

Total organic vapour (TOV) field monitoring for volatile organic compounds in the headspace of each soil sample and down the well casing was performed using a RKI Eagle Photoionization Detector (PID) in the field. The instrument was configured to eliminate any response from methane for all sampling conducted at the site. Instrument calibration was provided by Pine Environmental using a standard reference gas comprised of a 100 ppm isobutylene in air. If the instrument readings are within $\pm 10\%$ of the standard gas value, then the instrument is deemed calibrated, however if the readings are off by more than $\pm 10\%$ of the standard gas value then the instrument was re-calibrated prior to use. The measurements were made by inserting the probe of the instrument into the plastic bag while manipulating the sample to ensure volatilization of the soil gases. For well readings, the casing plug was quickly unscrewing and inserting the reading into the hole until a stable reading was noted. These readings provide a real-time indication of the relative concentration of organic vapours encountered in the subsurface during drilling and are used to aid in the assessment of the vertical and horizontal extent of contamination and the selection of soil samples for analysis. The readings are provided on the borehole logs.

Soil TOV readings were generally indicative of background levels and ranged from 5 to 45 parts per million by volume (ppmv). BH/MW 1-1 did have noticeable green staining with an unknown odour present; and laboratory analytical results for PHC/BTEX were below the applicable Table 2 SCS.

4 Soil and Groundwater Quality

4.1 General

In accordance with the scope of work, chemical analyses were performed on selected soil and groundwater samples recovered from the boreholes and test pits. The selection of representative “worst case” soil samples from each borehole was based on field visual or olfactory evidence of impacts, potential sources of impact and the presence of potential water bearing zones. Copies of the laboratory Certificates of Analysis for the tested soil and groundwater samples are provided in Appendix C.

4.2 Soil Characterization

4.2.1 pH

The 2011 MECP Table 2 SCS are considered suitable for use if soil pH values are within the range of 5 to 9 for surface soil (less than 1.5 m below the ground surface) and 5 to 11 for subsurface soil (greater than 1.5 m below the ground surface). The analytical results of twenty-one (21) test pit samples and eleven (11) borehole soil samples and duplicates collected at depths ranging from surface to 1.4 mbgs revealed pH values ranging from 6.16 to 8.10. Therefore, it is concluded that the soil pH at the Site is within the acceptable range for application of the Table 2 SCS. Results are provided in Appendix C.

4.2.2 Soil Texture Analysis

Based on visual observations, soils at the Site generally consist of clayey silt, trace to some sand, with trace gravel. Thus, the native material at the Site is fine to medium grained. Based on field observations the predominant soil material at the Site is considered fine to medium grained for assessment purposes.

4.3 Soil Quality

4.3.1 Petroleum Hydrocarbons (F1 to F4) & VOCs (Including BTEX)

A total of sixteen (7 test pit + 9 borehole) soil samples, plus three (2 test pits + 1 borehole) field duplicate samples, were analyzed for PHCs (F1/BTEX and F2-F4) and VOCs. All test pit samples were collected from approximately 1 mbgs, with five borehole samples located within the fill material and three borehole sample representing the native clayey silt which ranges from 0.8 to 2.1 mbgs, and one topsoil sample from the first 200 mm of the BH/MW 1-1 profile.

The analytical results indicated that petroleum related parameters and VOCs were not detectable above the laboratory reporting limits (RLs) or were below the applicable Table 2 SCS. Therefore, all samples meet Table 2 criteria.

4.3.2 Metals and Inorganic Parameters

Twenty-five (twenty test pit + five borehole) soil samples, plus three (two test pit + one borehole) field duplicate sample, were analyzed for metals and inorganic parameters (antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, uranium, vanadium, zinc, hot water extractable boron, hexavalent chromium, electrical conductivity, SAR and pH). The analytical results for metals and inorganics were below reportable limits or below the Table 2 criteria.

4.3.3 PAHs

Nineteen (sixteen test pit + three borehole) soil samples, plus three (two test pit + one borehole) field duplicate sample, were analyzed for PAHs. The analytical results for PAHs indicate that PAH related parameters were not detectable above the laboratory reporting limits (RLs) and as such were below the applicable Table 2 SCS.

4.3.4 OCPs and PCBs

Seven (7) OCPs samples and four (4) PCBs samples were collected from the test pits with one (1) field duplicate sample analyzed. The analytical results for both OCPs and PCBs indicate that the related parameters were not detectable above the laboratory reporting limits (RLs) and as such were below the applicable Table 2 SCS.

4.4 Groundwater Quality

4.4.1 Petroleum Hydrocarbons (F1 to F4) and VOCs (Including BTEX)

Eight (8) groundwater samples were analyzed for PHC (F1 to F4) VOCs, with only four (4) of the samples only PHC/BTEX was to be analyzed. One (1) field duplicate was submitted as well for all these parameters. All PHCs, VOCs, and BTEX were not detectable above the reporting limit (RLs) or below Table 2 Standards, as such the analytical results meet the Table 2 Standards.

4.4.2 Metals and Inorganic Parameters

Three (3) groundwater samples plus one (1) field duplicate sample was analyzed for metals and inorganic parameters (dissolved antimony, arsenic, selenium, barium, beryllium, boron, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, silver, sodium, thallium, uranium, vanadium, zinc) and hexavalent chromium. The analytical results for the groundwater samples analyzed for metals and inorganic parameters were not detectable above RL or below the applicable Table 2 Standards (except for Boron in BH/MWA-2 and BH/MWA-3), therefore meeting Table 2 criteria. The samples from BH/WMA-2 and BH/MWA-3 returned level of 5 340 and 7 810 µg/L, respectively, which are above the Table 2 criteria of 5 000 µg/L. The duplicate sample from BH/MWA-2 was also above the Table 2 criteria with a value of 5 300 µg/L.

4.4.3 PAHs

Two (2) groundwater samples were analyzed for PAHs. The remaining samples were below the laboratory RLs and as such, the analytical results meet the applicable Table 2 Standards. Results are presented in Figure 8.

4.5 Quality Assurance

Quality assurance and quality control measures were taken during the field activities to meet the objectives of the sampling and quality assurance plan to collect unbiased and representative samples to characterize existing conditions in the fill/upper overburden materials at the Site. QA/QC measures included:

- the collection of soil samples following standard operating procedures;
- the implementation of decontamination procedures to minimize the potential for sample cross-contamination;
- the collection of recommended analytical test group specific volumes into pre-cleaned laboratory supplied containers provided with necessary preservatives as required;
- sample preservation in insulated coolers pre-chilled with ice and meeting holding time requirements;
- sample documentation including Chain of Custody protocols; and,
- collection of quality control samples.

Review of field activity documentation indicated that recommended sample volumes were collected from soil for each analytical test group into appropriate containers and preserved with proper chemical reagents, where applicable, in accordance with the protocols set out in the "Protocol for Analytical Methods used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act", MOE, March 9, 2004, amended as of July 1, 2011. Samples were preserved at the required temperatures in pre-chilled insulated coolers and met applicable holding time requirements, when relinquished to the receiving laboratory.

A field QA/QC protocol was incorporated during soil sampling, consisting of duplicate samples to evaluate sampling precision.

A summary of the duplicate soil samples is presented below:

	Analytical Parameters	Soil Sample ID	Duplicate Sample ID	Collection Date
Borehole Drilling Program	PAHs, PHCs, BTEX and VOCs	BH/MW A-4 SS3	DUP 1	March 14, 2022
	Metals & Inorganics	BH/MW A-3 SS1	DUP 2	March 16, 2022

Test Pit Program	Metals & Inorganics	TP2-3 & TP3-3	DUP 1 & DUP 4	March 15, 2022
	PAHs	TP2-8 & TP2-6	DUP 2 & DUP 3	March 15, 2022
	PHC F1-F4	TP1-15	DUP 5	March 15, 2022
	BTEX	TP3-2	DUP 6	March 15, 2022
	OCP/PCBs	TPB-7	DUP 7	March 15, 2022

The field duplicate sample results were quantitatively evaluated by calculating the relative percent difference (RPD). Assessment of the duplicate soil sample analytical results confirmed that the results met analytical test group specific acceptance criteria. All initial and duplicate sampling results were non-detect for PAHs, OCPs, PCBs, VOC, and BTEX analytes for soil samples. However, RPD could be calculated for some PHC and Metal & Inorganic results which ranged from 1.0 – 114.9 %. Typically, an RPD of below 30% is deemed acceptable. While two of the tested parameters returned RPD values above this level, all test results for those parameters were well below the acceptable criteria and therefore it is concluded that the lab duplicate testing results acceptable.

A field QA/QC protocol was incorporated during groundwater sampling, consisting of a duplicate sample to evaluate sampling precision. A summary of the duplicate groundwater samples is presented below:

Analytical Parameters	Groundwater Sample ID	Duplicate Sample ID	Collection Date
Metals & Inorganics, PHC (F1-F4), and VOCs	BH/MW A-2	DUP #1	March 22, 2022

The groundwater sampling results revealed that all PHC, BTEX and VOC analytes were not detectable above the laboratory RLs. As such, it was not possible to calculate the RPD for these values. Metal and Inorganic RPD ranged from 0.8 – 22.2 %. It is concluded that the lab duplicate testing results are within the analytical test group acceptance criteria.

The overall assessment indicates that the soil and groundwater samples were collected with an acceptable level of precision, and the data is of acceptable quality for meeting the objectives of this investigation.

The subcontract laboratory used during this investigation, Caduceon Laboratories (Caduceon), is accredited by the Standards Council of Canada/Canadian Association for Laboratory Accreditation (Accredited Laboratory No. 97), in accordance with ISO/IEC 17025:1999 – “General Requirements for the Competence of Testing and Calibration

Laboratories” for the analysis of all parameters for all samples in the scope of work for which SCS have been established under Ontario Regulation 153/04.

Certificates of Analysis were received from Caduceon reporting the results of all the chemical analyses performed on the submitted soil samples. Copies of the Caduceon Certificates of Analysis are provided in Appendix D. Review of the Certificates of Analysis prepared by Caduceon indicates that they were in compliance with the requirements set out under subsection 47(3) of O.Reg. 511/09.

The analytical program conducted by Caduceon included analytical test group specific QA/QC measures to evaluate the accuracy and precision of the analytical results and the efficiency of analyte recovery during solute extraction procedures. The Caduceon laboratory QA/QC program consisted of (where applicable) the preparation and analysis of laboratory duplicate samples to assess precision and sample homogeneity, method blanks to assess analytical bias, spiked blanks and QC standards to evaluate analyte recovery, matrix spikes to evaluate matrix interferences and surrogate compound recoveries (VOCs only) to evaluate extraction efficiency. The laboratory QA/QC results are presented in the Quality Assurance Report provided in the Certificate of Analysis prepared by Caduceon. The QA/QC results are reported as percent recoveries for matrix spikes, spike blanks and QC standards, relative percent difference for laboratory duplicates and analyte concentrations for method blanks.

The Caduceon QA/QC results were assessed against test group control limits in the case of spiked blanks, matrix spikes and surrogate recoveries and alert criteria in the case of method blanks and laboratory duplicates. Review of the laboratory QA/QC results reported by Caduceon indicated that they were within acceptable control limits or below applicable alert criteria for the sampled media and analytical test groups.

Based on the assessment of the QA/QC, the analytical results reported by Caduceon are of acceptable quality and usable for the purposes of this Phase II ESA.

5 Summary of Findings

Based on the results of the Phase II ESA conducted at the Site, the following findings are presented:

9. The work program for this Phase II ESA consisted of nine (9) boreholes, to depths of 7.6 metres below the ground surface (mbgs). All of which were completed as groundwater monitoring wells.
10. In general, the subsurface profile encountered at the Site, as revealed in the boreholes, was comprised of asphalt/granular A or topsoil at the surface followed by various fill (generally Granular A or reworked native) layers underlain by a deposit of clayey silt surrounding a layer of till (1.2 – 2.8 mbgs in thickness), before terminating in clayey silt or shale bedrock.
11. Generally, no odours or stains were noted during soil sampling. One note was made within a fill layer at BH/MW 1-1 between 1.22 and 1.52 mbgs however analytical met Table 2 standards.
12. Static water levels in monitoring wells, as measured on March 22nd, ranged from approximately 0.43 mbgs (BH/MW 1-2) to 4.61 mbgs at (BH/MW C-2) with BH/MW A-1 being dry at the time of sampling. Seasonal fluctuations of groundwater levels at the Site are anticipated.
13. No apparent odours were noted in the groundwater samples from the monitoring wells sampled. No apparent sheen or free-phased petroleum products were observed on the recovered groundwater samples recovered from the monitoring wells sampled.
14. The property is currently used for commercial purposes (Lora Bay Golf Course and Maintenance Yard) and vacant land from historic agricultural structures and fields. The currently vacant agricultural land is slated to be redeveloped as residential and use (a less sensitive land use). Based on drilling observations, soils are categorized as fine/medium grained. Given these factors, soil and groundwater data were compared to the Ontario Ministry of Environment, Conservation and Parks (MECP) Table 2 Generic Site Condition Standards (SCS) in a Potable Ground Water Condition for residential/parkland/institutional (RPI) and industrial/commercial/community (ICC) property use for coarse textured soil (Table 2 SCS) listed 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 (hereinafter referred to as ‘the MECP Standards’).
15. Selected soil samples from the boreholes, including field duplicates, were analyzed for volatile organic compounds (VOCs) including benzene, toluene, ethylbenzene and xylenes (BTEX), petroleum hydrocarbons (PHCs) (F1 to F4), polycyclic aromatic hydrocarbons (PAHs), organochlorine pesticides (OCP), polychlorinated biphenyls (PCBs), metals and inorganic parameters. The analytical results of the

soil samples submitted for analysis indicate that the analytes tested were not detectable below reporting limits (RL) or concentrations below the applicable Table 2 criteria.

16. Selected groundwater samples, including one field duplicate sample, were analyzed for Metals & Inorganics, PAHs, PHC (F1-F4), BTEX, and VOCs. All results were not detectable below reporting limits (RL) or met the Table 2 SCS with the exception of Boron in BM/MWA-2 and BH/MWA-3.

6 Conclusions and Recommendations

Based on the findings of this Phase II ESA, the following conclusions and recommendations are presented.

- No soil exceedances were identified above applicable MECP Table 2 Site Condition Standards for all parameters tested.
- The only exceedances identified in the groundwater samples was for Boron in BH/MWA-2 and BH/MWA-3, which reported levels of 5 340 and 7 810 µg/L, respectively (Table 2 SCS for Boron in groundwater is 5 000 µg/L). Additional sampling and investigation are recommended in this area to determine the extent of the impacts.
- Groundwater monitoring wells installed on Site may be maintained for on-going monitoring purposes. If the monitoring wells are no longer required, they should be decommissioned by a licensed well contractor in accordance with Ontario Regulation 903.

7 References

This study was conducted in accordance with the applicable Regulations, Guidelines, Policies, Standards, Protocols and Objectives administered by the Ministry of the Environment. Specific reference is made to the following:

- “Phase II Environmental Site Assessment Z769-00 (2013)”, Canadian Standards Association, Canadian Standards Association (CSA), March 2000, Reaffirmed 2013.
- “Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario,” Ministry of the Environment of Ontario, December 1996;
- The Ontario Water Resources Act - R.R.O. 1990, Regulation 903 - Amended by O. Reg. 128/03, August 2003;
- “Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act,” March 2004, Amended April 15, 2011;
- “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act,” March 2004, Amended July 1, 2011 (as amended by O.Reg. 179/11);
- Ontario Regulation 153/04 (made under the Environmental Protection Act), May 2004 (as amended by O.Reg. 179/11) (MOE);
- Environmental Protection Act, R.S.O. 1990, Chapter E.19, as amended, September 2004;
- “109 East Ridge Drive, Thornbury, Ontario Phase I Environmental Site Assessment”, dated December 24, 2021, by EXP Services

8 General Limitations

The information presented in this report is based on a limited investigation designed to provide information to support an assessment of the current environmental conditions within the Site. The conclusions and recommendations presented in this report reflect Site conditions existing at the time of the investigation.

More specific information with respect to the conditions between samples, or the lateral and vertical extent of materials may become apparent during excavation operations. The interpretation of the borehole information must, therefore, be validated during any such excavation operations. Consequently, during the future development of the Site, conditions not observed during this investigation may become apparent. Should this occur, EXP should be contacted to assess the situation, and the need for additional testing and reporting. EXP has qualified personnel to provide assistance in regard to any future geotechnical and environmental issues related to this property.

The environmental investigation was carried out to address the intent of applicable provincial Regulations, Guidelines, Policies, Standards, Protocols and Objectives administered by the Ministry of Environment, Conservation and Parks. It should also be noted that current environmental Regulations, Guidelines, Policies, Standards, Protocols and Objectives are subject to change, and such changes, when put into effect, could alter the conclusions and recommendations noted throughout this report. Achieving the study objectives stated in this report has required us to arrive at conclusions based upon the best information presently known to us. No investigative method can completely eliminate the possibility of obtaining partially imprecise or incomplete information; it can only reduce the possibility to an acceptable level. Professional judgment was exercised in gathering and analyzing the information obtained and in the formulation of the conclusions. Like all professional persons rendering advice we do not act as absolute insurers of the conclusions we reach, but we commit ourselves to care and competence in reaching those conclusions.

Our undertaking at EXP, therefore, is to perform our work within limits prescribed by our clients, with the usual thoroughness and competence of the engineering profession. It is intended that the outcome of this investigation assist in reducing the client's risk associated with environmental impairment. Our work should not be considered 'risk mitigation'. No other warranty or representation, either expressed or implied, is included or intended in this report.

This report was prepared for the exclusive use of Alpha Auto Group and may not be reproduced in whole or in part, without the prior written consent of EXP, or used or relied upon in whole or in part by other parties for any purposes whatsoever. Any use which a third party makes of this report, or any part thereof, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. EXP accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

We trust this report is satisfactory for your purposes. Should you have any questions, please do not hesitate to contact this office.

