



## 4 Site Assessment Criteria

Analytical results obtained for soil samples were compared to Site Condition Standards (SCS) established under subsection 169.4(1) of the Environmental Protection Act, and presented in the document entitled *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, 2011*. This document provides tabulated background SCS (Table 1) applicable to environmentally sensitive sites and effects-based generic SCS (Tables 2 to 9) applicable to non-environmentally sensitive sites. The effects-based SCS (Tables 2 to 9) are protective of human health and the environment for different groundwater conditions (potable and non-potable), land use scenarios (residential, parkland, institutional, commercial, industrial, community and agricultural/other), soil texture (coarse or medium/fine) and restoration depth (full or stratified).

For assessment purposes, EXP selected the 2011 Table 3 SCS for a non-potable groundwater condition and residential/parkland/institutional property use.

The selection of these categories was based on the following factors:

- Bedrock is greater than 2 metres below grade across the Site;
- The Site is not located within 30 metres of a waterbody;
- The Site is not located within an area of natural significance, does not include nor is adjacent to an area of natural significance, and does not include land that is within 30 metres of an area of natural significance;
- Potable water for the Site is provided by the City of Ottawa through its water distribution system;
- The Site is not located in an area designated in a municipal official plan as a well-head protection area;
- The proposed future property use is for a city park; and,
- It is the opinion of the Qualified Person who oversaw this work that the Site is not a sensitive site.

The soil quality was also compared to the MECP Table 1 SCS, which are based on background concentrations.

## 5 Borehole Drilling

Prior to the commencement of excavation, the locations of underground public utilities including telephone, natural gas and electrical lines were marked at the subject property by public locating companies. A private utility locating contractor was also retained to clear the individual borehole locations.

On June 9, 2023, two boreholes (BH-1 and BH-2) were advanced at the Site by Strata Drilling. The boreholes were terminated 1.5 metres below surface grade (bsg).

EXP staff continuously monitored the drilling activities to log the stratigraphy observed from the recovered soil cores, to record the depth of soil sample collection, to record total depths of borings/excavation, and to record visual or olfactory observations of potential impacts.

The locations of the boreholes are shown in Figure 2 (Attachment 1). Soil descriptions are presented in the borehole logs (Attachment 2).

## 5 Soil Sampling

Two soil samples, one from each borehole, were collected from the Site. Soil samples were placed directly into the jars provided by the analytical testing laboratory AGAT Laboratories (AGAT).

All samples were stored in a cooler prior to and during transportation to AGAT under Chain of Custody documentation for chemical analyses. Dedicated nitrile gloves (i.e., one pair per sample) were used during sampling and sample handling. The collected samples were field examined for visual and olfactory evidence of impacts prior to sampling.

## 6 Analytical Results

Both of the soil samples met the Table 1 SCS (background) and Table SCS (RPI) with the exception of vanadium, which exceeded the Table 1 and Table 3 SCS in both soil samples.

It is likely that the exceedances of vanadium are due to naturally elevated concentrations in the native silty clays in the Ottawa area and are not due to anthropogenic impact. A technical paper entitled “Elevated Background Metals Concentrations in Champlain Sea Clay – Ottawa Region” written by two engineering firms and the City of Ottawa was presented at GEO Ottawa in 2017. The paper presented results from several studies in the Ottawa area that showed that the concentrations of several metals including cobalt and vanadium in the native silty clay are elevated above the MECP Table SCS. New background concentrations that are higher than the MECP Table 3 SCS were proposed for five metals for eastern Ontario.

Based on the above technical paper, the range of concentrations of vanadium in 267 native soil samples in the Ottawa area ranged from 10.0 to 136 ug/g with a 98th percentile of 123 ug/g. The measured concentrations of vanadium in the silty clay at the subject site ranged from 88.4 to 102 ug/g. This indicates that the measured concentrations of vanadium in the native silty clay at the Site are within the typical range of concentrations cited in the above technical paper and are not indicative of anthropogenic impact.

The results of the current sampling program are summarized in Tables 1 to 3 in Attachment 3. The Certificates of Analysis are included in Attachment 4.

## 7 Recommendations

During the current investigation, the soil quality at the Site was investigated. Results were compared to Regulation 153/04 Table 3 SCS for residential/parkland/institutional property use and coarse textured soils in a non-potable groundwater condition.

All soil samples met the applicable Table 3 parkland SCS for all parameters that were analyzed with the exception of vanadium, which exceeded in both soil samples. However, the measured concentrations of vanadium in the native silty clay at the Site are within the typical range of concentrations in the Ottawa area and are not indicative of anthropogenic impact.

No further environmental investigations are deemed to be warranted.

780 Baseline Inc.  
Soil Quality Report  
7 & 9 Hilliard Avenue, Ottawa, Ontario  
OTT-21011499-E0  
June 29, 2023

## 8 General Limitations

The information presented in this letter report is based on a small-scale soil sampling program designed to provide information to support an assessment of the current soil conditions within the subject property. The conclusions and recommendations presented in this report reflect Site conditions existing at the time of the investigation.

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Sincerely,

EXP Services Inc.

  
Leah Wells, P.Eng.  
Environmental Engineer  
Environmental Services

  
Mark McCalla., P. Geo.  
Senior Project Manager  
Environmental Services



### Attachments:

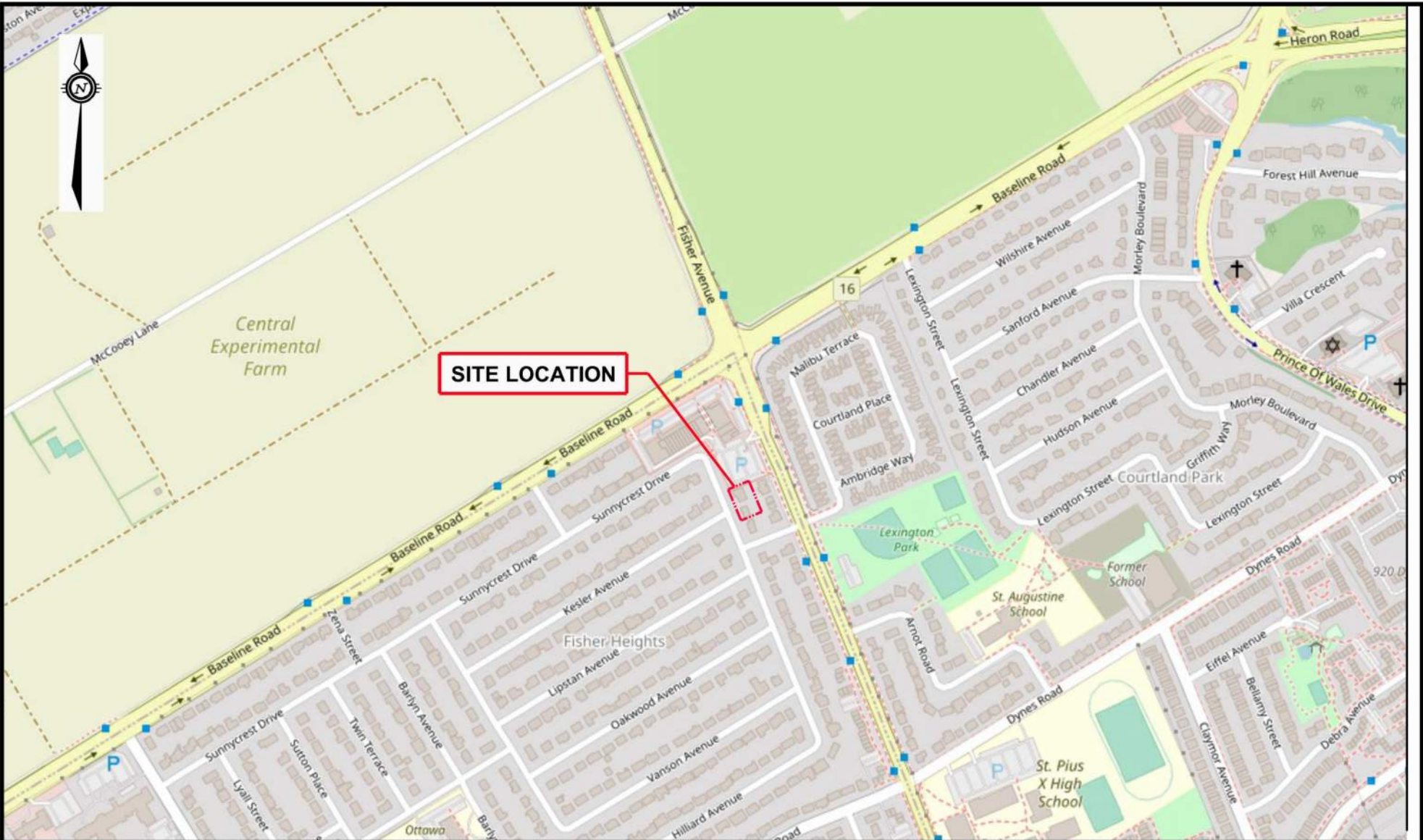
- Attachment 1 – Figures
- Attachment 2 – Borehole logs
- Attachment 3 – Analytical Tables
- Attachment 4 – Laboratory Certificates of Analysis