Yours truly,

EXP Services Inc.

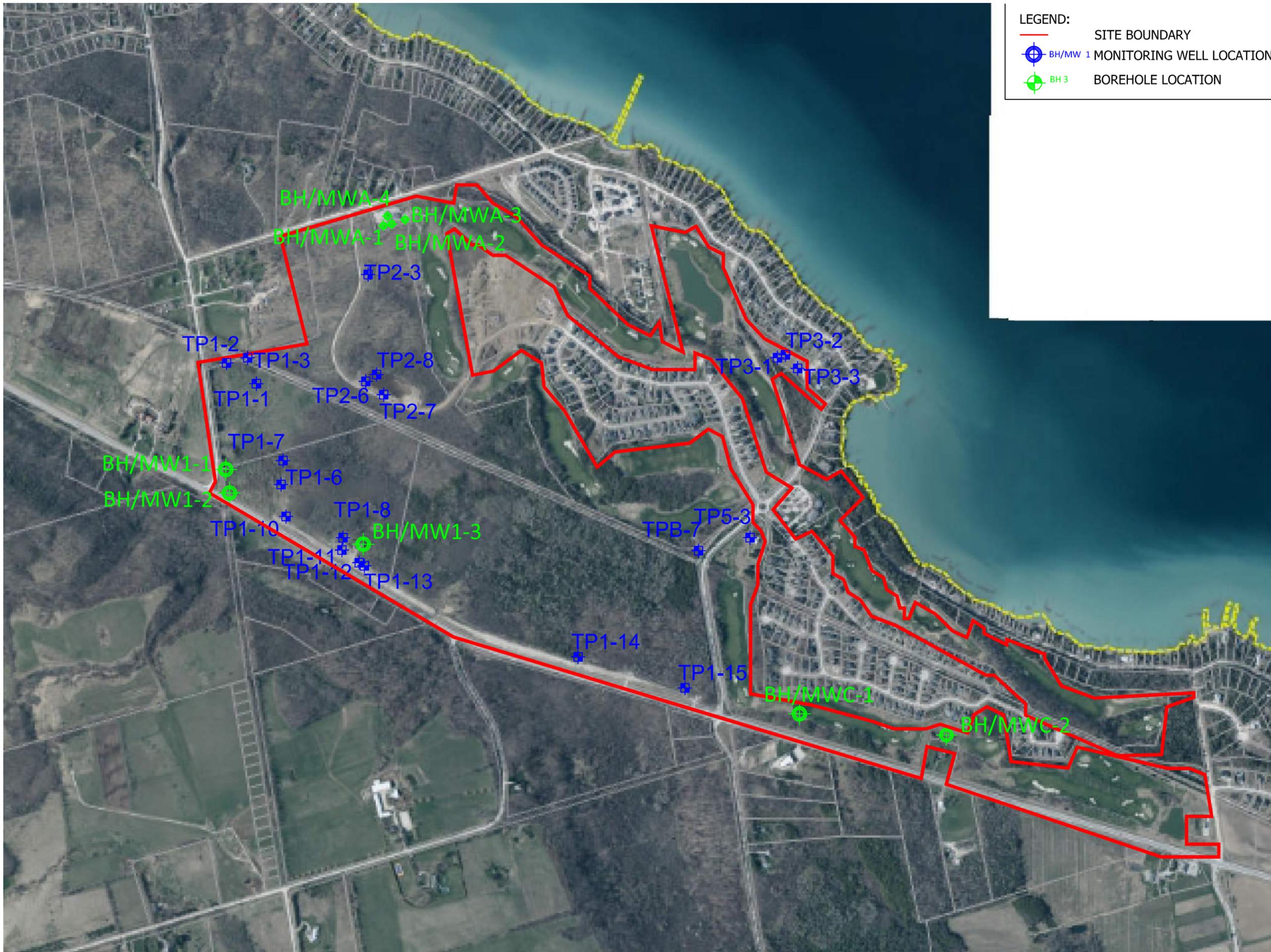


Dan Gilchrist, B.Sc., M.Sc.
Environmental Scientist
Barrie Office



Leigh Knegt, P. Eng.
Manager – Barrie Office
Earth and Environmental Group

Appendix A: Drawings



LEGEND:

- SITE BOUNDARY
- ⊕ BH/MW 1 MONITORING WELL LOCATION
- ⊕ BH 3 BOREHOLE LOCATION

exp.

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• BUILDINGS • EARTH & ENVIRONMENT • ENERGY •
 • INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY •

CLIENT:	Great Gulf	
PROJECT:	Phase II Environmental Site Assessment 109 East Ridge Drive, Thornbury, Ontario	
TITLE:	Phase II Test Pit and Bore Hole/Monitoring Well Locations	
scale	NTS	
date	March 2022	
drawn by	PN	
project no.	BAR-21024280-B0	

Appendix B – Borehole Logs



EXP Services Inc.
14 Cedar Pointe Drive, Unit 1510
Barrie, ON L4N 5R7

CLIENT Great Gulf
PROJECT NUMBER BAR-21024280-B0
DATE STARTED 3/17/22 **COMPLETED** 3/17/22
DRILLING CONTRACTOR Ontario Soil Drilling
DRILLING METHOD Solid Stem Augers
LOGGED BY DG **CHECKED BY** _____
NOTES _____

PROJECT NAME Phase II ESA - Lora Bay Lands
PROJECT LOCATION 109 East Ridge Road, Thornbury, Ontario
GROUND ELEVATION 232.905 m **HOLE SIZE** 50 mm
GROUND WATER LEVELS:
AT TIME OF DRILLING ---
AT END OF DRILLING 0.39 m / Elev 232.52 m
AFTER DRILLING 1.83 m / Elev 231.08 m

DEPTH (m)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA	WELL DIAGRAM
							Casing Type: Stick up
	SS 1A	3-4-4-5/-0.20			TOPSOIL - 254 mm thick	PID = 30	
	SS 1B				CLAYEY SILT - some sand, brown, moist (firm to very stiff)	PID = 35	
1	SS 2	3-4-3 (7)	Sampled SS2 for PHC/BTEX			PID = 35	
	SS 3A	5-10-6-16/0.01			- some gravel	PID = 30	
2	SS 3B				CLAYEY SILT TILL - brown to grey, cobbles and boulders, damp to moist (very stiff to hard)	PID = 20	
	SS 4	9-15-12-24 (27)				PID = 20	
3	SS 5	15-50				PID = 10	
4							
	SS 6	50			CLAYEY SILT - grey, moist (hard)	PID = 15	
5							
	SS 7	50				PID = 15	
6							
	SS 8	50				PID = 15	
7							
8							
					END OF BOREHOLE - at 7.62 mbgs		

GENERAL BH / TP / WELL BOREHOLE DRAWING.GPJ - GINT STD CANADA LAB.GDT 3/31/22

Bottom of hole at 8.23 m.



CLIENT Great Gulf
PROJECT NUMBER BAR-21024280-B0
DATE STARTED 3/17/22 **COMPLETED** 3/17/22
DRILLING CONTRACTOR Ontario Soil Drilling
DRILLING METHOD Solid Stem Augers
LOGGED BY DG **CHECKED BY** _____
NOTES _____

PROJECT NAME Phase II ESA - Lora Bay Lands
PROJECT LOCATION 109 East Ridge Road, Thornbury, Ontario
GROUND ELEVATION 231.188 m **HOLE SIZE** 50 mm
GROUND WATER LEVELS:
AT TIME OF DRILLING ---
AT END OF DRILLING 1.71 m / Elev 229.48 m
AFTER DRILLING 2.13 m / Elev 229.05 m

DEPTH (m)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA	WELL DIAGRAM
1	SS 1A	2-0-0-2/-0.40			TOPSOIL - 254 mm thick SILTY CLAY - some sand, brown, moist (very soft to very stiff)	PID = 30	
	SS 1B					PID = 35	
1	SS 2	3-7-5 (12)	Sampled SS2 for PHC/BTEX			PID = 35	
2	SS 3A	4-6-10-15/0.01			CLAYEY SILT - brownish grey to grey, till-like, moist (very stiff to hard)	PID = 30	
	SS 3B					PID = 20	
3	SS 4	9-12-21-22 (33)				PID = 20	
	SS 5					PID = 15	
4	SS 6	25-38-50 (88)			- seam of coarse sand from 11.5 to 12 feet below grade	PID = 15	
	SS 7					PID = 10	
5	SS 8	50				PID = 15	
	SS 8					PID = 15	
8							

GENERAL BH / TP / WELL BOREHOLE DRAWING.GPJ - GINT STD CANADA LAB.GDT 3/31/22

END OF BOREHOLE - at 7.62 mbgs

Bottom of hole at 8.23 m.



EXP Services Inc.
14 Cedar Pointe Drive, Unit 1510
Barrie, ON L4N 5R7

CLIENT Great Gulf
PROJECT NUMBER BAR-21024280-B0
DATE STARTED 3/17/22 **COMPLETED** 3/17/22
DRILLING CONTRACTOR Ontario Soil Drilling
DRILLING METHOD Solid Stem Augers
LOGGED BY DG **CHECKED BY** _____
NOTES _____

PROJECT NAME Phase II ESA - Lora Bay Lands
PROJECT LOCATION 109 East Ridge Road, Thornbury, Ontario
GROUND ELEVATION 210.687 m **HOLE SIZE** 50 mm
GROUND WATER LEVELS:
AT TIME OF DRILLING ---
AT END OF DRILLING 4.68 m / Elev 206.01 m
AFTER DRILLING 7.16 m / Elev 203.53 m

DEPTH (m)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA	WELL DIAGRAM
1	SS 1	13-31-15-14 (46)	Sampled SS1 for M&I	[Cross-hatched pattern]	ASPHALT - 51 mm thick GRANULAR A - brown, wet (dense to compact)	PID = 20	[Well diagram showing casing and soil layers]
	SS 2A SS 2B	4-5-8-10-0.15	Sampled SS2A for PHC/VOC/BTEX			1.07	
2	SS 3	6-8-10-14 (18)		[Diagonal hatched pattern]	SHALE ROCK - light grey to grey, damp (very dense)	PID = 20	[Well diagram showing casing and soil layers]
	SS 4	8-10-18-21 (28)				2.74	
3	SS 5	12-12-27-30 (39)		[Vertical line pattern]	END OF BOREHOLE - at 7.62 mbgs	PID = 10	[Well diagram showing casing and soil layers]
	SS 6	50				8.23	
4	SS 7	50		[Vertical line pattern]	Bottom of hole at 8.23 m.	PID = 15	[Well diagram showing casing and soil layers]
	SS 8	50					

GENERAL BH / TP / WELL BOREHOLE DRAWING.GPJ - GINT STD CANADA LAB.GDT 3/31/22

Casing Type: Flush

END OF BOREHOLE - at 7.62 mbgs

Bottom of hole at 8.23 m.



CLIENT Great Gulf
PROJECT NUMBER BAR-21024280-B0
DATE STARTED 3/16/22 **COMPLETED** 3/16/22
DRILLING CONTRACTOR Ontario Soil Drilling
DRILLING METHOD Solid Stem Augers
LOGGED BY DG **CHECKED BY** _____
NOTES _____

PROJECT NAME Phase II ESA - Lora Bay Lands
PROJECT LOCATION 109 East Ridge Road, Thornbury, Ontario
GROUND ELEVATION 210.582 m **HOLE SIZE** 50 mm
GROUND WATER LEVELS:
AT TIME OF DRILLING ---
AT END OF DRILLING 2.85 m / Elev 207.73 m
AFTER DRILLING 7.01 m / Elev 203.57 m

DEPTH (m)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA	WELL DIAGRAM
1	SS 1A	14-11-9-6/- 0.37	Sampled SS1 for M&I		GRANULAR A - brown, moist (compact) SAND - trace silt, brown, wet (compact)	PID = 30	
	SS 1B					PID = 30	
2	SS 2	4-6-5-12 (11)				PID = 30	
	SS 3A						
3	SS 3A	6-8-13-18/- 0.15	Sampled SS3B for PHC/VOC/BTEX		CLAYEY SILT - grey, till-like, damp (very stiff to hard)	PID = 30	
	SS 3B					PID = 25	
4	SS 4	6-9-18-21 (27)				PID = 20	
	SS 5					PID = 25	
5	SS 5	9-14-19-29 (33)				PID = 25	
	SS 6					PID = 15	
6	SS 6	23-50			SHALE ROCK - grey, damp to dry (hard)	PID = 15	
	SS 7					PID = 15	
7	SS 7	50				PID = 15	
	SS 8					PID = 15	
8	SS 8	50				PID = 15	
					8.23	202.35	
END OF BOREHOLE - at 7.62 mbgs							

GENERAL BH / TP / WELL BOREHOLE DRAWING.GPJ - GINT STD CANADA LAB.GDT 3/31/22

Bottom of hole at 8.23 m.



CLIENT Great Gulf
PROJECT NUMBER BAR-21024280-B0
DATE STARTED 3/16/22 **COMPLETED** 3/16/22
DRILLING CONTRACTOR Ontario Soil Drilling
DRILLING METHOD Solid Stem Augers
LOGGED BY DG **CHECKED BY** _____
NOTES _____

PROJECT NAME Phase II ESA - Lora Bay Lands
PROJECT LOCATION 109 East Ridge Road, Thornbury, Ontario
GROUND ELEVATION 210.564 m **HOLE SIZE** 50 mm
GROUND WATER LEVELS:
AT TIME OF DRILLING ---
AT END OF DRILLING 2.65 m / Elev 207.92 m
AFTER DRILLING 7.16 m / Elev 203.40 m

DEPTH (m)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA	WELL DIAGRAM	
1	SS 1B	23-22-12-18 (34)	SS1B Sampled for M&I	[Cross-hatched pattern]	ASPHALT - 51 mm thick GRANULAR A - brown, moist (dense)	PID = 15	[Well diagram showing casing and soil layers]	
	SS 2	7-4-5-10 (9)	SS2 Sampled for PHC/PAH/VOC/BTEX		REWORKED NATIVE CLAYEY SILT - trace sand, grey, moist (stiff)	PID = 45		
2	SS 3A	4-6-8-9/0.01		[Diagonal hatched pattern]	CLAYEY SILT - trace sand and gravel, grey, damp (stiff to hard)	PID = 30	[Well diagram showing casing and soil layers]	
	SS 3B					PID = 30		
3	SS 4	9-14-13-25 (27)		[Vertical line pattern]		PID = 20	[Well diagram showing casing and soil layers]	
	SS 5	9-18-27-32 (45)				PID = 35		
4								
5	SS 6	50		[Horizontal line pattern]	SHALE ROCK - trace sand and gravel, grey, damp (compact to very dense)	PID = 20	[Well diagram showing casing and soil layers]	
6								
7	SS 7	50		[Vertical line pattern]		PID = 5	[Well diagram showing casing and soil layers]	
8	SS 8	50		[Vertical line pattern]		PID = 5	[Well diagram showing casing and soil layers]	
8.23					202.33			
END OF BOREHOLE - at 7.62 mbgs								

Bottom of hole at 8.23 m.

GENERAL BH / TP / WELL BOREHOLE DRAWING.GPJ - GINT STD CANADA LAB.GDT 3/31/22



CLIENT Great Gulf

PROJECT NUMBER BAR-21024280-B0

DATE STARTED 3/14/22 **COMPLETED** 3/14/22

DRILLING CONTRACTOR Ontario Soil Drilling

DRILLING METHOD Solid Stem Augers

LOGGED BY DG **CHECKED BY** _____

NOTES _____

PROJECT NAME Phase II ESA - Lora Bay Lands

PROJECT LOCATION 109 East Ridge Road, Thornbury, Ontario

GROUND ELEVATION 210.777 m **HOLE SIZE** 50 mm

GROUND WATER LEVELS:

AT TIME OF DRILLING ---

AT END OF DRILLING 2.53 m / Elev 208.25 m

AFTER DRILLING 7.58 m / Elev 203.20 m

DEPTH (m)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA	WELL DIAGRAM
1	SS 1B	9-18-19-19 (37)	SS1B sampled for M&I	[Cross-hatched pattern]	ASPHALT - 38 mm thick GRANULAR A - brown, moist (dense)	PID = 15	[Well diagram showing casing and soil layers]
	SS 2	8-10-12 (22)			REWORKED NATIVE SILT - some sand and gravel, grey, damp (compact)	PID = 35	
2	SS 3	7-9-12-12 (21)	SS3 sampled for PHC/PAH/VOC/BTEX	[Cross-hatched pattern]		PID = 35	[Well diagram showing casing and soil layers]
	SS 4	8-12-15-16 (27)				PID = 20	
3	SS 5	14-9-11-18 (20)		[Vertical line pattern]	SANDY SILT - some gravel, grey, damp (compact to very dense)	PID = 20	[Well diagram showing casing and soil layers]
	SS 6	50				PID = 15	
4	SS 7	50		[Vertical line pattern]		PID = 20	[Well diagram showing casing and soil layers]
	SS 8	50				PID = 20	
8.23					202.55		
END OF BOREHOLE - at 7.62 mbgs							

GENERAL BH / TP / WELL BOREHOLE DRAWING.GPJ GINT STD CANADA LAB.GDT 3/31/22

Bottom of hole at 8.23 m.



EXP Services Inc.
14 Cedar Pointe Drive, Unit 1510
Barrie, ON L4N 5R7

WELL NUMBER BH/MW C-1

CLIENT Great Gulf

PROJECT NUMBER BAR-21024280-B0

DATE STARTED 3/14/22 **COMPLETED** 3/14/22

DRILLING CONTRACTOR Ontario Soil Drilling

DRILLING METHOD Solid Stem Augers

LOGGED BY DG **CHECKED BY** _____

NOTES _____

PROJECT NAME Phase II ESA - Lora Bay Lands

PROJECT LOCATION 109 East Ridge Road, Thornbury, Ontario

GROUND ELEVATION 219.232 m **HOLE SIZE** 50 mm

GROUND WATER LEVELS:

AT TIME OF DRILLING ---

▼ **AT END OF DRILLING** 0.71 m / Elev 218.52 m

▼ **AFTER DRILLING** 6.55 m / Elev 212.68 m

DEPTH (m)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA	WELL DIAGRAM
							Casing Type: Stick up
1	SS 1A SS 1B	0-0-3-3/ 0.20	Sampled SS1A for PHC/BTEX		TOPSOIL - 254 mm thick SANDY SILT - dark brown, trace organics and gravel, wet (very loose to compact)	PID = 40 PID = 30 PID = 20	Stick up = 0.716 m above grade
2	SS 2	3-4-7-12 (11)				PID = 25	
3	SS 3	12-18-15-19 (33)				PID = 20	
4	SS 4	12-27-29-33 (56)				PID = 25	
5	SS 5	50				PID = 15	
6	SS 6	50				PID = 15	
7	SS 7	38-50				PID = 15	
8	SS 8	50				PID = 15	
8.23					END OF BOREHOLE - at 7.62 mbgs	211.00	

GENERAL BH / TP / WELL BOREHOLE DRAWING.GPJ GINT STD CANADA LAB.GDT 3/31/22

Bottom of hole at 8.23 m.



EXP Services Inc.
14 Cedar Pointe Drive, Unit 1510
Barrie, ON L4N 5R7

WELL NUMBER BH/MW C-2

CLIENT Great Gulf
PROJECT NUMBER BAR-21024280-B0
DATE STARTED 3/14/22 **COMPLETED** 3/14/22
DRILLING CONTRACTOR Ontario Soil Drilling
DRILLING METHOD Solid Stem Augers
LOGGED BY DG **CHECKED BY** _____
NOTES _____

PROJECT NAME Phase II ESA - Lora Bay Lands
PROJECT LOCATION 109 East Ridge Road, Thornbury, Ontario
GROUND ELEVATION 212.154 m **HOLE SIZE** 50 mm
GROUND WATER LEVELS:
AT TIME OF DRILLING ---
AT END OF DRILLING 1.84 m / Elev 210.32 m
AFTER DRILLING 4.55 m / Elev 207.60 m

DEPTH (m)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	ENVIRONMENTAL DATA	WELL DIAGRAM
							Casing Type: Flush
1	SS 1B	3-5-8 (13)	SS1B sampled for PHC/BTEX	[Cross-hatched pattern]	TOPSOIL - 76 mm thick GRANULAR A - brown, wet (compact to very dense)	PID = 45	[Well diagram showing casing and soil layers]
	SS 2A	25-38-25-32/0.01				PID = 30	
	SS 2B					PID = 30	
2	SS 3	17-20-50 (70)			SANDY SILT TILL - trace clay, cobbles and boulders, light brown, moist to wet (stiff to hard)	PID = 30	
	SS 4	15-28-50 (78)				PID = 25	
3	SS 5	15-25-25-33 (50)			SANDY SILT - trace gravel, grey, moist to saturated (dense to very dense)	PID = 25	
4							
5	SS 6	13-17-22-24 (39)				PID = 15	
6							
7	SS 7	14-16-22-28 (38)				PID = 25	
8	SS 8	17-19-22-28 (41)				PID = 15	
					END OF BOREHOLE - at 7.62 mbgs		

GENERAL BH / TP / WELL BOREHOLE DRAWING.GPJ / GINT STD CANADA LAB.GDT 3/31/22

Bottom of hole at 8.23 m.

Appendix C – Certificates of Analysis

C.O.C.: G92263

REPORT No. B22-07869 (iii)

Rev. 1

Report To:

EXP Services Inc

14 Cedar Pointe Drive, Unit 1510
 Barrie ON L4N 5R7

Attention: Leigh Knegt

Caduceon Environmental Laboratories

112 Commerce Park Drive
 Barrie ON L4N 8W8
 Tel: 705-252-5743
 Fax: 705-252-5746

DATE RECEIVED: 22-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

SAMPLE MATRIX: Groundwater

P.O. NUMBER: BAR-21024280-B0

WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
SVOC	2	Kingston	sge	24-Mar-22	C-NAB-W-001 (k)	EPA 8270

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - PGW (µg/L) - Table 2 - Potable Ground Water



Christine Burke
 Lab Manager

R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an *

Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

The analytical results reported herein refer to the samples as received. Reproduction of this analytical report in full or in part is prohibited without prior consent from Caduceon Environmental Laboratories.

C.O.C.: G92263

REPORT No. B22-07869 (iii)

Rev. 1

Report To:

EXP Services Inc

14 Cedar Pointe Drive, Unit 1510
 Barrie ON L4N 5R7

Attention: Leigh Knegt

Caduceon Environmental Laboratories

112 Commerce Park Drive
 Barrie ON L4N 8W8
 Tel: 705-252-5743
 Fax: 705-252-5746

DATE RECEIVED: 22-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-B0

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.		O. Reg. 153			
			Sample I.D.	Date Collected	BH/MW A-4	BH/MW A-3	Tbl. 2 - PGW (µg/L)	
			B22-07869-1	22-Mar-22	B22-07869-2	22-Mar-22		
Acenaphthene	µg/L	0.05	< 0.05	< 0.05			4.1	
Acenaphthylene	µg/L	0.05	< 0.05	< 0.05			1	
Anthracene	µg/L	0.05	< 0.05	< 0.05			2.4	
Benzo(a)anthracene	µg/L	0.05	< 0.05	< 0.05			1	
Benzo(a)pyrene	µg/L	0.01	< 0.01	< 0.01			0.01	
Benzo(b)fluoranthene	µg/L	0.05	< 0.05	< 0.05			0.1	
Benzo(b+k)fluoranthene	µg/L	0.1	< 0.1	< 0.1				
Benzo(g,h,i)perylene	µg/L	0.05	< 0.05	< 0.05			0.2	
Benzo(k)fluoranthene	µg/L	0.05	< 0.05	< 0.05			0.1	
Chrysene	µg/L	0.05	< 0.05	< 0.05			0.1	
Dibenzo(a,h)anthracene	µg/L	0.05	< 0.05	< 0.05			0.2	
Fluoranthene	µg/L	0.05	< 0.05	< 0.05			0.41	
Fluorene	µg/L	0.05	< 0.05	< 0.05			120	
Indeno(1,2,3,-cd)pyrene	µg/L	0.05	< 0.05	< 0.05			0.2	
Methylnaphthalene,1-	µg/L	0.05	< 0.05	< 0.05			3.2	
Methylnaphthalene,2-	µg/L	0.05	< 0.05	< 0.05			3.2	
Methylnaphthalene 2-(1-)	µg/L	1	< 1	< 1			3.2	
Naphthalene	µg/L	0.05	< 0.05	< 0.05			11	
Phenanthrene	µg/L	0.05	< 0.05	< 0.05			1	
Pyrene	µg/L	0.05	< 0.05	< 0.05			4.1	

1 Revised report to change guidelines as per client request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - PGW (µg/L) - Table 2 - Potable Ground Water



Christine Burke
 Lab Manager

R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an *

Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

The analytical results reported herein refer to the samples as received. Reproduction of this analytical report in full or in part is prohibited without prior consent from Caduceon Environmental Laboratories.

C.O.C.: G92263

REPORT No. B22-07869 (iii)

Rev. 1

Report To:

EXP Services Inc

14 Cedar Pointe Drive, Unit 1510
Barrie ON L4N 5R7

Attention: Leigh Knegt

Caduceon Environmental Laboratories

112 Commerce Park Drive
Barrie ON L4N 8W8
Tel: 705-252-5743
Fax: 705-252-5746

DATE RECEIVED: 22-Mar-22

DATE REPORTED: 31-Mar-22

SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.:

P.O. NUMBER: BAR-21024280-B0

WATERWORKS NO.

Summary of Exceedances

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 2 - PGW (µg/L) - Table 2 - Potable Ground Wate



Christine Burke
Lab Manager

R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an *

Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

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Caduceon Environmental Laboratories.

C.O.C.: G104183/G92261-2

REPORT No. B22-07198 (i)

Rev. 1

Report To:

EXP Services Inc

14 Cedar Pointe Drive, Unit 1510
 Barrie ON L4N 5R7

Attention: Leigh Knegt

Caduceon Environmental Laboratories

112 Commerce Park Drive
 Barrie ON L4N 8W8
 Tel: 705-252-5743
 Fax: 705-252-5746

DATE RECEIVED: 16-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
Conductivity	21	Holly Lane	ST	18-Mar-22	A-COND-01 (o)	SM 2510B
pH	21	Richmond Hill	nka	17-Mar-22	A-pH-02 (rh)	MOEE3530
Chromium (VI)	21	Holly Lane	LMG	18-Mar-22	D-CRVI-02 (o)	EPA7196A
Mercury	21	Holly Lane	PBK	21-Mar-22	D-HG-01 (o)	EPA 7471A
Boron - HWS	21	Holly Lane	NHG	21-Mar-22	D-HWE s	MOE3470
Sodium Adsorption Ratio	21	Holly Lane	NHG	21-Mar-22	D-ICP-01 SAR (o)	SM 3120
Metals - ICP-OES	21	Holly Lane	NHG	21-Mar-22	D-ICP-02 (o)	EPA 6010
Metals - ICP-MS	21	Holly Lane	TPR	21-Mar-22	D-ICPMS-01 (o)	EPA 6020

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

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

nC10, nC16 and nC34 response factors within 10% of each other:

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

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
 Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



Christine Burke
 Lab Manager

R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an *

Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

C.O.C.: G104183/G92261-2

REPORT No. B22-07198 (i)

Rev. 1

Report To:

EXP Services Inc

14 Cedar Pointe Drive, Unit 1510
 Barrie ON L4N 5R7

Attention: Leigh Knegt

Caduceon Environmental Laboratories

112 Commerce Park Drive
 Barrie ON L4N 8W8
 Tel: 705-252-5743
 Fax: 705-252-5746

DATE RECEIVED: 16-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP 2-3	DUP 1	TP 2-8	TP 2-6	O. Reg. 153	
			Sample I.D.	TP 2-3	DUP 1	TP 2-8	TP 2-6	Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
Date Collected			B22-07198-1	B22-07198-1	B22-07198-2	B22-07198-3	B22-07198-5		
			15-Mar-22	15-Mar-22	15-Mar-22	15-Mar-22	15-Mar-22		
pH @25°C	pH Units		7.48	7.11	7.36	7.26			
Conductivity @25°C	mS/cm	0.001	0.281	0.193	0.156	0.227	1.4	0.7	
Sodium Adsorption Ratio	units		0.0703	0.0577	0.102	0.105	12	5	
Antimony	µg/g	0.5	< 0.5	< 0.5	< 0.5	< 0.5	40	7.5	
Arsenic	µg/g	0.5	5.7	5.5	3.8	5.7	18	18	
Barium	µg/g	1	120	112	35	71	670	390	
Beryllium	µg/g	0.2	1.0	1.0	0.3	0.6	8	4	
Boron	µg/g	0.5	16.7	17.9	6.8	9.9	120	120	
Boron (HWS)	µg/g	0.02	0.21	0.16	0.16	0.27	2	1.5	
Cadmium	µg/g	0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.9	1.2	
Chromium	µg/g	1	27	27	12	19	160	160	
Chromium (VI)	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	8	8	
Cobalt	µg/g	1	13	14	6	10	80	22	
Copper	µg/g	1	31	28	25	27	230	140	
Lead	µg/g	5	12	11	7	12	120	120	
Mercury	µg/g	0.005	0.037	0.037	0.026	0.044	3.9	0.27	
Molybdenum	µg/g	1	< 1	< 1	< 1	< 1	40	6.9	
Nickel	µg/g	1	30	31	14	21	270	100	
Selenium	µg/g	0.5	0.8	0.8	0.6	1.0	5.5	2.4	
Silver	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	40	20	
Thallium	µg/g	0.1	0.1	0.1	0.1	0.1	3.3	1	
Uranium	µg/g	0.1	0.7	0.7	0.4	0.5	33	23	
Vanadium	µg/g	1	34	35	19	26	86	86	
Zinc	µg/g	3	74	69	27	48	340	340	

1 Revised report to change guidelines as per client request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
 Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



Christine Burke
 Lab Manager

R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an *

Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

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C.O.C.: G104183/G92261-2

REPORT No. B22-07198 (i)

Rev. 1

Report To:

EXP Services Inc

14 Cedar Pointe Drive, Unit 1510
 Barrie ON L4N 5R7

Attention: Leigh Knegt

Caduceon Environmental Laboratories

112 Commerce Park Drive
 Barrie ON L4N 8W8
 Tel: 705-252-5743
 Fax: 705-252-5746

DATE RECEIVED: 16-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP 3-3	DUP 4	TP 3-1	TP 2-7	O. Reg. 153	
			Sample I.D.	TP 3-3	DUP 4	TP 3-1	TP 2-7	Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
Date Collected			B22-07198-7	B22-07198-7	B22-07198-8	B22-07198-9	B22-07198-10		
pH @25°C	pH Units		15-Mar-22	7.58	7.68	7.74	7.28		
Conductivity @25°C	mS/cm	0.001	15-Mar-22	0.144	0.157	0.135	0.214	1.4	0.7
Sodium Adsorption Ratio	units			0.0449	0.0465	0.0454	0.116	12	5
Antimony	µg/g	0.5		< 0.5	< 0.5	< 0.5	< 0.5	40	7.5
Arsenic	µg/g	0.5		3.5	3.4	3.6	7.0	18	18
Barium	µg/g	1		34	34	34	89	670	390
Beryllium	µg/g	0.2		0.4	0.3	0.3	0.7	8	4
Boron	µg/g	0.5		9.6	9.5	10.3	10.8	120	120
Boron (HWS)	µg/g	0.02		0.04	0.04	0.08	0.21	2	1.5
Cadmium	µg/g	0.5		< 0.5	< 0.5	< 0.5	< 0.5	1.9	1.2
Chromium	µg/g	1		14	14	14	22	160	160
Chromium (VI)	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	8	8
Cobalt	µg/g	1		8	8	8	11	80	22
Copper	µg/g	1		20	18	20	32	230	140
Lead	µg/g	5		5	6	5	16	120	120
Mercury	µg/g	0.005		0.012	0.013	0.011	0.051	3.9	0.27
Molybdenum	µg/g	1		< 1	< 1	< 1	< 1	40	6.9
Nickel	µg/g	1		15	15	15	26	270	100
Selenium	µg/g	0.5		0.6	0.6	0.5	1.1	5.5	2.4
Silver	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	40	20
Thallium	µg/g	0.1		< 0.1	< 0.1	< 0.1	0.1	3.3	1
Uranium	µg/g	0.1		0.4	0.4	0.5	0.6	33	23
Vanadium	µg/g	1		19	18	18	29	86	86
Zinc	µg/g	3		30	29	29	62	340	340

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O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
 Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



Christine Burke
 Lab Manager

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C.O.C.: G104183/G92261-2

REPORT No. B22-07198 (i)

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 Barrie ON L4N 5R7

Attention: Leigh Knegt

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DATE RECEIVED: 16-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP 1-15	TP 1-14	TP 3-2	TP B-7	O. Reg. 153	
			Sample I.D.	TP 1-15	TP 1-14	TP 3-2	TP B-7	Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
Date Collected			B22-07198-11	B22-07198-11	B22-07198-13	B22-07198-14	B22-07198-17		
			15-Mar-22	15-Mar-22	15-Mar-22	15-Mar-22	15-Mar-22		
pH @25°C	pH Units		7.64	7.70	7.70	7.67			
Conductivity @25°C	mS/cm	0.001	0.163	0.136	0.148	0.118	1.4	0.7	
Sodium Adsorption Ratio	units		0.0928	0.0650	0.0436	0.0610	12	5	
Antimony	µg/g	0.5	< 0.5	< 0.5	< 0.5	< 0.5	40	7.5	
Arsenic	µg/g	0.5	3.0	2.5	3.6	3.3	18	18	
Barium	µg/g	1	35	24	32	31	670	390	
Beryllium	µg/g	0.2	0.3	0.2	0.4	0.2	8	4	
Boron	µg/g	0.5	7.9	6.0	9.5	5.9	120	120	
Boron (HWS)	µg/g	0.02	0.08	< 0.02	0.02	0.04	2	1.5	
Cadmium	µg/g	0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.9	1.2	
Chromium	µg/g	1	12	9	15	7	160	160	
Chromium (VI)	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	8	8	
Cobalt	µg/g	1	7	5	8	5	80	22	
Copper	µg/g	1	14	10	19	9	230	140	
Lead	µg/g	5	7	< 5	< 5	9	120	120	
Mercury	µg/g	0.005	0.017	0.008	0.011	0.018	3.9	0.27	
Molybdenum	µg/g	1	< 1	< 1	< 1	< 1	40	6.9	
Nickel	µg/g	1	12	8	16	7	270	100	
Selenium	µg/g	0.5	0.6	< 0.5	< 0.5	0.6	5.5	2.4	
Silver	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	40	20	
Thallium	µg/g	0.1	< 0.1	< 0.1	0.1	< 0.1	3.3	1	
Uranium	µg/g	0.1	0.4	0.5	0.4	0.4	33	23	
Vanadium	µg/g	1	17	13	19	10	86	86	
Zinc	µg/g	3	26	16	30	24	340	340	

1 Revised report to change guidelines as per client request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
 Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



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REPORT No. B22-07198 (i)