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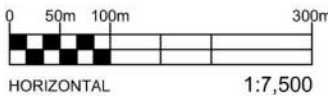
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OTT-21011499-E0  
June 29, 2023*

## Attachment 1 – Figures

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 Last Plotted: Jul 5, 2023 9:56 AM  
 Plotted by: Severa



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 2650 Queensview Drive, Suite 100  
 Ottawa, ON K2B 8H6, Canada



DATE JULY 2023	
DESIGN LW	CHECKED MM
DRAWN BY AS	

**PROPOSED MULTI-USE TOWERS**  
 7-9 HILLIARD AVENUE, OTTAWA, ONTARIO

**PHASE TWO ENVIRONMENTAL SITE ASSESSMENT**  
**SITE LOCATION PLAN**

project no. OTT-21011499-E0
scale 1:7,500
<b>FIG 1</b>

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**LEGEND**

- SITE BOUNDARIES
- MW-5 (83.99m) MONITORING WELL (EXP, 2022) GROUND ELEVATION (m)
- BH-2 BOREHOLE (EXP, 2023)
- MW-1 MONITORING WELL (EXP, 2023)

HORIZONTAL 1:500

		<b>EXP Services Inc. <a href="http://www.exp.com">www.exp.com</a></b> t: +1.613.688.1899   f: +1.613.225.7337 2650 Queensview Drive, Suite 100 Ottawa, ON K2B 8H6, Canada	
		<p><b>PROPOSED MULTI-USE TOWERS</b>          7-9 HILLIARD AVENUE, OTTAWA, ONTARIO</p> <p>PHASE TWO ENVIRONMENTAL SITE ASSESSMENT          BOREHOLE / MONITORING WELL LOCATION PLAN</p>	
DATE	JULY 2023	project no.	OTT-21011499-E0
DESIGN	LW	CHECKED	MM
DRAWN BY	AS	scale	1:500
			FIG 2

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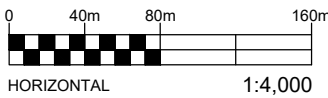


**LEGEND**

- - - SITE BOUNDARIES
- - - PHASE ONE STUDY AREA (250m)
- ➔ GROUNDWATER FLOW DIRECTION

**AREA OF POTENTIAL ENVIRONMENTAL CONCERN**

- APEC #1 - PCA #30 IMPORTED ALL MATERIAL OF UNKNOWN QUALITY (ENTIRE SITE)
- APEC #2 - PCA #37 OPERATION OF DRY CLEANING EQUIPMENT
- PCA #30 POTENTIALLY CONTAMINATING ACTIVITY (PCA)





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**PROPOSED MULTI-USE TOWERS**  
 7-9 HILLIARD AVENUE, OTTAWA, ONTARIO

**PHASE TWO ENVIRONMENTAL SITE ASSESSMENT**  
**PHASE ONE ESA CONCEPTUAL SITE MODEL**

project no.  
OTT-21011499-E0

scale  
1:4,000

**FIG 3**

DATE JULY 2023		<p><b>PHASE TWO ENVIRONMENTAL SITE ASSESSMENT</b>  <b>PHASE ONE ESA CONCEPTUAL SITE MODEL</b></p>
DESIGN LW	CHECKED MM	
DRAWN BY AS		



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## Attachment 2 – Borehole Logs

# Explanation of Terms Used on Borehole Records

## SOIL DESCRIPTION

Terminology describing common soil genesis:

*Topsoil:* mixture of soil and humus capable of supporting good vegetative growth.

*Peat:* fibrous fragments of visible and invisible decayed organic matter.

*Fill:* where fill is designated on the borehole log it is defined as indicated by the sample recovered during the boring process. The reader is cautioned that fills are heterogeneous in nature and variable in density or degree of compaction. The borehole description may therefore not be applicable as a general description of site fill materials. All fills should be expected to contain obstruction such as wood, large concrete pieces or subsurface basements, floors, tanks, etc.; none of these may have been encountered in the boreholes. Since boreholes cannot accurately define the contents of the fill, test pits are recommended to provide supplementary information. Despite the use of test pits, the heterogeneous nature of fill will leave some ambiguity as to the exact composition of the fill. Most fills contain pockets, seams, or layers of organically contaminated soil. This organic material can result in the generation of methane gas and/or significant ongoing and future settlements. Fill at this site may have been monitored for the presence of methane gas and, if so, the results are given on the borehole logs. The monitoring process does not indicate the volume of gas that can be potentially generated nor does it pinpoint the source of the gas. These readings are to advise of the presence of gas only, and a detailed study is recommended for sites where any explosive gas/methane is detected. Some fill material may be contaminated by toxic/hazardous waste that renders it unacceptable for deposition in any but designated land fill sites; unless specifically stated the fill on this site has not been tested for contaminants that may be considered toxic or hazardous. This testing and a potential hazard study can be undertaken if requested. In most residential/commercial areas undergoing reconstruction, buried oil tanks are common and are generally not detected in a conventional geotechnical site investigation.

*Till:* the term till on the borehole logs indicates that the material originates from a geological process associated with glaciation. Because of this geological process the till must be considered heterogeneous in composition and as such may contain pockets and/or seams of material such as sand, gravel, silt or clay. Till often contains cobbles (60 to 200 mm) or boulders (over 200 mm). Contractors may therefore encounter cobbles and boulders during excavation, even if they are not indicated by the borings. It should be appreciated that normal sampling equipment cannot differentiate the size or type of any obstruction. Because of the horizontal and vertical variability of till, the sample description may be applicable to a very limited zone; caution is therefore essential when dealing with sensitive excavations or dewatering programs in till materials.

Terminology describing soil structure:

*Desiccated:* having visible signs of weathering by oxidization of clay minerals, shrinkage cracks, etc.

*Stratified:* alternating layers of varying material or color with the layers greater than 6 mm thick.

*Laminated:* alternating layers of varying material or color with the layers less than 6 mm thick.

*Fissured:* material breaks along plane of fracture.

*Varved:* composed of regular alternating layers of silt and clay.

*Slickensided:* fracture planes appear polished or glossy, sometimes striated.

*Blocky:* cohesive soil that can be broken down into small angular lumps which resist further breakdown.

*Lensed:* inclusion of small pockets of different soil, such as small lenses of sand scattered through a mass of clay; not thickness.

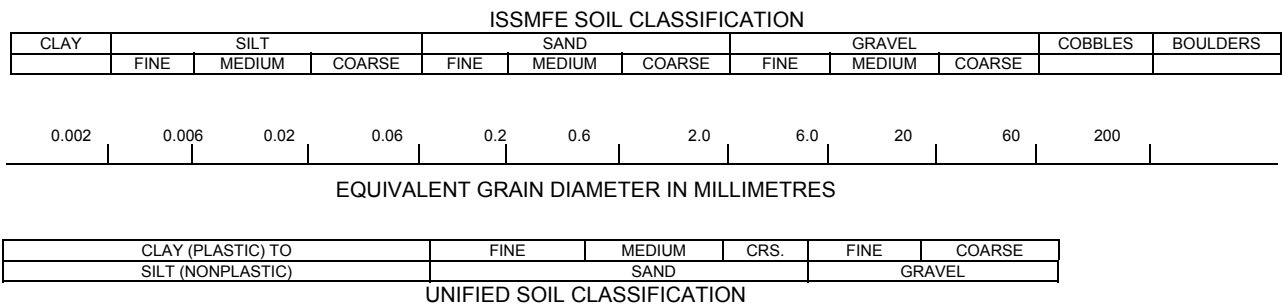
*Seam:* a thin, confined layer of soil having different particle size, texture, or color from materials above and below.

*Homogeneous:* same color and appearance throughout.

*Well Graded:* having wide range in grain sized and substantial amounts of all predominantly on grain size.

*Uniformly Graded:* predominantly on grain size.

All soil sample descriptions included in this report follow the ASTM D2487-11 Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System). The system divides soils into three major categories: (1) coarse grained, (2) fine-grained, and (3) highly organic. The soil is then subdivided based on either gradation or plasticity characteristics. The system provides a group symbol (e.g. SM) and group name (e.g. silty sand) for identification. The classification excludes particles larger than 76 mm. Please note that, with the exception of those samples where a grain size analysis has been made, all samples are classified visually in accordance with ASTM D2488-09a Standard Practice for Description and Identification of Soils (Visual-Manual Procedure). Visual classification is not sufficiently accurate to provide exact grain sizing or precise differentiation between size classification systems. Others may use different classification systems; one such system is the ISSMFE Soil Classification.