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 Barrie ON L4N 5R7

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112 Commerce Park Drive
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 Tel: 705-252-5743
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DATE RECEIVED: 16-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP 1-7	TP 1-11	TP 1-10	TP 1-13	O. Reg. 153	
			Sample I.D.	TP 1-7	TP 1-11	TP 1-10	TP 1-13	Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
Date Collected			B22-07198-19	B22-07198-20	B22-07198-21	B22-07198-22			
			15-Mar-22	15-Mar-22	15-Mar-22	15-Mar-22			
pH @25°C	pH Units		6.16	7.61	7.34	7.77			
Conductivity @25°C	mS/cm	0.001	0.092	0.178	0.248	0.26	1.4	0.7	
Sodium Adsorption Ratio	units		0.110	0.144	0.0912	0.198	12	5	
Antimony	µg/g	0.5	< 0.5	< 0.5	< 0.5	< 0.5	40	7.5	
Arsenic	µg/g	0.5	7.1	3.6	5.8	3.8	18	18	
Barium	µg/g	1	109	42	82	47	670	390	
Beryllium	µg/g	0.2	1.1	0.4	0.8	0.4	8	4	
Boron	µg/g	0.5	17.3	8.4	16.1	10.8	120	120	
Boron (HWS)	µg/g	0.02	0.08	0.12	0.28	0.08	2	1.5	
Cadmium	µg/g	0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.9	1.2	
Chromium	µg/g	1	27	15	21	16	160	160	
Chromium (VI)	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	8	8	
Cobalt	µg/g	1	17	7	13	9	80	22	
Copper	µg/g	1	32	19	27	21	230	140	
Lead	µg/g	5	7	8	13	7	120	120	
Mercury	µg/g	0.005	0.034	0.025	0.035	0.018	3.9	0.27	
Molybdenum	µg/g	1	< 1	< 1	< 1	< 1	40	6.9	
Nickel	µg/g	1	35	15	25	18	270	100	
Selenium	µg/g	0.5	0.9	0.5	0.7	0.6	5.5	2.4	
Silver	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	40	20	
Thallium	µg/g	0.1	0.1	< 0.1	0.1	0.1	3.3	1	
Uranium	µg/g	0.1	1.0	0.5	0.6	0.5	33	23	
Vanadium	µg/g	1	33	19	28	20	86	86	
Zinc	µg/g	3	76	32	62	34	340	340	

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O. Reg. 153 - Soil, Ground Water and Sediment Standards
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Christine Burke
 Lab Manager

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REPORT No. B22-07198 (i)

Rev. 1

Report To:

EXP Services Inc

14 Cedar Pointe Drive, Unit 1510
 Barrie ON L4N 5R7

Attention: Leigh Knegt

Caduceon Environmental Laboratories

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 Fax: 705-252-5746

DATE RECEIVED: 16-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP 1-12	TP 1-8	TP 1-2	TP 1-6	O. Reg. 153	
			Sample I.D.	TP 1-12	TP 1-8	TP 1-2	TP 1-6	Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
Date Collected			B22-07198-23	B22-07198-23	B22-07198-24	B22-07198-25	B22-07198-26		
			15-Mar-22	15-Mar-22	15-Mar-22	15-Mar-22	15-Mar-22		
pH @25°C	pH Units		7.75	7.34	6.91	7.14			
Conductivity @25°C	mS/cm	0.001	0.151	0.172	0.224	0.218	1.4	0.7	
Sodium Adsorption Ratio	units		0.0772	0.742	0.257	0.138	12	5	
Antimony	µg/g	0.5	< 0.5	< 0.5	< 0.5	< 0.5	40	7.5	
Arsenic	µg/g	0.5	3.6	13.7	6.9	6.7	18	18	
Barium	µg/g	1	46	111	122	209	670	390	
Beryllium	µg/g	0.2	0.4	0.7	1.3	0.8	8	4	
Boron	µg/g	0.5	9.4	9.1	23.1	14.3	120	120	
Boron (HWS)	µg/g	0.02	0.03	0.09	0.53	0.07	2	1.5	
Cadmium	µg/g	0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.9	1.2	
Chromium	µg/g	1	15	20	30	24	160	160	
Chromium (VI)	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	8	8	
Cobalt	µg/g	1	8	14	16	11	80	22	
Copper	µg/g	1	15	45	40	32	230	140	
Lead	µg/g	5	7	24	8	11	120	120	
Mercury	µg/g	0.005	0.024	0.063	0.051	0.020	3.9	0.27	
Molybdenum	µg/g	1	< 1	< 1	< 1	< 1	40	6.9	
Nickel	µg/g	1	17	32	37	28	270	100	
Selenium	µg/g	0.5	0.7	1.4	1.1	1.1	5.5	2.4	
Silver	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	40	20	
Thallium	µg/g	0.1	< 0.1	< 0.1	0.1	0.1	3.3	1	
Uranium	µg/g	0.1	0.5	0.5	1.3	0.6	33	23	
Vanadium	µg/g	1	19	33	38	30	86	86	
Zinc	µg/g	3	25	68	86	64	340	340	

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O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
 Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



Christine Burke
 Lab Manager

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Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

C.O.C.: G104183/G92261-2

REPORT No. B22-07198 (i)

Rev. 1

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14 Cedar Pointe Drive, Unit 1510
 Barrie ON L4N 5R7

Attention: Leigh Knegt

Caduceon Environmental Laboratories

112 Commerce Park Drive
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 Fax: 705-252-5746

DATE RECEIVED: 16-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D. Sample I.D. Date Collected	TP 1-1 B22-07198-27 15-Mar-22	O. Reg. 153	
					Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
pH @25°C	pH Units			7.01		
Conductivity @25°C	mS/cm	0.001		0.134	1.4	0.7
Sodium Adsorption Ratio	units			0.172	12	5
Antimony	µg/g	0.5		< 0.5	40	7.5
Arsenic	µg/g	0.5		6.0	18	18
Barium	µg/g	1		93	670	390
Beryllium	µg/g	0.2		1.2	8	4
Boron	µg/g	0.5		34.0	120	120
Boron (HWS)	µg/g	0.02		0.09	2	1.5
Cadmium	µg/g	0.5		< 0.5	1.9	1.2
Chromium	µg/g	1		32	160	160
Chromium (VI)	µg/g	0.2		< 0.2	8	8
Cobalt	µg/g	1		17	80	22
Copper	µg/g	1		18	230	140
Lead	µg/g	5		8	120	120
Mercury	µg/g	0.005		0.015	3.9	0.27
Molybdenum	µg/g	1		< 1	40	6.9
Nickel	µg/g	1		40	270	100
Selenium	µg/g	0.5		0.7	5.5	2.4
Silver	µg/g	0.2		< 0.2	40	20
Thallium	µg/g	0.1		0.1	3.3	1
Uranium	µg/g	0.1		0.7	33	23
Vanadium	µg/g	1		40	86	86
Zinc	µg/g	3		73	340	340

1 Revised report to change guidelines as per client request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
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 Lab Manager

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C.O.C.: G104183/G92261-2

REPORT No. B22-07198 (i)

Rev. 1

Report To:

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14 Cedar Pointe Drive, Unit 1510
Barrie ON L4N 5R7

Attention: Leigh Knegt

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Tel: 705-252-5743
Fax: 705-252-5746

DATE RECEIVED: 16-Mar-22

DATE REPORTED: 31-Mar-22

SAMPLE MATRIX: Soil

JOB/PROJECT NO.:

P.O. NUMBER: BAR-21024280-A0

WATERWORKS NO.

Summary of Exceedances

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



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Christine Burke
Lab Manager

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REPORT No. B22-07198 (ii)

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112 Commerce Park Drive
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 Tel: 705-252-5743
 Fax: 705-252-5746

DATE RECEIVED: 16-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
% Moisture	9	Richmond Hill	FAL	17-Mar-22	A-% moisture RH	
PHC(F2-F4)	8	Kingston	KPR	17-Mar-22	C-PHC-S-001 (k)	CWS Tier 1
VOC's	2	Richmond Hill	FAL	17-Mar-22	C-VOC-02 (rh)	EPA 8260
PHC(F1)	8	Richmond Hill	FAL	17-Mar-22	C-VPHS-01 (rh)	CWS Tier 1

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

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

nC10, nC16 and nC34 response factors within 10% of each other:

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

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met. If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC QC will be made available upon request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
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DATE RECEIVED: 16-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP 1-15	DUP 5	TP 1-14	DUP 6	O. Reg. 153	
			Sample I.D.	B22-07198-11	B22-07198-12	B22-07198-13	B22-07198-15	Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
			Date Collected	15-Mar-22	15-Mar-22	15-Mar-22	15-Mar-22		
Benzene	µg/g	0.02					< 0.02	0.32	0.21
Toluene	µg/g	0.2					< 0.2	6.4	2.3
Ethylbenzene	µg/g	0.05					< 0.05	1.1	1.1
Xylene, m,p-	µg/g	0.03					< 0.03		
Xylene, o-	µg/g	0.03					< 0.03		
Xylene, m,p,o-	µg/g	0.03					< 0.03	26	3.1
PHC F1 (C6-C10)	µg/g	10	< 10	< 10	< 10			55	55
PHC F2 (>C10-C16)	µg/g	5	< 5	< 5	< 5			230	98
PHC F3 (>C16-C34)	µg/g	10	27	20	21			1700	300
PHC F4 (>C34-C50)	µg/g	10	< 10	< 10	< 10			3300	2800
% moisture	%		12.6	14.5	9.9		11.5		

1 Revised report to change guidelines as per client request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



Christine Burke
Lab Manager

R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an *

Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

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C.O.C.: G104183/G92261-2

REPORT No. B22-07198 (ii)

Rev. 1

Report To:

EXP Services Inc

14 Cedar Pointe Drive, Unit 1510
 Barrie ON L4N 5R7

Attention: Leigh Knegt

Caduceon Environmental Laboratories

112 Commerce Park Drive
 Barrie ON L4N 8W8
 Tel: 705-252-5743
 Fax: 705-252-5746

DATE RECEIVED: 16-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP 5-3	TP 1-11	TP 1-10	TP 1-13	O. Reg. 153	
			Sample I.D.	B22-07198-16	B22-07198-20	B22-07198-21	B22-07198-22	Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
			Date Collected	15-Mar-22	15-Mar-22	15-Mar-22	15-Mar-22		
Benzene	µg/g	0.02		< 0.02				0.32	0.21
Toluene	µg/g	0.2		< 0.2				6.4	2.3
Ethylbenzene	µg/g	0.05		< 0.05				1.1	1.1
Xylene, m,p-	µg/g	0.03		< 0.03					
Xylene, o-	µg/g	0.03		< 0.03					
Xylene, m,p,o-	µg/g	0.03		< 0.03				26	3.1
PHC F1 (C6-C10)	µg/g	10		< 10	< 10	< 10	< 10	55	55
PHC F2 (>C10-C16)	µg/g	5		< 5	10	6	13	230	98
PHC F3 (>C16-C34)	µg/g	10		24	48	28	57	1700	300
PHC F4 (>C34-C50)	µg/g	10		< 10	16	< 10	15	3300	2800
% moisture	%			11.5	13.1	24.4	12.6		

1 Revised report to change guidelines as per client request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
 Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



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DATE RECEIVED: 16-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP 1-12	O. Reg. 153	
			Sample I.D.	B22-07198-23	Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
			Date Collected	15-Mar-22		
Benzene	µg/g	0.02			0.32	0.21
Toluene	µg/g	0.2			6.4	2.3
Ethylbenzene	µg/g	0.05			1.1	1.1
Xylene, m,p-	µg/g	0.03				
Xylene, o-	µg/g	0.03				
Xylene, m,p,o-	µg/g	0.03			26	3.1
PHC F1 (C6-C10)	µg/g	10	< 10		55	55
PHC F2 (>C10-C16)	µg/g	5	13		230	98
PHC F3 (>C16-C34)	µg/g	10	53		1700	300
PHC F4 (>C34-C50)	µg/g	10	16		3300	2800
% moisture	%		9.9			

1 Revised report to change guidelines as per client request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
 Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



Christine Burke
 Lab Manager

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DATE RECEIVED: 16-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Summary of Exceedances

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



R.L. = Reporting Limit

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Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Christine Burke
Lab Manager

C.O.C.: G104183/G92261-2

REPORT No. B22-07198 (iii)

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JOB/PROJECT NO.:

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P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
SVOC	18	Kingston	sge	18-Mar-22	C-NAB-S-001 (k)	EPA 8270

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

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

nC10, nC16 and nC34 response factors within 10% of each other:

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

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met. If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC QC will be made available upon request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
 Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



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 Lab Manager

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JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP 2-8	DUP 2	TP 2-6	DUP 3	O. Reg. 153	
			Sample I.D.	TP 2-8	DUP 2	TP 2-6	DUP 3	Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
			Date Collected	B22-07198-3 15-Mar-22	B22-07198-4 15-Mar-22	B22-07198-5 15-Mar-22	B22-07198-6 15-Mar-22		
Acenaphthene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	21	7.9
Acenaphthylene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	0.15	0.15
Anthracene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	0.67	0.67
Benzo(a)anthracene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	0.96	0.50
Benzo(a)pyrene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	0.3	0.3
Benzo(b)fluoranthene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	0.96	0.78
Benzo(b+k)fluoranthene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05		
Benzo(g,h,i)perylene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	9.6	6.6
Benzo(k)fluoranthene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	0.96	0.78
Chrysene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	9.6	7.0
Dibenzo(a,h)anthracene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	0.1	0.1
Fluoranthene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	9.6	0.69
Fluorene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	62	62
Indeno(1,2,3,-cd)pyrene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	0.76	0.38
Methylnaphthalene,1-	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	30	0.99
Methylnaphthalene,2-	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	30	0.99
Methylnaphthalene 2-(1-)	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	30	0.99
Naphthalene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	9.6	0.60
Phenanthrene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	12	6.2
Pyrene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	96	78

1 Revised report to change guidelines as per client request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



Christine Burke
Lab Manager

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REPORT No. B22-07198 (iii)

Rev. 1

Report To:

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14 Cedar Pointe Drive, Unit 1510
 Barrie ON L4N 5R7

Attention: Leigh Knegt

Caduceon Environmental Laboratories

112 Commerce Park Drive
 Barrie ON L4N 8W8
 Tel: 705-252-5743
 Fax: 705-252-5746

DATE RECEIVED: 16-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP 3-3	TP 3-1	TP 2-7	TP 1-15	O. Reg. 153	
			Sample I.D.	TP 3-3	TP 3-1	TP 2-7	TP 1-15	Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
Date Collected			B22-07198-7 15-Mar-22	B22-07198-9 15-Mar-22	B22-07198-10 15-Mar-22	B22-07198-11 15-Mar-22			
Acenaphthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	21	7.9
Acenaphthylene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.15	0.15
Anthracene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.67	0.67
Benzo(a)anthracene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.96	0.50
Benzo(a)pyrene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.3	0.3
Benzo(b)fluoranthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.96	0.78
Benzo(b+k)fluoranthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
Benzo(g,h,i)perylene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	9.6	6.6
Benzo(k)fluoranthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.96	0.78
Chrysene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	9.6	7.0
Dibenzo(a,h)anthracene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.1	0.1
Fluoranthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	9.6	0.69
Fluorene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	62	62
Indeno(1,2,3,-cd)pyrene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.76	0.38
Methylnaphthalene,1-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	30	0.99
Methylnaphthalene,2-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	30	0.99
Methylnaphthalene 2-(1-)	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	30	0.99
Naphthalene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	9.6	0.60
Phenanthrene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	12	6.2
Pyrene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	96	78

1 Revised report to change guidelines as per client request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
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REPORT No. B22-07198 (iii)

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 Tel: 705-252-5743
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DATE RECEIVED: 16-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP 1-14	TP 3-2	TP 5-3	TP B-7	O. Reg. 153	
			Sample I.D.	TP 1-14	TP 3-2	TP 5-3	TP B-7	Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
Date Collected			B22-07198-13 15-Mar-22	B22-07198-14 15-Mar-22	B22-07198-16 15-Mar-22	B22-07198-17 15-Mar-22			
Acenaphthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	21	7.9
Acenaphthylene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.15	0.15
Anthracene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.67	0.67
Benzo(a)anthracene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.96	0.50
Benzo(a)pyrene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.3	0.3
Benzo(b)fluoranthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.96	0.78
Benzo(b+k)fluoranthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
Benzo(g,h,i)perylene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	9.6	6.6
Benzo(k)fluoranthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.96	0.78
Chrysene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	9.6	7.0
Dibenzo(a,h)anthracene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.1	0.1
Fluoranthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	9.6	0.69
Fluorene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	62	62
Indeno(1,2,3,-cd)pyrene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.76	0.38
Methylnaphthalene,1-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	30	0.99
Methylnaphthalene,2-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	30	0.99
Methylnaphthalene 2-(1-)	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	30	0.99
Naphthalene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	9.6	0.60
Phenanthrene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	12	6.2
Pyrene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	96	78

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DATE RECEIVED: 16-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP 1-11	TP 1-10	TP 1-13	TP 1-12	O. Reg. 153	
			Sample I.D.	TP 1-11	TP 1-10	TP 1-13	TP 1-12	Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
Date Collected			B22-07198-20	B22-07198-20	B22-07198-21	B22-07198-22	B22-07198-23		
Acenaphthene	µg/g	0.05	15-Mar-22	< 0.05	< 0.05	< 0.05	< 0.05	21	7.9
Acenaphthylene	µg/g	0.05	15-Mar-22	< 0.05	< 0.05	< 0.05	< 0.05	0.15	0.15
Anthracene	µg/g	0.05	15-Mar-22	< 0.05	< 0.05	< 0.05	< 0.05	0.67	0.67
Benzo(a)anthracene	µg/g	0.05	15-Mar-22	< 0.05	< 0.05	< 0.05	< 0.05	0.96	0.50
Benzo(a)pyrene	µg/g	0.05	15-Mar-22	< 0.05	< 0.05	< 0.05	< 0.05	0.3	0.3
Benzo(b)fluoranthene	µg/g	0.05	15-Mar-22	< 0.05	< 0.05	< 0.05	< 0.05	0.96	0.78
Benzo(b+k)fluoranthene	µg/g	0.05	15-Mar-22	< 0.05	< 0.05	< 0.05	< 0.05		
Benzo(g,h,i)perylene	µg/g	0.05	15-Mar-22	< 0.05	< 0.05	< 0.05	< 0.05	9.6	6.6
Benzo(k)fluoranthene	µg/g	0.05	15-Mar-22	< 0.05	< 0.05	< 0.05	< 0.05	0.96	0.78
Chrysene	µg/g	0.05	15-Mar-22	< 0.05	< 0.05	< 0.05	< 0.05	9.6	7.0
Dibenzo(a,h)anthracene	µg/g	0.05	15-Mar-22	< 0.05	< 0.05	< 0.05	< 0.05	0.1	0.1
Fluoranthene	µg/g	0.05	15-Mar-22	< 0.05	< 0.05	< 0.05	< 0.05	9.6	0.69
Fluorene	µg/g	0.05	15-Mar-22	< 0.05	< 0.05	< 0.05	< 0.05	62	62
Indeno(1,2,3,-cd)pyrene	µg/g	0.05	15-Mar-22	< 0.05	< 0.05	< 0.05	< 0.05	0.76	0.38
Methylnaphthalene,1-	µg/g	0.05	15-Mar-22	< 0.05	< 0.05	< 0.05	< 0.05	30	0.99
Methylnaphthalene,2-	µg/g	0.05	15-Mar-22	< 0.05	< 0.05	< 0.05	< 0.05	30	0.99
Methylnaphthalene 2-(1-)	µg/g	0.05	15-Mar-22	< 0.05	< 0.05	< 0.05	< 0.05	30	0.99
Naphthalene	µg/g	0.05	15-Mar-22	< 0.05	< 0.05	< 0.05	< 0.05	9.6	0.60
Phenanthrene	µg/g	0.05	15-Mar-22	< 0.05	< 0.05	< 0.05	< 0.05	12	6.2
Pyrene	µg/g	0.05	15-Mar-22	< 0.05	< 0.05	< 0.05	< 0.05	96	78

1 Revised report to change guidelines as per client request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
 Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



Christine Burke
 Lab Manager

R.L. = Reporting Limit

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C.O.C.: G104183/G92261-2

REPORT No. B22-07198 (iii)

Rev. 1

Report To:

EXP Services Inc

14 Cedar Pointe Drive, Unit 1510
 Barrie ON L4N 5R7

Attention: Leigh Knegt

Caduceon Environmental Laboratories

112 Commerce Park Drive
 Barrie ON L4N 8W8
 Tel: 705-252-5743
 Fax: 705-252-5746

DATE RECEIVED: 16-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP 1-2	TP 1-1	O. Reg. 153	
			Sample I.D.	B22-07198-25	B22-07198-27	Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
			Date Collected	15-Mar-22	15-Mar-22		
Acenaphthene	µg/g	0.05		< 0.05	< 0.05	21	7.9
Acenaphthylene	µg/g	0.05		< 0.05	< 0.05	0.15	0.15
Anthracene	µg/g	0.05		< 0.05	< 0.05	0.67	0.67
Benzo(a)anthracene	µg/g	0.05		< 0.05	< 0.05	0.96	0.50
Benzo(a)pyrene	µg/g	0.05		< 0.05	< 0.05	0.3	0.3
Benzo(b)fluoranthene	µg/g	0.05		< 0.05	< 0.05	0.96	0.78
Benzo(b+k)fluoranthene	µg/g	0.05		< 0.05	< 0.05		
Benzo(g,h,i)perylene	µg/g	0.05		< 0.05	< 0.05	9.6	6.6
Benzo(k)fluoranthene	µg/g	0.05		< 0.05	< 0.05	0.96	0.78
Chrysene	µg/g	0.05		< 0.05	< 0.05	9.6	7.0
Dibenzo(a,h)anthracene	µg/g	0.05		< 0.05	< 0.05	0.1	0.1
Fluoranthene	µg/g	0.05		< 0.05	< 0.05	9.6	0.69
Fluorene	µg/g	0.05		< 0.05	< 0.05	62	62
Indeno(1,2,3,-cd)pyrene	µg/g	0.05		< 0.05	< 0.05	0.76	0.38
Methylnaphthalene,1-	µg/g	0.05		< 0.05	< 0.05	30	0.99
Methylnaphthalene,2-	µg/g	0.05		< 0.05	< 0.05	30	0.99
Methylnaphthalene 2-(1-)	µg/g	0.05		< 0.05	< 0.05	30	0.99
Naphthalene	µg/g	0.05		< 0.05	< 0.05	9.6	0.60
Phenanthrene	µg/g	0.05		< 0.05	< 0.05	12	6.2
Pyrene	µg/g	0.05		< 0.05	< 0.05	96	78

1 Revised report to change guidelines as per client request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
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Christine Burke
 Lab Manager

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REPORT No. B22-07198 (iii)

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Barrie ON L4N 5R7

Attention: Leigh Knegt

Caduceon Environmental Laboratories

112 Commerce Park Drive
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Tel: 705-252-5743
Fax: 705-252-5746

DATE RECEIVED: 16-Mar-22

DATE REPORTED: 31-Mar-22

SAMPLE MATRIX: Soil

JOB/PROJECT NO.:

P.O. NUMBER: BAR-21024280-A0

WATERWORKS NO.

Summary of Exceedances

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



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Christine Burke
Lab Manager

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REPORT No. B22-07198 (iv)

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DATE RECEIVED: 16-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
Comment	4	Default Site	CS	21-Mar-22	C-Arochlor Comment	-
OC Pesticides	4	Kingston	CS	21-Mar-22	C-PESTCL-01 K	EPA 8080

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

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

nC10, nC16 and nC34 response factors within 10% of each other:

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

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met. If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC QC will be made available upon request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
 Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



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 Lab Manager

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JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP B-7	DUP 7	TP 1-7	TP 1-8	O. Reg. 153	
			Sample I.D.	TP B-7	DUP 7	TP 1-7	TP 1-8	Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
Date Collected			B22-07198-17	B22-07198-18	B22-07198-19	B22-07198-24	B22-07198-24		
			15-Mar-22	15-Mar-22	15-Mar-22	15-Mar-22	15-Mar-22		
Aldrin	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.088	0.05
Chlordane (alpha)	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
Chlordane (Gamma)	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
Chlordane Total (alpha+gamma)	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	0.05
DDD, 2,4-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
DDD, 4,4-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
DDD Total	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	4.6	3.3
DDE, 2,4-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
DDE, 4,4-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
DDE Total	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.52	0.26
DDT, 2,4-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
DDT, 4,4-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05		
DDT Total	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	1.4	1.4
Dieldrin	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.088	0.05
Lindane (Hexachlorocyclohexane, Gamma)	µg/g	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.056	0.056
Endosulfan I	µg/g	0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04		
Endosulfan II	µg/g	0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04		
Endosulfan I/II	µg/g	0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	0.3	0.04
Endrin	µg/g	0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	0.04	0.04
Heptachlor	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.19	0.15
Heptachlor Epoxide	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05	0.05
Hexachlorobenzene	µg/g	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.66	0.52

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



Christine Burke
Lab Manager

R.L. = Reporting Limit

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Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

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C.O.C.: G104183/G92261-2

REPORT No. B22-07198 (iv)

Rev. 1

Report To:

EXP Services Inc

14 Cedar Pointe Drive, Unit 1510
 Barrie ON L4N 5R7

Attention: Leigh Knegt

Caduceon Environmental Laboratories

112 Commerce Park Drive
 Barrie ON L4N 8W8
 Tel: 705-252-5743
 Fax: 705-252-5746

DATE RECEIVED: 16-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP B-7	DUP 7	TP 1-7	TP 1-8	O. Reg. 153	
			Sample I.D.	B22-07198-17	B22-07198-18	B22-07198-19	B22-07198-24	Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
Date Collected			15-Mar-22	15-Mar-22	15-Mar-22	15-Mar-22	15-Mar-22		
Hexachlorobutadiene	µg/g	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.031	0.012
Hexachloroethane	µg/g	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.21	0.089
Methoxychlor	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	1.6	0.13
Poly-Chlorinated Biphenyls (PCB's)	µg/g	0.3	< 0.3	< 0.3				1.1	0.35
Aroclor	-		-	-					

1 Revised report to change guidelines as per client request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
 Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



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P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP 1-2	TP 1-6	TP 1-1	O. Reg. 153	
			Sample I.D.	TP 1-2	TP 1-6	TP 1-1	Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
			Date Collected	15-Mar-22	15-Mar-22	15-Mar-22		
Aldrin	µg/g	0.05		< 0.05	< 0.05	< 0.05	0.088	0.05
Chlordane (alpha)	µg/g	0.05		< 0.05	< 0.05	< 0.05		
Chlordane (Gamma)	µg/g	0.05		< 0.05	< 0.05	< 0.05		
Chlordane Total (alpha+gamma)	µg/g	0.05		< 0.05	< 0.05	< 0.05	0.05	0.05
DDD, 2,4-	µg/g	0.05		< 0.05	< 0.05	< 0.05		
DDD, 4,4-	µg/g	0.05		< 0.05	< 0.05	< 0.05		
DDD Total	µg/g	0.05		< 0.05	< 0.05	< 0.05	4.6	3.3
DDE, 2,4-	µg/g	0.05		< 0.05	< 0.05	< 0.05		
DDE, 4,4-	µg/g	0.05		< 0.05	< 0.05	< 0.05		
DDE Total	µg/g	0.05		< 0.05	< 0.05	< 0.05	0.52	0.26
DDT, 2,4-	µg/g	0.05		< 0.05	< 0.05	< 0.05		
DDT, 4,4-	µg/g	0.05		< 0.05	< 0.05	< 0.05		
DDT Total	µg/g	0.05		< 0.05	< 0.05	< 0.05	1.4	1.4
Dieldrin	µg/g	0.05		< 0.05	< 0.05	< 0.05	0.088	0.05
Lindane (Hexachlorocyclohexane, Gamma)	µg/g	0.01		< 0.01	< 0.01	< 0.01	0.056	0.056
Endosulfan I	µg/g	0.04		< 0.04	< 0.04	< 0.04		
Endosulfan II	µg/g	0.04		< 0.04	< 0.04	< 0.04		
Endosulfan I/II	µg/g	0.04		< 0.04	< 0.04	< 0.04	0.3	0.04
Endrin	µg/g	0.04		< 0.04	< 0.04	< 0.04	0.04	0.04
Heptachlor	µg/g	0.05		< 0.05	< 0.05	< 0.05	0.19	0.15
Heptachlor Epoxide	µg/g	0.05		< 0.05	< 0.05	< 0.05	0.05	0.05
Hexachlorobenzene	µg/g	0.01		< 0.01	< 0.01	< 0.01	0.66	0.52

O. Reg. 153 - Soil, Ground Water and Sediment Standards
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REPORT No. B22-07198 (iv)

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 Barrie ON L4N 5R7

Attention: Leigh Knegt

Caduceon Environmental Laboratories

112 Commerce Park Drive
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 Tel: 705-252-5743
 Fax: 705-252-5746

DATE RECEIVED: 16-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP 1-2	TP 1-6	TP 1-1	O. Reg. 153	
			Sample I.D.	TP 1-2	TP 1-6	TP 1-1	Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
			Date Collected	15-Mar-22	15-Mar-22	15-Mar-22		
Hexachlorobutadiene	µg/g	0.01		< 0.01	< 0.01	< 0.01	0.031	0.012
Hexachloroethane	µg/g	0.01		< 0.01	< 0.01	< 0.01	0.21	0.089
Methoxychlor	µg/g	0.05		< 0.05	< 0.05	< 0.05	1.6	0.13
Poly-Chlorinated Biphenyls (PCB's)	µg/g	0.3		< 0.3		< 0.3	1.1	0.35
Aroclor	-			-		-		

1 Revised report to change guidelines as per client request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
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Christine Burke
 Lab Manager

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DATE RECEIVED: 16-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Summary of Exceedances

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
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R.L. = Reporting Limit

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Christine Burke
Lab Manager

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C.O.C.: G104182

REPORT No. B22-07325 (i)

Rev. 1

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Attention: Leigh Knegt

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DATE RECEIVED: 17-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

SAMPLE MATRIX: Soil

P.O. NUMBER: BAR-21024280-A0

WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
Conductivity	5	Holly Lane	ST	21-Mar-22	A-COND-01 (o)	SM 2510B
pH	5	Richmond Hill	nka	18-Mar-22	A-pH-02 (rh)	MOEE3530
Chromium (VI)	5	Holly Lane	ST	21-Mar-22	D-CRVI-02 (o)	EPA7196A
Mercury	5	Holly Lane	PBK	22-Mar-22	D-HG-01 (o)	EPA 7471A
Boron - HWS	5	Holly Lane	NHG	22-Mar-22	D-HWE s	MOE3470
Sodium Adsorption Ratio	5	Holly Lane	NHG	22-Mar-22	D-ICP-01 SAR (o)	SM 3120
Metals - ICP-OES	5	Holly Lane	NHG	22-Mar-22	D-ICP-02 (o)	EPA 6010
Metals - ICP-MS	5	Holly Lane	TPR	22-Mar-22	D-ICPMS-01 (o)	EPA 6020

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

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

nC10, nC16 and nC34 response factors within 10% of each other:

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

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
 Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



Christine Burke
 Lab Manager

R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an *

Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

C.O.C.: G104182

REPORT No. B22-07325 (i)

Rev. 1

Report To:

EXP Services Inc

14 Cedar Pointe Drive, Unit 1510
 Barrie ON L4N 5R7

Attention: Leigh Knegt

Caduceon Environmental Laboratories

112 Commerce Park Drive
 Barrie ON L4N 8W8
 Tel: 705-252-5743
 Fax: 705-252-5746

DATE RECEIVED: 17-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	BH/MW A-4	BH/MW A-3	Dup 2	BH/MW A-2	O. Reg. 153	
			Sample I.D.	SS1	SS1		SS1	Tbl. 2 - ICC	Tbl. 2 - RPI
Date Collected			B22-07325-1	B22-07325-6	B22-07325-7	B22-07325-9	Soil	Soil	
pH @25°C	pH Units		14-Mar-22	16-Mar-22	16-Mar-22	16-Mar-22			
Conductivity @25°C	mS/cm	0.001	8.03	8.04	7.99	8.10	1.4	0.7	
Sodium Adsorption Ratio	units		0.114	0.118	0.138	0.179	12	5	
Antimony	µg/g	0.5	0.147	0.357	0.387	0.294	40	7.5	
Arsenic	µg/g	0.5	< 0.5	< 0.5	< 0.5	< 0.5	18	18	
Barium	µg/g	1	3.7	1.0	3.7	3.0	670	390	
Beryllium	µg/g	0.2	25	72	24	22	8	4	
Boron	µg/g	0.5	0.2	0.2	0.2	< 0.2	120	120	
Boron (HWS)	µg/g	0.02	6.8	3.5	6.4	6.0	2	1.5	
Cadmium	µg/g	0.5	0.03	0.04	0.04	0.15	1.9	1.2	
Chromium	µg/g	1	< 0.5	< 0.5	< 0.5	< 0.5	160	160	
Chromium (VI)	µg/g	0.2	9	11	9	7	8	8	
Cobalt	µg/g	1	< 0.2	< 0.2	< 0.2	< 0.2	80	22	
Copper	µg/g	1	6	5	6	5	230	140	
Lead	µg/g	5	22	14	21	18	120	120	
Mercury	µg/g	0.005	6	< 5	6	< 5	3.9	0.27	
Molybdenum	µg/g	1	0.022	< 0.005	0.012	0.008	40	6.9	
Nickel	µg/g	1	< 1	< 1	< 1	< 1	270	100	
Selenium	µg/g	0.5	10	7	11	8	5.5	2.4	
Silver	µg/g	0.2	0.7	0.6	0.7	0.6	40	20	
Thallium	µg/g	0.1	< 0.2	< 0.2	< 0.2	< 0.2	3.3	1	
Uranium	µg/g	0.1	< 0.1	< 0.1	< 0.1	< 0.1	33	23	
Vanadium	µg/g	1	0.4	0.3	0.5	0.4	86	86	
Zinc	µg/g	3	12	26	13	11	340	340	

1 Revised report to change guidelines as per client request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
 Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



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REPORT No. B22-07325 (i)

Rev. 1

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 Barrie ON L4N 5R7

Attention: Leigh Knegt

Caduceon Environmental Laboratories

112 Commerce Park Drive
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 Tel: 705-252-5743
 Fax: 705-252-5746

DATE RECEIVED: 17-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D. Sample I.D. Date Collected	TP 1-3 B22-07325-11 16-Mar-22	O. Reg. 153	
					Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
pH @25°C	pH Units			6.78		
Conductivity @25°C	mS/cm	0.001		0.442	1.4	0.7
Sodium Adsorption Ratio	units			0.0780	12	5
Antimony	µg/g	0.5		< 0.5	40	7.5
Arsenic	µg/g	0.5		6.3	18	18
Barium	µg/g	1		82	670	390
Beryllium	µg/g	0.2		0.9	8	4
Boron	µg/g	0.5		17.5	120	120
Boron (HWS)	µg/g	0.02		0.45	2	1.5
Cadmium	µg/g	0.5		< 0.5	1.9	1.2
Chromium	µg/g	1		22	160	160
Chromium (VI)	µg/g	0.2		< 0.2	8	8
Cobalt	µg/g	1		13	80	22
Copper	µg/g	1		33	230	140
Lead	µg/g	5		18	120	120
Mercury	µg/g	0.005		0.050	3.9	0.27
Molybdenum	µg/g	1		< 1	40	6.9
Nickel	µg/g	1		30	270	100
Selenium	µg/g	0.5		1.2	5.5	2.4
Silver	µg/g	0.2		< 0.2	40	20
Thallium	µg/g	0.1		0.1	3.3	1
Uranium	µg/g	0.1		1.0	33	23
Vanadium	µg/g	1		27	86	86
Zinc	µg/g	3		109	340	340

1 Revised report to change guidelines as per client request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
 Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



Christine Burke
 Lab Manager

R.L. = Reporting Limit

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Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

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C.O.C.: G104182

REPORT No. B22-07325 (i)

Rev. 1

Report To:

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Barrie ON L4N 5R7

Attention: Leigh Knegt

Caduceon Environmental Laboratories

112 Commerce Park Drive

Barrie ON L4N 8W8

Tel: 705-252-5743

Fax: 705-252-5746

DATE RECEIVED: 17-Mar-22

DATE REPORTED: 31-Mar-22

SAMPLE MATRIX: Soil

JOB/PROJECT NO.:

P.O. NUMBER: BAR-21024280-A0

WATERWORKS NO.