Terminology describing materials outside the USCS, (e.g. particles larger than 76 mm, visible organic matter, construction debris) is based upon the proportion of these materials present and as described below in accordance with Note 16 in ASTM D2488-09a:

Table a: Percent or Proportion of Soil, Pp

	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	$5 \leq Pp \leq 10\%$
Little	$15 \leq Pp \leq 25\%$
Some	$30 \leq Pp \leq 45\%$
Mostly	$50 \leq Pp \leq 100\%$

The standard terminology to describe cohesionless soils includes the compactness as determined by the Standard Penetration Test 'N' value:

Table b: Apparent Density of Cohesionless Soil

	'N' Value (blows/0.3 m)
Very Loose	$N < 5$
Loose	$5 \leq N < 10$
Compact	$10 \leq N < 30$
Dense	$30 \leq N < 50$
Very Dense	$50 \leq N$

The standard terminology to describe cohesive soils includes consistency, which is based on undrained shear strength as measured by insitu vane tests, penetrometer tests, unconfined compression tests or similar field and laboratory analysis, Standard Penetration Test 'N' values can also be used to provide an approximate indication of the consistency and shear strength of fine grained, cohesive soils:

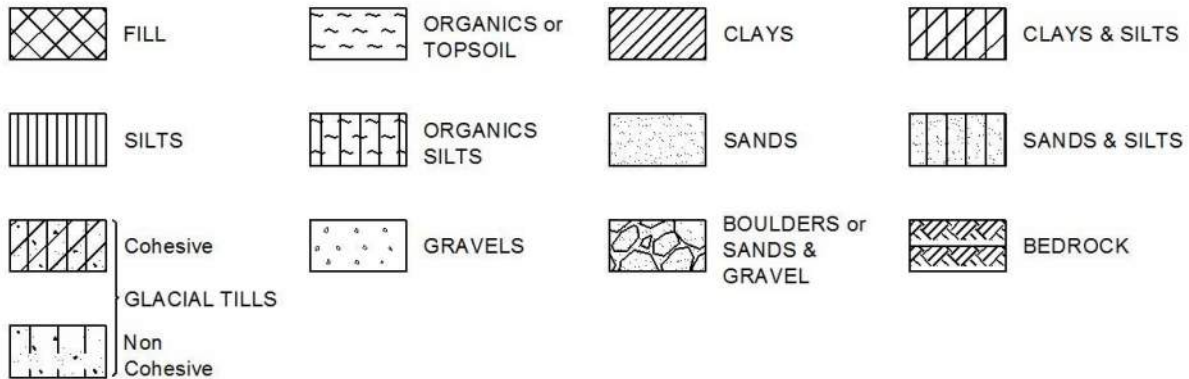
Table c: Consistency of Cohesive Soil

Consistency	Vane Shear Measurement (kPa)	'N' Value
Very Soft	<12.5	<2
Soft	12.5-25	2-4
Firm	25-50	4-8
Stiff	50-100	8-15
Very Stiff	100-200	15-30
Hard	>200	>30

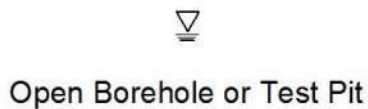
Note: 'N' Value - The Standard Penetration Test records the number of blows of a 140 pound (64kg) hammer falling 30 inches (760mm), required to drive a 2 inch (50.8mm) O.D. split spoon sampler 1 foot (305mm). For split spoon samples where full penetration is not achieved, the number of blows is reported over the sampler penetration in meters (e.g. 50/0.15).

### STRATA PLOT

Strata plots symbolize the soil or bedrock description. They are combinations of the following basic symbols:



### WATER LEVEL MEASUREMENT



# Log of Borehole BH-1



Project No: OTT-21011499-C0  
 Project: Proposed Multi-Use Towers  
 Location: 7 and 9 Hilliard Avenue, Ottawa, Ontario  
 Date Drilled: 6/9/23  
 Drill Type: Direct Push Drill Rig  
 Datum: Geodetic Elevation  
 Logged by: MR Checked by: MM

Figure No. \_\_\_\_\_  
 Page. 1 of 1

- Split Spoon Sample
- Auger Sample
- SPT (N) Value
- Dynamic Cone Test
- Shebby Tube
- Shear Strength by Vane Test
- Combustible Vapour Reading
- Natural Moisture Content
- Atterberg Limits
- Undrained Triaxial at % Strain at Failure
- Shear Strength by Penetrometer Test

G W L	S O B O L	SOIL DESCRIPTION	Geodetic Elevation m	D e p t h m	Standard Penetration Test N Value				Combustible Vapour Reading (ppm)			S M I T P A S	Natural Unit Wt. kN/m <sup>3</sup>
					20	40	60	80	250	500	750		
					Shear Strength kPa				Natural Moisture Content % Atterberg Limits (% Dry Weight)				
		<b>TOPSOIL</b> Silty sand, dark brown, moist		0									
		<b>Reworked Sand</b> Silty sand, trace gravel, grey, brown											
		<b>SAND</b> Brown, silty sand, moist, no odours or staining		1									
		<b>SILTY CLAY</b> With sand seams, brown to grey, moist, no odours or staining											
		<b>Borehole Terminated at 1.5 m Depth</b>											

LOG OF BOREHOLE OTT-21011499-E0 GINT LOGS HILLIARD.GPJ TROW OTTAWA.GDT 6/29/23

**NOTES:**

- Borehole data requires interpretation by EXP before use by others
- 
- Field work was supervised by an EXP representative.
- See Notes on Sample Descriptions
- Log to be read with EXP Report No. OTT-21011499-C0

WATER LEVEL RECORDS		
Date	Water Level (m)	Hole Open To (m)

CORE DRILLING RECORD			
Run No.	Depth (m)	% Rec.	RQD %

# Log of Borehole BH-2



Project No: OTT-21011499-C0  
 Project: Proposed Multi-Use Towers  
 Location: 7 and 9 Hilliard Avenue, Ottawa, Ontario  
 Date Drilled: 6/9/23  
 Drill Type: Direct Push Drill Rig  
 Datum: Geodetic Elevation  
 Logged by: MR Checked by: MM

Figure No. \_\_\_\_\_  
 Page. 1 of 1

- Split Spoon Sample
- Auger Sample
- SPT (N) Value
- Dynamic Cone Test
- Shebby Tube
- Shear Strength by Vane Test
- Combustible Vapour Reading
- Natural Moisture Content
- Atterberg Limits
- Undrained Triaxial at % Strain at Failure
- Shear Strength by Penetrometer Test

G W L	S O B O L	SOIL DESCRIPTION	Geodetic Elevation m	D e p t h m	Standard Penetration Test N Value				Combustible Vapour Reading (ppm)			S M I T P A S	Natural Unit Wt. kN/m <sup>3</sup>
					20	40	60	80	250	500	750		
					Shear Strength kPa				Natural Moisture Content % Atterberg Limits (% Dry Weight)				
		<b>TOPSOIL</b> Silty sand, dark brown, moist		0									
		<b>Reworked Sand</b> Silty sand, some clay, grey, brown											
		<b>SAND</b> Brown, silty sand, moist, no odours or staining		1									
		<b>SILTY CLAY</b> With sand seams, brown to grey, moist, no odours or staining											
		<b>Borehole Terminated at 1.5 m Depth</b>											

LOG OF BOREHOLE OTT-21011499-E0 GINT LOGS HILLIARD.GPJ TROW OTTAWA.GDT 6/29/23

- NOTES:
- Borehole data requires interpretation by EXP before use by others
  - 
  - Field work was supervised by an EXP representative.
  - See Notes on Sample Descriptions
  - Log to be read with EXP Report No. OTT-21011499-C0

WATER LEVEL RECORDS		
Date	Water Level (m)	Hole Open To (m)

CORE DRILLING RECORD			
Run No.	Depth (m)	% Rec.	RQD %

EXP Services Inc.

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Soil Quality Report  
7 & 9 Hilliard Avenue, Ottawa, Ontario  
OTT-21011499-E0  
June 29, 2023*