Summary of Exceedances

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



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REPORT No. B22-07325 (ii)

Rev. 1

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DATE RECEIVED: 17-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
% Moisture	6	Richmond Hill	FAL	18-Mar-22	A-% moisture RH	
PHC(F2-F4)	6	Kingston	KPR	18-Mar-22	C-PHC-S-001 (k)	CWS Tier 1
PHC(F2-F4)	1	Kingston	SmT	22-Mar-22	C-PHC-S-001 (k)	CWS Tier 1
VOC's	4	Richmond Hill	FAL	17-Mar-22	C-VOC-02 (rh)	EPA 8260
PHC(F1)	6	Richmond Hill	FAL	17-Mar-22	C-VPHS-01 (rh)	CWS Tier 1

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

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

nC10, nC16 and nC34 response factors within 10% of each other:

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

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
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REPORT No. B22-07325 (ii)

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Caduceon Environmental Laboratories

112 Commerce Park Drive
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 Tel: 705-252-5743
 Fax: 705-252-5746

DATE RECEIVED: 17-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	BH/MW A-4 SS3	Dup 1	BH/MW C-2 SS1	BH/MW C-1 SS1A	O. Reg. 153	
			Sample I.D.	B22-07325-2	B22-07325-3	B22-07325-4	B22-07325-5	Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
Date Collected			14-Mar-22	14-Mar-22	14-Mar-22	14-Mar-22	14-Mar-22		
Acetone	µg/g	0.5	< 0.5	< 0.5				16	16
Benzene	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.32	0.21
Bromodichloromethane	µg/g	0.02	< 0.02	< 0.02	< 0.02			1.5	1.5
Bromoform	µg/g	0.02	< 0.02	< 0.02	< 0.02			0.61	0.27
Bromomethane	µg/g	0.05	< 0.05	< 0.05	< 0.05			0.05	0.05
Carbon Tetrachloride	µg/g	0.05	< 0.05	< 0.05	< 0.05			0.21	0.05
Monochlorobenzene (Chlorobenzene)	µg/g	0.02	< 0.02	< 0.02	< 0.02			2.4	2.4
Chloroform	µg/g	0.02	< 0.02	< 0.02	< 0.02			0.47	0.05
Dibromochloromethane	µg/g	0.02	< 0.02	< 0.02	< 0.02			2.3	2.3
Dichlorobenzene, 1,2-	µg/g	0.05	< 0.05	< 0.05	< 0.05			1.2	1.2
Dichlorobenzene, 1,3-	µg/g	0.05	< 0.05	< 0.05	< 0.05			9.6	4.8
Dichlorobenzene, 1,4-	µg/g	0.05	< 0.05	< 0.05	< 0.05			0.2	0.083
Dichlorodifluoromethane	µg/g	0.05	< 0.05	< 0.05	< 0.05			16	16
Dichloroethane, 1,1-	µg/g	0.02	< 0.02	< 0.02	< 0.02			0.47	0.47
Dichloroethane, 1,2-	µg/g	0.02	< 0.02	< 0.02	< 0.02			0.05	0.05
Dichloroethylene, 1,1-	µg/g	0.02	< 0.02	< 0.02	< 0.02			0.064	0.05
Dichloroethene, cis-1,2-	µg/g	0.02	< 0.02	< 0.02	< 0.02			1.9	1.9
Dichloroethene, trans-1,2-	µg/g	0.02	< 0.02	< 0.02	< 0.02			1.3	0.084
Dichloropropane, 1,2-	µg/g	0.02	< 0.02	< 0.02	< 0.02			0.16	0.050
Dichloropropene, cis-1,3-	µg/g	0.02	< 0.02	< 0.02	< 0.02				
Dichloropropene, trans-1,3-	µg/g	0.02	< 0.02	< 0.02	< 0.02				
Dichloropropene 1,3- cis+trans	µg/g	0.02	< 0.02	< 0.02	< 0.02			0.059	0.050

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
 Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



Christine Burke
 Lab Manager

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C.O.C.: G104182

REPORT No. B22-07325 (ii)

Rev. 1

Report To:

EXP Services Inc

14 Cedar Pointe Drive, Unit 1510
 Barrie ON L4N 5R7

Attention: Leigh Knegt

Caduceon Environmental Laboratories

112 Commerce Park Drive
 Barrie ON L4N 8W8
 Tel: 705-252-5743
 Fax: 705-252-5746

DATE RECEIVED: 17-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	BH/MW A-4 SS3	Dup 1	BH/MW C-2 SS1	BH/MW C-1 SS1A	O. Reg. 153	
			Sample I.D. Date Collected	B22-07325-2 14-Mar-22	B22-07325-3 14-Mar-22	B22-07325-4 14-Mar-22	B22-07325-5 14-Mar-22	Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
Ethylbenzene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	1.1	1.1
Dibromoethane,1,2- (Ethylene Dibromide)	µg/g	0.02		< 0.02	< 0.02			0.05	0.05
Hexane	µg/g	0.02		< 0.02	< 0.02			46	2.8
Methyl Ethyl Ketone	µg/g	0.5		< 0.5	< 0.5			70	16
Methyl Isobutyl Ketone	µg/g	0.5		< 0.5	< 0.5			31	1.7
Methyl-t-butyl Ether	µg/g	0.05		< 0.05	< 0.05			1.6	0.75
Dichloromethane (Methylene Chloride)	µg/g	0.05		< 0.05	< 0.05			1.6	0.10
Styrene	µg/g	0.05		< 0.05	< 0.05			34	0.7
Tetrachloroethane,1,1,1,2 -	µg/g	0.02		< 0.02	< 0.02			0.087	0.058
Tetrachloroethane,1,1,2,2 -	µg/g	0.05		< 0.05	< 0.05			0.05	0.05
Tetrachloroethylene	µg/g	0.05		< 0.05	< 0.05			1.9	0.28
Toluene	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	6.4	2.3
Trichloroethane,1,1,1-	µg/g	0.02		< 0.02	< 0.02			6.1	0.38
Trichloroethane,1,1,2-	µg/g	0.02		< 0.02	< 0.02			0.05	0.05
Trichloroethylene	µg/g	0.05		< 0.05	< 0.05			0.55	0.061
Trichlorofluoromethane	µg/g	0.02		< 0.02	< 0.02			4	4.0
Vinyl Chloride	µg/g	0.02		< 0.02	< 0.02			0.032	0.020
Xylene, m,p-	µg/g	0.03		< 0.03	< 0.03	< 0.03	< 0.03		
Xylene, o-	µg/g	0.03		< 0.03	< 0.03	< 0.03	< 0.03		
Xylene, m,p,o-	µg/g	0.03		< 0.03	< 0.03	< 0.03	< 0.03	26	3.1
PHC F1 (C6-C10)	µg/g	10		< 10	< 10	< 10	< 10	55	55

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
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 Tel: 705-252-5743
 Fax: 705-252-5746

DATE RECEIVED: 17-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	BH/MW A-4 SS3	Dup 1	BH/MW C-2 SS1	BH/MW C-1 SS1A	O. Reg. 153	
			Sample I.D.	B22-07325-2	B22-07325-3	B22-07325-4	B22-07325-5	Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
			Date Collected	14-Mar-22	14-Mar-22	14-Mar-22	14-Mar-22		
PHC F2 (>C10-C16)	µg/g	5		< 5	< 5	< 5	< 6	230	98
PHC F3 (>C16-C34)	µg/g	10		26	33	27	20	1700	300
PHC F4 (>C34-C50)	µg/g	10		20	32	25	< 10	3300	2800
PHC F4 (Gravimetric)	µg/g	50						3300	2800
% moisture	%			10.1	10.4	12.5	32.6		

1. F4 Gravimetric analysis required as chromats did not return to baseline.
2. Sample silica cleaned
3. Revised report to change guidelines as per client request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
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JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	BH/MW A-3 SS2	BH/MW A-2 SS2B	O. Reg. 153	
			Sample I.D.	B22-07325-8	B22-07325-10	Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
			Date Collected	16-Mar-22	16-Mar-22		
Acetone	µg/g	0.5		< 0.5	< 0.5	16	16
Benzene	µg/g	0.02		< 0.02	< 0.02	0.32	0.21
Bromodichloromethane	µg/g	0.02		< 0.02	< 0.02	1.5	1.5
Bromoform	µg/g	0.02		< 0.02	< 0.02	0.61	0.27
Bromomethane	µg/g	0.05		< 0.05	< 0.05	0.05	0.05
Carbon Tetrachloride	µg/g	0.05		< 0.05	< 0.05	0.21	0.05
Monochlorobenzene (Chlorobenzene)	µg/g	0.02		< 0.02	< 0.02	2.4	2.4
Chloroform	µg/g	0.02		< 0.02	< 0.02	0.47	0.05
Dibromochloromethane	µg/g	0.02		< 0.02	< 0.02	2.3	2.3
Dichlorobenzene, 1,2-	µg/g	0.05		< 0.05	< 0.05	1.2	1.2
Dichlorobenzene, 1,3-	µg/g	0.05		< 0.05	< 0.05	9.6	4.8
Dichlorobenzene, 1,4-	µg/g	0.05		< 0.05	< 0.05	0.2	0.083
Dichlorodifluoromethane	µg/g	0.05		< 0.05	< 0.05	16	16
Dichloroethane, 1,1-	µg/g	0.02		< 0.02	< 0.02	0.47	0.47
Dichloroethane, 1,2-	µg/g	0.02		< 0.02	< 0.02	0.05	0.05
Dichloroethylene, 1,1-	µg/g	0.02		< 0.02	< 0.02	0.064	0.05
Dichloroethene, cis-1,2-	µg/g	0.02		< 0.02	< 0.02	1.9	1.9
Dichloroethene, trans-1,2-	µg/g	0.02		< 0.02	< 0.02	1.3	0.084
Dichloropropane, 1,2-	µg/g	0.02		< 0.02	< 0.02	0.16	0.050
Dichloropropene, cis-1,3-	µg/g	0.02		< 0.02	< 0.02		
Dichloropropene, trans-1,3-	µg/g	0.02		< 0.02	< 0.02		
Dichloropropene 1,3- cis+trans	µg/g	0.02		< 0.02	< 0.02	0.059	0.050

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



Christine Burke
Lab Manager

R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an *

Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

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C.O.C.: G104182

REPORT No. B22-07325 (ii)

Rev. 1

Report To:

EXP Services Inc

14 Cedar Pointe Drive, Unit 1510
 Barrie ON L4N 5R7

Attention: Leigh Knegt

Caduceon Environmental Laboratories

112 Commerce Park Drive
 Barrie ON L4N 8W8
 Tel: 705-252-5743
 Fax: 705-252-5746

DATE RECEIVED: 17-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	BH/MW A-3 SS2	BH/MW A-2 SS2B	O. Reg. 153		
			Sample I.D.	B22-07325-8	B22-07325-10	Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil	
			Date Collected	16-Mar-22	16-Mar-22			
Ethylbenzene	µg/g	0.05		< 0.05	< 0.05		1.1	1.1
Dibromoethane, 1,2- (Ethylene Dibromide)	µg/g	0.02		< 0.02	< 0.02		0.05	0.05
Hexane	µg/g	0.02		< 0.02	< 0.02		46	2.8
Methyl Ethyl Ketone	µg/g	0.5		< 0.5	< 0.5		70	16
Methyl Isobutyl Ketone	µg/g	0.5		< 0.5	< 0.5		31	1.7
Methyl-t-butyl Ether	µg/g	0.05		< 0.05	< 0.05		1.6	0.75
Dichloromethane (Methylene Chloride)	µg/g	0.05		< 0.05	< 0.05		1.6	0.10
Styrene	µg/g	0.05		< 0.05	< 0.05		34	0.7
Tetrachloroethane, 1,1,1,2 -	µg/g	0.02		< 0.02	< 0.02		0.087	0.058
Tetrachloroethane, 1,1,2,2 -	µg/g	0.05		< 0.05	< 0.05		0.05	0.05
Tetrachloroethylene	µg/g	0.05		< 0.05	< 0.05		1.9	0.28
Toluene	µg/g	0.2		< 0.2	< 0.2		6.4	2.3
Trichloroethane, 1,1,1-	µg/g	0.02		< 0.02	< 0.02		6.1	0.38
Trichloroethane, 1,1,2-	µg/g	0.02		< 0.02	< 0.02		0.05	0.05
Trichloroethylene	µg/g	0.05		< 0.05	< 0.05		0.55	0.061
Trichlorofluoromethane	µg/g	0.02		< 0.02	< 0.02		4	4.0
Vinyl Chloride	µg/g	0.02		< 0.02	< 0.02		0.032	0.020
Xylene, m,p-	µg/g	0.03		< 0.03	< 0.03			
Xylene, o-	µg/g	0.03		< 0.03	< 0.03			
Xylene, m,p,o-	µg/g	0.03		< 0.03	< 0.03		26	3.1
PHC F1 (C6-C10)	µg/g	10		< 10	< 10		55	55

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
 Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



Christine Burke
 Lab Manager

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REPORT No. B22-07325 (ii)

Rev. 1

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 Barrie ON L4N 5R7

Attention: Leigh Knegt

Caduceon Environmental Laboratories

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 Tel: 705-252-5743
 Fax: 705-252-5746

DATE RECEIVED: 17-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	BH/MW A-3	BH/MW A-2	O. Reg. 153		
			Sample I.D.	SS2	SS2B	Tbl. 2 - ICC	Tbl. 2 - RPI	
Date Collected			B22-07325-8	16-Mar-22	B22-07325-10	16-Mar-22	Soil	Soil
PHC F2 (>C10-C16)	µg/g	5		15		< 5	230	98
PHC F3 (>C16-C34)	µg/g	10		119		13	1700	300
PHC F4 (>C34-C50)	µg/g	10		192 ¹		< 10	3300	2800
PHC F4 (Gravimetric)	µg/g	50		270 ²			3300	2800
% moisture	%			8.7		15.9		

1. F4 Gravimetric analysis required as chromats did not return to baseline.
2. Sample silica cleaned
3. Revised report to change guidelines as per client request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
 Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



Christine Burke
 Lab Manager

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Caduceon Environmental Laboratories

112 Commerce Park Drive

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Tel: 705-252-5743

Fax: 705-252-5746

DATE RECEIVED: 17-Mar-22

DATE REPORTED: 31-Mar-22

SAMPLE MATRIX: Soil

JOB/PROJECT NO.:

P.O. NUMBER: BAR-21024280-A0

WATERWORKS NO.

Summary of Exceedances

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



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Christine Burke
Lab Manager

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REPORT No. B22-07325 (iii)

Rev. 1

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Caduceon Environmental Laboratories

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DATE RECEIVED: 17-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
SVOC	4	Kingston	sge	21-Mar-22	C-NAB-S-001 (k)	EPA 8270

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

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

nC10, nC16 and nC34 response factors within 10% of each other:

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

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met. If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC QC will be made available upon request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
 Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



Christine Burke
 Lab Manager

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C.O.C.: G104182

REPORT No. B22-07325 (iii)

Rev. 1

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Attention: Leigh Knegt

Caduceon Environmental Laboratories

112 Commerce Park Drive
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 Tel: 705-252-5743
 Fax: 705-252-5746

DATE RECEIVED: 17-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	BH/MW A-4 SS3	Dup 1	BH/MW A-3 SS2	TP 1-3	O. Reg. 153	
			Sample I.D. Date Collected	B22-07325-2 14-Mar-22	B22-07325-3 14-Mar-22	B22-07325-8 16-Mar-22	B22-07325-11 16-Mar-22	Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
Acenaphthene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	21	7.9
Acenaphthylene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	0.15	0.15
Anthracene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	0.67	0.67
Benzo(a)anthracene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	0.96	0.50
Benzo(a)pyrene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	0.3	0.3
Benzo(b)fluoranthene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	0.96	0.78
Benzo(b+k)fluoranthene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05		
Benzo(g,h,i)perylene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	9.6	6.6
Benzo(k)fluoranthene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	0.96	0.78
Chrysene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	9.6	7.0
Dibenzo(a,h)anthracene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	0.1	0.1
Fluoranthene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	9.6	0.69
Fluorene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	62	62
Indeno(1,2,3,-cd)pyrene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	0.76	0.38
Methylnaphthalene,1-	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	30	0.99
Methylnaphthalene,2-	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	30	0.99
Methylnaphthalene 2-(1-)	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	30	0.99
Naphthalene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	9.6	0.60
Phenanthrene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	12	6.2
Pyrene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	96	78

1 Revised report to change guidelines as per client request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
 Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



Christine Burke
 Lab Manager

R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an *

Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

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C.O.C.: G104182

REPORT No. B22-07325 (iii)

Rev. 1

Report To:

EXP Services Inc

14 Cedar Pointe Drive, Unit 1510

Barrie ON L4N 5R7

Attention: Leigh Knegt

Caduceon Environmental Laboratories

112 Commerce Park Drive

Barrie ON L4N 8W8

Tel: 705-252-5743

Fax: 705-252-5746

DATE RECEIVED: 17-Mar-22

DATE REPORTED: 31-Mar-22

SAMPLE MATRIX: Soil

JOB/PROJECT NO.:

P.O. NUMBER: BAR-21024280-A0

WATERWORKS NO.

Summary of Exceedances

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



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REPORT No. B22-07325 (iv)

Rev. 1

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Attention: Leigh Knegt

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112 Commerce Park Drive
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 Tel: 705-252-5743
 Fax: 705-252-5746

DATE RECEIVED: 17-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
Comment	1	Default Site	CS	21-Mar-22	C-Arochlor Comment	-
OC Pesticides	1	Kingston	CS	21-Mar-22	C-PESTCL-01 K	EPA 8080

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

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

nC10, nC16 and nC34 response factors within 10% of each other:

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

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
 Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



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C.O.C.: G104182

REPORT No. B22-07325 (iv)

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DATE RECEIVED: 17-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	TP 1-3 B22-07325-11 16-Mar-22	O. Reg. 153	
				Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
Aldrin	µg/g	0.05	< 0.05	0.088	0.05
Chlordane (alpha)	µg/g	0.05	< 0.05		
Chlordane (Gamma)	µg/g	0.05	< 0.05		
Chlordane Total (alpha+gamma)	µg/g	0.05	< 0.05	0.05	0.05
DDD, 2,4-	µg/g	0.05	< 0.05		
DDD, 4,4-	µg/g	0.05	< 0.05		
DDD Total	µg/g	0.05	< 0.05	4.6	3.3
DDE, 2,4-	µg/g	0.05	< 0.05		
DDE, 4,4-	µg/g	0.05	< 0.05		
DDE Total	µg/g	0.05	< 0.05	0.52	0.26
DDT, 2,4-	µg/g	0.05	< 0.05		
DDT, 4,4-	µg/g	0.05	< 0.05		
DDT Total	µg/g	0.05	< 0.05	1.4	1.4
Dieldrin	µg/g	0.05	< 0.05	0.088	0.05
Lindane (Hexachlorocyclohexane, Gamma)	µg/g	0.01	< 0.01	0.056	0.056
Endosulfan I	µg/g	0.04	< 0.04		
Endosulfan II	µg/g	0.04	< 0.04		
Endosulfan I/II	µg/g	0.04	< 0.04	0.3	0.04
Endrin	µg/g	0.04	< 0.04	0.04	0.04
Heptachlor	µg/g	0.05	< 0.05	0.19	0.15
Heptachlor Epoxide	µg/g	0.05	< 0.05	0.05	0.05
Hexachlorobenzene	µg/g	0.01	< 0.01	0.66	0.52

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
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Christine Burke
 Lab Manager

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Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

C.O.C.: G104182

REPORT No. B22-07325 (iv)

Rev. 1

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14 Cedar Pointe Drive, Unit 1510
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Attention: Leigh Knegt

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112 Commerce Park Drive
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 Fax: 705-252-5746

DATE RECEIVED: 17-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	TP 1-3 B22-07325-11 16-Mar-22	O. Reg. 153	
				Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
Hexachlorobutadiene	µg/g	0.01	< 0.01	0.031	0.012
Hexachloroethane	µg/g	0.01	< 0.01	0.21	0.089
Methoxychlor	µg/g	0.05	< 0.05	1.6	0.13
Poly-Chlorinated Biphenyls (PCB's)	µg/g	0.3	< 0.3	1.1	0.35
Aroclor	-		-		

1 Revised report to change guidelines as per client request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
 Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



Christine Burke
 Lab Manager

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C.O.C.: G104182

REPORT No. B22-07325 (iv)

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Tel: 705-252-5743
Fax: 705-252-5746

DATE RECEIVED: 17-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Summary of Exceedances

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



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Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Christine Burke
Lab Manager

C.O.C.: G85577

REPORT No. B22-07435 (i)

Rev. 1

Report To:

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Attention: Leigh Knegt

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112 Commerce Park Drive
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DATE RECEIVED: 18-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
Conductivity	2	Holly Lane	ST	22-Mar-22	A-COND-01 (o)	SM 2510B
pH	2	Richmond Hill	nka	22-Mar-22	A-pH-02 (rh)	MOEE3530
Chromium (VI)	2	Holly Lane	ST	22-Mar-22	D-CRVI-02 (o)	EPA7196A
Mercury	2	Holly Lane	PBK	23-Mar-22	D-HG-01 (o)	EPA 7471A
Boron - HWS	2	Holly Lane	NHG	23-Mar-22	D-HWE s	MOE3470
Sodium Adsorption Ratio	2	Holly Lane	NHG	23-Mar-22	D-ICP-01 SAR (o)	SM 3120
Metals - ICP-OES	2	Holly Lane	NHG	23-Mar-22	D-ICP-02 (o)	EPA 6010
Metals - ICP-MS	2	Holly Lane	TPR	23-Mar-22	D-ICPMS-01 (o)	EPA 6020

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

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

nC10, nC16 and nC34 response factors within 10% of each other:

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

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
 Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



Christine Burke
 Lab Manager

R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an *

Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

C.O.C.: G85577

REPORT No. B22-07435 (i)

Rev. 1

Report To:

EXP Services Inc

14 Cedar Pointe Drive, Unit 1510
 Barrie ON L4N 5R7

Attention: Leigh Knegt

Caduceon Environmental Laboratories

112 Commerce Park Drive
 Barrie ON L4N 8W8
 Tel: 705-252-5743
 Fax: 705-252-5746

DATE RECEIVED: 18-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	BH/MW A-1	BH/MW 1-1	O. Reg. 153	
			Sample I.D.	SS1	SS2B	Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
			Date Collected	B22-07435-1	B22-07435-3		
pH @25°C	pH Units		17-Mar-22	7.98	7.78		
Conductivity @25°C	mS/cm	0.001		0.116	0.183	1.4	0.7
Sodium Adsorption Ratio	units			0.221	1.13	12	5
Antimony	µg/g	0.5		< 0.5	< 0.5	40	7.5
Arsenic	µg/g	0.5		4.9	6.2	18	18
Barium	µg/g	1		34	67	670	390
Beryllium	µg/g	0.2		0.2	0.6	8	4
Boron	µg/g	0.5		8.1	13.9	120	120
Boron (HWS)	µg/g	0.02		0.07	0.03	2	1.5
Cadmium	µg/g	0.5		< 0.5	< 0.5	1.9	1.2
Chromium	µg/g	1		11	16	160	160
Chromium (VI)	µg/g	0.2		< 0.2	< 0.2	8	8
Cobalt	µg/g	1		5	12	80	22
Copper	µg/g	1		23	26	230	140
Lead	µg/g	5		6	< 5	120	120
Mercury	µg/g	0.005		0.008	0.009	3.9	0.27
Molybdenum	µg/g	1		< 1	< 1	40	6.9
Nickel	µg/g	1		10	22	270	100
Selenium	µg/g	0.5		0.8	0.9	5.5	2.4
Silver	µg/g	0.2		< 0.2	< 0.2	40	20
Thallium	µg/g	0.1		< 0.1	< 0.1	3.3	1
Uranium	µg/g	0.1		0.4	0.5	33	23
Vanadium	µg/g	1		12	22	86	86
Zinc	µg/g	3		19	39	340	340

1 Revised report to change guidelines as per client request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
 Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



Christine Burke
 Lab Manager

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Fax: 705-252-5746

DATE RECEIVED: 18-Mar-22

DATE REPORTED: 31-Mar-22

SAMPLE MATRIX: Soil

JOB/PROJECT NO.:

P.O. NUMBER: BAR-21024280-A0

WATERWORKS NO.

Summary of Exceedances

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
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Christine Burke
Lab Manager

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DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
% Moisture	4	Richmond Hill	FAL	21-Mar-22	A-% moisture RH	
PHC(F2-F4)	4	Kingston	KPR	21-Mar-22	C-PHC-S-001 (k)	CWS Tier 1
PHC(F2-F4)	1	Kingston	SmT	23-Mar-22	C-PHC-S-001 (k)	CWS Tier 1
VOC's	1	Richmond Hill	FAL	21-Mar-22	C-VOC-02 (rh)	EPA 8260
PHC(F1)	4	Richmond Hill	FAL	21-Mar-22	C-VPHS-01 (rh)	CWS Tier 1

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg
 F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)
 F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)
 F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)
 F4 C34-C50 hydrocarbons in µg/g
 This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
 Any deviations from the method are noted and reported for any particular sample.
 nC6 and nC10 response factor is within 30% of response factor for toluene:
 nC10,nC16 and nC34 response factors within 10% of each other:
 C50 response factors within 70% of nC10+nC16+nC34 average:
 Linearity is within 15%.
 All results expressed on a dry weight basis.
 Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met. If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC QC will be made available upon request.

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JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	BH/MW A-1 SS2A	BH/MW 1-1 SS3	BH/MW 1-2 SS2	BH/MW 1-3 SS2	O. Reg. 153	
			Sample I.D.	B22-07435-2	B22-07435-4	B22-07435-5	B22-07435-6	Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
			Date Collected	17-Mar-22	17-Mar-22	17-Mar-22	17-Mar-22		
Acetone	µg/g	0.5		< 0.5				16	16
Benzene	µg/g	0.02		< 0.02	< 0.02	< 0.02	< 0.02	0.32	0.21
Bromodichloromethane	µg/g	0.02		< 0.02				1.5	1.5
Bromoform	µg/g	0.02		< 0.02				0.61	0.27
Bromomethane	µg/g	0.05		< 0.05				0.05	0.05
Carbon Tetrachloride	µg/g	0.05		< 0.05				0.21	0.05
Monochlorobenzene (Chlorobenzene)	µg/g	0.02		< 0.02				2.4	2.4
Chloroform	µg/g	0.02		< 0.02				0.47	0.05
Dibromochloromethane	µg/g	0.02		< 0.02				2.3	2.3
Dichlorobenzene, 1,2-	µg/g	0.05		< 0.05				1.2	1.2
Dichlorobenzene, 1,3-	µg/g	0.05		< 0.05				9.6	4.8
Dichlorobenzene, 1,4-	µg/g	0.05		< 0.05				0.2	0.083
Dichlorodifluoromethane	µg/g	0.05		< 0.05				16	16
Dichloroethane, 1,1-	µg/g	0.02		< 0.02				0.47	0.47
Dichloroethane, 1,2-	µg/g	0.02		< 0.02				0.05	0.05
Dichloroethylene, 1,1-	µg/g	0.02		< 0.02				0.064	0.05
Dichloroethene, cis-1,2-	µg/g	0.02		< 0.02				1.9	1.9
Dichloroethene, trans-1,2-	µg/g	0.02		< 0.02				1.3	0.084
Dichloropropane, 1,2-	µg/g	0.02		< 0.02				0.16	0.050
Dichloropropene, cis-1,3-	µg/g	0.02		< 0.02					
Dichloropropene, trans-1,3-	µg/g	0.02		< 0.02					
Dichloropropene 1,3- cis+trans	µg/g	0.02		< 0.02				0.059	0.050

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
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Lab Manager

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Caduceon Environmental Laboratories

112 Commerce Park Drive
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Tel: 705-252-5743
Fax: 705-252-5746

DATE RECEIVED: 18-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	BH/MW A-1 SS2A	BH/MW 1-1 SS3	BH/MW 1-2 SS2	BH/MW 1-3 SS2	O. Reg. 153	
			Sample I.D.	B22-07435-2	B22-07435-4	B22-07435-5	B22-07435-6	Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
			Date Collected	17-Mar-22	17-Mar-22	17-Mar-22	17-Mar-22		
Ethylbenzene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	1.1	1.1
Dibromoethane,1,2- (Ethylene Dibromide)	µg/g	0.02		< 0.02				0.05	0.05
Hexane	µg/g	0.02		< 0.02				46	2.8
Methyl Ethyl Ketone	µg/g	0.5		< 0.5				70	16
Methyl Isobutyl Ketone	µg/g	0.5		< 0.5				31	1.7
Methyl-t-butyl Ether	µg/g	0.05		< 0.05				1.6	0.75
Dichloromethane (Methylene Chloride)	µg/g	0.05		< 0.05				1.6	0.10
Styrene	µg/g	0.05		< 0.05				34	0.7
Tetrachloroethane,1,1,1,2 -	µg/g	0.02		< 0.02				0.087	0.058
Tetrachloroethane,1,1,2,2 -	µg/g	0.05		< 0.05				0.05	0.05
Tetrachloroethylene	µg/g	0.05		< 0.05				1.9	0.28
Toluene	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	6.4	2.3
Trichloroethane,1,1,1-	µg/g	0.02		< 0.02				6.1	0.38
Trichloroethane,1,1,2-	µg/g	0.02		< 0.02				0.05	0.05
Trichloroethylene	µg/g	0.05		< 0.05				0.55	0.061
Trichlorofluoromethane	µg/g	0.02		< 0.02				4	4.0
Vinyl Chloride	µg/g	0.02		< 0.02				0.032	0.020
Xylene, m,p-	µg/g	0.03		< 0.03	< 0.03	< 0.03	< 0.03		
Xylene, o-	µg/g	0.03		< 0.03	< 0.03	< 0.03	< 0.03		
Xylene, m,p,o-	µg/g	0.03		< 0.03	< 0.03	< 0.03	< 0.03	26	3.1
PHC F1 (C6-C10)	µg/g	10		10	< 10	< 10	< 10	55	55

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112 Commerce Park Drive
 Barrie ON L4N 8W8
 Tel: 705-252-5743
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DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	BH/MW A-1 SS2A	BH/MW 1-1 SS3	BH/MW 1-2 SS2	BH/MW 1-3 SS2	O. Reg. 153	
			Sample I.D.	B22-07435-2	B22-07435-4	B22-07435-5	B22-07435-6	Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
			Date Collected	17-Mar-22	17-Mar-22	17-Mar-22	17-Mar-22		
PHC F2 (>C10-C16)	µg/g	5		< 5	< 5	< 5	< 5	230	98
PHC F3 (>C16-C34)	µg/g	10		57	< 10	< 10	< 10	1700	300
PHC F4 (>C34-C50)	µg/g	10		94 ¹	< 10	< 10	< 10	3300	2800
PHC F4 (Gravimetric)	µg/g	50		460				3300	2800
% moisture	%			9.7	15.8	17.4	19.6		

- F4 Gravimetric analysis required as chromats did not return to baseline.
- Revised report to change guidelines as per client request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
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SAMPLE MATRIX: Soil

WATERWORKS NO.

Summary of Exceedances

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DATE RECEIVED: 18-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-A0

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
SVOC	1	Kingston	sge	22-Mar-22	C-NAB-S-001 (k)	EPA 8270

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

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

nC10, nC16 and nC34 response factors within 10% of each other:

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

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC

requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed

but the greater of the two numbers are to be used in

application to the CWS PHC

QC will be made available upon request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
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SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	Sample I.D.	Date Collected	O. Reg. 153	
						Tbl. 2 - ICC Soil	Tbl. 2 - RPI Soil
Acenaphthene	µg/g	0.05	BH/MW 1-1	SS2B			
Acenaphthylene	µg/g	0.05	B22-07435-3		17-Mar-22		
Anthracene	µg/g	0.05					
Benzo(a)anthracene	µg/g	0.05					
Benzo(a)pyrene	µg/g	0.05					
Benzo(b)fluoranthene	µg/g	0.05					
Benzo(b+k)fluoranthene	µg/g	0.05					
Benzo(g,h,i)perylene	µg/g	0.05					
Benzo(k)fluoranthene	µg/g	0.05					
Chrysene	µg/g	0.05					
Dibenzo(a,h)anthracene	µg/g	0.05					
Fluoranthene	µg/g	0.05					
Fluorene	µg/g	0.05					
Indeno(1,2,3,-cd)pyrene	µg/g	0.05					
Methylnaphthalene,1-	µg/g	0.05					
Methylnaphthalene,2-	µg/g	0.05					
Methylnaphthalene 2-(1-)	µg/g	0.05					
Naphthalene	µg/g	0.05					
Phenanthrene	µg/g	0.05					
Pyrene	µg/g	0.05					

1 Revised report to change guidelines as per client request.

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DATE REPORTED: 31-Mar-22

SAMPLE MATRIX: Soil

JOB/PROJECT NO.:

P.O. NUMBER: BAR-21024280-A0

WATERWORKS NO.

Summary of Exceedances

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Tbl. 2 - ICC Soil - Table 2 - Ind./Commercial/Community Soil Std
Tbl. 2 - RPI Soil - Table 2 - Res./Parkland/Institutional Soil Std



Christine Burke
Lab Manager

R.L. = Reporting Limit

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Caduceon Environmental Laboratories.

C.O.C.: G92263

REPORT No. B22-07869 (i)

Rev. 1

Report To:

EXP Services Inc

14 Cedar Pointe Drive, Unit 1510
 Barrie ON L4N 5R7

Attention: Leigh Knegt

Caduceon Environmental Laboratories

112 Commerce Park Drive
 Barrie ON L4N 8W8
 Tel: 705-252-5743
 Fax: 705-252-5746

DATE RECEIVED: 22-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

SAMPLE MATRIX: Groundwater

P.O. NUMBER: BAR-21024280-B0

WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
Conductivity	4	Holly Lane	SYL	23-Mar-22	A-COND-02 (o)	SM 2510B
pH	4	Holly Lane	SYL	23-Mar-22	A-PH-01 (o)	SM 4500H
Chromium (VI)	4	Holly Lane	ST	24-Mar-22	D-CRVI-01 (o)	MOE E3056
Mercury	4	Holly Lane	PBK	24-Mar-22	D-HG-02 (o)	SM 3112 B
Metals - ICP-OES	4	Holly Lane	AHM	25-Mar-22	D-ICP-01 (o)	SM 3120
Metals - ICP-MS	4	Holly Lane	TPR	24-Mar-22	D-ICPMS-01 (o)	EPA 200.8

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - PGW (µg/L) - Table 2 - Potable Ground Water



Christine Burke
 Lab Manager

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DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-B0

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	BH/MW A-4	BH/MW A-3	BH/MW A-2	Dup #1	O. Reg. 153	
			Sample I.D.	B22-07869-1	B22-07869-2	B22-07869-3	B22-07869-4	Tbl. 2 -	PGW (µg/L)
			Date Collected	22-Mar-22	22-Mar-22	22-Mar-22	22-Mar-22		
pH @25°C	pH Units			7.96	7.97	7.76	7.77		
Conductivity @25°C	mS/cm	0.001		1.34	2.71	2.34	2.36		
Sodium	µg/L	200		81300	397000	116000	115000	490000	
Antimony	µg/L	0.1		1.3	0.9	0.4	0.4	6	
Arsenic	µg/L	0.1		2.7	2.0	0.8	0.8	25	
Barium	µg/L	1		134	87	79	79	1000	
Beryllium	µg/L	0.1		< 0.1	< 0.1	< 0.1	< 0.1	4	
Boron	µg/L	5		3620	7810	5340	5300	5000	
Cadmium	µg/L	0.015		0.021	0.018	0.026	0.021	2.7	
Chromium	µg/L	2		< 2	< 2	< 2	< 2	50	
Chromium (VI)	µg/L	10		< 10 ¹	< 10 ¹	< 10 ¹	< 10 ¹	25	
Cobalt	µg/L	0.1		2.6	0.6	1.2	1.2	3.8	
Copper	µg/L	2		< 2	< 2	< 2	< 2	87	
Lead	µg/L	0.02		0.03	< 0.02	0.02	< 0.02	10	
Mercury	µg/L	0.02		< 0.02	< 0.02	< 0.02	< 0.02	0.29	
Molybdenum	µg/L	0.1		1.1	1.2	0.5	0.4	70	
Nickel	µg/L	0.2		4.9	1.2	1.9	1.8	100	
Selenium	µg/L	1		1	9	2	2	10	
Silver	µg/L	0.1		< 0.1	< 0.1	< 0.1	< 0.1	1.5	
Thallium	µg/L	0.05		0.09	< 0.05	< 0.05	< 0.05	2	
Uranium	µg/L	0.05		2.48	1.75	1.00	0.97	20	
Vanadium	µg/L	0.1		0.6	0.3	0.2	0.2	6.2	
Zinc	µg/L	5		< 5	< 5	< 5	< 5	1100	

- 1 Chromium (VI) result is based on total Chromium
- 2 Revised report to change guidelines as per client request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - PGW (µg/L) - Table 2 - Potable Ground Water



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P.O. NUMBER: BAR-21024280-B0

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

Summary of Exceedances

Table 2 - Potable Ground Water		
BH/MW A-3	Found Value	Limit
Boron (µg/L)	7810	5000
BH/MW A-2	Found Value	Limit
Boron (µg/L)	5340	5000
Dup #1	Found Value	Limit
Boron (µg/L)	5300	5000

O. Reg. 153 - Soil, Ground Water and Sediment Standards
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SAMPLE MATRIX: Groundwater

P.O. NUMBER: BAR-21024280-B0

WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
PHC(F2-F4)	9	Kingston	KPR	23-Mar-22	C-PHC-W-001 (k)	MOE E3421
VOC's	4	Richmond Hill	JE	23-Mar-22	C-VOC-02 (rh)	EPA 8260
PHC(F1)	9	Richmond Hill	JE	23-Mar-22	C-VPHW-01 (rh)	MOE E3421

O. Reg. 153 - Soil, Ground Water and Sediment Standards
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P.O. NUMBER: BAR-21024280-B0

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	BH/MW A-4	BH/MW A-3	BH/MW A-2	Dup #1	O. Reg. 153	
			Sample I.D.	B22-07869-1	B22-07869-2	B22-07869-3	B22-07869-4	Tbl. 2 -	PGW (µg/L)
			Date Collected	22-Mar-22	22-Mar-22	22-Mar-22	22-Mar-22		
Acetone	µg/L	30	< 30	< 30	< 30	< 30	< 30	2700	
Benzene	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	5	
Bromodichloromethane	µg/L	2	< 2	< 2	< 2	< 2	< 2	16	
Bromoform	µg/L	5	< 5	< 5	< 5	< 5	< 5	25	
Bromomethane	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.89	
Carbon Tetrachloride	µg/L	0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.79	
Monochlorobenzene (Chlorobenzene)	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	30	
Chloroform	µg/L	1	< 1	< 1	< 1	< 1	< 1	2.4	
Dibromochloromethane	µg/L	2	< 2	< 2	< 2	< 2	< 2	25	
Dichlorobenzene, 1,2-	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	3	
Dichlorobenzene, 1,3-	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	59	
Dichlorobenzene, 1,4-	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	1	
Dichlorodifluoromethane	µg/L	2	< 2	< 2	< 2	< 2	< 2	590	
Dichloroethane, 1,1-	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	5	
Dichloroethane, 1,2-	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.6	
Dichloroethylene, 1,1-	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.6	
Dichloroethene, cis-1,2-	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.6	
Dichloroethene, trans-1,2-	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.6	
Dichloropropane, 1,2-	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	5	
Dichloropropene, cis-1,3-	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		
Dichloropropene, trans-1,3-	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		
Dichloropropene 1,3- cis+trans	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.5	

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - PGW (µg/L) - Table 2 - Potable Ground Water



Christine Burke
 Lab Manager

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REPORT No. B22-07869 (ii)

Rev. 1

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14 Cedar Pointe Drive, Unit 1510
 Barrie ON L4N 5R7

Attention: Leigh Knegt

Caduceon Environmental Laboratories

112 Commerce Park Drive
 Barrie ON L4N 8W8
 Tel: 705-252-5743
 Fax: 705-252-5746

DATE RECEIVED: 22-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-B0

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	BH/MW A-4	BH/MW A-3	BH/MW A-2	Dup #1	O. Reg. 153	
			Sample I.D.	B22-07869-1	B22-07869-2	B22-07869-3	B22-07869-4	Tbl. 2 -	PGW (µg/L)
			Date Collected	22-Mar-22	22-Mar-22	22-Mar-22	22-Mar-22		
Ethylbenzene	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	2.4	
Dibromoethane,1,2-(Ethylene Dibromide)	µg/L	0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.2	
Hexane	µg/L	5	< 5	< 5	< 5	< 5	< 5	51	
Methyl Ethyl Ketone	µg/L	20	< 20	< 20	< 20	< 20	< 20	1800	
Methyl Isobutyl Ketone	µg/L	20	< 20	< 20	< 20	< 20	< 20	640	
Methyl-t-butyl Ether	µg/L	2	< 2	< 2	< 2	< 2	< 2	15	
Dichloromethane (Methylene Chloride)	µg/L	5	< 5	< 5	< 5	< 5	< 5	50	
Styrene	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	5.4	
Tetrachloroethane,1,1,1,2-	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.1	
Tetrachloroethane,1,1,2,2-	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	1	
Tetrachloroethylene	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.6	
Toluene	µg/L	0.5	0.9	0.6	1.1	1.1	1.1	24	
Trichloroethane,1,1,1,-	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	200	
Trichloroethane,1,1,2,-	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	4.7	
Trichloroethylene	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.6	
Trichlorofluoromethane	µg/L	5	< 5	< 5	< 5	< 5	< 5	150	
Vinyl Chloride	µg/L	0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.5	
Xylene, m,p-	µg/L	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
Xylene, o-	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		
Xylene, m,p,o-	µg/L	1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	300	
PHC F1 (C6-C10)	µg/L	25	< 25	< 25	< 25	< 25	< 25	750	

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - PGW (µg/L) - Table 2 - Potable Ground Water



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DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-B0

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	BH/MW A-4	BH/MW A-3	BH/MW A-2	Dup #1	O. Reg. 153	
			Sample I.D.	B22-07869-1	B22-07869-2	B22-07869-3	B22-07869-4	Tbl. 2 -	
			Date Collected	22-Mar-22	22-Mar-22	22-Mar-22	22-Mar-22	PGW (µg/L)	
PHC F2 (>C10-C16)	µg/L	50	< 50	< 50	< 50	< 50	< 50	150	
PHC F3 (>C16-C34)	µg/L	400	< 400	< 400	< 400	< 400	< 400	500	
PHC F4 (>C34-C50)	µg/L	400	< 400	< 400	< 400	< 400	< 400	500	

1 Revised report to change guidelines as per client request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - PGW (µg/L) - Table 2 - Potable Ground Water



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SAMPLE MATRIX: Groundwater

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	BH/MW 1-1	BH/MW 1-2	BH/MW 1-3	BH/MW C-1	O. Reg. 153	
			Sample I.D.	B22-07869-5	B22-07869-6	B22-07869-7	B22-07869-8	Tbl. 2 -	PGW (µg/L)
			Date Collected	22-Mar-22	22-Mar-22	22-Mar-22	22-Mar-22		
Acetone	µg/L	30						2700	
Benzene	µg/L	0.5		< 0.5	< 0.5	< 0.5		5	
Bromodichloromethane	µg/L	2						16	
Bromoform	µg/L	5						25	
Bromomethane	µg/L	0.5						0.89	
Carbon Tetrachloride	µg/L	0.2						0.79	
Monochlorobenzene (Chlorobenzene)	µg/L	0.5						30	
Chloroform	µg/L	1						2.4	
Dibromochloromethane	µg/L	2						25	
Dichlorobenzene,1,2-	µg/L	0.5						3	
Dichlorobenzene,1,3-	µg/L	0.5						59	
Dichlorobenzene,1,4-	µg/L	0.5						1	
Dichlorodifluoromethane	µg/L	2						590	
Dichloroethane,1,1-	µg/L	0.5						5	
Dichloroethane,1,2-	µg/L	0.5						1.6	
Dichloroethylene,1,1-	µg/L	0.5						1.6	
Dichloroethene, cis-1,2-	µg/L	0.5						1.6	
Dichloroethene, trans-1,2-	µg/L	0.5						1.6	
Dichloropropane,1,2-	µg/L	0.5						5	
Dichloropropene, cis-1,3-	µg/L	0.5							
Dichloropropene, trans-1,3-	µg/L	0.5							
Dichloropropene 1,3-cis+trans	µg/L	0.5						0.5	

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - PGW (µg/L) - Table 2 - Potable Ground Water



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P.O. NUMBER: BAR-21024280-B0

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	BH/MW 1-1	BH/MW 1-2	BH/MW 1-3	BH/MW C-1	O. Reg. 153	
			Sample I.D.	BH/MW 1-1	BH/MW 1-2	BH/MW 1-3	BH/MW C-1	Tbl. 2 -	PGW (µg/L)
Date Collected			B22-07869-5	B22-07869-5	B22-07869-6	B22-07869-7	B22-07869-8		
Ethylbenzene	µg/L	0.5	22-Mar-22	22-Mar-22	22-Mar-22	22-Mar-22	22-Mar-22	2.4	
Dibromoethane,1,2-(Ethylene Dibromide)	µg/L	0.2						0.2	
Hexane	µg/L	5						51	
Methyl Ethyl Ketone	µg/L	20						1800	
Methyl Isobutyl Ketone	µg/L	20						640	
Methyl-t-butyl Ether	µg/L	2						15	
Dichloromethane (Methylene Chloride)	µg/L	5						50	
Styrene	µg/L	0.5						5.4	
Tetrachloroethane,1,1,1,2-	µg/L	0.5						1.1	
Tetrachloroethane,1,1,2,2-	µg/L	0.5						1	
Tetrachloroethylene	µg/L	0.5						1.6	
Toluene	µg/L	0.5			< 0.5	< 0.5	1.6	24	
Trichloroethane,1,1,1,-	µg/L	0.5						200	
Trichloroethane,1,1,2,-	µg/L	0.5						4.7	
Trichloroethylene	µg/L	0.5						1.6	
Trichlorofluoromethane	µg/L	5						150	
Vinyl Chloride	µg/L	0.2						0.5	
Xylene, m,p-	µg/L	1.0			< 1.0	< 1.0	< 1.0		
Xylene, o-	µg/L	0.5			< 0.5	< 0.5	< 0.5		
Xylene, m,p,o-	µg/L	1.1			< 1.1	< 1.1	< 1.1	300	
PHC F1 (C6-C10)	µg/L	25		< 25	< 25	< 25	< 25	750	

O. Reg. 153 - Soil, Ground Water and Sediment Standards
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C.O.C.: G92263

REPORT No. B22-07869 (ii)

Rev. 1

Report To:

EXP Services Inc
 14 Cedar Pointe Drive, Unit 1510
 Barrie ON L4N 5R7

Attention: Leigh Knegt

Caduceon Environmental Laboratories

112 Commerce Park Drive
 Barrie ON L4N 8W8
 Tel: 705-252-5743
 Fax: 705-252-5746

DATE RECEIVED: 22-Mar-22

JOB/PROJECT NO.:

DATE REPORTED: 31-Mar-22

P.O. NUMBER: BAR-21024280-B0

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	BH/MW 1-1	BH/MW 1-2	BH/MW 1-3	BH/MW C-1	O. Reg. 153	
			Sample I.D.	B22-07869-5	B22-07869-6	B22-07869-7	B22-07869-8	Tbl. 2 -	
			Date Collected	22-Mar-22	22-Mar-22	22-Mar-22	22-Mar-22	PGW (µg/L)	
PHC F2 (>C10-C16)	µg/L	50	< 50	< 50	< 50	< 50	< 50	150	
PHC F3 (>C16-C34)	µg/L	400	< 400	< 400	< 400	< 400	< 400	500	
PHC F4 (>C34-C50)	µg/L	400	< 400	< 400	< 400	< 400	< 400	500	

1 Revised report to change guidelines as per client request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - PGW (µg/L) - Table 2 - Potable Ground Wate



Christine Burke
 Lab Manager

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SAMPLE MATRIX: Groundwater

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D. Sample I.D. Date Collected	BH/MW C-2 B22-07869-9 22-Mar-22	O. Reg. 153 Tbl. 2 - PGW (µg/L)	
Acetone	µg/L	30			2700	
Benzene	µg/L	0.5	< 0.5		5	
Bromodichloromethane	µg/L	2			16	
Bromoform	µg/L	5			25	
Bromomethane	µg/L	0.5			0.89	
Carbon Tetrachloride	µg/L	0.2			0.79	
Monochlorobenzene (Chlorobenzene)	µg/L	0.5			30	
Chloroform	µg/L	1			2.4	
Dibromochloromethane	µg/L	2			25	
Dichlorobenzene,1,2-	µg/L	0.5			3	
Dichlorobenzene,1,3-	µg/L	0.5			59	
Dichlorobenzene,1,4-	µg/L	0.5			1	
Dichlorodifluoromethane	µg/L	2			590	
Dichloroethane,1,1-	µg/L	0.5			5	
Dichloroethane,1,2-	µg/L	0.5			1.6	
Dichloroethylene,1,1-	µg/L	0.5			1.6	
Dichloroethene, cis-1,2-	µg/L	0.5			1.6	
Dichloroethene, trans-1,2-	µg/L	0.5			1.6	
Dichloropropane,1,2-	µg/L	0.5			5	
Dichloropropene, cis-1,3-	µg/L	0.5				
Dichloropropene, trans-1,3-	µg/L	0.5				
Dichloropropene 1,3- cis+trans	µg/L	0.5			0.5	

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - PGW (µg/L) - Table 2 - Potable Ground Water



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SAMPLE MATRIX: Groundwater

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D. Sample I.D. Date Collected	O. Reg. 153 Tbl. 2 - PGW (µg/L)	
				BH/MW C-2 B22-07869-9 22-Mar-22	
Ethylbenzene	µg/L	0.5	< 0.5		2.4
Dibromoethane,1,2- (Ethylene Dibromide)	µg/L	0.2			0.2
Hexane	µg/L	5			51
Methyl Ethyl Ketone	µg/L	20			1800
Methyl Isobutyl Ketone	µg/L	20			640
Methyl-t-butyl Ether	µg/L	2			15
Dichloromethane (Methylene Chloride)	µg/L	5			50
Styrene	µg/L	0.5			5.4
Tetrachloroethane,1,1,1,2 -	µg/L	0.5			1.1
Tetrachloroethane,1,1,2,2 -	µg/L	0.5			1
Tetrachloroethylene	µg/L	0.5			1.6
Toluene	µg/L	0.5	< 0.5		24
Trichloroethane,1,1,1,-	µg/L	0.5			200
Trichloroethane,1,1,2,-	µg/L	0.5			4.7
Trichloroethylene	µg/L	0.5			1.6
Trichlorofluoromethane	µg/L	5			150
Vinyl Chloride	µg/L	0.2			0.5
Xylene, m,p-	µg/L	1.0	< 1.0		
Xylene, o-	µg/L	0.5	< 0.5		
Xylene, m,p,o-	µg/L	1.1	< 1.1		300
PHC F1 (C6-C10)	µg/L	25	< 25		750

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - PGW (µg/L) - Table 2 - Potable Ground Water



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SAMPLE MATRIX: Groundwater

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	Sample I.D.	Date Collected	O. Reg. 153	
						Tbl. 2 - PGW (µg/L)	
PHC F2 (>C10-C16)	µg/L	50	BH/MW C-2	B22-07869-9	22-Mar-22	150	
PHC F3 (>C16-C34)	µg/L	400				500	
PHC F4 (>C34-C50)	µg/L	400				500	

1 Revised report to change guidelines as per client request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
 Tbl. 2 - PGW (µg/L) - Table 2 - Potable Ground Wate



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Summary of Exceedances

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