## Attachment 3 – Analytical Tables

**Table 1 - Analytical Results in Soil - PHC and VOC**  
**7 & 9 Hillard Avenue, Ottawa, Ontario**  
**OTT-21011499-E0**

Parameter	Units	MECP Table 3 Residential <sup>1</sup>	MECP Table 1 Background <sup>2</sup>	BH-1	BH-2
Sampling Date				9-Jun-2023	9-Jun-2023
Sample Depth (mbgs)		<b>Orange</b>	<i>Italics</i>	0.9 to 1.2	0.9 to 1.2
<b>Volatile Organic Compounds</b>					
Acetone	ug/g dry	16	0.5	<0.50	<0.50
Benzene	ug/g dry	0.21	0.02	<0.02	<0.02
Bromodichloromethane	ug/g dry	13	0.05	<0.05	<0.05
Bromoform	ug/g dry	0.27	0.05	<0.05	<0.05
Bromomethane	ug/g dry	0.05	0.05	<0.05	<0.05
Carbon Tetrachloride	ug/g dry	0.05	0.05	<0.05	<0.05
Chlorobenzene	ug/g dry	2.4	0.05	<0.05	<0.05
Chloroform	ug/g dry	0.05	0.05	<0.04	<0.04
Dibromochloromethane	ug/g dry	9.4	0.05	<0.05	<0.05
Dichlorodifluoromethane	ug/g dry	16	0.05	<0.05	<0.05
1,2-Dichlorobenzene	ug/g dry	3.4	0.05	<0.05	<0.05
1,3-Dichlorobenzene	ug/g dry	4.8	0.05	<0.05	<0.05
1,4-Dichlorobenzene	ug/g dry	0.083	0.05	<0.05	<0.05
1,1-Dichloroethane	ug/g dry	3.5	0.05	<0.02	<0.02
1,2-Dichloroethane	ug/g dry	0.05	0.05	<0.03	<0.03
1,1-Dichloroethylene	ug/g dry	0.05	0.05	<0.05	<0.05
cis-1,2-Dichloroethylene	ug/g dry	3.4	0.05	<0.02	<0.02
trans-1,2-Dichloroethylene	ug/g dry	0.084	0.05	<0.05	<0.05
1,2-Dichloropropane	ug/g dry	0.05	0.05	<0.03	<0.03
1,3-Dichloropropene, total	ug/g dry	0.05	0.05	<0.05	<0.05
Ethylbenzene	ug/g dry	2	0.05	<0.05	<0.05
Ethylene dibromide (dibromoethane, 1,2-)	ug/g dry	0.05	0.05	<0.04	<0.04
Hexane	ug/g dry	2.8	0.05	<0.05	<0.05
Methyl Ethyl Ketone (2-Butanone)	ug/g dry	16	0.5	<0.50	<0.50
Methyl Isobutyl Ketone	ug/g dry	1.7	0.5	<0.50	<0.50
Methyl tert-butyl ether	ug/g dry	0.75	0.05	<0.05	<0.05
Methylene Chloride	ug/g dry	0.1	0.05	<0.05	<0.05
Styrene	ug/g dry	0.7	0.05	<0.05	<0.05
1,1,1,2-Tetrachloroethane	ug/g dry	0.058	0.05	<0.04	<0.04
1,1,2,2-Tetrachloroethane	ug/g dry	0.05	0.05	<0.05	<0.05
Tetrachloroethylene	ug/g dry	0.28	0.05	<0.05	<0.05
Toluene	ug/g dry	2.3	0.2	<0.05	<0.05
1,1,1-Trichloroethane	ug/g dry	0.38	0.05	<0.05	<0.05
1,1,2-Trichloroethane	ug/g dry	0.05	0.05	<0.04	<0.04
Trichloroethylene	ug/g dry	0.061	0.05	<0.03	<0.03
Trichlorofluoromethane	ug/g dry	4	0.25	<0.05	<0.05
Vinyl Chloride	ug/g dry	0.02	0.02	<0.02	<0.02
m/p-Xylene	ug/g dry	NV	NV	<0.05	<0.05
o-Xylene	ug/g dry	NV	NV	<0.05	<0.05
Xylenes, total	ug/g dry	3.1	0.05	<0.05	<0.05
<b>Petroleum Hydrocarbons</b>					
F1 PHC (C6 - C10) - BTEX	ug/g dry	55	25	<5	<5
F2 PHC (C10-C16)	ug/g dry	98	10	<10	<10
F3 PHC (C16-C34)	ug/g dry	300	240	<50	<50
F4 PHC (C34-C50)	ug/g dry	2800	120	<50	<50

**NOTES:**

- 1 Ontario Ministry of Environment, Conservation and Parks (MECP), Soil, Groundwater and Sediment Standards for use under Part XV.1 of the Environmental Protection Act, April 2011, Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional Property Use (coarse textured soils)
- 2 Ontario Ministry of Environment, Conservation and Parks (MECP), Soil, Groundwater and Sediment Standards for use under Part XV.1 of the Environmental Protection Act, April 2011, Table 1 Full Depth Background Site Condition Standards for All Types of Property Use (coarse textured soils)
- ND Non-detectable results are shown as "ND (RDL)" where RDL represents the reporting detection limit.
- NV No Value
- N/A Not Applicable
- Parameter not analyzed
- m bgs Metres below ground surface
- Orange** Indicates soil exceedance of MECP Table 3 SCS for parkland property use
- Italics* Indicates soil exceedance of MECP Table 1 SCS for all types of property use





**Table 2 - Analytical Results in Soil - PAH**  
**7 & 9 Hillard Avenue, Ottawa, Ontario**  
**OTT-21011499-E0**

Parameter	Units	MECP Table 3 Residential <sup>1</sup>	MECP Table 1 Background <sup>2</sup>	BH-1	BH-2
Sampling Date				9-Jun-2023	9-Jun-2023
Sample Depth (mbgs)		Orange	<i>Italics</i>	0.9 to 1.2	0.9 to 1.2
Semi-Volatiles					
Acenaphthene	ug/g dry	7.9	0.072	<0.05	<0.05
Acenaphthylene	ug/g dry	0.15	0.093	<0.05	<0.05
Anthracene	ug/g dry	0.67	0.16	<0.05	<0.05
Benzo[a]anthracene	ug/g dry	0.5	0.36	<0.05	<0.05
Benzo[a]pyrene	ug/g dry	0.3	0.3	<0.05	<0.05
Benzo[b]fluoranthene	ug/g dry	0.78	0.47	<0.05	<0.05
Benzo[g,h,i]perylene	ug/g dry	6.6	0.68	<0.05	<0.05
Benzo[k]fluoranthene	ug/g dry	0.78	0.48	<0.05	<0.05
Chrysene	ug/g dry	7	2.8	<0.05	<0.05
Dibenzo[a,h]anthracene	ug/g dry	0.1	0.1	<0.05	<0.05
Fluoranthene	ug/g dry	0.69	0.56	<0.05	<0.05
Fluorene	ug/g dry	62	0.12	<0.05	<0.05
Indeno[1,2,3-cd]pyrene	ug/g dry	0.38	0.23	<0.05	<0.05
Methylnaphthalene (1&2)	ug/g dry	0.99	0.59	<0.05	<0.05
Naphthalene	ug/g dry	0.6	0.09	<0.05	<0.05
Phenanthrene	ug/g dry	6.2	0.69	<0.05	<0.05
Pyrene	ug/g dry	78	1	<0.05	<0.05

**NOTES:**

- 1 Ontario Ministry of Environment, Conservation and Parks (MECP), Soil, Groundwater and Sediment Standards for use under Part XV.1 of the Environmental Protection Act, April 2011, Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional Property Use (coarse textured soils)
- 2 Ontario Ministry of Environment, Conservation and Parks (MECP), Soil, Groundwater and Sediment Standards for use under Part XV.1 of the Environmental Protection Act, April 2011, Table 1 Full Depth Background Site Condition Standards for All Types of Property Use (coarse textured soils)
- ND Non-detectable results are shown as "ND (RDL)" where RDL represents the reporting detection limit.
- NV No Value
- N/A Not Applicable
- Parameter not analyzed
- m bgs Metres below ground surface
- Orange Indicates soil exceedance of MECP Table 3 SCS for parkland property use
- Italics* Indicates soil exceedance of MECP Table 1 SCS for all types of property use



**Table 3 - Analytical Results in Soil - Metals**  
**7 & 9 Hillard Avenue, Ottawa, Ontario**  
**OTT-21011499-E0**

Parameter	Units	MECP Table 3 Residential <sup>1</sup>	MECP Table 1 Background <sup>2</sup>	BH-1	BH-2
Sampling Date				9-Jun-2023	9-Jun-2023
Sample Depth (mbgs)		Orange	<i>Italics</i>	0.9 to 1.2	0.9 to 1.2
<b>Metals</b>					
Antimony	ug/g dry	7.5	7.5	<0.8	<0.8
Arsenic	ug/g dry	18	18	2	2
Barium	ug/g dry	390	390	319	260
Beryllium	ug/g dry	4	4	0.9	0.6
Boron	ug/g dry	120	120	5	<5
Cadmium	ug/g dry	1.2	1.2	<0.5	<0.5
Chromium	ug/g dry	160	160	121	104
Cobalt	ug/g dry	22	22	19.7	18.3
Copper	ug/g dry	140	140	43	37.3
Lead	ug/g dry	120	120	8	11
Molybdenum	ug/g dry	6.9	6.9	<0.5	<0.5
Nickel	ug/g dry	100	100	60	51.0
Selenium	ug/g dry	2.4	2.4	<0.8	<0.8
Silver	ug/g dry	20	20	<0.5	<0.5
Thallium	ug/g dry	1	1	<0.5	<0.5
Uranium	ug/g dry	23	23	0.86	1.18
Vanadium	ug/g dry	86	86	102	88.4
Zinc	ug/g dry	340	340	101	110

**NOTES:**

1 Ontario Ministry of Environment, Conservation and Parks (MECP), Soil, Groundwater and Sediment Standards for use under Part XV.1 of the Environmental Protection Act, April 2011, Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional Property Use (coarse textured soils)

2 Ontario Ministry of Environment, Conservation and Parks (MECP), Soil, Groundwater and Sediment Standards for use under Part XV.1 of the Environmental Protection Act, April 2011, Table 1 Full Depth Background Site Condition Standards for All Types of Property Use (coarse textured soils)

ND Non-detectable results are shown as "ND (RDL)" where RDL represents the reporting detection limit.

NV No Value

N/A Not Applicable

- Parameter not analyzed

m bgs Metres below ground surface

Orange Indicates soil exceedance of MECP Table 3 SCS for parkland property use

*Italics* Indicates soil exceedance of MECP Table 1 SCS for all types of property use

EXP Services Inc.

*780 Baseline Inc.  
Soil Quality Report  
7 & 9 Hilliard Avenue, Ottawa, Ontario  
OTT-21011499-E0  
June 29, 2023*

## Attachment 4 – Laboratory Certificates of Analysis

**CLIENT NAME: EXP SERVICES INC**  
**2650 QUEENSVIEW DRIVE, UNIT 100**  
**OTTAWA, ON K2B8H6**  
**(613) 688-1899**

**ATTENTION TO: Mark McCalla**  
**PROJECT: OTT-2104499-E0**

**AGAT WORK ORDER: 23Z034844**

**SOIL ANALYSIS REVIEWED BY: Amanjot Bhela, Inorganic Lab Manager**  
**TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist**

**DATE REPORTED: Jun 19, 2023**

**PAGES (INCLUDING COVER): 17**

**VERSION\*: 1**

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

**\*Notes**

**Disclaimer:**

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.
- For environmental samples in the Province of Quebec: The analysis is performed on and results apply to samples as received. A temperature above 6°C upon receipt, as indicated in the Sample Reception Notification (SRN), could indicate the integrity of the samples has been compromised if the delay between sampling and submission to the laboratory could not be minimized.

# Certificate of Analysis

AGAT WORK ORDER: 23Z034844

PROJECT: OTT-2104499-E0

5835 COOPERS AVENUE  
 MISSISSAUGA, ONTARIO  
 CANADA L4Z 1Y2  
 TEL (905)712-5100  
 FAX (905)712-5122  
<http://www.agatlabs.com>

CLIENT NAME: EXP SERVICES INC  
 SAMPLING SITE:780 Basline

ATTENTION TO: Mark McCalla  
 SAMPLED BY:Mackenzie Russell

## O. Reg. 153(511) - Metals (Including Hydrides) (Soil)

DATE RECEIVED: 2023-06-12

DATE REPORTED: 2023-06-19

Parameter	Unit	SAMPLE DESCRIPTION:		BH1	BH2
		G / S	RDL	Soil	Soil
		DATE SAMPLED:		2023-06-09 12:40	2023-06-09 12:50
				5061775	5061777
Antimony	µg/g	7.5	0.8	<0.8	<0.8
Arsenic	µg/g	18	1	2	2
Barium	µg/g	390	2.0	319	260
Beryllium	µg/g	5	0.5	0.9	0.6
Boron	µg/g	120	5	5	<5
Cadmium	µg/g	1.2	0.5	<0.5	<0.5
Chromium	µg/g	160	5	121	104
Cobalt	µg/g	22	0.8	19.7	18.3
Copper	µg/g	180	1.0	43.0	37.3
Lead	µg/g	120	1	8	11
Molybdenum	µg/g	6.9	0.5	<0.5	<0.5
Nickel	µg/g	130	1	60	51
Selenium	µg/g	2.4	0.8	<0.8	<0.8
Silver	µg/g	25	0.5	<0.5	<0.5
Thallium	µg/g	1	0.5	<0.5	<0.5
Uranium	µg/g	23	0.50	0.86	1.18
Vanadium	µg/g	86	2.0	<b>102</b>	<b>88.4</b>
Zinc	µg/g	340	5	101	110

**Comments:** RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Medium and Fine Textured Soils  
 Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.  
 Analysis performed at AGAT Toronto (unless marked by \*)

**Certified By:**

*Anayot Bhela*  


# Certificate of Analysis

AGAT WORK ORDER: 23Z034844

PROJECT: OTT-2104499-E0

5835 COOPERS AVENUE  
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<http://www.agatlabs.com>

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:780 Basline

ATTENTION TO: Mark McCalla

SAMPLED BY:Mackenzie Russell

## O. Reg. 153(511) - PAHs (Soil)

DATE RECEIVED: 2023-06-12

DATE REPORTED: 2023-06-19

Parameter	Unit	SAMPLE DESCRIPTION:		BH1	BH2
		G / S	RDL	Soil	Soil
				2023-06-09 12:40	2023-06-09 12:50
				5061775	5061777
Naphthalene	µg/g	0.75	0.05	<0.05	<0.05
Acenaphthylene	µg/g	0.17	0.05	<0.05	<0.05
Acenaphthene	µg/g	58	0.05	<0.05	<0.05
Fluorene	µg/g	69	0.05	<0.05	<0.05
Phenanthrene	µg/g	7.8	0.05	<0.05	<0.05
Anthracene	µg/g	0.74	0.05	<0.05	<0.05
Fluoranthene	µg/g	0.69	0.05	<0.05	<0.05
Pyrene	µg/g	78	0.05	<0.05	<0.05
Benz(a)anthracene	µg/g	0.63	0.05	<0.05	<0.05
Chrysene	µg/g	7.8	0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.78	0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/g	0.78	0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g	0.3	0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.48	0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g	0.1	0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	7.8	0.05	<0.05	<0.05
1 and 2 Methyl naphthalene	µg/g	3.4	0.05	<0.05	<0.05
Moisture Content	%		0.1	26.8	27.2
<b>Surrogate</b>	<b>Unit</b>	<b>Acceptable Limits</b>			
Naphthalene-d8	%	50-140		105	95
Acridine-d9	%	50-140		90	75
Terphenyl-d14	%	50-140		90	95

**Comments:** RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Medium and Fine Textured Soils  
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

**5061775-5061777** Results are based on the dry weight of the soil.

Note: The result for Benzo(b)Fluoranthene is the total of the Benzo(b)&j)Fluoranthene isomers because the isomers co-elute on the GC column.

2- and 1-Methyl Naphthalene is a calculated parameter. The calculated value is the sum of 2-Methyl Naphthalene and 1-Methyl Naphthalene.

Analysis performed at AGAT Toronto (unless marked by \*)

**Certified By:**



# Certificate of Analysis

AGAT WORK ORDER: 23Z034844

PROJECT: OTT-2104499-E0

5835 COOPERS AVENUE  
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FAX (905)712-5122  
<http://www.agatlabs.com>

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:780 Basline

ATTENTION TO: Mark McCalla

SAMPLED BY:Mackenzie Russell

## O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)

DATE RECEIVED: 2023-06-12

DATE REPORTED: 2023-06-19

Parameter	Unit	SAMPLE DESCRIPTION:		BH1	BH2
		G / S	RDL	Soil	Soil
		DATE SAMPLED:		2023-06-09	2023-06-09
				12:40	12:50
				5061775	5061777
F1 (C6 - C10)	µg/g	65	5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	65	5	<5	<5
F2 (C10 to C16)	µg/g	150	10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10	<10
F3 (C16 to C34)	µg/g	1300	50	<50	<50
F3 (C16 to C34) minus PAHs	µg/g		50	<50	<50
F4 (C34 to C50)	µg/g	5600	50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	5600	50	NA	NA
Moisture Content	%		0.1	26.8	27.2
Surrogate	Unit	Acceptable Limits			
Toluene-d8	%	50-140		80	81
Terphenyl	%	60-140		63	67

**Comments:** RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Medium and Fine Textured Soils  
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

**5061775-5061777** Results are based on sample dry weight.  
The C6-C10 fraction is calculated using toluene response factor.  
C6-C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.  
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.  
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present. The chromatogram has returned to baseline by the retention time of nC50.  
Total C6 - C50 results are corrected for BTEX and PAH contributions.  
C>10 - C16 (F2- Naphthalene) is a calculated parameter. The calculated value is F2 - Naphthalene.  
C>16 - C34 (F3-PAH) is a calculated parameter. The calculated value is F3-PAH (PAH: sum of Phenanthrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Fluoranthene, Dibenzo(a,h)anthracene, Indeno(1,2,3-c,d)pyrene and Pyrene).  
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.  
nC10, nC16 and nC34 response factors are within 10% of their average.  
C50 response factor is within 70% of nC10 + nC16 + nC34 average.  
Linearity is within 15%.  
Extraction and holding times were met for this sample.

Analysis performed at AGAT Toronto (unless marked by \*)

**Certified By:**



# Certificate of Analysis

AGAT WORK ORDER: 23Z034844

PROJECT: OTT-2104499-E0

5835 COOPERS AVENUE  
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CANADA L4Z 1Y2  
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FAX (905)712-5122  
<http://www.agatlabs.com>

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:780 Basline

ATTENTION TO: Mark McCalla

SAMPLED BY:Mackenzie Russell

## O. Reg. 153(511) - VOCs (with PHC) (Soil)

DATE RECEIVED: 2023-06-12

DATE REPORTED: 2023-06-19

Parameter	Unit	SAMPLE DESCRIPTION:		BH1	BH2
		G / S	RDL	Soil	Soil
		DATE SAMPLED:		2023-06-09 12:40	2023-06-09 12:50
		5061775	5061777		
Dichlorodifluoromethane	µg/g	25	0.05	<0.05	<0.05
Vinyl Chloride	ug/g	0.022	0.02	<0.02	<0.02
Bromomethane	ug/g	0.05	0.05	<0.05	<0.05
Trichlorofluoromethane	ug/g	5.8	0.05	<0.05	<0.05
Acetone	ug/g	28	0.50	<0.50	<0.50
1,1-Dichloroethylene	ug/g	0.05	0.05	<0.05	<0.05
Methylene Chloride	ug/g	0.96	0.05	<0.05	<0.05
Trans- 1,2-Dichloroethylene	ug/g	0.75	0.05	<0.05	<0.05
Methyl tert-butyl Ether	ug/g	1.4	0.05	<0.05	<0.05
1,1-Dichloroethane	ug/g	11	0.02	<0.02	<0.02
Methyl Ethyl Ketone	ug/g	44	0.50	<0.50	<0.50
Cis- 1,2-Dichloroethylene	ug/g	30	0.02	<0.02	<0.02
Chloroform	ug/g	0.18	0.04	<0.04	<0.04
1,2-Dichloroethane	ug/g	0.05	0.03	<0.03	<0.03
1,1,1-Trichloroethane	ug/g	3.4	0.05	<0.05	<0.05
Carbon Tetrachloride	ug/g	0.12	0.05	<0.05	<0.05
Benzene	ug/g	0.17	0.02	<0.02	<0.02
1,2-Dichloropropane	ug/g	0.085	0.03	<0.03	<0.03
Trichloroethylene	ug/g	0.52	0.03	<0.03	<0.03
Bromodichloromethane	ug/g	13	0.05	<0.05	<0.05
Methyl Isobutyl Ketone	ug/g	4.3	0.50	<0.50	<0.50
1,1,2-Trichloroethane	ug/g	0.05	0.04	<0.04	<0.04
Toluene	ug/g	6	0.05	<0.05	<0.05
Dibromochloromethane	ug/g	9.4	0.05	<0.05	<0.05
Ethylene Dibromide	ug/g	0.05	0.04	<0.04	<0.04
Tetrachloroethylene	ug/g	2.3	0.05	<0.05	<0.05
1,1,1,2-Tetrachloroethane	ug/g	0.05	0.04	<0.04	<0.04
Chlorobenzene	ug/g	2.7	0.05	<0.05	<0.05
Ethylbenzene	ug/g	15	0.05	<0.05	<0.05

**Certified By:**





# Certificate of Analysis

AGAT WORK ORDER: 23Z034844

PROJECT: OTT-2104499-E0

5835 COOPERS AVENUE  
MISSISSAUGA, ONTARIO  
CANADA L4Z 1Y2  
TEL (905)712-5100  
FAX (905)712-5122  
<http://www.agatlabs.com>

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:780 Basline

ATTENTION TO: Mark McCalla

SAMPLED BY:Mackenzie Russell

## O. Reg. 153(511) - VOCs (with PHC) (Soil)

DATE RECEIVED: 2023-06-12

DATE REPORTED: 2023-06-19

Parameter	Unit	SAMPLE DESCRIPTION:		BH1	BH2
		G / S	RDL	Soil	Soil
		DATE SAMPLED:		2023-06-09 12:40	2023-06-09 12:50
				5061775	5061777
m & p-Xylene	ug/g		0.05	<0.05	<0.05
Bromoform	ug/g	0.26	0.05	<0.05	<0.05
Styrene	ug/g	2.2	0.05	<0.05	<0.05
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.05	<0.05	<0.05
o-Xylene	ug/g		0.05	<0.05	<0.05
1,3-Dichlorobenzene	ug/g	6	0.05	<0.05	<0.05
1,4-Dichlorobenzene	ug/g	0.097	0.05	<0.05	<0.05
1,2-Dichlorobenzene	ug/g	4.3	0.05	<0.05	<0.05
Xylenes (Total)	ug/g	25	0.05	<0.05	<0.05
1,3-Dichloropropene (Cis + Trans)	µg/g	0.083	0.05	<0.05	<0.05
n-Hexane	µg/g	34	0.05	<0.05	<0.05
Moisture Content	%		0.1	26.8	27.2
Surrogate	Unit	Acceptable Limits			
Toluene-d8	% Recovery	50-140		80	81
4-Bromofluorobenzene	% Recovery	50-140		82	77

**Comments:** RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Medium and Fine Textured Soils

Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

**5061775-5061777** The sample was analyzed using the high level technique. The sample was extracted using methanol, a small amount of the methanol extract was diluted in water and the purge & trap GC/MS analysis was performed. Results are based on the dry weight of the soil.

Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene + o-Xylene.

1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.

The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by \*)

**Certified By:**





### Exceedance Summary

AGAT WORK ORDER: 23Z034844

PROJECT: OTT-2104499-E0

5835 COOPERS AVENUE  
MISSISSAUGA, ONTARIO  
CANADA L4Z 1Y2  
TEL (905)712-5100  
FAX (905)712-5122  
<http://www.agatlabs.com>

CLIENT NAME: EXP SERVICES INC

ATTENTION TO: Mark McCalla

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
5061775	BH1	ON T3 S RPI MFT	O. Reg. 153(511) - Metals (Including Hydrides) (Soil)	Vanadium	µg/g	86	102
5061777	BH2	ON T3 S RPI MFT	O. Reg. 153(511) - Metals (Including Hydrides) (Soil)	Vanadium	µg/g	86	88.4

## Quality Assurance

**CLIENT NAME: EXP SERVICES INC**
**AGAT WORK ORDER: 23Z034844**
**PROJECT: OTT-2104499-E0**
**ATTENTION TO: Mark McCalla**
**SAMPLING SITE:780 Basline**
**SAMPLED BY:Mackenzie Russell**

### Soil Analysis

RPT Date: Jun 19, 2023			DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper

**O. Reg. 153(511) - Metals (Including Hydrides) (Soil)**

Antimony	5056638		<0.8	<0.8	NA	< 0.8	130%	70%	130%	102%	80%	120%	84%	70%	130%
Arsenic	5056638		3	3	NA	< 1	121%	70%	130%	99%	80%	120%	101%	70%	130%
Barium	5056638		30.2	29.0	4.1%	< 2.0	106%	70%	130%	102%	80%	120%	106%	70%	130%
Beryllium	5056638		<0.5	<0.5	NA	< 0.5	110%	70%	130%	106%	80%	120%	116%	70%	130%
Boron	5056638		9	9	NA	< 5	87%	70%	130%	100%	80%	120%	106%	70%	130%
Cadmium	5056638		<0.5	<0.5	NA	< 0.5	104%	70%	130%	101%	80%	120%	101%	70%	130%
Chromium	5056638		13	14	NA	< 5	95%	70%	130%	91%	80%	120%	85%	70%	130%
Cobalt	5056638		4.0	4.0	0.0%	< 0.8	90%	70%	130%	102%	80%	120%	101%	70%	130%
Copper	5056638		10.0	10.8	7.7%	< 1.0	93%	70%	130%	97%	80%	120%	89%	70%	130%
Lead	5056638		4	4	NA	< 1	102%	70%	130%	93%	80%	120%	90%	70%	130%
Molybdenum	5056638		0.6	0.7	NA	< 0.5	111%	70%	130%	104%	80%	120%	112%	70%	130%
Nickel	5056638		5	5	0.0%	< 1	87%	70%	130%	94%	80%	120%	86%	70%	130%
Selenium	5056638		<0.8	<0.8	NA	< 0.8	73%	70%	130%	105%	80%	120%	100%	70%	130%
Silver	5056638		<0.5	<0.5	NA	< 0.5	94%	70%	130%	101%	80%	120%	93%	70%	130%
Thallium	5056638		<0.5	<0.5	NA	< 0.5	105%	70%	130%	102%	80%	120%	98%	70%	130%
Uranium	5056638		0.62	0.65	NA	< 0.50	97%	70%	130%	91%	80%	120%	95%	70%	130%
Vanadium	5056638		14.8	14.6	1.4%	< 2.0	95%	70%	130%	96%	80%	120%	105%	70%	130%
Zinc	5056638		24	24	NA	< 5	98%	70%	130%	105%	80%	120%	90%	70%	130%

Comments: NA Signifies Not Applicable.

Duplicate NA: results are under 5X the RDL and will not be calculated.

**O. Reg. 153(511) - Metals (Including Hydrides) (Soil)**

Antimony	5065864		<0.8	<0.8	NA	< 0.8	135%	70%	130%	97%	80%	120%	102%	70%	130%
Arsenic	5065864		6	6	2.5%	< 1	116%	70%	130%	98%	80%	120%	102%	70%	130%
Barium	5065864		116	115	0.5%	< 2.0	110%	70%	130%	102%	80%	120%	105%	70%	130%
Beryllium	5065864		0.7	0.7	NA	< 0.5	100%	70%	130%	100%	80%	120%	90%	70%	130%
Boron	5065864		9	9	NA	< 5	86%	70%	130%	103%	80%	120%	84%	70%	130%
Cadmium	5065864		<0.5	<0.5	NA	< 0.5	105%	70%	130%	98%	80%	120%	102%	70%	130%
Chromium	5065864		25	25	2.9%	< 5	103%	70%	130%	107%	80%	120%	112%	70%	130%
Cobalt	5065864		11.1	11.1	0.3%	< 0.8	106%	70%	130%	101%	80%	120%	102%	70%	130%
Copper	5065864		34.2	34.1	0.4%	< 1.0	100%	70%	130%	107%	80%	120%	103%	70%	130%
Lead	5065864		23	22	2.2%	< 1	111%	70%	130%	106%	80%	120%	111%	70%	130%
Molybdenum	5065864		0.6	0.6	NA	< 0.5	109%	70%	130%	104%	80%	120%	106%	70%	130%
Nickel	5065864		23	23	0.8%	< 1	102%	70%	130%	99%	80%	120%	100%	70%	130%
Selenium	5065864		<0.8	0.9	NA	< 0.8	92%	70%	130%	97%	80%	120%	99%	70%	130%
Silver	5065864		2.3	<0.5	NA	< 0.5	101%	70%	130%	97%	80%	120%	112%	70%	130%
Thallium	5065864		<0.5	<0.5	NA	< 0.5	115%	70%	130%	98%	80%	120%	104%	70%	130%
Uranium	5065864		0.79	0.78	NA	< 0.50	124%	70%	130%	107%	80%	120%	117%	70%	130%
Vanadium	5065864		36.3	36.6	1.0%	< 2.0	114%	70%	130%	104%	80%	120%	104%	70%	130%
Zinc	5065864		82	83	1.3%	< 5	108%	70%	130%	106%	80%	120%	113%	70%	130%

## Quality Assurance

**CLIENT NAME:** EXP SERVICES INC  
**PROJECT:** OTT-2104499-E0  
**SAMPLING SITE:**780 Basline

**AGAT WORK ORDER:** 23Z034844  
**ATTENTION TO:** Mark McCalla  
**SAMPLED BY:**Mackenzie Russell

### Soil Analysis (Continued)

RPT Date: Jun 19, 2023			DUPLICATE			Method Blank	REFERENCE MATERIAL		METHOD BLANK SPIKE		MATRIX SPIKE				
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper

Comments: NA Signifies Not Applicable.  
 Duplicate NA: results are under 5X the RDL and will not be calculated.

**Certified By:**




## Quality Assurance

**CLIENT NAME: EXP SERVICES INC**
**AGAT WORK ORDER: 23Z034844**
**PROJECT: OTT-2104499-E0**
**ATTENTION TO: Mark McCalla**
**SAMPLING SITE:780 Basline**
**SAMPLED BY:Mackenzie Russell**

### Trace Organics Analysis

RPT Date: Jun 19, 2023			DUPLICATE				Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Measured Value		Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits		
								Lower	Upper		Lower	Upper		Lower	Upper	

**O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)**

F1 (C6 - C10)	5065779		<5	<5	NA	< 5	113%	60%	140%	97%	60%	140%	91%	60%	140%
F2 (C10 to C16)	5061775	5061775	< 10	< 10	NA	< 10	112%	60%	140%	110%	60%	140%	99%	60%	140%
F3 (C16 to C34)	5061775	5061775	< 50	< 50	NA	< 50	97%	60%	140%	109%	60%	140%	96%	60%	140%
F4 (C34 to C50)	5061775	5061775	< 50	< 50	NA	< 50	82%	60%	140%	103%	60%	140%	87%	60%	140%

**O. Reg. 153(511) - VOCs (with PHC) (Soil)**

Dichlorodifluoromethane	5065779		<0.05	<0.05	NA	< 0.05	90%	50%	140%	111%	50%	140%	84%	50%	140%
Vinyl Chloride	5065779		<0.02	<0.02	NA	< 0.02	99%	50%	140%	110%	50%	140%	115%	50%	140%
Bromomethane	5065779		<0.05	<0.05	NA	< 0.05	87%	50%	140%	93%	50%	140%	81%	50%	140%
Trichlorofluoromethane	5065779		<0.05	<0.05	NA	< 0.05	106%	50%	140%	109%	50%	140%	106%	50%	140%
Acetone	5065779		<0.50	<0.50	NA	< 0.50	86%	50%	140%	107%	50%	140%	92%	50%	140%
1,1-Dichloroethylene	5065779		<0.05	<0.05	NA	< 0.05	94%	50%	140%	97%	60%	130%	117%	50%	140%
Methylene Chloride	5065779		<0.05	<0.05	NA	< 0.05	98%	50%	140%	99%	60%	130%	109%	50%	140%
Trans- 1,2-Dichloroethylene	5065779		<0.05	<0.05	NA	< 0.05	74%	50%	140%	75%	60%	130%	105%	50%	140%
Methyl tert-butyl Ether	5065779		<0.05	<0.05	NA	< 0.05	90%	50%	140%	89%	60%	130%	102%	50%	140%
1,1-Dichloroethane	5065779		<0.02	<0.02	NA	< 0.02	79%	50%	140%	80%	60%	130%	112%	50%	140%
Methyl Ethyl Ketone	5065779		<0.50	<0.50	NA	< 0.50	79%	50%	140%	119%	50%	140%	87%	50%	140%
Cis- 1,2-Dichloroethylene	5065779		<0.02	<0.02	NA	< 0.02	77%	50%	140%	79%	60%	130%	107%	50%	140%
Chloroform	5065779		<0.04	<0.04	NA	< 0.04	93%	50%	140%	97%	60%	130%	102%	50%	140%
1,2-Dichloroethane	5065779		<0.03	<0.03	NA	< 0.03	104%	50%	140%	102%	60%	130%	81%	50%	140%
1,1,1-Trichloroethane	5065779		<0.05	<0.05	NA	< 0.05	86%	50%	140%	86%	60%	130%	111%	50%	140%
Carbon Tetrachloride	5065779		<0.05	<0.05	NA	< 0.05	94%	50%	140%	93%	60%	130%	104%	50%	140%
Benzene	5065779		<0.02	<0.02	NA	< 0.02	76%	50%	140%	77%	60%	130%	99%	50%	140%
1,2-Dichloropropane	5065779		<0.03	<0.03	NA	< 0.03	70%	50%	140%	74%	60%	130%	92%	50%	140%
Trichloroethylene	5065779		<0.03	<0.03	NA	< 0.03	79%	50%	140%	81%	60%	130%	115%	50%	140%
Bromodichloromethane	5065779		<0.05	<0.05	NA	< 0.05	78%	50%	140%	79%	60%	130%	93%	50%	140%
Methyl Isobutyl Ketone	5065779		<0.50	<0.50	NA	< 0.50	93%	50%	140%	107%	50%	140%	98%	50%	140%
1,1,2-Trichloroethane	5065779		<0.04	<0.04	NA	< 0.04	80%	50%	140%	74%	60%	130%	83%	50%	140%
Toluene	5065779		<0.05	<0.05	NA	< 0.05	73%	50%	140%	73%	60%	130%	82%	50%	140%
Dibromochloromethane	5065779		<0.05	<0.05	NA	< 0.05	90%	50%	140%	86%	60%	130%	112%	50%	140%
Ethylene Dibromide	5065779		<0.04	<0.04	NA	< 0.04	72%	50%	140%	94%	60%	130%	74%	50%	140%
Tetrachloroethylene	5065779		<0.05	<0.05	NA	< 0.05	85%	50%	140%	84%	60%	130%	93%	50%	140%
1,1,1,2-Tetrachloroethane	5065779		<0.04	<0.04	NA	< 0.04	71%	50%	140%	80%	60%	130%	87%	50%	140%
Chlorobenzene	5065779		<0.05	<0.05	NA	< 0.05	78%	50%	140%	77%	60%	130%	80%	50%	140%
Ethylbenzene	5065779		<0.05	<0.05	NA	< 0.05	73%	50%	140%	74%	60%	130%	74%	50%	140%
m & p-Xylene	5065779		<0.05	<0.05	NA	< 0.05	113%	50%	140%	85%	60%	130%	82%	50%	140%
Bromoform	5065779		<0.05	<0.05	NA	< 0.05	82%	50%	140%	85%	60%	130%	103%	50%	140%
Styrene	5065779		<0.05	<0.05	NA	< 0.05	72%	50%	140%	71%	60%	130%	76%	50%	140%
1,1,2,2-Tetrachloroethane	5065779		<0.05	<0.05	NA	< 0.05	86%	50%	140%	81%	60%	130%	80%	50%	140%
o-Xylene	5065779		<0.05	<0.05	NA	< 0.05	77%	50%	140%	77%	60%	130%	83%	50%	140%

## Quality Assurance

CLIENT NAME: EXP SERVICES INC  
 PROJECT: OTT-2104499-E0  
 SAMPLING SITE: 780 Basline

AGAT WORK ORDER: 23Z034844  
 ATTENTION TO: Mark McCalla  
 SAMPLED BY: Mackenzie Russell

### Trace Organics Analysis (Continued)

RPT Date: Jun 19, 2023			DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
1,3-Dichlorobenzene	5065779		<0.05	<0.05	NA	< 0.05	99%	50%	140%	95%	60%	130%	98%	50%	140%
1,4-Dichlorobenzene	5065779		<0.05	<0.05	NA	< 0.05	98%	50%	140%	96%	60%	130%	98%	50%	140%
1,2-Dichlorobenzene	5065779		<0.05	<0.05	NA	< 0.05	94%	50%	140%	91%	60%	130%	92%	50%	140%
n-Hexane	5065779		<0.05	<0.05	NA	< 0.05	116%	50%	140%	95%	60%	130%	85%	50%	140%
<b>O. Reg. 153(511) - PAHs (Soil)</b>															
Naphthalene	5064595		3.14	3.39	7.7%	< 0.05	101%	50%	140%	98%	50%	140%	85%	50%	140%
Acenaphthylene	5064595		0.80	0.84	4.8%	< 0.05	106%	50%	140%	75%	50%	140%	97%	50%	140%
Acenaphthene	5064595		0.36	0.37	2.0%	< 0.05	115%	50%	140%	98%	50%	140%	96%	50%	140%
Fluorene	5064595		0.53	0.58	10.5%	< 0.05	95%	50%	140%	88%	50%	140%	80%	50%	140%
Phenanthrene	5064595		0.73	0.97	29.2%	< 0.05	104%	50%	140%	98%	50%	140%	122%	50%	140%
Anthracene	5064595		0.13	0.18	NA	< 0.05	113%	50%	140%	80%	50%	140%	84%	50%	140%
Fluoranthene	5064595		0.22	0.28	NA	< 0.05	108%	50%	140%	100%	50%	140%	77%	50%	140%
Pyrene	5064595		0.34	0.40	16.2%	< 0.05	106%	50%	140%	88%	50%	140%	106%	50%	140%
Benz(a)anthracene	5064595		<0.05	<0.05	NA	< 0.05	74%	50%	140%	90%	50%	140%	93%	50%	140%
Chrysene	5064595		<0.05	<0.05	NA	< 0.05	93%	50%	140%	78%	50%	140%	78%	50%	140%
Benzo(b)fluoranthene	5064595		<0.05	<0.05	NA	< 0.05	78%	50%	140%	85%	50%	140%	93%	50%	140%
Benzo(k)fluoranthene	5064595		<0.05	<0.05	NA	< 0.05	109%	50%	140%	88%	50%	140%	115%	50%	140%
Benzo(a)pyrene	5064595		<0.05	<0.05	NA	< 0.05	110%	50%	140%	73%	50%	140%	75%	50%	140%
Indeno(1,2,3-cd)pyrene	5064595		<0.05	<0.05	NA	< 0.05	108%	50%	140%	80%	50%	140%	103%	50%	140%
Dibenz(a,h)anthracene	5064595		<0.05	<0.05	NA	< 0.05	95%	50%	140%	88%	50%	140%	80%	50%	140%
Benzo(g,h,i)perylene	5064595		<0.05	<0.05	NA	< 0.05	105%	50%	140%	73%	50%	140%	108%	50%	140%

Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

**Certified By:** 

AGAT Laboratories is accredited to ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA) and/or Standards Council of Canada (SCC) for specific tests listed on the scope of accreditation. AGAT Laboratories (Mississauga) is also accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) for specific drinking water tests. Accreditations are location and parameter specific. A complete listing of parameters for each location is available from www.cala.ca and/or www.scc.ca. The tests in this report may not necessarily be included in the scope of accreditation. RPDs calculated using raw data. The RPD may not be reflective of duplicate values shown, due to rounding of final results.

*Results relate only to the items tested. Results apply to samples as received.*

## QC Exceedance

**CLIENT NAME: EXP SERVICES INC**
**AGAT WORK ORDER: 23Z034844**
**PROJECT: OTT-2104499-E0**
**ATTENTION TO: Mark McCalla**

RPT Date: Jun 19, 2023		REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Sample Id	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
			Lower	Upper		Lower	Upper		Lower	Upper

**O. Reg. 153(511) - Metals (Including Hydrides) (Soil)**

Antimony	135%	70%	130%	97%	80%	120%	102%	70%	130%
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Comments: NA Signifies Not Applicable.

Duplicate NA: results are under 5X the RDL and will not be calculated.

## Method Summary

**CLIENT NAME:** EXP SERVICES INC  
**PROJECT:** OTT-2104499-E0  
**SAMPLING SITE:**780 Basline

**AGAT WORK ORDER:** 23Z034844  
**ATTENTION TO:** Mark McCalla  
**SAMPLED BY:**Mackenzie Russell

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
<b>Soil Analysis</b>			
Antimony	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Arsenic	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Barium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Beryllium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Cadmium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Cobalt	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Copper	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Lead	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Molybdenum	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Nickel	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Selenium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Silver	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Thallium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Uranium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Vanadium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Zinc	MET 93 -6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS



## Method Summary

**CLIENT NAME: EXP SERVICES INC**
**AGAT WORK ORDER: 23Z034844**
**PROJECT: OTT-2104499-E0**
**ATTENTION TO: Mark McCalla**
**SAMPLING SITE:780 Basline**
**SAMPLED BY:Mackenzie Russell**

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
<b>Trace Organics Analysis</b>			
Naphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluorene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benz(a)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Chrysene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
1 and 2 Methylnaphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Moisture Content	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
F1 (C6 - C10)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	P&T GC/FID
Toluene-d8	VOL-91- 5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34) minus PAHs	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F4 (C34 to C50)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Terphenyl	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Dichlorodifluoromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS

## Method Summary

**CLIENT NAME: EXP SERVICES INC**
**AGAT WORK ORDER: 23Z034844**
**PROJECT: OTT-2104499-E0**
**ATTENTION TO: Mark McCalla**
**SAMPLING SITE:780 Basline**
**SAMPLED BY:Mackenzie Russell**

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Vinyl Chloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trans- 1,2-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl tert-butyl Ether	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Cis- 1,2-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Toluene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Chlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS

## Method Summary

**CLIENT NAME: EXP SERVICES INC**
**AGAT WORK ORDER: 23Z034844**
**PROJECT: OTT-2104499-E0**
**ATTENTION TO: Mark McCalla**
**SAMPLING SITE:780 Basline**
**SAMPLED BY:Mackenzie Russell**

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
m & p-Xylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene (Cis + Trans)	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5002	modified from EPA 5035A & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5002	modified from EPA 5035A & EPA 8260D	(P&T)GC/MS

Have feedback?  
Scan here for a quick survey!



5835 Coopers Avenue  
Mississauga, Ontario L4Z 1Y2  
Ph: 905.712.5100 Fax: 905.712.5122  
web@earth.agatlabs.com

### Laboratory Use Only

Work Order #: 232034844

Cooler Quantity: one - no ice packs

Arrival Temperatures: 4.6 14.5 14.5  
14.4 15.4 19.8

Custody Seal Intact:  Yes  No  N/A

Notes:

## Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

### Report Information:

Company: Exp Services Inc.  
Contact: Mark McCalla  
Address: 2650 Queenwood Dr.  
  
Phone: 613 688 1889 Fax: \_\_\_\_\_  
Reports to be sent to:  
1. Email: mark.mccalla@exp.com  
2. Email: \_\_\_\_\_

### Regulatory Requirements:

(Please check all applicable boxes)

Regulation 153/04  Regulation 406  Sewer Use  
 Sanitary  Storm  
Table 3 Indicate One  Ind/Com  Agriculture  
 Res/Park  Regulation 558  Prov. Water Quality Objectives (PWQO)  
 Agriculture  CCME  Other  
Soil Texture (Check One)  Coarse  Fine  CCME  
Indicate One

Is this submission for a Record of Site Condition?

Yes  No

Report Guideline on Certificate of Analysis

Yes  No

### Project Information:

Project: OTT-2104499-EO  
Site Location: 780 Baseline  
Sampled By: Mackenzie Russell  
AGAT Quote #: \_\_\_\_\_ PO: \_\_\_\_\_  
Please note: If quotation number is not provided, client will be billed full price for analysis.

### Invoice Information:

Bill To Same: Yes  No

Company: \_\_\_\_\_  
Contact: \_\_\_\_\_  
Address: \_\_\_\_\_  
Email: \_\_\_\_\_

### Sample Matrix Legend

GW Ground Water  
O Oil  
P Paint  
S Soil  
SD Sediment  
SW Surface Water

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Y / N	Field Filtered - Metals, Hg, CrVI, DOC																
							Metals & Inorganics	Metals - <input type="checkbox"/> CrVI, <input type="checkbox"/> Hg, <input type="checkbox"/> HWSB	BTEX, F1-F4 PHCs	VOC	PAHs	PCBs	PCBs: Aroclors <input type="checkbox"/>	Landfill Disposal Characterization TOLP: <input type="checkbox"/> MMI <input type="checkbox"/> VOCs <input type="checkbox"/> APNS <input type="checkbox"/> B1e1P <input type="checkbox"/> PCBs	Regulation 406 SPLP Rainwater Leach	SPLP: <input type="checkbox"/> Metals <input type="checkbox"/> VOCs <input type="checkbox"/> SVOCs	Regulation 406 Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Corrosivity: <input type="checkbox"/> Moisture <input type="checkbox"/> Sulphide	Potentially Hazardous or High Concentration (Y/N)				
1. BH1	06/09/23	12:40 AM	4	Soil				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
2. BH2	↓	12:50 AM	↓	Soil				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
3.		AM																					
4.		PM																					
5.		AM																					
6.		PM																					
7.		AM																					
8.		PM																					
9.		AM																					
10.		PM																					
11.		AM																					

Samples Relinquished By (Print Name and Sign): <u>Mackenzie Russell</u>	Date: <u>06/12/2023</u>	Time: <u>9:35</u>	Samples Received By (Print Name and Sign): <u>Michael Bisio</u>	Date: <u>06/12/23</u>	Time: <u>09h32</u>
Samples Relinquished By (Print Name and Sign): <u>C. To...</u>	Date: <u>06/12/23</u>	Time: <u>15h30</u>	Samples Received By (Print Name and Sign): <u>Michael Bisio MID</u>	Date: <u>06/13/23</u>	Time: <u>8:35am</u>
Samples Relinquished By (Print Name and Sign):	Date:	Time:	Samples Received By (Print Name and Sign):	Date:	Time: