Phase Two Environmental Site Assessment

770 and 774 Bronson Avenue and 557 Cambridge Street, Ottawa, Ontario

Client:

SEC 774 Bronson
C/O KTS Ontario Properties
265 Carling Avenue
Ottawa, Ontario K1S 1E2

Type of Document:
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Date Submitted:
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Legal Notification

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Executive Summary

EXP Services Inc. (EXP) was retained by Katasa Group to conduct a Phase Two Environmental Site Assessment (ESA) of the property located at 770 and 774 Bronson Avenue and 557 Cambridge Street in Ottawa, Ontario (hereinafter referred to as the 'Phase Two property'). The purpose of the investigation was to support the filing of a Record of Site Condition (RSC).

The objective of the Phase Two ESA investigation was to assess the quality of the groundwater conditions within the areas of potential environmental concern (APEC) identified in a Phase One ESA prepared by EXP. The most recent use of the property was for commercial purposes and the proposed future use will be residential and commercial. Consequently, in accordance with Regulation 153/04, as amended, an RSC must be filed.

The Phase Two property has the municipal addresses of 770 Bronson Avenue, 774 Bronson Avenue, and 557 Cambridge Street in Ottawa, Ontario. The Phase Two property is irregular in shape and has a total area of approximately 0.45 hectares. The approximate centroid coordinates are NAD83 18T 445213 m E and 5027661 m N.

The property at 770 Bronson Avenue is vacant and currently used as a parking lot. It is legally described as Part Lots 1 and 2, Registered Plan 28, City of Ottawa. The property identification number (PIN) is 04103-0205 (LT).

The property at 774 Bronson Avenue is vacant and currently used as a parking lot. It is legally described as Lots 3 and 4, Registered Plan 28, City of Ottawa. The PIN is 04103-0125 (LT).

The property at 557 Cambridge Street is vacant and currently used as a parking lot. It is legally described as Lot 37 and Part Lot 38, Registered Plan 28, Part 4 Registered Plan 5R14360, City of Ottawa. The PIN is 04103-0215 (LT).

The most recent use of the property was commercial. The proposed future use of the property is residential and commercial. A new building will be constructed at the Phase Two property. The building will have one or two levels of underground parking, ground-level commercial space, and upper-level residential units.

The Phase Two property, and all other properties located, in whole or in part, within 250 metres of the boundaries of The Phase Two property is located in the physiographic region known as the Ottawa Formation. The bedrock in the area consists of limestone with some shaley partings. Bedrock is present at a depth of less than 2 metres below ground surface (mbgs), which is approximately 75 metres above sea level (masl). Therefore, in accordance with Section 43.1 of Regulation 153/04, the Phase Two property is a shallow soil property.

Beneath any fill, the surficial geology of the Phase Two is characterised by Champlain Sea deposits of plain till.

Topographically, the Phase Two study area slopes downwards towards the southwest. The regional groundwater flow direction is anticipated to be to the north/northeast towards the Ottawa River. However, the local groundwater flow direction may be influenced by the presence of Dow's Lake, which is approximately 400 metres southwest of the Phase Two property. Dow's Lake is the closest water body to the Phase Two property and is a man-made lake on the Rideau Canal, which flows to the northeast towards the Ottawa River.

The Phase Two property, and all other properties located, in whole or in part, within 250 metres of the boundaries of the Phase Two property, are supplied by a municipal drinking water system, as defined in the *Safe Drinking Water Act*, provided by the City of Ottawa. Further, the Phase Two property is not located in an area designated in the municipal official plan as a well-head protection area and no properties within the Phase Two study area have a well that is being used or is intended for use as a source of potable water. Thus, in accordance with Section 35 of Ontario Regulation 153/04, non-potable water standards apply to the Phase Two property.

No wells used as a source of potable water or for agricultural purposes were observed on the Phase Two property or on any property within 250 metres of the Phase Two property.

The Phase Two property is not located within an area of natural significance, and it does not include land that is within 30 metres of an area of natural significance. In accordance with Section 41 of Ontario Regulation 153/04, the Phase Two property is not an environmentally sensitive area.

Although there were no buildings on the Phase Two property at the time of the investigation, the Phase Two property, and surrounding area are serviced by municipal water, storm and sanitary sewers, natural gas, hydro and telecommunication. Since the water table is within the bedrock, the presence of utilities is not expected to affect possible migration of contaminants once buildings are constructed on the Phase Two property.

The following on-site potentially contaminating activities (PCA) were identified:

- PCA #10 – Commercial Autobody Shops – 770 Bronson Avenue (Phase Two property) – Former service garage;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 770 Bronson Avenue (Phase Two property) – Former gas station with three UST;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 770 Bronson Avenue (Phase Two property) – Former heating oil AST along west interior building wall;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 770 Bronson Avenue (Phase Two property) – Former waste oil AST along the south exterior wall of the garage building;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 774 Bronson Avenue (Phase Two property) – Former heating oil AST in the former north residential building;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 774 Bronson Avenue (Phase Two property) – Former heating oil AST in the south residential building;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 774 Bronson Avenue (Phase Two property) – Former heating oil AST in the former commercial building;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 557 Cambridge Street (Phase Two property) – Former heating oil AST in the south office building;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 557 Cambridge Street (Phase Two property) – Former heating oil AST in the middle office building;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 557 Cambridge Street (Phase Two property) – Former heating oil AST in the north office building;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 557 Cambridge Street (Phase Two property) – Oil skimmings collected in former commercial building on east side of 557 Cambridge Street;
- PCA #30 – Importation of Fill Material of Unknown Quantity – Entire Phase Two property – Fill material brought to site to backfill excavations, including tank nest and building foundations;
- PCA #31 – Ink Manufacturing, Processing and Bulk Storage – 774 Bronson Avenue – Former commercial printing operation on south part of parcel (former address of 784 Bronson Avenue);
- PCA #59 – Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products – 557 Cambridge Avenue (Phase Two property) – Western part of the site was historically used for wood treating; and
- PCA #Other – Application of de-icing salt - All former paved areas throughout the Phase Two Property.

By definition, all of the above PCA have resulted in APEC on the Phase Two property.

The following PCA have been identified in the Phase Two study area:

- PCA #10 – Commercial Autobody Shops – 400 Bell Street (125 m west) – Former garage with UST;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 400 Bell Street (125 m west) – Former garage with UST;

- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 735 Carling Avenue (225 m west) – Former gas station with three UST;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 748 Bronson Avenue (now 265 Carling Avenue) (40 m north) – Former gas station;
- PCA #37 – Operation of Dry Cleaning Equipment (where chemicals are used) – 786-788 Bronson Street (immediately south of Phase Two property) – Former dry cleaner;
- PCA #46 – Rail Yards, Tracks and Spurs – Between Cambridge Street and Dow's Lake (150 m southwest) – Rail spurs at the Fraserfield Lumber Yard in early 1900s;
- PCA #55 – Transformer Manufacturing, Processing and Use – 227 Carling Avenue (now 247 Glebe Avenue) (60 m northeast) – Hydro sub station; and,
- PCA #59 – Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products – Between Cambridge Street and Dow's Lake (150 m southwest) – Former Fraserfield Lumber Yard.

The former dry-cleaning operation at 786-788 Bronson Avenue is immediately adjacent and south of the Phase Two property and may have resulted in contamination to the Phase Two property. Therefore, this PCA results in an APEC on the Phase Two property.

The former gas station at 735 Carling Avenue, the former lumber yard and rail spur lines at Fraserfield Lumber yard, and the former garage at 400 Bell Street were all located over 150 m from the Phase Two property. Due to the separation distance from the Phase Two property and the low hydraulic conductivity of the bedrock, these operations were not considered to result in APEC on the Phase Two property.

The former gas station at 265 Carling Avenue and the hydro substation at 247 Glebe Avenue are located approximately 40 m north and 60 m northeast, respectively. The potential contaminants of concern associated with the former gas station at 265 Carling Avenue are the same as those associated with the former gas station on the Phase Two property itself. Thus, if groundwater is present with such contaminants, the source will be assumed to be the former gas station on the Phase Two property itself. The potential contaminants of concern associated with the hydro substation are polychlorinated biphenyls (PCB), which are relatively non-motile and, therefore, unlikely to migrate to the Phase Two property. Further, these two PCA are located downgradient of the Phase Two property, based on the inferred regional flow direction. Therefore, these operations were located downgradient of the Phase Two property and were determined not to result in APEC on the Phase Two property.

Ontario Regulation 153/04 defines an APEC as an area on a property where one or more contaminants are potentially present. The following APECs were identified on the Phase Two property, as shown in Table EX-1:

Table EX-1: Areas of Potential Environmental Concern

Area of Potential Environmental Concern (APEC)	Location of APEC on Phase One Property	Potentially Contaminating Activity (PCA)	Location of PCA (On-Site or Off-Site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, Soil and/or Sediment)
1. Former automotive garage at 770 Bronson Avenue	Garage building footprint	PCA #10 – Commercial autobody shop	On-Site	BTEX, PHC, VOC, metals	Soil and groundwater
2. Former gas station at 770 Bronson Avenue	Northeast part of the Phase Two property	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, metals	Soil and groundwater

Area of Potential Environmental Concern (APEC)	Location of APEC on Phase One Property	Potentially Contaminating Activity (PCA)	Location of PCA (On-Site or Off-Site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, Soil and/or Sediment)
3. Former heating oil AST at 770 Bronson Avenue	Along west interior building wall	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH	Soil and groundwater
4. Former waste oil AST at 770 Bronson Avenue	Along south exterior building wall	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH, metals	Soil and groundwater
5. Former heating oil AST in the north residential building at 774 Bronson Avenue	Former north residential building footprint	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH	Soil and groundwater
6. Former heating oil AST in the south residential building at 774 Bronson Avenue	Former south residential building footprint	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH	Soil and groundwater
7. Former heating oil AST in the commercial building at 774 Bronson Avenue	Former building footprint in southeast corner of Phase Two property	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH	Soil and groundwater
8. Former heating oil AST in the south commercial building at 557 Cambridge Street	Former building footprint on southwest corner of 557 Cambridge Street	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH	Soil and groundwater
9. Former heating oil AST in the centre commercial building at 557 Cambridge Street	Former building footprint adjacent to west-centre property line of 557 Cambridge Street	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH	Soil and groundwater
10. Former heating oil AST in the north commercial building at 557 Cambridge Street	Former building footprint on northwest corner of 557 Cambridge Street	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH	Soil and groundwater
11. Oil skimmings collected at former contractors' yard at 557 Cambridge Street	Within building footprint of former contractor building in south-centre part of Phase Two property	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, PAH	Soil and groundwater
12. Fill used to backfill former UST excavations and former building footprints	Entire Phase Two property	PCA #30 – Importation of Fill Material of Unknown Quality	On-site	BTEX, PHC, PAH, metals	Soil
13. Former commercial printing operation	Former building footprint in southeast corner of Phase Two property	PCA #31 – Ink Manufacturing, Processing and Bulk Storage	On-site	VOC	Groundwater
14. Former dry cleaner at 786-788 Bronson Avenue	Along south property line shared with former dry cleaner	PCA #37 – Operation of Dry Cleaning Equipment (where chemicals are used)	Off-site	VOC	Groundwater

Area of Potential Environmental Concern (APEC)	Location of APEC on Phase One Property	Potentially Contaminating Activity (PCA)	Location of PCA (On-Site or Off-Site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, Soil and/or Sediment)
15. Former treated lumber storage at 557 Cambridge Street	West part of the Phase Two property	PCA #59 – Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products	On-site	PAH, PHC, Chlorophenols	Soil and groundwater
16. All former paved areas throughout the Phase Two Property	Former paved driveways and parking lots at Phase Two property	PCA #Other – Application of de-icing salt	On-site	EC, SAR	Soil

On August 11, 2022, EXP collected groundwater samples from the existing monitoring wells (BH 15-1 to BH15-3, BH15-5) at 770 Bronson Avenue. None of the monitoring wells installed at 774 Bronson Avenue or 557 Cambridge Street were still present. Four groundwater samples, plus a field duplicate, were submitted for analysis of PHC, VOC, and PAH. BH15-4 could not be sampled due to insufficient sample volume. All of the samples were within the applicable Table 7 SCS for all parameters analysed.

The drilling program was completed between January 9 and 11, 2024, by Strata Drilling (Strata), a licensed well contractor. Strata advanced fifteen boreholes (BH1 to BH15) across the Phase Two property, using a Massenza M13 track-mounted drill. Ten of the boreholes (MW4 to MW13) were completed as monitoring wells.

Thirteen soil samples and one duplicate sample were submitted for analysis of VOC, PHC, and PAH; and fifteen samples and one duplicate sample were submitted for analysis of metals, and inorganics (EC and SAR). All of the soil samples met the Table 7 SCS with the exception of the following:

- MW13 SS1 exceeded the Table 7 SCS for PHC F3;
- BH2 SS1, BH3 SS1, MW4 SS2, MW6 SS1, MW12 SS1, and MW13 SS1 exceeded the Table 7 SCS for various PAH parameters;
- BH1 SS1 exceeded the Table 7 SCS for lead, and BH2 SS1 exceeded the Table 7 CS for cadmium, lead, and zinc; and,
- BH1 SS1, BH2 S1, BH3 SS1, MW6 SS1, MW7 SS1, MW8 SS1 (and duplicate), MW9 SS1, MW10 SS1, and MW13 SS1 exceeded the Table 7 SCS for electrical conductivity and/or sodium adsorption ratio.

In accordance with Section 49.1 of Regulation 153/04 if, in the opinion of the Qualified Person, the applicable SCS at the Phase Two property are exceeded solely due to the application of a substance to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both, the applicable SCS is deemed not to be exceeded. Road salt is considered to have been applied to the driving and parking surfaces on the Phase Two property. As all of the boreholes/monitoring wells with elevated sodium absorption ratio and conductivity levels were located in a parking lot, for the purpose of this investigation, the elevated sodium absorption ratio and conductivity levels in the soil samples are deemed not to exceed the Table 7 SCS.

Between January 23 and 25, 2024, ten groundwater samples, and a field duplicate were submitted for analysis of VOC, PHC, PAH, and metals. It was noted that the groundwater samples collected from MW10 and MW13 slightly exceeded the Table 7 SCS for benzene. The remaining samples met the Table 3 SCS for all remaining parameters analyzed.

On February 5, 2024, a second sample was collected from MW10 and MW13 and submitted for analysis of BTEX. Both of the samples were below the detection limits for benzene, which were exceeded in the initial samples.

A new building will be constructed at the Phase Two property. The building will have one or two levels of underground parking, ground-level commercial space, and upper-level residential units. The potential on-site human receptors include indoor and outdoor long-term workers, indoor and outdoor short-term workers, residents (adult, teen, child, toddler and infant), property visitors (adult, teen, child, toddler and infant), and outdoor construction workers.

The potential on-site exposure pathways for the construction workers are incidental soil and groundwater ingestion, soil particulate inhalation, soil and groundwater dermal contact, ambient vapour inhalation, and vapour skin contact. The potential on-site exposure pathways for the short-term and long-term outdoor workers (who are not exposed directly to subsurface soil and groundwater) are incidental surface soil ingestion, surface soil particulate inhalation, surface soil dermal contact, and vapour skin contact. The potential on-site exposure pathway for the property residents, the long-term and short-term indoor workers and visitors is indoor air inhalation.

While the footprint of the building that is being planned will occupy most of the Phase Two property, there will be a landscaped area surrounding the building. Therefore, The Phase Two property is capable of supporting some ecological receptors. Relevant ecological receptors include terrestrial vegetation (bushes, grasses and weeds); soil invertebrates (earthworms, millipedes and beetles); birds (seagulls, pigeons, sparrows and robins); and small terrestrial mammals (moles, voles, and mice).

The potential on-site exposure pathways for terrestrial vegetation are root uptake of soil and groundwater and stem and foliar uptake of vapours from soil and groundwater. The potential on-site exposure pathways for soil invertebrates are soil particulate inhalation, soil and groundwater dermal contact, soil and groundwater ingestion, and vapour inhalation, and plant and animal tissue ingestion. The potential on-site exposure pathways for mammals and birds are soil particulate inhalation, soil dermal contact, soil ingestion, vapour inhalation, and plant and animal tissue ingestion.

PHC, PAH and metals impacted soil has been identified on the Phase Two property. As there were no groundwater exceedances identified on the Phase Two property, the contamination does not appear to be migrating. It is recommended that the impacted soil be removed from the Phase Two property when the property is re-developed.

The Qualified Person can confirm that the Phase Two Environmental Site Assessment was conducted per the requirements of Ontario Regulation 153/04, as amended, and in accordance with generally accepted professional practices.

This executive summary is a brief synopsis of the report and should not be read in lieu of reading the report in its entirety.

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1.0 Introduction

EXP Services Inc. (EXP) was retained by Katasa Group to conduct a Phase Two Environmental Site Assessment (ESA) of the property located at 770 and 774 Bronson Avenue and 557 Cambridge Street in Ottawa, Ontario (hereinafter referred to as the 'Phase Two property'). The purpose of the investigation was to support the filing of a Record of Site Condition (RSC).

The objective of the Phase Two ESA investigation was to assess the quality of the groundwater conditions within the areas of potential environmental concern (APEC) identified in a Phase One ESA prepared by EXP. The most recent use of the property was for commercial purposes and the proposed future use will be residential and commercial. Consequently, in accordance with Regulation 153/04, as amended, an RSC must be filed.

This report has been prepared in accordance with the Phase Two ESA standard as defined by Ontario Regulation 153/04 (as amended), and in accordance with generally accepted professional practices. Subject to this standard of care, EXP makes no express or implied warranties regarding its services and no third-party beneficiaries are intended. Limitation of liability, scope of report and third-party reliance are outlined in Section 8 of this report.

1.1 Site Description

The Phase Two property has the municipal addresses of 770 Bronson Avenue, 774 Bronson Avenue, and 557 Cambridge Street in Ottawa, Ontario. The Phase Two property is irregular in shape and has a total area of approximately 0.45 hectares. The approximate centroid coordinates are NAD83 18T 445213 m E and 5027661 m N. A site location plan is provided as Figure 1 in Appendix A.

The property at 770 Bronson Avenue is vacant and currently used as a parking lot. It is legally described as Part Lots 1 and 2, Registered Plan 28, City of Ottawa. The property identification number (PIN) is 04103-0205 (LT).

The property at 774 Bronson Avenue is vacant and currently used as a parking lot. It is legally described as Lots 3 and 4, Registered Plan 28, City of Ottawa. The PIN is 04103-0125 (LT).

The property at 557 Cambridge Street is vacant and currently used as a parking lot. It is legally described as Lot 37 and Part Lot 38, Registered Plan 28, Part 4 Registered Plan 5R14360, City of Ottawa. The PIN is 04103-0215 (LT).

Site identification details are provided in Table 1.

Table 1: Site Identification Details

Civic Address	770 and 774 Bronson Avenue, 557 Cambridge Street, Ottawa, Ontario
Current Land Use	Commercial
Proposed Future Land Use	Commercial and Residential
Property Identification Number	04103-0205, 04103-0125, 04103-0215
UTM Coordinates	NAD83 18T 445213 m E and 5027661 m N
Site Area	0.45 hectares
Property Owner	10467855 Canada Inc.

A survey plan of the Phase Two property was completed by Annis, O'Sullivan, and Vollebekk Ltd. in November 2015. A copy of the survey plan is provided in Appendix B.

1.2 Property Ownership

The registered owner of the Phase One property is 10467855 Canada Inc. Authorization to proceed with this investigation on behalf of the property owner was provided by Ms. Tanya Chowieri, Acquisition and Project Development for Katasa Groupe. Contact information is 301-69 rue Jean-Proulx, Gatineau, Quebec, J8Z 1W2.

1.3 Current and Proposed Future Use

The most recent use of the property was commercial. The proposed future use of the property is residential and commercial. A new building will be constructed at the Phase Two property. The building will have one or two levels of underground parking, ground-level commercial space, and upper-level residential units. Since the past use of the property was commercial land use, an RSC must be filed, per Ontario Regulation 153/04.

1.4 Applicable Site Condition Standards

Analytical results obtained for soil and groundwater 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).

Table 1 to 9 SCS are summarized 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 shallow soils (bedrock encountered at depths of 2 metres or less across one-third or more of the site)
- Table 7 – applicable to sites with non-potable groundwater and shallow soils (bedrock encountered at depths of 2 metres or less across one-third or more of the site)
- Table 8 – applicable to sites with potable groundwater and that are within 30 m of a water body
- Table 9 – applicable to sites with non-potable groundwater and that are within 30 m of a water body

Application of the generic or background SCS to a specific site is based on a consideration of site conditions related to soil pH, thickness and extent of overburden material, and proximity to an area of environmental sensitivity or of natural significance. For some chemical parameters, consideration is also given to soil textural classification with SCS having been derived for both coarse and medium-fine textured soil conditions.

For assessment purposes, EXP selected the 2011 Table 7 SCS in a non-potable groundwater condition for residential/parkland/institutional property use and coarse textured soils. The selection of these categories was based on the following factors:

- The predominant soil type on the Phase Two property was considered to be coarse textured, based on field observations;
- There was no intention to carry out a stratified restoration at the Phase Two property;
- More than two-thirds of the Phase Two property has an overburden thickness less than 2 metres;
- The Phase Two property is not located within 30 metres of a surface water body;
- The Phase Two property, and all other properties located, in whole or in part, within 250 metres of the boundaries of the Phase Two property, are supplied by a municipal drinking water system provided by the City of Ottawa;
- The Phase Two property is not located in an area designated in the municipal official plan as a well-head protection area and no properties within the Phase Two study area have a well that is being used or is intended for use as a source of potable water;
- The Phase Two property is not 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 metres of an area of natural significance, nor is it part of such an area;
- The soil at the Phase Two property has a pH value between 5 and 9 for surficial soils; and, between 5 and 11 for subsurface soils;
- The Phase Two property is planned for future residential and commercial use; and
- It is the opinion of the Qualified Person who oversaw this work that the Phase Two property is not a sensitive site.

Based on the above considerations:

- In accordance with Section 35 of Ontario Regulation 153/04, non-potable water standards apply to the Phase Two property;
- In accordance with Section 41 of Ontario Regulation 153/04, the Phase Two property is not an environmentally sensitive area; and
- The Phase Two property is a shallow soil property, as defined in Section 43.1 of Regulation 153/04.

2.0 Background Information

2.1 Physical Setting

The Phase Two property has the municipal addresses 770 and 774 Bronson Avenue, and 557 Cambridge Street in Ottawa, Ontario. The Phase Two property is located in a residential/commercial area near the intersection of Carling Avenue and Bronson Avenue, as shown on Figure 1 in Appendix A. The Phase Two property is irregular in shape and has an area of approximately 0.45 hectares. At the time of the current investigation, the Phase Two property was occupied by a parking lot. A site plan showing the Phase Two property is presented as Figure 2 in Appendix A.

The Phase Two property is located in the physiographic region known as the Ottawa Formation. The bedrock in the area consists of limestone with some shaley partings. Bedrock is present at a depth of less than 2 metres below ground surface (mbgs), which is approximately 75 metres above sea level (masl). Therefore, in accordance with Section 43.1 of Regulation 153/04, the Phase Two property is a shallow soil property.

Beneath any fill, the surficial geology of the Phase Two is characterised by Champlain Sea deposits of plain till.

Topographically, the Phase Two study area slopes downwards towards the southwest. The regional groundwater flow direction is anticipated to be to the north/northeast towards the Ottawa River. However, the local groundwater flow direction may be influenced by the presence of Dow's Lake, which is approximately 400 metres southwest of the Phase Two property. Dow's Lake is the closest water body to the Phase Two property and is a man-made lake on the Rideau Canal, which flows to the northeast towards the Ottawa River.

The Phase Two property, and all other properties located, in whole or in part, within 250 metres of the boundaries of the Phase Two property, are supplied by a municipal drinking water system, as defined in the *Safe Drinking Water Act*, provided by the City of Ottawa. Further, the Phase Two property is not located in an area designated in the municipal official plan as a well-head protection area and no properties within the Phase Two study area have a well that is being used or is intended for use as a source of potable water. Thus, in accordance with Section 35 of Ontario Regulation 153/04, non-potable water standards apply to the Phase Two property.

No wells used as a source of potable water or for agricultural purposes were observed on the Phase Two property or on any property within 250 metres of the Phase Two property.

The Phase Two property is not located within an area of natural significance, and it does not include land that is within 30 metres of an area of natural significance. In accordance with Section 41 of Ontario Regulation 153/04, the Phase Two property is not an environmentally sensitive area.

2.2 Past Investigations

EXP reviewed the following reports:

- *Phase One Environmental Site Assessment, 770 Bronson Avenue, Ottawa, Ontario*, August 2015 prepared by Golder Associates;
- *Phase Two Environmental Site Assessment, 770 Bronson Avenue, Ottawa, Ontario,* August 2015 prepared by Golder Associates;
- *Phase 1 Environmental Site Assessment, 774 Bronson Avenue and 557 Cambridge Street South, Ottawa, Ontario*, December 2015 prepared by WSP Canada Inc.;
- *Phase Two Environmental Site Assessment, 774 Bronson Avenue and 557 Cambridge Street, Ottawa, Ontario*, March 2016 prepared by WSP Canada Inc.;
- *Technical Memorandum, Remedial Action Plan*, August 2016 prepared by Golder Associates;

- *Phase I Environmental Site Assessment, 770-774 Bronson Avenue, Ottawa, Ontario*, April 2020 prepared by Paterson Group Inc.; and
- *Phase One Environmental Site Assessment, 770 and 774 Bronson Avenue and 557 Cambridge Street, Ottawa, Ontario*, September 2022 prepared by EXP Services Inc.

In 2015, five boreholes (BH15-1 to BH15-5) were advanced at 770 Bronson Avenue by Golder, all of which were completed as monitoring wells. All of the wells were installed in the bedrock, which was present between 2.4 and 3.1 metres below ground surface (mbgs). Surficial soil generally consisted of sand and gravel fill material. No native soil was identified on the site. Groundwater was not present in the overburden. The groundwater flow direction was observed to be to the north towards Carling Avenue. It was inferred that utilities along Carling Avenue were influencing the direction of local groundwater flow.

Eight soil samples and four groundwater samples were submitted for analysis of volatile organic compounds (VOC), petroleum hydrocarbons (PHC), and polycyclic aromatic hydrocarbons (PAH). Soil and groundwater samples were compared to the Table 7 site condition standards (SCS) for non-potable groundwater and residential land use. All of the samples met the Table 7 SCS for all parameters analysed, with the exception of one sample from BH15-4 which exceeded the SCS for PHC F3. The sample which exceeded the Table 7 SCS was taken at a depth of 0.3 to 0.8 mbgs. A sample taken from the same borehole, but deeper (1.5 to 2.1 mbgs) met the Table 7 SCS. It was inferred that the source of the exceedance was likely a surface spill. Approximately 150 m^3 of PHC impacted soil was identified in the northeast corner of the site. No impact was identified below 1.5 mbgs, and no groundwater contamination was identified. It was recommended that the impacted soil be excavated and sent to a landfill for appropriate off-site disposal.

In March 2015, groundwater sampling was conducted at 770 Bronson Avenue by Golder. Four groundwater samples (BH15-1 to BH15-4), and a duplicate were collected and submitted for analysis of PHC, VOC, and PAH. A groundwater sample was not collected from BH15-5, as that well was installed for geotechnical/hydrogeological purposes. One of the groundwater samples (BH15-2) exceeded the Table 7 SCS for benzene, and three groundwater samples (BH15-1, BH15-2, BH15-3) and the duplicate exceeded the Table 7 SCS for chloroform.

In 2016, six boreholes (BH15-1 to BH15-6) were advanced at 557 Cambridge Street and 774 Bronson Avenue by WSP, four of which (BH15-2, BH15-3B, BH15-4, and BH15--6) were completed as nested monitoring wells. Surficial geology generally consisted of 1 to 2 metres of fill material overlying limestone bedrock. Bedrock was encountered in all boreholes between 0.8 and 2.2 mbgs. Two hydrogeologic units were identified at the site, the shallow overburden/weathered bedrock aquifer, and the deeper bedrock aquifer. Groundwater flow direction was determined to be to the southwest in both the shallow and deep aquifer.

During the WSP January 2016 investigation, three soil samples and a duplicate were submitted for analysis of PHC and VOC, PAH, and metals. Two samples (BH15-4 and BH15-6) exceeded the SCS for lead, one sample (BH15-5) exceeded the SCS for nickel, and one sample (BH15-4) exceeded the SCS for mercury and cyanide. One sample (BH15-1) exceeded the SCS for multiple PAHs. The remaining samples met the Table 7 SCS for all parameters analysed.

In January, February and March 2016, groundwater sampling was conducted by WSP at 557 Cambridge Street and 774 Bronson Avenue. Groundwater sampling was conducted over multiple days due to limited sampled volume. A total of 20 samples and three duplicates were submitted for analysis of BTEX; seven samples and one duplicate were submitted for analysis of PHC; 19 samples and three duplicates were submitted for analysis of VOC, seven samples and one duplicate were submitted for analysis of PAH, and eight samples and one duplicate were submitted for analysis of metals and inorganics. Benzene was detected in the initial groundwater sample from BH15-3A. As the exceedance was very close to the Table 7 SCS criteria for benzene (0.83 ug/L vs 0.5 ug/L), and additional two rounds of samples were conducted at this location. Benzene was below the detection limits in both subsequent sampling events. Chloroform exceedances were detected in all five of the monitoring wells installed in the bedrock. To facilitate bedrock drilling, municipal water was likely used to cool the drill bits during bedrock coring activities. Chloroform is generated at municipal water treatment plants when chlorine is used to kill bacteria in the water. It is likely that the source of the chloroform was the municipal water used for drilling.

On August 11, 2022, EXP conducted an additional round of groundwater sampling of the monitoring wells at 770 Bronson Avenue. None of the monitoring wells installed at 774 Bronson Avenue or 557 Cambridge Street were still present. Four groundwater samples (BH15-1, BH15-2, BH15-3, and BH15-5) and a duplicate were submitted for analysis of PHC, VOC and PAH. All of the samples were within the Tables 7 SCS for all parameters analysed.

EXP prepared a report entitled *Phase One Environmental Site Assessment, 770 and 774 Bronson Avenue and 557 Cambridge Street, Ottawa, Ontario,* dated September 2022. Based on the results of the Phase One ESA, EXP identified 16 areas of potential environmental concern (APEC) within the Phase One study area. Contaminants of potential concern (COPC) were identified to be petroleum hydrocarbons F1 to F4 (PHC), benzene, toluene, ethylbenzene, xylenes (BTEX), volatile organic compounds (VOC), polycyclic aromatic hydrocarbons (PAH), metals, chlorophenols, electrical conductivity (EC), and sodium adsorption ratio (SAR). A summary of the Phase One ESA Update findings is provided in Table 2.

Table 2: Findings of Phase One ESA

Area of Potential Environmental Concern (APEC)	Location of APEC on Phase One Property	Potentially Contaminating Activity (PCA)	Location of PCA (On-Site or Off-Site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, Soil and/or Sediment)
1. Former automotive garage at 770 Bronson Avenue	Garage building footprint	PCA #10 – Commercial autobody shop	On-Site	BTEX, PHC, VOC, metals	Soil and groundwater
2. Former gas station at 770 Bronson Avenue	Northeast part of the Phase Two property	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, metals	Soil and groundwater
3. Former heating oil AST at 770 Bronson Avenue	Along west interior building wall	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH	Soil and groundwater
4. Former waste oil AST at 770 Bronson Avenue	Along south exterior building wall	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH, metals	Soil and groundwater
5. Former heating oil AST in the north residential building at 774 Bronson Avenue	Former north residential building footprint	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH	Soil and groundwater
6. Former heating oil AST in the south residential building at 774 Bronson Avenue	Former south residential building footprint	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH	Soil and groundwater
7. Former heating oil AST in the commercial building at 774 Bronson Avenue	Former building footprint in southeast corner of Phase Two property	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH	Soil and groundwater
8. Former heating oil AST in the south commercial building at 557 Cambridge Street	Former building footprint on southwest corner of 557 Cambridge Street	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH	Soil and groundwater
9. Former heating oil AST in the centre commercial building at 557 Cambridge Street	Former building footprint adjacent to west-centre property line of 557 Cambridge Street	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH	Soil and groundwater

Area of Potential Environmental Concern (APEC)	Location of APEC on Phase One Property	Potentially Contaminating Activity (PCA)	Location of PCA (On-Site or Off-Site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, Soil and/or Sediment)
10. Former heating oil AST in the north commercial building at 557 Cambridge Street	Former building footprint on northwest corner of 557 Cambridge Street	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH	Soil and groundwater
11. Oil skimmings collected at former contractors' yard at 557 Cambridge Street	Within building footprint of former contractor building in south-centre part of Phase Two property	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, PAH	Soil and groundwater
12. Fill used to backfill former UST excavations and former building footprints	Entire Phase Two property	PCA #30 – Importation of Fill Material of Unknown Quality	On-site	BTEX, PHC, PAH, metals	Soil
13. Former commercial printing operation	Former building footprint in southeast corner of Phase Two property	PCA #31 – Ink Manufacturing, Processing and Bulk Storage	On-site	VOC	Groundwater
14. Former dry cleaner at 786-788 Bronson Avenue	Along south property line shared with former dry cleaner	PCA #37 – Operation of Dry Cleaning Equipment (where chemicals are used)	Off-site	VOC	Groundwater
15. Former treated lumber storage at 557 Cambridge Street	West part of the Phase Two property	PCA #59 – Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products	On-site	PAH, PHC, Chlorophenols	Soil and groundwater
16. All former paved areas throughout the Phase Two Property	Former paved driveways and parking lots at Phase Two property	PCA #Other – Application of de-icing salt	On-site	EC, SAR	Soil

The Phase One ESA Update was conducted per the requirements of Ontario Regulation 153/04, as amended, and in accordance with generally accepted professional practices.

3.0 Scope of the Investigation

3.1 Overview of Site Investigation

The objective of the Phase Two ESA was to assess the quality of soil and groundwater on the Phase Two property.

The most recent use of the property was commercial. The proposed future use of the property is residential and commercial. Since the past use of the property was commercial land use, a Record of Site Condition (RSC) must be filed, per Ontario Regulation 153/04.

The investigation consisted of pre-remedial drilling, installation of monitoring wells, and soil and groundwater sampling.

3.2 Scope of Work

The scope of work for the Phase Two ESA was as follows:

- Drilling 15 pre-remedial boreholes on the subject property and completing 10 of them as monitoring wells;
- Collecting soil samples as drilling progresses;
- Collecting groundwater samples from the new monitoring wells and five existing monitoring wells;
- Submitting soil and groundwater samples for laboratory analysis of the COPC, which were determined to be PHC, VOC, BTEX, PAH, and/or metals;
- Comparing the results of the soil and groundwater chemical analyses to applicable criteria, as set out by the Ontario Ministry of the Environment, Conservation and Parks (MECP);
- Conducting an elevation survey of the boreholes;
- Conducting hydraulic conductivity tests in two monitoring wells;
- Measuring groundwater levels to determine groundwater elevations and to infer the groundwater flow direction; and
- Preparing a report summarizing the results of the assessment activities.

This report has been prepared in accordance with the Phase Two ESA standard as defined by Ontario Regulation 153/04 (as amended), and in accordance with generally accepted professional practices. Subject to this standard of care, EXP makes no express or implied warranties regarding its services and no third-party beneficiaries are intended. Limitation of liability, scope of report and third-party reliance are outlined in Section 8 of this report.

3.3 Media Investigated

The Phase Two ESA included the investigation of soil and groundwater on the Phase Two property. There are no water bodies on the Phase Two property, therefore sediment sampling was not required.

The contaminants of potential concern (COPC) identified in the Phase One ESA were identified as target parameters for this Phase Two ESA. The APEC and COPC identified in the Phase One ESA are outlined in Section 2.2.

3.4 Phase One Conceptual Site Model

The Phase One conceptual site model (CSM) was developed by considering the following physical characteristics and pathways. The CSM showing the topography of the site, inferred groundwater flow, general site features, APEC, and PCA is shown in Figures 2 and 3 in Appendix A.

3.4.1 Buildings and Structures

No buildings were present on the Phase Two property at the time of this investigation.

Historically, a multi-tenanted commercial building constructed *circa* 1915 was present at 774 Bronson Avenue. These buildings were demolished circa 2014 and the property is currently used as a parking lot.

The property at 770 Bronson was formerly occupied by a gas station/garage constructed *circa* 1930. The building was demolished in 2023 and the property is currently occupied by parking lot.

The property at 557 Cambridge Street was first developed *circa* 1925 for commercial purposes. The buildings were demolished circa 2014 and the property is currently used as a parking lot.

3.4.2 Water Bodies and Groundwater Flow Direction

Topographically, the Phase Two study area slopes downwards towards the southwest. The regional groundwater flow direction is anticipated to be to the north/northeast towards the Ottawa River. However, the local groundwater flow direction may be influenced by the presence of Dow's Lake, which is approximately 400 metres southwest of the Phase Two property. Dow's Lake is the closest water body to the Phase Two property and is a man-made lake on the Rideau Canal, which flows to the northeast towards the Ottawa River.

3.4.3 Areas of Natural Significance

The Phase Two property is not located within an area of natural significance, and it does not include land that is within 30 metres of an area of natural significance. In accordance with Section 41 of Ontario Regulation 153/04, the Phase Two property is not an environmentally sensitive area.

3.4.4 Water Wells

The Phase Two property, and all other properties located, in whole or in part, within 250 metres of the boundaries of the Phase Two property, are supplied by a municipal drinking water system, as defined in the *Safe Drinking Water Act*, provided by the City of Ottawa. Further, the Phase Two property is not located in an area designated in the municipal official plan as a well-head protection area and no properties within the Phase Two study area have a well that is being used or is intended for use as a source of potable water. Thus, in accordance with Section 35 of Ontario Regulation 153/04, non-potable water standards apply to the Phase Two property.

No wells used as a source of potable water or for agricultural purposes were observed on the Phase Two property or on any property within 250 metres of the Phase Two property.

3.4.5 Potentially Contaminating Activity

The following on-site potentially contaminating activities (PCA) were identified:

- PCA #10 – Commercial Autobody Shops – 770 Bronson Avenue (Phase Two property) – Former service garage;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 770 Bronson Avenue (Phase Two property) – Former gas station with three UST;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 770 Bronson Avenue (Phase Two property) – Former heating oil AST along west interior building wall;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 770 Bronson Avenue (Phase Two property) – Former waste oil AST along the south exterior wall of the garage building;

- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 774 Bronson Avenue (Phase Two property) – Former heating oil AST in the former north residential building;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 774 Bronson Avenue (Phase Two property) – Former heating oil AST in the south residential building;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 774 Bronson Avenue (Phase Two property) – Former heating oil AST in the former commercial building;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 557 Cambridge Street (Phase Two property) – Former heating oil AST in the south office building;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 557 Cambridge Street (Phase Two property) – Former heating oil AST in the middle office building;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 557 Cambridge Street (Phase Two property) – Former heating oil AST in the north office building;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 557 Cambridge Street (Phase Two property) – Oil skimmings collected in former commercial building on east side of 557 Cambridge Street;
- PCA #30 – Importation of Fill Material of Unknown Quantity – Entire Phase Two property – Fill material brought to site to backfill excavations, including tank nest and building foundations;
- PCA #31 – Ink Manufacturing, Processing and Bulk Storage – 774 Bronson Avenue – Former commercial printing operation on south part of parcel (former address of 784 Bronson Avenue);
- PCA #59 – Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products – 557 Cambridge Avenue (Phase Two property) – Western part of the site was historically used for wood treating; and
- PCA #Other – Application of de-icing salt - All former paved areas throughout the Phase Two Property.

By definition, all of the above PCA have resulted in APEC on the Phase Two property.

The following PCA have been identified in the Phase Two study area:

- PCA #10 – Commercial Autobody Shops – 400 Bell Street (125 m west) – Former garage with UST;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 400 Bell Street (125 m west) – Former garage with UST;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 735 Carling Avenue (225 m west) – Former gas station with three UST;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 748 Bronson Avenue (now 265 Carling Avenue) (40 m north) – Former gas station;
- PCA #37 – Operation of Dry Cleaning Equipment (where chemicals are used) – 786-788 Bronson Street (immediately south of Phase Two property) – Former dry cleaner;
- PCA #46 – Rail Yards, Tracks and Spurs – Between Cambridge Street and Dow's Lake (150 m southwest) – Rail spurs at the Fraserfield Lumber Yard in early 1900s;
- PCA #55 – Transformer Manufacturing, Processing and Use – 227 Carling Avenue (now 247 Glebe Avenue) (60 m northeast) – Hydro sub station; and,
- PCA #59 – Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products – Between Cambridge Street and Dow's Lake (150 m southwest) – Former Fraserfield Lumber Yard.

The former dry-cleaning operation at 786-788 Bronson Avenue is immediately adjacent and south of the Phase Two property and may have resulted in contamination to the Phase Two property. Therefore, this PCA results in an APEC on the Phase Two property.

The former gas station at 735 Carling Avenue, the former lumber yard and rail spur lines at Fraserfield Lumber yard, and the former garage at 400 Bell Street were all located over 150 m from the Phase Two property. Due to the separation distance from the Phase Two property and the low hydraulic conductivity of the bedrock, these operations were not considered to result in APEC on the Phase Two property.

The former gas station at 265 Carling Avenue and the hydro substation at 247 Glebe Avenue are located approximately 40 m north and 60 m northeast, respectively. The potential contaminants of concern associated with the former gas station at 265 Carling Avenue are the same as those associated with the former gas station on the Phase Two property itself. Thus, if groundwater is present with such contaminants, the source will be assumed to be the former gas station on the Phase Two property itself. The potential contaminants of concern associated with the hydro substation are polychlorinated biphenyls (PCB), which are relatively non-motile and, therefore, unlikely to migrate to the Phase Two property. Further, these two PCA are located downgradient of the Phase Two property, based on the inferred regional flow direction. Therefore, these operations were located downgradient of the Phase Two property and were determined not to result in APEC on the Phase Two property.

3.4.6 Areas of Potential Environmental Concern

The APEC identified are summarized in Table 3.

Table 3: Areas of Potential Environmental Concern

Area of Potential Environmental Concern (APEC)	Location of APEC on Phase One Property	Potentially Contaminating Activity (PCA)	Location of PCA (On-Site or Off-Site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, Soil and/or Sediment)
1. Former automotive garage at 770 Bronson Avenue	Garage building footprint	PCA #10 – Commercial autobody shop	On-Site	BTEX, PHC, VOC, metals	Soil and groundwater
2. Former gas station at 770 Bronson Avenue	Northeast part of the Phase Two property	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, metals	Soil and groundwater
3. Former heating oil AST at 770 Bronson Avenue	Along west interior building wall	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH	Soil and groundwater
4. Former waste oil AST at 770 Bronson Avenue	Along south exterior building wall	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH, metals	Soil and groundwater
5. Former heating oil AST in the north residential building at 774 Bronson Avenue	Former north residential building footprint	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH	Soil and groundwater
6. Former heating oil AST in the south residential building at 774 Bronson Avenue	Former south residential building footprint	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH	Soil and groundwater
7. Former heating oil AST in the commercial building at 774 Bronson Avenue	Former building footprint in southeast corner of Phase Two property	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH	Soil and groundwater

Area of Potential Environmental Concern (APEC)	Location of APEC on Phase One Property	Potentially Contaminating Activity (PCA)	Location of PCA (On-Site or Off-Site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, Soil and/or Sediment)
8. Former heating oil AST in the south commercial building at 557 Cambridge Street	Former building footprint on southwest corner of 557 Cambridge Street	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH	Soil and groundwater
9. Former heating oil AST in the centre commercial building at 557 Cambridge Street	Former building footprint adjacent to west-centre property line of 557 Cambridge Street	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH	Soil and groundwater
10. Former heating oil AST in the north commercial building at 557 Cambridge Street	Former building footprint on northwest corner of 557 Cambridge Street	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH	Soil and groundwater
11. Oil skimmings collected at former contractors' yard at 557 Cambridge Street	Within building footprint of former contractor building in south-centre part of Phase Two property	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, PAH	Soil and groundwater
12. Fill used to backfill former UST excavations and former building footprints	Entire Phase Two property	PCA #30 – Importation of Fill Material of Unknown Quality	On-site	BTEX, PHC, PAH, metals	Soil
13. Former commercial printing operation	Former building footprint in southeast corner of Phase Two property	PCA #31 – Ink Manufacturing, Processing and Bulk Storage	On-site	VOC	Groundwater
14. Former dry cleaner at 786-788 Bronson Avenue	Along south property line shared with former dry cleaner	PCA #37 – Operation of Dry Cleaning Equipment (where chemicals are used)	Off-site	VOC	Groundwater
15. Former treated lumber storage at 557 Cambridge Street	West part of the Phase Two property	PCA #59 – Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products	On-site	PAH, PHC, Chlorophenols	Soil and groundwater
16. All former paved areas throughout the Phase Two Property	Former paved driveways and parking lots at Phase Two property	PCA #Other – Application of de-icing salt	On-site	EC, SAR	Soil

3.4.7 Underground Utilities

Although there were no buildings on the Phase Two property at the time of the investigation, the Phase Two property, and surrounding area are serviced by municipal water, storm and sanitary sewers, natural gas, hydro and telecommunication. Since the water table is within the bedrock, the presence of utilities is not expected to affect possible migration of contaminants once buildings are constructed on the Phase Two property.

3.4.8 Subsurface Stratigraphy

The Phase Two property is located in the physiographic region known as the Ottawa Formation. The bedrock in the area consists of limestone with some shaley partings. Bedrock is present at a depth of less than 2 metres below ground surface (mbgs), which is approximately 75 metres above sea level (masl). Therefore, in accordance with Section 43.1 of Regulation 153/04, the Phase Two property is a shallow soil property.

Beneath any fill, the surficial geology of the Phase Two is characterised by Champlain Sea deposits of plain till.

3.4.9 Uncertainty Analysis

The CSM is a simplification of reality, which aims to provide a description and assessment of any areas where potentially contaminating activity that occurred within the Phase Two study area may have adversely affected the Phase Two property. All information collected during this investigation, including records, interviews, and site reconnaissance, has contributed to the formulation of the CSM.

Information was assessed for consistency, however, EXP has confirmed neither the completeness nor the accuracy of any of the records that were obtained or of any of the statements made by others. All reasonable inquiries to obtain accessible information were made, as required by Schedule D, Table 1, Mandatory Requirements for Phase Two Environmental Site Assessment Reports. The CSM reflects our best interpretation of the information that was available during this investigation.

3.5 Deviations from Sampling and Analysis Plan

The field investigative and sampling program was carried out following the requirements of the Phase Two property, as described in Section 4.

No significant deviations from the SAAP, as provided in Appendix C, were reported that affected the sampling and data quality objectives for the Phase Two property. During the August 2022 groundwater sampling event conducted by EXP, BH15-4 could not be sampled due to insufficient sample volume.

3.6 Impediments

No impediments were encountered during this investigation.

4.0 Investigation Method

4.1 General

The current investigation was performed following requirements given under Ontario Regulation 153/04 and in accordance with generally accepted professional practices. The scope of work included pre-remediation drilling with soil and groundwater sampling. Groundwater samples from five pre-existing monitoring wells (BH15-1 to BH15-5) at 770 Bronson Avenue were also collected during this investigation.

4.2 Drilling

Prior to the commencement of drilling, 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.

The drilling program was completed between January 9 and 11, 2024, by Strata Drilling (Strata), a licensed well contractor. Strata advanced fifteen boreholes (BH1 to BH15) across the Phase Two property, using a Massenza M13 track-mounted drill. Ten of the boreholes (MW4 to MW13) were completed as monitoring wells. The boreholes instrumented with monitoring wells were augured to refusal, then advanced through bedrock using percussion drilling to a depth of 4.6 to 6.7 m below ground surface (mbgs). The remaining boreholes were terminated at refusal between 0.8 and 2.0 mbgs.

EXP staff continuously monitored the drilling activities to log the stratigraphy observed from the recovered samples, to record the depth of the samples, and to record total depths of borings. Field observations are documented on the borehole logs provided in Appendix D.

The locations of the boreholes from the previous and current investigations are shown on Figure 4 in Appendix A.

4.3 Soil Sampling

The soil sampling during the completion of this Phase Two ESA was undertaken in general accordance with the SAAP presented in Appendix C.

Direct-push continuous tube samplers were used to collect soil samples within the overburden. Soil samples were submitted for laboratory analysis of PHC, VOC, BTEX, PAH, metals, electrical conductivity, sodium adsorption ratio, and/or pH.

Soil samples were selected for laboratory analysis based on visual and olfactory evidence of impacts, where observed. Soil samples identified for possible laboratory analysis were placed directly into pre-cleaned, laboratory-supplied glass sample jars/vials. Samples to be analysed for PHC fraction F1 and BTEX were collected using a soil core sampler and placed into vials containing methanol as a preservative. The jars and vials were sealed with Teflon-lined lids to minimize headspace and reduce the potential for induced volatilization during storage/transport prior to analysis. All soil samples were placed in clean coolers containing ice prior to and during transportation to the subcontracted laboratory. The samples were transported/submitted within 48 hours of collection to the laboratory following chain of custody protocols for chemical analysis.

4.4 Field Screening Measurements

Soil samples were placed in a sealed Ziploc plastic bag and allowed to reach ambient temperature prior to field screening with a combustible vapour meter calibrated to hexane gas prior to use. The field screening 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 'headspace' 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 potential impacts and the selection of soil samples for analysis.

Readings of petroleum vapour concentrations in the soil samples collected during the drilling investigation were recorded using an RKI Eagle 2, where there was sufficient recovery. This instrument is designed to detect and measure concentrations of combustible gas in the atmosphere to within 5 parts per million by volume (ppmv) from 0 ppmv to 200 ppmv, 10 ppmv increments from 200 ppmv to 1,000 ppmv, 50 ppmv increments from 1,000 ppmv to 10,000 ppmv, and 250 ppmv increments above 10,000 ppmv. It is equipped with two ranges of measurement, reading concentrations in ppmv or in percentage lower explosive limit (% LEL). The RKI Eagle 2 instrument can determine combustible vapour concentrations in the range equivalent to 0 to 11,000 ppmv of hexane.

The instrument was configured to eliminate any response from methane for all sampling conducted at the subject property. Instrument calibration is checked on a daily basis in both the ppmv range and % LEL range using standard gases comprised of known concentrations of hexane (400 ppmv, 40% LEL) in air. If the instrument readings are within ±10% of the standard gas value, then the instrument is deemed to be calibrated, however if the readings are greater than ±10% of the standard gas value then the instrument is re-calibrated prior to use.

4.5 Groundwater: Monitoring Well Installation

Monitoring wells were installed in 10 of the boreholes (MW-4 to MW-13). The monitoring wells were installed in general accordance with the Ontario Water Resources Act - R.R.O. 1990, Regulation 903 (as amended).

All monitoring wells were installed within the bedrock. The monitoring wells consisted of a 50-mm diameter Schedule 40 PVC screen that was 3.0 m long and a 50-mm diameter Schedule 40 PVC riser. The annular space around the wells was backfilled with sand to an average height of 0.3 m above the top of the screen. All wells were completed with flushmount casings. Following installation, all of the monitoring wells were developed by removing between three and ten well volumes using Waterra tubing and a foot valve.

As part of EXP's 2024 investigation, ten monitoring wells were installed across the Phase Two property. Measures taken to minimize the potential for cross contamination or the introduction of contaminants during well construction included:

- The use of well pipe components (e.g. riser pipe and well screens) with factory machined threaded flush coupling joints
- Construction of wells without the use of glues or adhesives
- Removing the protective plastic wraps from well components at the time of borehole insertion to prevent contact with the ground and other surfaces
- Cleaning or disposal of drilling equipment between sampling locations

Details of the monitoring well installations are shown on the borehole logs provided in Appendix D.

4.6 Groundwater: Field Measurement and Water Quality Parameters

Field measurement of water quality parameters is described in Section 4.7.

All measurements of petroleum vapours in the monitor riser were made with an RKI Eagle 2 in methane elimination mode. Immediately after removing the well cap, the collection tube of the Eagle was inserted into the riser and the peak instrument reading was recorded. EXP used a Heron water level tape to measure the static water level in each monitoring well. The measuring tape was cleaned with phosphate-free soap and tap water, rinsed with distilled water after each measurement.

4.7 Groundwater: Sampling

All groundwater samples were collected via a low flow sampling technique using a multi probe water quality meter. Prior to collecting the groundwater samples, water quality field parameters (turbidity, dissolved oxygen, conductivity, temperature, pH, and oxidation reduction potential) were monitored until stable readings were achieved to ensure that the samples

collected were representative of actual groundwater conditions. These parameters are considered to be stable when three consecutive readings meet the following conditions:

- Turbidity: within 10% for values greater than 5 nephelometric turbidity units (NTU), or three values less than 5 NTU;
- Dissolved oxygen: within 10% for values greater than 0.5 mg/L, or three values less than 0.5 mg/L;
- Conductivity: within 3%;
- Temperature: ± 1°C;
- pH: ± 0.1 unit; and,
- Oxidation reduction potential: ±10 millivolts.

When stabilization occurs, equilibrium between groundwater within a monitor and the surrounding formation water is attained. As such, samples collected when stabilization occurs are considered to be representative of formation water.

The groundwater sampling during the completion of this Phase Two ESA was undertaken in general accordance with the SAAP presented in Appendix C. The groundwater samples were placed in clean coolers containing ice packs prior to and during transportation to the laboratory. The samples were transported to the laboratory within 48 hours of collection with a chain of custody.

Four groundwater samples, collected from pre-existing monitoring wells MW15-1, MW15-2, MW15-3, and MW15-5 at 770 Bronson Avenue, were submitted for analysis of PHC, VOC, and PAH in August 2022. The new monitoring wells were sampled between January 23 and 25, 2024. Ten groundwater samples and one duplicate sample were submitted for analysis of VOC, PHC, and PAH. An additional sample was collected from MW10 and MW13 on February 5, 2024, and submitted for analysis of BTEX.

4.8 Sediment: Sampling

There are no water bodies present on the Phase Two property, therefore sediment sampling was not required.

4.9 Analytical Testing

The contracted laboratory selected to perform chemical analysis on all soil and groundwater samples was AGAT. AGAT is an accredited laboratory under the Standards Council of Canada/Canadian Association for Laboratory Accreditation in accordance with ISO/IEC 17025:1999- General Requirements for the Competence of Testing and Calibration Laboratories.

4.10 Residue Management

Soil cuttings and purge water from the Golder investigation were collected in sealed drums and stored on site for disposal by the property owner.

Fluids from cleaning drilling equipment were disposed of by the driller at their facility.

4.11 Elevation Surveying

An elevation survey was conducted by EXP. The ground surface elevation of the new boreholes as well as the existing monitoring wells installed in 2015 by Golder were surveyed relative to a geodetic reference. The Universal Transverse Mercator (UTM) coordinates of each monitoring well were also recorded so that their locations could be plotted accurately.

4.12 Quality Assurance and Quality Control Measures

All soil and groundwater samples were placed in coolers containing ice packs prior to and during transportation to the contract laboratory, AGAT. AGAT is accredited to the ISO/IEC 17025:2005 standard - *General Requirements for the Competence of Testing and Calibration Laboratories*.

A QA/QC program was also implemented to ensure that the analytical results received are accurate and dependable. A QA/QC program is a system of documented checks that validate the reliability of the data. Quality Assurance is a system that ensures that quality control procedures are correctly performed and documented. Quality Control refers to the established procedures observed both in the field and in the laboratory, designed to ensure that the resulting end data meet intended quality objectives. The QA/QC program implemented by EXP incorporated the following components:

- Collecting and analysing field duplicate samples to ensure analytical precision;
- Using dedicated and/or disposable sampling equipment;
- Following proper decontamination protocols to minimize cross-contamination;
- Maintaining field notes and completing field forms to document field activities; and
- Using only laboratory-supplied sample containers and following prescribed sample protocols, including using proper preservation techniques, meeting sample hold times, and documenting sample transmission on chains of custody, to ensure the integrity of the samples is maintained.

AGAT's QA/QC program involved the systematic analysis of control standards for the purpose of optimizing the measuring system as well as establishing system precision and accuracy and included calibration standards, method blanks, reference standards, spiked samples, surrogates and duplicates.

5.0 Review and Evaluation

5.1 Geology

A layer of asphalt approximately 50 mm thick was present at surface in all of the boreholes at 770 Bronson Avenue (BH11-BH-13), while all hard surfaces had been removed at 774 Bronson Avenue and 557 Cambridge Street prior to the current investigation.

In general, surficial geology consisted of sand and gravel fill material overlying bedrock. The fill material was noted to contain debris, including wood, ash, asphalt, and brick fragments. The texture of the soil is considered to be coarse.

Bedrock was encountered between 0.6 to 2.4 mbgs. It is noted that bedrock was shallower on the south part of the Phase Two Property (774 Bronson Avenue and 557 Cambridge Street) than the north part (770 Bronson Avenue).

A plan view showing cross-sections is provided as Figure 4 in Appendix A, while the Phase Two property geology is depicted in cross-sections on Figure 5 in Appendix A.

In the Ottawa area, the regional aquifers consist of both bedrock and overburden sources, with the two key aquifers consisting of the highly weathered and fractured portion of the upper bedrock surface and overlying sand and gravel deposits (contact zone aquifer) and deeper bedrock aquifers.

In southeastern Ontario, there are four main bedrock aquifers:

- Nepean-March-Oxford Aquifer
- Rockcliffe Aquifer
- Ottawa Group Aquifer
- Billing-Carlsbad-Queenston Aquifer

In the vicinity of the Phase Two Property, the primary bedrock aquifer is the Ottawa Group. This aquifer is considered to have marginal to variable water yielding capacity.

The contact zone aquifer, which generally includes the sand and gravel deposits and underlying fractured bedrock, is present across the Ottawa region, with more than 90% of the water extracted in eastern Ontario is extracted from the Contact Zone Aquifer. The contact zone aquifer varies in thickness across the region due to the large variation in the zone of upper bedrock fracturing. Regional groundwater flow in both the contact zone and bedrock have been interpreted to be to the northeast towards the Ottawa River, generally following bedrock topography.

5.2 Groundwater: Elevations and Flow Direction

On February 5, 2024, EXP measured groundwater levels in accessible monitoring wells at the Phase Two property. The groundwater elevations ranged between 1.54 and 5.28 metres below top of monitoring well. Three of the monitoring wells (MW4, BH15-01, BH15-04) were not accessible at this time.

Groundwater monitoring and elevation data are provided below.

Table 5.1: Monitoring and Elevation Data

Monitoring Well ID	Grade Elevation (masl)	Top of Casing Elevation (masl)	Screen Depth (mbgs)	Depth to LNAPL (mbgs)	Depth to Groundwater (mbTOC)	Groundwater Elevation (masl)
MW4	74.56	74.46	3.0 to 6.1	-	-	-
MW5	73.84	73.76	3.0 to 6.1	N/A	2.83	70.93
MW6	74.05	73.95	3.0 to 6.1	N/A	2.36	71.59

Monitoring Well ID	Grade Elevation (masl)	Top of Casing Elevation (masl)	Screen Depth (mbgs)	Depth to LNAPL (mbgs)	Depth to Groundwater (mbTOC)	Groundwater Elevation (masl)
MW7	74.38	74.26	1.5 to 4.6	N/A	2.61	71.65
MW8	74.36	74.28	3.0 to 6.1	N/A	1.54	72.74
MW9	74.75	74.62	3.0 to 6.1	N/A	2.93	71.69
MW10	75.02	74.87	3.0 to 6.1	N/A	5.08	69.79
MW11	75.78	75.71	3.0 to 6.1	N/A	4.99	70.72
MW12	76.02	75.93	3.6 to 6.7	N/A	3.79	72.14
MW13	76.11	76.04	3.6 to 6.7	N/A	3.77	72.27
BH15-01	75.76	75.66	4.1 to 5.6	-	-	-
BH15-02	75.72	75.66	4.4 to 5.9	N/A	2.41	73.25
BH15-03	75.82	75.72	4.4 to 5.9	N/A	2.63	73.09
BH15-04	75.65	75.60	4.4 to 6.0	-	-	-
BH15-05	74.45	74.42	7.8 to 15.3	N/A	5.28	69.14

Notes: Elevations were measured to a geodetic datum
LNAPL – light non-aqueous phase liquid
ppmv – parts per million by volume
mbgs – metres below ground surface
masl – metres above sea level
mbTOC – metres below top of monitor casing
ND – non-detectable
N/A – not applicable

Based on the groundwater elevations, a groundwater contour plan was prepared by EXP. The groundwater flow direction was determined to be to the southwest towards Dow's Lake. The groundwater contour plan is provided as Figure 6 in Appendix A.

EXP notes that groundwater levels depend on the size of the fractures that are intercepted as drilling progresses. Groundwater levels can also be influenced by seasonal changes, the presence of subsurface structures, or fill, however, based on the presence of the water table within the bedrock and the proximity to Dow's Lake and the Rideau Canal, it is unlikely that any of these factors significantly impact the groundwater flow direction. We note that the Rideau canal flows to the northeast to the Ottawa River.

5.3 Groundwater: Hydraulic Gradients

The horizontal hydraulic gradient was estimated for the groundwater flow components identified in the aquifer based on the February 2024 groundwater elevations.

The horizontal hydraulic gradient is calculated across the using the following equation:

$i = \Delta h / \Delta s$

Where,
i = horizontal hydraulic gradient;
Δh (m) = groundwater elevation difference; and,
Δs (m) = separation distance.

The average horizontal hydraulic gradient was calculated to be 0.12 m/m.

A rising head test was conducted on two monitoring wells (MW4 and MW7). The rising head test requires that the static water level be measured in each monitoring well prior to the removal of groundwater. Groundwater is removed from the monitoring well using a bailer. After the water level has been sufficiently lowered, an interface probe is lowered into the

monitor as quickly as possible to measure the new water level. The time at which the new water level is measured is noted as time equal to zero. Water level readings are subsequently taken at frequent intervals. Both the water levels and the time they were taken are recorded.

The frequency of the time measurement is determined by the rate at which the water level recovers to the static water level. Measurements are taken until at least 70% recovery has been achieved or, in cases where recovery is extremely slow until it is deemed that a sufficient amount of time has elapsed. Using the Hvorslev model, the hydraulic conductivity for the monitoring well was calculated.

All water level measurements were made with a Heron oil/water interface probe. Both the probe and the measuring tape that come into contact with liquids within a monitor are cleaned with phosphate-free soap and tap water, rinsed with distilled water and then finally rinsed with methanol after each hydraulic conductivity test is concluded.

Table 5.2: Rising Head Tests

Monitoring Well ID	Horizon	Screen Depth (mbgs)	Initial Static Water Level (mbToC)	Water Level after Purging (mbToC)	Recovery to 37% of Static (s)	Hydraulic Conductivity (cm/s)
MW4	Bedrock	3.0 to 6.1	2.08	4.88	8,180	9.86×10^{-8}
MW7	Bedrock	1.5 to 4.6	2.58	2.66	620	1.30×10^{-6}

Notes: mbTOC – metres below top of monitor casing

The hydraulic conductivity was calculated to be approximately 9.9×10^{-8} cm/s in MW4 and approximately 1.3×10^{-6} cm/s in MW4. The data are indicative of different size fractures that were intercepted at the two depths. The data and the calculations for the hydraulic conductivity testing are provided in Appendix E.

Vertical gradients were not calculated.

5.4 Soil: Field Screening

The methodology for the collection of soil vapour concentration measurements is described in Section 4.4. Field screening data is presented in the borehole logs in Appendix D.

Inspection of the soil and bedrock cores retrieved from the boreholes did not indicate the presence of sheen, the presence of a separate organic phase, or other evidence of a non-aqueous phase liquid (NAPL. Staining was observed in soil samples retrieved from MW-11 and MW-13. Petroleum odours were observed in soil samples retrieved from MW-13.

5.5 Soil: Quality

Chemical analyses were performed on selected soil samples recovered from the boreholes on the Phase Two property.

Thirteen soil samples and one duplicate sample were submitted for analysis of VOC, PHC, and PAH; and fifteen samples and one duplicate sample were submitted for analysis of metals, and inorganics (EC and SAR). All of the soil samples met the Table 7 SCS with the exception of the following:

- MW13 SS1 exceeded the Table 7 SCS for PHC F3;
- BH2 SS1, BH3 SS1, MW4 SS2, MW6 SS1, MW12 SS1, and MW13 SS1 exceeded the Table 7 SCS for various PAH parameters;
- BH1 SS1 exceeded the Table 7 SCS for lead, and BH2 SS1 exceeded the Table 7 CS for cadmium, lead, and zinc; and,
- BH1 SS1, BH2 S1, BH3 SS1, MW6 SS1, MW7 SS1, MW8 SS1 (and duplicate), MW9 SS1, MW10 SS1, and MW13 SS1 exceeded the Table 7 SCS for electrical conductivity and/or sodium adsorption ratio.

In accordance with Section 49.1 of Regulation 153/04 if, in the opinion of the Qualified Person, the applicable SCS at the Phase Two property are exceeded solely due to the application of a substance to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both, the applicable SCS is deemed not to be exceeded. Road salt is considered to have been applied to the driving and parking surfaces on the Phase Two property. As all of the boreholes/monitoring wells with elevated sodium absorption ratio and conductivity levels were located in a parking lot, for the purpose of this investigation, the elevated sodium absorption ratio and conductivity levels in the soil samples are deemed not to exceed the Table 7 SCS.

The soil results are summarized in Tables 1 to 3 in Appendix F and are shown in plan view on Figures 7 to 9 and on cross-sections on Figures 10 to 12 in Appendix A.

Copies of the laboratory Certificates of Analysis are provided in Appendix G.

5.6 Groundwater: Quality

All groundwater samples were collected via a low flow sampling technique. Water quality parameters (such as water level, temperature, dissolved oxygen, conductivity, salinity, pH, oxygen reduction potential and turbidity) were monitored in order to ensure that the samples collected were representative of actual groundwater conditions.

On August 11, 2022, EXP collected groundwater samples from the existing monitoring wells (BH 15-1 to BH15-3, BH15-5) at 770 Bronson Avenue. None of the monitoring wells installed at 774 Bronson Avenue or 557 Cambridge Street were still present. Four groundwater samples, plus a field duplicate, were submitted for analysis of PHC, VOC, and PAH. BH15-4 could not be sampled due to insufficient sample volume. All of the samples were within the applicable Table 7 SCS for all parameters analysed.

Between January 23 and 25, 2024, ten groundwater samples, and a field duplicate were submitted for analysis of VOC, PHC, PAH, and metals. It was noted that the groundwater samples collected from MW10 and MW13 slightly exceeded the Table 7 SCS for benzene. The remaining samples met the Table 3 SCS for all remaining parameters analyzed.

On February 5, 2024, a second sample was collected from MW10 and MW13 and submitted for analysis of BTEX. Both of the samples were below the detection limits for benzene, which were exceeded in the initial samples.

Analytical results are included in Tables 4 to 6 in Appendix F and are shown in plan view on Figures 13 to 15 and on cross-sections on Figures 16 to 18 in Appendix A.

Copies of the laboratory Certificates of Analysis are provided in Appendix G.

5.7 Chemical Transformation and Contaminant Sources

A variety of physical, chemical and biochemical mechanisms affect the fate and transport of the potential COC in soil and groundwater, the contribution of which is dependent on the soil and groundwater conditions at the Phase Two property, as well as the chemical/physical properties of the COC. Relevant fate and transport mechanisms are natural attenuation mechanisms, including advection mixing, mechanical dispersion/molecular diffusion, phase partitions (i.e. sorption and volatilization), and possibly abiotic or biotic chemical reactions, which effectively reduce COC concentrations.

PAH and metals-impacted soil has been identified on the south part of the Phase Two property. As there were no groundwater exceedances identified on the Phase Two property, the contamination does not appear to be migrating.

5.7.1 Pathways and Receptors

A new building will be constructed at the Phase Two property. The building will have one or two levels of underground parking, ground-level commercial space, and upper-level residential units. The potential on-site human receptors include indoor and

outdoor long-term workers, indoor and outdoor short-term workers, residents (adult, teen, child, toddler and infant), property visitors (adult, teen, child, toddler and infant), and outdoor construction workers.

The potential on-site exposure pathways for the construction workers are incidental soil and groundwater ingestion, soil particulate inhalation, soil and groundwater dermal contact, ambient vapour inhalation, and vapour skin contact.

The potential on-site exposure pathways for the short-term and long-term outdoor workers (who are not exposed directly to subsurface soil and groundwater) are incidental surface soil ingestion, surface soil particulate inhalation, surface soil dermal contact, and vapour skin contact.

The potential on-site exposure pathway for the property residents, the long-term and short-term indoor workers and visitors is indoor air inhalation.

A diagram identifying the release mechanisms, contaminant transport pathway, human receptors, exposure points and routes of exposure are shown on Figure 19 in Appendix A.

While the footprint of the building that is being planned will occupy most of the Phase Two property, there will be a landscaped area surrounding the building. Therefore, The Phase Two property is capable of supporting some ecological receptors. Relevant ecological receptors include terrestrial vegetation (bushes, grasses and weeds); soil invertebrates (earthworms, millipedes and beetles); birds (seagulls, pigeons, sparrows and robins); and small terrestrial mammals (moles, voles, and mice).

The potential on-site exposure pathways for terrestrial vegetation are root uptake of soil and groundwater and stem and foliar uptake of vapours from soil and groundwater.

The potential on-site exposure pathways for soil invertebrates are soil particulate inhalation, soil and groundwater dermal contact, soil and groundwater ingestion, and vapour inhalation, and plant and animal tissue ingestion.

The potential on-site exposure pathways for mammals and birds are soil particulate inhalation, soil dermal contact, soil ingestion, vapour inhalation, and plant and animal tissue ingestion.

A diagram identifying the release mechanisms, contaminant transport pathway, ecological receptors, exposure points and routes of exposure are shown on Figure 20 in Appendix A.

It is recommended that the impacted soil be removed from the Phase Two property when the property is re-developed.

5.7.2 Evidence of Non-Aqueous Phase Liquid

Inspection of the groundwater monitoring wells did not indicate the presence of non-aqueous phase liquid (NAPL).

5.7.3 Maximum Concentrations

Contaminants that exceeded the applicable standards included:

Soil: PHC fraction F3, acenaphthylene, anthracene, benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, dibenzo[a,h]anthracene, fluoranthene, indeno[1,2,3-cd]pyrene, cadmium, lead, and zinc.

Groundwater: None.

Maximum soil and groundwater concentrations are provided in Tables 7 and 8 in Appendix F.

5.7.4 Climatic Conditions

It is noted that climatic or meteorological conditions may influence the distribution and migration of COCs at the Phase Two property. Seasonal fluctuations in groundwater due to cyclical increases and decreases in precipitation can affect groundwater recharge and hence flow direction. Groundwater levels may be elevated in the spring and fall due to snow melt

and/or increases in precipitation, and groundwater levels may be lowered in the winter and summer due to snow storage and/or increased evaporation. Such fluctuations have the potential to increase the vertical distribution of COCs in the capillary zone, as well as alter the direction of groundwater flow paths based on changes in infiltration rates.

However, based on the conditions observed at the Phase Two property and the fact that acceptable soil concentrations were noted in the soil horizon above bedrock surface (which is above the water table), it is not anticipated that the climatic or meteorological changes have had any impact on the distribution of soil contaminants. As no groundwater impacts were identified on the site prior to remediation, migration of impacted groundwater is not considered a concern at the Phase Two property.

5.8 Sediment: Quality

There are no water bodies on the Phase Two property, therefore sediment sampling was not required.

5.9 Quality Assurance and Quality Control Results

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 materials and groundwater at the site. QA/QC measures, included:

- Collection and analysis of blind duplicate soil and groundwater samples to ensure sample collection precision;
- Analysis of a groundwater field blank for all parameters that were analysed to assess potential impact during sampling;
- Using dedicated and/or disposable sampling equipment;
- Following proper decontamination protocols to minimize cross-contamination;
- Maintaining field notes and completing field forms to document on-site activities; and
- Using only laboratory supplied sample containers and following prescribed sample protocols, including proper preservation, meeting sample hold times, proper chain of custody documentation, to ensure integrity of the samples.

BV Labs' QA/QC program consisted of 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 to evaluate extraction efficiency. The laboratory QA/QC results are presented in the Quality Assurance Report provided in the Certificates of Analysis prepared by BV Labs. The QA/QC results are reported as percent recoveries for matrix spikes, spiked blanks and QC standards, relative percent difference for laboratory duplicates and analyte concentrations for method blanks.

Review of the laboratory QA/QC results reported indicated that they were mostly within acceptable control limits or below applicable alert criteria for the sampled media and analytical test groups. Further data qualifications are not required.

For QA/QC purposes, the analytical sample results are quantitatively evaluated by calculating the relative percent difference (RPD) between the samples and their duplicates. To accurately calculate a statistically valid RPD, the concentration of the analytes found in both the original and duplicate sample must be greater than five times the reporting detection limit (RDL).

The results of the RPD calculations are provided in Tables 9 to 14 in Appendix F. All of the RPD for were either not calculable or within the applicable alert limits except for barium, boron, and uranium in the groundwater sample pairs Since the metals results were within the Table 7 SCS, the deviation should have no material effect on the conclusions presented in this report.

6.0 Phase Two Conceptual Site Model

6.1 Introduction

A Conceptual Site Model (CSM) provides a narrative, graphical and tabulated description integrating information related to the Phase Two property's geologic and hydrogeological conditions, areas of potential environmental concern/potential contaminating activities, the presence and distribution of contaminants of concern, contaminant fate and transport, and potential exposure pathways.

EXP Services Inc. (EXP) was retained by Katasa Group to conduct a Phase Two Environmental Site Assessment (ESA) of the property located at 770 and 774 Bronson Avenue and 557 Cambridge Street in Ottawa, Ontario (hereinafter referred to as the 'Phase Two property'). The purpose of the investigation was to support the filing of a Record of Site Condition (RSC).

The objective of the Phase Two ESA investigation was to assess the quality of the groundwater conditions within the areas of potential environmental concern (APEC) identified in a Phase One ESA prepared by EXP. The most recent use of the property was for commercial purposes and the proposed future use will be residential and commercial. Consequently, in accordance with Regulation 153/04, as amended, an RSC must be filed.

6.2 Current and Proposed Future Uses

The most recent use of the property was commercial. The proposed future use of the property is residential and commercial. A new building will be constructed at the Phase Two property. The building will have one or two levels of underground parking, ground-level commercial space, and upper-level residential units.

6.3 Physical Site Description

The Phase Two property has the municipal addresses of 770 Bronson Avenue, 774 Bronson Avenue, and 557 Cambridge Street in Ottawa, Ontario. The Phase Two property is irregular in shape and has a total area of approximately 0.45 hectares. The approximate centroid coordinates are NAD83 18T 445213 m E and 5027661 m N. A site location plan is provided as Figure 1 in Appendix A.

The property at 770 Bronson Avenue is vacant and currently used as a parking lot. It is legally described as Part Lots 1 and 2, Registered Plan 28, City of Ottawa. The property identification number (PIN) is 04103-0205 (LT).

The property at 774 Bronson Avenue is vacant and currently used as a parking lot. It is legally described as Lots 3 and 4, Registered Plan 28, City of Ottawa. The PIN is 04103-0125 (LT).

The property at 557 Cambridge Street is vacant and currently used as a parking lot. It is legally described as Lot 37 and Part Lot 38, Registered Plan 28, Part 4 Registered Plan 5R14360, City of Ottawa. The PIN is 04103-0215 (LT).

Refer to Table 6.1 for the Site identification information.

Table 6.1: Site Identification Details

Civic Address	770 and 774 Bronson Avenue, 557 Cambridge Street, Ottawa, Ontario
Current Land Use	Commercial
Proposed Future Land Use	Commercial and Residential
Property Identification Number	04103-0205, 04103-0125, 04103-0215
UTM Coordinates	NAD83 18T 445213 m E and 5027661 m N

Site Area	0.45 hectares
Property Owner	10467855 Canada Inc.

6.4 Potentially Contaminating Activities

The following on-site potentially contaminating activities (PCA) were identified:

- PCA #10 – Commercial Autobody Shops – 770 Bronson Avenue (Phase Two property) – Former service garage;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 770 Bronson Avenue (Phase Two property) – Former gas station with three UST;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 770 Bronson Avenue (Phase Two property) – Former heating oil AST along west interior building wall;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 770 Bronson Avenue (Phase Two property) – Former waste oil AST along the south exterior wall of the garage building;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 774 Bronson Avenue (Phase Two property) – Former heating oil AST in the former north residential building;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 774 Bronson Avenue (Phase Two property) – Former heating oil AST in the south residential building;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 774 Bronson Avenue (Phase Two property) – Former heating oil AST in the former commercial building;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 557 Cambridge Street (Phase Two property) – Former heating oil AST in the south office building;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 557 Cambridge Street (Phase Two property) – Former heating oil AST in the middle office building;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 557 Cambridge Street (Phase Two property) – Former heating oil AST in the north office building;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 557 Cambridge Street (Phase Two property) – Oil skimmings collected in former commercial building on east side of 557 Cambridge Street;
- PCA #30 – Importation of Fill Material of Unknown Quantity – Entire Phase Two property – Fill material brought to site to backfill excavations, including tank nest and building foundations;
- PCA #31 – Ink Manufacturing, Processing and Bulk Storage – 774 Bronson Avenue – Former commercial printing operation on south part of parcel (former address of 784 Bronson Avenue);
- PCA #59 – Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products – 557 Cambridge Avenue (Phase Two property) – Western part of the site was historically used for wood treating; and
- PCA #Other – Application of de-icing salt - All former paved areas throughout the Phase Two Property.

By definition, all of the above PCA have resulted in APEC on the Phase Two property.

The following PCA have been identified in the Phase Two study area:

- PCA #10 – Commercial Autobody Shops – 400 Bell Street (125 m west) – Former garage with UST;

- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 400 Bell Street (125 m west) – Former garage with UST;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 735 Carling Avenue (225 m west) – Former gas station with three UST;
- PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks – 748 Bronson Avenue (now 265 Carling Avenue) (40 m north) – Former gas station;
- PCA #37 – Operation of Dry Cleaning Equipment (where chemicals are used) – 786-788 Bronson Street (immediately south of Phase Two property) – Former dry cleaner;
- PCA #46 – Rail Yards, Tracks and Spurs – Between Cambridge Street and Dow's Lake (150 m southwest) – Rail spurs at the Fraserfield Lumber Yard in early 1900s;
- PCA #55 – Transformer Manufacturing, Processing and Use – 227 Carling Avenue (now 247 Glebe Avenue) (60 m northeast) – Hydro sub station; and,
- PCA #59 – Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products – Between Cambridge Street and Dow's Lake (150 m southwest) – Former Fraserfield Lumber Yard.

The former dry-cleaning operation at 786-788 Bronson Avenue is immediately adjacent and south of the Phase Two property and may have resulted in contamination to the Phase Two property. Therefore, this PCA results in an APEC on the Phase Two property.

The former gas station at 735 Carling Avenue, the former lumber yard and rail spur lines at Fraserfield Lumber yard, and the former garage at 400 Bell Street were all located over 150 m from the Phase Two property. Due to the separation distance from the Phase Two property and the low hydraulic conductivity of the bedrock, these operations were not considered to result in APEC on the Phase Two property.

The former gas station at 265 Carling Avenue and the hydro substation at 247 Glebe Avenue are located approximately 40 m north and 60 m northeast, respectively. The potential contaminants of concern associated with the former gas station at 265 Carling Avenue are the same as those associated with the former gas station on the Phase Two property itself. Thus, if groundwater is present with such contaminants, the source will be assumed to be the former gas station on the Phase Two property itself. The potential contaminants of concern associated with the hydro substation are polychlorinated biphenyls (PCB), which are relatively non-motile and, therefore, unlikely to migrate to the Phase Two property. Further, these two PCA are located downgradient of the Phase Two property, based on the inferred regional flow direction. Therefore, these operations were located downgradient of the Phase Two property and were determined not to result in APEC on the Phase Two property.

6.5 Areas of Potential Environmental Concern/Potential Contaminants of Concern

The following APEC were identified on the Phase Two property, as shown in Table 6.3 below:

Table 6.3: Areas of Potential Environmental Concern

Area of Potential Environmental Concern (APEC)	Location of APEC on Phase One Property	Potentially Contaminating Activity (PCA)	Location of PCA (On-Site or Off-Site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, Soil and/or Sediment)
1. Former automotive garage at 770 Bronson Avenue	Garage building footprint	PCA #10 – Commercial autobody shop	On-Site	BTEX, PHC, VOC, metals	Soil and groundwater

Area of Potential Environmental Concern (APEC)	Location of APEC on Phase One Property	Potentially Contaminating Activity (PCA)	Location of PCA (On-Site or Off-Site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, Soil and/or Sediment)
2. Former gas station at 770 Bronson Avenue	Northeast part of the Phase Two property	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, metals	Soil and groundwater
3. Former heating oil AST at 770 Bronson Avenue	Along west interior building wall	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH	Soil and groundwater
4. Former waste oil AST at 770 Bronson Avenue	Along south exterior building wall	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH, metals	Soil and groundwater
5. Former heating oil AST in the north residential building at 774 Bronson Avenue	Former north residential building footprint	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH	Soil and groundwater
6. Former heating oil AST in the south residential building at 774 Bronson Avenue	Former south residential building footprint	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH	Soil and groundwater
7. Former heating oil AST in the commercial building at 774 Bronson Avenue	Former building footprint in southeast corner of Phase Two property	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH	Soil and groundwater
8. Former heating oil AST in the south commercial building at 557 Cambridge Street	Former building footprint on southwest corner of 557 Cambridge Street	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH	Soil and groundwater
9. Former heating oil AST in the centre commercial building at 557 Cambridge Street	Former building footprint adjacent to west-centre property line of 557 Cambridge Street	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH	Soil and groundwater
10. Former heating oil AST in the north commercial building at 557 Cambridge Street	Former building footprint on northwest corner of 557 Cambridge Street	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, VOC, PAH	Soil and groundwater
11. Oil skimmings collected at former contractors' yard at 557 Cambridge Street	Within building footprint of former contractor building in south-centre part of Phase Two property	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	On-site	BTEX, PHC, PAH	Soil and groundwater
12. Fill used to backfill former UST excavations and former building footprints	Entire Phase Two property	PCA #30 – Importation of Fill Material of Unknown Quality	On-site	BTEX, PHC, PAH, metals	Soil
13. Former commercial printing operation	Former building footprint in southeast corner of Phase Two property	PCA #31 – Ink Manufacturing, Processing and Bulk Storage	On-site	VOC	Groundwater

Area of Potential Environmental Concern (APEC)	Location of APEC on Phase One Property	Potentially Contaminating Activity (PCA)	Location of PCA (On-Site or Off-Site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, Soil and/or Sediment)
14. Former dry cleaner at 786-788 Bronson Avenue	Along south property line shared with former dry cleaner	PCA #37 – Operation of Dry Cleaning Equipment (where chemicals are used)	Off-site	VOC	Groundwater
15. Former treated lumber storage at 557 Cambridge Street	West part of the Phase Two property	PCA #59 – Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products	On-site	PAH, PHC, Chlorophenols	Soil and groundwater
16. All former paved areas throughout the Phase Two Property	Former paved driveways and parking lots at Phase Two property	PCA #Other – Application of de-icing salt	On-site	EC, SAR	Soil

The locations of the PCA and APEC are shown on Figures 2 and 3 in Appendix A.

6.6 Buildings and Structures

No buildings were present on the Phase Two property at the time of this investigation.

Historically, a multi-tenanted commercial building constructed *circa* 1915 was present at 774 Bronson Avenue. These buildings were demolished circa 2014 and the property is currently used as a parking lot.

The property at 770 Bronson was formerly occupied by a gas station/garage constructed *circa* 1930. The building was demolished in 2023 and the property is currently occupied by parking lot.

The property at 557 Cambridge Street was first developed *circa* 1925 for commercial purposes. The buildings were demolished circa 2014 and the property is currently used as a parking lot.

6.7 Water Bodies and Groundwater Flow Direction

Topographically, the Phase Two study area slopes downwards towards the southwest. The regional groundwater flow direction is anticipated to be to the north/northeast towards the Ottawa River. However, the local groundwater flow direction may be influenced by the presence of Dow's Lake, which is approximately 400 metres southwest of the Phase Two property. Dow's Lake is the closest water body to the Phase Two property and is a man-made lake on the Rideau Canal, which flows to the northeast towards the Ottawa River.

6.8 Areas of Natural Significance

The Phase Two property is not located within an area of natural significance, and it does not include land that is within 30 metres of an area of natural significance. In accordance with Section 41 of Ontario Regulation 153/04, the Phase Two property is not an environmentally sensitive area.

6.9 Water Wells

The Phase Two property, and all other properties located, in whole or in part, within 250 metres of the boundaries of the Phase Two property, are supplied by a municipal drinking water system, as defined in the *Safe Drinking Water Act*, provided by the City of Ottawa. Further, the Phase Two property is not located in an area designated in the municipal official plan as a

well-head protection area and no properties within the Phase Two study area have a well that is being used or is intended for use as a source of potable water. Thus, in accordance with Section 35 of Ontario Regulation 153/04, non-potable water standards apply to the Phase Two property.

No wells used as a source of potable water or for agricultural purposes were observed on the Phase Two property or on any property within 250 metres of the Phase Two property.

6.10 Utilities

Although there were no buildings on the Phase Two property at the time of the investigation, the Phase Two property, and surrounding area are serviced by municipal water, storm and sanitary sewers, natural gas, hydro and telecommunication. Since the water table is within the bedrock, the presence of utilities is not expected to affect possible migration of contaminants once buildings are constructed on the Phase Two property.

6.11 Geological and Hydrogeological

The Phase Two property is located in the physiographic region known as the Ottawa Formation. The bedrock in the area consists of limestone with some shaley partings. Bedrock is present at a depth of less than 2 metres below ground surface (mbgs), which is approximately 75 metres above sea level (masl). Therefore, in accordance with Section 43.1 of Regulation 153/04, the Phase Two property is a shallow soil property.

Beneath any fill, the surficial geology of the Phase Two is characterised by Champlain Sea deposits of plain till.

A layer of asphalt approximately 50 mm thick was present at surface in all of the boreholes at 770 Bronson Avenue (BH11-BH-13), while all hard surfaces had been removed at 774 Bronson Avenue and 557 Cambridge Street prior to the current investigation.

In general, surficial geology consisted of sand and gravel fill material overlying bedrock. The fill material was noted to contain debris, including wood, ash, asphalt, and brick fragments. The texture of the soil is considered to be coarse.

Bedrock was encountered between 0.6 to 2.4 mbgs. It is noted that bedrock was shallower on the south part of the Phase Two Property (774 Bronson Avenue and 557 Cambridge Street) than the north part (770 Bronson Avenue).

A plan view showing cross-sections is provided as Figure 4 in Appendix A, while the Phase Two property geology is depicted in cross-sections on Figure 5 in Appendix A.

In the Ottawa area, the regional aquifers consist of both bedrock and overburden sources, with the two key aquifers consisting of the highly weathered and fractured portion of the upper bedrock surface and overlying sand and gravel deposits (contact zone aquifer) and deeper bedrock aquifers.

In southeastern Ontario, there are four main bedrock aquifers:

- Nepean-March-Oxford Aquifer
- Rockcliffe Aquifer
- Ottawa Group Aquifer
- Billing-Carlsbad-Queenston Aquifer

In the vicinity of the Phase Two Property, the primary bedrock aquifer is the Ottawa Group. This aquifer is considered to have marginal to variable water yielding capacity.

The contact zone aquifer, which generally includes the sand and gravel deposits and underlying fractured bedrock, is present across the Ottawa region, with more than 90% of the water extracted in eastern Ontario is extracted from the Contact Zone Aquifer. The contact zone aquifer varies in thickness across the region due to the large variation in the zone of upper bedrock

fracturing. Regional groundwater flow in both the contact zone and bedrock have been interpreted to be to the northeast towards the Ottawa River, generally following bedrock topography.

On February 5, 2024, EXP measured groundwater levels in accessible monitoring wells at the Phase Two property. The groundwater elevations ranged between 1.54 and 5.28 metres below top of monitoring well. Three of the monitoring wells (MW4, BH15-01, BH15-04) were not accessible at this time.

Based on the groundwater elevations, a groundwater contour plan was prepared by EXP. The groundwater flow direction was determined to be to the southwest towards Dow's Lake. The groundwater contour plan is provided as Figure 6 in Appendix A.

EXP notes that groundwater levels depend on the size of the fractures that are intercepted as drilling progresses. Groundwater levels can also be influenced by seasonal changes, the presence of subsurface structures, or fill, however, based on the presence of the water table within the bedrock and the proximity to Dow's Lake and the Rideau Canal, it is unlikely that any of these factors significantly impact the groundwater flow direction. We note that the Rideau canal flows to the northeast to the Ottawa River..

6.12 Applicable Site Condition Standards

For assessment purposes, EXP selected the 2011 Table 7 SCS in a non-potable groundwater condition for residential/parkland/institutional property use and coarse textured soils. The selection of these categories was based on the following factors:

- The predominant soil type on the Phase Two property was considered to be coarse textured, based on field observations;
- There was no intention to carry out a stratified restoration at the Phase Two property;
- More than two-thirds of the Phase Two property has an overburden thickness less than 2 metres;
- The Phase Two property is not located within 30 metres of a surface water body;
- The Phase Two property, and all other properties located, in whole or in part, within 250 metres of the boundaries of the Phase Two property, are supplied by a municipal drinking water system provided by the City of Ottawa;
- The Phase Two property is not located in an area designated in the municipal official plan as a well-head protection area and no properties within the Phase Two study area have a well that is being used or is intended for use as a source of potable water;
- The Phase Two property is not 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 metres of an area of natural significance, nor is it part of such an area;
- The soil at the Phase Two property has a pH value between 5 and 9 for surficial soils; and, between 5 and 11 for subsurface soils;
- The Phase Two property is planned for future residential and commercial use; and
- It is the opinion of the Qualified Person who oversaw this work that the Phase Two property is not a sensitive site.

Based on the above considerations:

- In accordance with Section 35 of Ontario Regulation 153/04, non-potable water standards apply to the Phase Two property;

- In accordance with Section 41 of Ontario Regulation 153/04, the Phase Two property is not an environmentally sensitive area; and
- The Phase Two property is a shallow soil property, as defined in Section 43.1 of Regulation 153/04.Scope of the Investigation

The current investigation was performed following requirements given under Ontario Regulation 153/04 and in accordance with generally accepted professional practices. The scope of work included pre-remediation drilling with soil and groundwater sampling. Groundwater samples from five pre-existing monitoring wells (BH15-1 to BH15-5) at 770 Bronson Avenue were also collected during this investigation.

Prior to the commencement of drilling, 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.

The drilling program was completed between January 9 and 11, 2024, by Strata Drilling (Strata), a licensed well contractor. Strata advanced fifteen boreholes (BH1 to BH15) across the Phase Two property, using a Massenza M13 track-mounted drill. Ten of the boreholes (MW4 to MW13) were completed as monitoring wells. The boreholes instrumented with monitoring wells were augured to refusal, then advanced through bedrock using percussion drilling to a depth of 4.6 to 6.7 m below ground surface (mbgs). The remaining boreholes were terminated at refusal between 0.8 and 2.0 mbgs.

6.13 Soil Sampling

Chemical analyses were performed on selected soil samples recovered from the boreholes on the Phase Two property.

Thirteen soil samples and one duplicate sample were submitted for analysis of VOC, PHC, and PAH; and fifteen samples and one duplicate sample were submitted for analysis of metals, and inorganics (EC and SAR). All of the soil samples met the Table 7 SCS with the exception of the following:

- MW13 SS1 exceeded the Table 7 SCS for PHC F3;
- BH2 SS1, BH3 SS1, MW4 SS2, MW6 SS1, MW12 SS1, and MW13 SS1 exceeded the Table 7 SCS for various PAH parameters;
- BH1 SS1 exceeded the Table 7 SCS for lead, and BH2 SS1 exceeded the Table 7 CS for cadmium, lead, and zinc; and,
- BH1 SS1, BH2 S1, BH3 SS1, MW6 SS1, MW7 SS1, MW8 SS1 (and duplicate), MW9 SS1, MW10 SS1, and MW13 SS1 exceeded the Table 7 SCS for electrical conductivity and/or sodium adsorption ratio.

In accordance with Section 49.1 of Regulation 153/04 if, in the opinion of the Qualified Person, the applicable SCS at the Phase Two property are exceeded solely due to the application of a substance to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both, the applicable SCS is deemed not to be exceeded. Road salt is considered to have been applied to the driving and parking surfaces on the Phase Two property. As all of the boreholes/monitoring wells with elevated sodium absorption ratio and conductivity levels were located in a parking lot, for the purpose of this investigation, the elevated sodium absorption ratio and conductivity levels in the soil samples are deemed not to exceed the Table 7 SCS.

The soil results are shown in plan view on Figures 7 to 9 and on cross-sections on Figures 10 to 12 in Appendix A.

6.14 Groundwater Sampling

All groundwater samples were collected via a low flow sampling technique. Water quality parameters (such as water level, temperature, dissolved oxygen, conductivity, salinity, pH, oxygen reduction potential and turbidity) were monitored in order to ensure that the samples collected were representative of actual groundwater conditions.

On August 11, 2022, EXP collected groundwater samples from the existing monitoring wells (BH 15-1 to BH15-3, BH15-5) at 770 Bronson Avenue. None of the monitoring wells installed at 774 Bronson Avenue or 557 Cambridge Street were still present. Four groundwater samples, plus a field duplicate, were submitted for analysis of PHC, VOC, and PAH. BH15-4 could not be sampled due to insufficient sample volume. All of the samples were within the applicable Table 7 SCS for all parameters analysed.

Between January 23 and 25, 2024, ten groundwater samples, and a field duplicate were submitted for analysis of VOC, PHC, PAH, and metals. It was noted that the groundwater samples collected from MW10 and MW13 slightly exceeded the Table 7 SCS for benzene. The remaining samples met the Table 3 SCS for all remaining parameters analyzed.

On February 5, 2024, a second sample was collected from MW10 and MW13 and submitted for analysis of BTEX. Both of the samples were below the detection limits for benzene, which were exceeded in the initial samples.

Analytical results are shown in plan view on Figures 13 to 15 and on cross-sections on Figures 16 to 18 in Appendix A.

6.15 Contaminants of Concern

Potential contaminants of concern (COC) that were identified on the Phase Two property included:

- Soil: BTEX, PHC, VOC, PAH, and metals
- Groundwater: BTEX, PHC, VOC, PAH, and metals

Prior to remediation, soil in the vicinity of BH-5 and BH-7 exceeded the Table 7 SCS. Contaminants that exceeded the applicable standards included:

Soil: PHC fraction F3, acenaphthylene, anthracene, benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, dibenzo[a,h]anthracene, fluoranthene, indeno[1,2,3-cd]pyrene, cadmium, lead, and zinc.

Groundwater: None.

Inspection of the groundwater monitoring wells did not indicate the presence of non-aqueous phase liquid (NAPL).

6.16 Chemical Transformation and Contaminant Sources

A variety of physical, chemical and biochemical mechanisms affect the fate and transport of the potential COC in soil and groundwater, the contribution of which is dependent on the soil and groundwater conditions at the Phase Two property, as well as the chemical/physical properties of the COC. Relevant fate and transport mechanisms are natural attenuation mechanisms, including advection mixing, mechanical dispersion/molecular diffusion, phase partitions (i.e. sorption and volatilization), and possibly abiotic or biotic chemical reactions, which effectively reduce COC concentrations.

PAH and metals-impacted soil has been identified on the south part of the Phase Two property. As there were no groundwater exceedances identified on the Phase Two property, the contamination does not appear to be migrating.

It is recommended that the impacted soil be removed from the Phase Two property when the property is re-developed.

6.17 Climatic Conditions

It is noted that climatic or meteorological conditions may influence the distribution and migration of COCs at the Phase Two property. Seasonal fluctuations in groundwater due to cyclical increases and decreases in precipitation can affect groundwater recharge and hence flow direction. Groundwater levels may be elevated in the spring and fall due to snow melt and/or increases in precipitation, and groundwater levels may be lowered in the winter and summer due to snow storage and/or increased evaporation. Such fluctuations have the potential to increase the vertical distribution of COCs in the capillary zone, as well as alter the direction of groundwater flow paths based on changes in infiltration rates.

However, based on the conditions observed at the Phase Two property and the fact that acceptable soil concentrations were noted in the soil horizon above bedrock surface (which is above the water table), it is not anticipated that the climatic or meteorological changes have had any impact on the distribution of soil contaminants. As no groundwater impacts were identified on the site prior to remediation, migration of impacted groundwater is not considered a concern at the Phase Two property.

6.18 Human Health Exposure Pathways and Receptors

A new building will be constructed at the Phase Two property. The building will have one or two levels of underground parking, ground-level commercial space, and upper-level residential units. The potential on-site human receptors include indoor and outdoor long-term workers, indoor and outdoor short-term workers, residents (adult, teen, child, toddler and infant), property visitors (adult, teen, child, toddler and infant), and outdoor construction workers.

The potential on-site exposure pathways for the construction workers are incidental soil and groundwater ingestion, soil particulate inhalation, soil and groundwater dermal contact, ambient vapour inhalation, and vapour skin contact.

The potential on-site exposure pathways for the short-term and long-term outdoor workers (who are not exposed directly to subsurface soil and groundwater) are incidental surface soil ingestion, surface soil particulate inhalation, surface soil dermal contact, and vapour skin contact.

The potential on-site exposure pathway for the property residents, the long-term and short-term indoor workers and visitors is indoor air inhalation.

A diagram identifying the release mechanisms, contaminant transport pathway, human receptors, exposure points and routes of exposure are shown on Figure 19 in Appendix A.

6.19 Ecological Exposure Pathways and Receptors

While the footprint of the building that is being planned will occupy most of the Phase Two property, there will be a landscaped area surrounding the building. Therefore, The Phase Two property is capable of supporting some ecological receptors. Relevant ecological receptors include terrestrial vegetation (bushes, grasses and weeds); soil invertebrates (earthworms, millipedes and beetles); birds (seagulls, pigeons, sparrows and robins); and small terrestrial mammals (moles, voles, and mice).

The potential on-site exposure pathways for terrestrial vegetation are root uptake of soil and groundwater and stem and foliar uptake of vapours from soil and groundwater.

The potential on-site exposure pathways for soil invertebrates are soil particulate inhalation, soil and groundwater dermal contact, soil and groundwater ingestion, and vapour inhalation, and plant and animal tissue ingestion.

The potential on-site exposure pathways for mammals and birds are soil particulate inhalation, soil dermal contact, soil ingestion, vapour inhalation, and plant and animal tissue ingestion.

A diagram identifying the release mechanisms, contaminant transport pathway, ecological receptors, exposure points and routes of exposure are shown on Figure 20 in Appendix A.

7.0 Conclusion

PHC, PAH and metals impacted soil has been identified on the Phase Two property. As there were no groundwater exceedances identified on the Phase Two property, the contamination does not appear to be migrating. It is recommended that the impacted soil be removed from the Phase Two property when the property is re-developed.

The Qualified Person can confirm that the Phase Two Environmental Site Assessment was conducted per the requirements of Ontario Regulation 153/04, as amended, and in accordance with generally accepted professional practices.

Leah Wells, P.Eng.
Environmental Engineer
Earth and Environment

Patricia Stelmack, M.Sc., P.Eng.
Senior Project Manager
Earth and Environment

8.0 References

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

- Freeze and Cherry, *Groundwater*, Prentice Hall, 1979.
- Golder Associates, *Phase One Environmental Site Assessment, 770 Bronson Avenue, Ottawa, Ontario*, August 2015.
- Golder Associates, *Phase Two Environmental Site Assessment, 770 Bronson Avenue, Ottawa, Ontario,* August 2015.
- Golder Associates, *Technical Memorandum, Remedial Action Plan*, August 2016.
- Exp Services Inc., *Phase One Environmental Site Assessment, 770 and 774 Bronson Avenue and 557 Cambridge Street, Ottawa, Ontario*, September 2022.
- Ontario Ministry of the Environment, Conservation and Parks, *Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario*, December 1996.
- Ontario Ministry of the Environment, Conservation and Parks, *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*, April 15, 2011.
- Ontario Ministry of the Environment, Conservation and Parks, *Guide for Completing Phase Two Environmental Site Assessments under Ontario Regulation 153/04,* June 2011.
- Ontario Ministry of the Environment, Conservation and Parks, *Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act,* July 1, 2011.
- Ontario Ministry of the Environment, Conservation and Parks, *Management of Excess Soil – A Guide for Best Management Practices,* January 2014.
- Ontario Regulation 153/04, made under the *Environmental Protection Act*, as amended.
- Ontario R.R.O. 1990, Regulation 347, made under the *Environmental Protection Act*, as amended.
- Ontario R.R.O. 1990, Regulation 903, made under the *Water Resources Act*, as amended.
- Paterson Group Inc., *Phase I Environmental Site Assessment, 770-774 Bronson Avenue, Ottawa, Ontario*, April 2020.
- WSP Canada Inc., *Phase 1 Environmental Site Assessment, 774 Bronson Avenue and 557 Cambridge Street South, Ottawa, Ontario*, December 2015.
- WSP Canada Inc., *Phase Two Environmental Site Assessment, 774 Bronson Avenue and 557 Cambridge Street, Ottawa, Ontario*, March 2016.

9.0 General Limitations

Basis of Report

This report ("Report") is based on site conditions known or inferred by the investigation undertaken as of the date of the Report. Should changes occur which potentially impact the condition of the site the recommendations of EXP may require re-evaluation. Where special concerns exist, or SEC 774 Bronson ("the Client") has special considerations or requirements, these should be disclosed to EXP to allow for additional or special investigations to be undertaken not otherwise within the scope of investigation conducted for the purpose of the Report.

Reliance on Information Provided

The evaluation and conclusions contained in the Report are based on conditions in evidence at the time of site inspections and information provided to EXP by the Client and others. The Report has been prepared for the specific site, development, building, design or building assessment objectives and purpose as communicated by the Client. EXP has relied in good faith upon such representations, information and instructions and accepts no responsibility for any deficiency, misstatement or inaccuracy contained in the Report as a result of any misstatements, omissions, misrepresentation or fraudulent acts of persons providing information. Unless specifically stated otherwise, the applicability and reliability of the findings, recommendations, suggestions or opinions expressed in the Report are only valid to the extent that there has been no material alteration to or variation from any of the information provided to exp. If new information about the environmental conditions at the Site is found, the information should be provided to EXP so that it can be reviewed and revisions to the conclusions and/or recommendations can be made, if warranted.

Standard of Care

The Report has been prepared in a manner consistent with the degree of care and skill exercised by engineering consultants currently practicing under similar circumstances and locale. No other warranty, expressed or implied, is made. Unless specifically stated otherwise, the Report does not contain environmental consulting advice.

Complete Report

All documents, records, data and files, whether electronic or otherwise, generated as part of this assignment form part of the Report. This material includes, but is not limited to, the terms of reference given to EXP by the Client, communications between EXP and the Client, other reports, proposals or documents prepared by EXP for the Client in connection with the site described in the Report. In order to properly understand the suggestions, recommendations and opinions expressed in the Report, reference must be made to the Report in its entirety. EXP is not responsible for use by any party of portions of the Report.

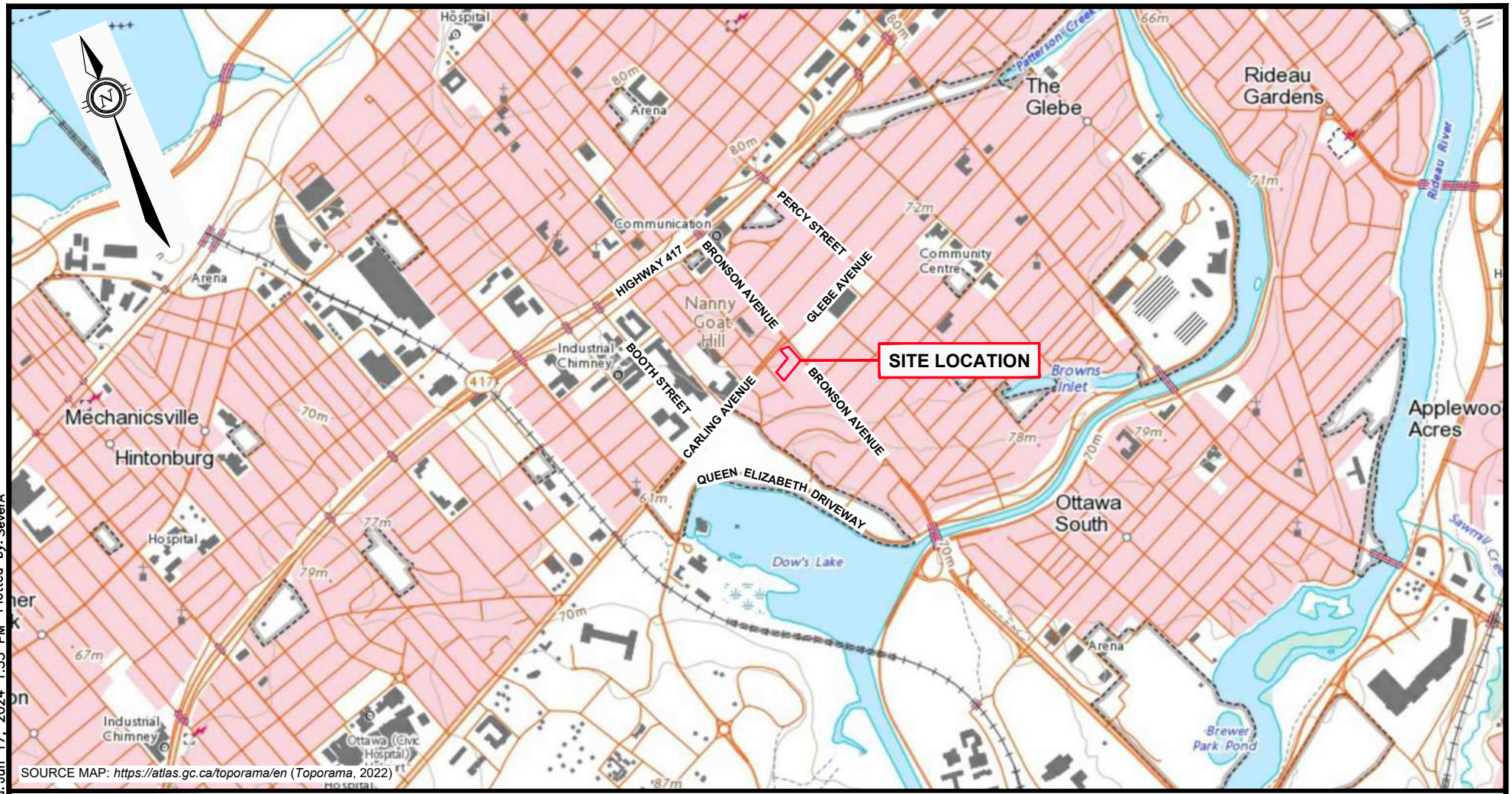
Use of Report

The information and opinions expressed in the Report, or any document forming part of the Report, are for the sole benefit of the Client. No other party may use or rely upon the Report in whole or in part without the written consent of EXP. Any use of the Report, or any portion of the Report, by a third party are the sole responsibility of such third party. EXP is not responsible for damages suffered by any third party resulting from unauthorised use of the Report.

Report Format

Where EXP has submitted both electronic file and a hard copy of the Report, or any document forming part of the Report, only the signed and sealed hard copy shall be the original documents for record and working purposes. In the event of a dispute or discrepancy, the hard copy shall govern. Electronic files transmitted by EXP utilize specific software and hardware systems. EXP makes no representation about the compatibility of these files with the Client's current or future software and hardware systems. Regardless of format, the documents described herein are EXP's instruments of professional service and shall not be altered without the written consent of EXP.

Appendix A: Figures



LEGEND

PROPERTY BOUNDARY

0 200m 400m 800m

HORIZONTAL 1:20,000

EXP Services Inc. www.exp.com
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2650 Queensview Drive, Suite 100
Ottawa, ON K2B 8H6, Canada

DATE: JUNE 2024	CLIENT: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT 770 & 774 BRONSON AVENUE + 557 CAMBRIDGE STREET, OTTAWA, ON	project no. OTT-22019409-A0	
DESIGN: PS / CHECKED: PS		scale 1:20,000	
DRAWN BY: AS	TITLE: SITE LOCATION PLAN	FIG 1	

Symbol	Area of Potential Environmental Concern (APEC)	Potentially Contaminating Activity (PCA)
	1. Former automotive garage at 770 Bronson Avenue	PCA #10 – Commercial autobody shop
	2. Former gas station at 770 Bronson Avenue	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks
	3. Former heating oil AST at 770 Bronson Avenue	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks
	4. Former waste oil AST at 770 Bronson Avenue	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks
	5. Former heating oil AST in the north residential building at 774 Bronson Avenue	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks
	6. Former heating oil AST in the south residential building at 774 Bronson Avenue	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks
	7. Former heating oil AST in the commercial building at 774 Bronson Avenue	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks
	8. Former heating oil AST in the south commercial building at 557 Cambridge Street	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks
	9. Former heating oil AST in the centre commercial building at 557 Cambridge Street	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks
	10. Former heating oil AST in the north commercial building at 557 Cambridge Street	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks
	11. Oil skimmings collected at former contractors' yard at 557 Cambridge Street	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks
	12. Fill used to backfill former UST excavations and former building footprints	PCA #30 – Importation of Fill Material of Unknown Quality (Entire Site)
	13. Former commercial printing operation	PCA #31 – Ink Manufacturing, Processing and Bulk Storage
	14. Former dry cleaner at 786-788 Bronson Avenue	PCA #37 – Operation of Dry-Cleaning Equipment (where chemicals are used)
	15. Former treated lumber storage at 557 Cambridge Street	PCA #59 – Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products
	16. All former paved areas throughout the Phase Two Property	PCA #Other – Application of de-icing salt

LEGEND

- PROPERTY BOUNDARY
- BH15-5 — BOREHOLE NUMBER AND LOCATION (*WSP*, 2016)
- MW15-2 — NESTED MONITORING WELL NUMBER AND LOCATION (*WSP*, 2016)
- MW15-1 — BOREHOLE / MONITORING WELL NUMBER AND LOCATION (*GOLDER*, 2015)

UTILITIES LEGEND (APPROX. LOCATION):

- WASTEWATER - STORM
- WASTEWATER - SANITARY
- WATER
- UNDERGROUND HYDRO
- GAS — UNDERGROUND NATURAL GAS
- UNDERGROUND TELECOMMUNICATIONS

0 5m 10m 20m

HORIZONTAL 1:500

AERIAL PHOTOGRAPH SOURCE: *geoOttawa* (*maps.ottawa.ca/geoottawa*)

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

DATE: JUNE 2024
DESIGN: PS / MM
CHECKED: PS
DRAWN BY: AS
CLIENT: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
770 & 774 BRONSON AVENUE + 557 CAMBRIDGE STREET, OTTAWA, ON
TITLE: SITE PLAN
project no. OTT-22019409-A0
scale 1:500
FIG 2

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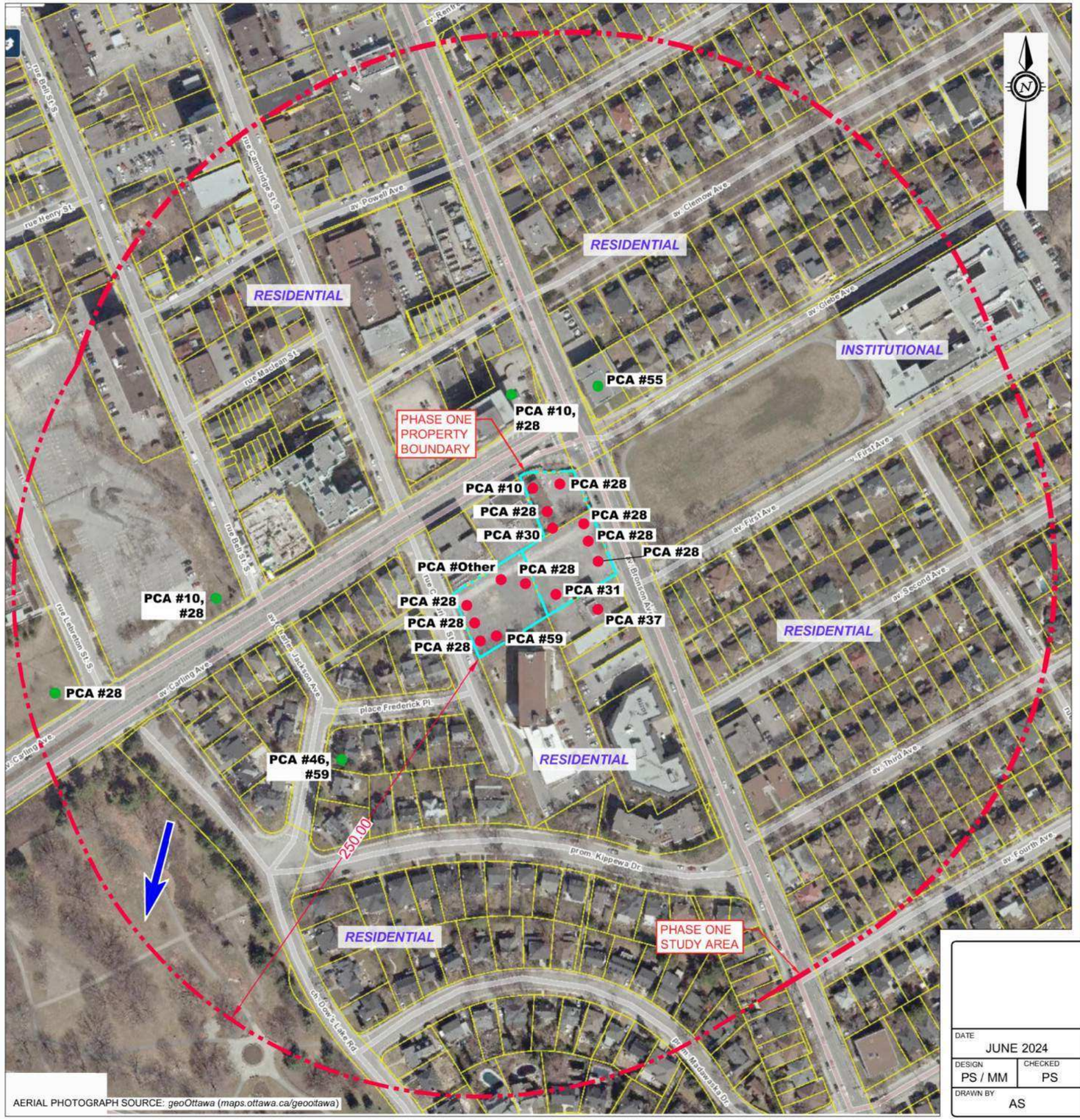

AERIAL PHOTOGRAPH SOURCE: *geoOttawa (maps.ottawa.ca/geoottawa)*

PCA #10 - COMMERCIAL AUTOBODY SHOPS
PCA #28 - GASOLINE AND ASSOCIATED PRODUCTS STORAGE IN FIXED TANKS
PCA #30 - IMPORTATION OF FILL MATERIAL OF UNKNOWN QUALITY
PCA #31 - INK MANUFACTURING, PROCESSING AND BULK STORAGE
PCA #37 - OPERATION OF DRY CLEANING EQUIPMENT (WHERE CHEMICALS ARE USED)
PCA #46 - RAIL YARDS, TRACKS AND SPURS
PCA #55 - TRANSFORMER MANUFACTURING, PROCESSING AND USE
PCA #59 - WOOD TREATING AND PRESERVATIVE FACILITY AND BULK STORAGE OF TREATED AND PRESERVED WOOD PRODUCTS
PCA #Other - APPLICATION OF DE-ICING SALT

LEGEND

- PROPERTY BOUNDARY
- PHASE ONE STUDY AREA (250m)
- **PCA #10** POTENTIALLY CONTAMINATING ACTIVITY (PCA) IDENTIFIER
- PCA RESULTS IN APEC
- PCA DOES NOT RESULT IN APEC
- INFERRED GROUNDWATER FLOW DIRECTION

0 25m 50m 100m
HORIZONTAL 1:2500

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

DATE: JUNE 2024	CLIENT: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT 770 & 774 BRONSON AVENUE + 557 CAMBRIDGE STREET, OTTAWA, ON		project no. OTT-22019409-A0
DESIGN: PS / MM	CHECKED: PS		scale 1:2,500
DRAWN BY: AS	TITLE: PHASE ONE CONCEPTUAL SITE MODEL		FIG 3

Filename: E:\OTT\OTT-22019409-A0\60 Execution\65 Drawings\22019409-A0_Ph-2_June-2024.dwg
Last Saved: Jun 18, 2024 4:07 PM Last Plotted: Jun 19, 2024 9:03 AM Plotted by: SeverA

Symbol	Area of Potential Environmental Concern (APEC)	Potentially Contaminating Activity (PCA)
	1. Former automotive garage at 770 Bronson Avenue	PCA #10 – Commercial autobody shop
	2. Former gas station at 770 Bronson Avenue	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks
	3. Former heating oil AST at 770 Bronson Avenue	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks
	4. Former waste oil AST at 770 Bronson Avenue	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks
	5. Former heating oil AST in the north residential building at 774 Bronson Avenue	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks
	6. Former heating oil AST in the south residential building at 774 Bronson Avenue	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks
	7. Former heating oil AST in the commercial building at 774 Bronson Avenue	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks
	8. Former heating oil AST in the south commercial building at 557 Cambridge Street	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks
	9. Former heating oil AST in the centre commercial building at 557 Cambridge Street	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks
	10. Former heating oil AST in the north commercial building at 557 Cambridge Street	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks
	11. Oil skimmings collected at former contractors' yard at 557 Cambridge Street	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks
	12. Fill used to backfill former UST excavations and former building footprints	PCA #30 – Importation of Fill Material of Unknown Quality (Entire Site)
	13. Former commercial printing operation	PCA #31 – Ink Manufacturing, Processing and Bulk Storage
	14. Former dry cleaner at 786-788 Bronson Avenue	PCA #37 – Operation of Dry-Cleaning Equipment (where chemicals are used)
	15. Former treated lumber storage at 557 Cambridge Street	PCA #59 – Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products
	16. All former paved areas throughout the Phase Two Property	PCA #Other – Application of de-icing salt

LEGEND

- PROPERTY BOUNDARY
- BH15-5 — BOREHOLE NUMBER AND LOCATION (*WSP*, 2016)
- MW15-2 — NESTED MONITORING WELL NUMBER AND LOCATION (*WSP*, 2016)
- MW15-1 — BOREHOLE / MONITORING WELL NUMBER AND LOCATION (*GOLDER*, 2015)
- BH-1 — 2024 BOREHOLE NUMBER AND LOCATION (FOR: VOC/PHC, PAH, METALS)
- BH/MW-4 — 2024 BOREHOLE / MONITORING WELL NUMBER AND LOCATION (FOR: VOC/PHC, PAH, METALS)
- A — CROSS-SECTION MARK

0 5m 10m 20m

HORIZONTAL 1:500

AERIAL PHOTOGRAPH SOURCE: *geoOttawa* (*maps.ottawa.ca/geoottawa*)

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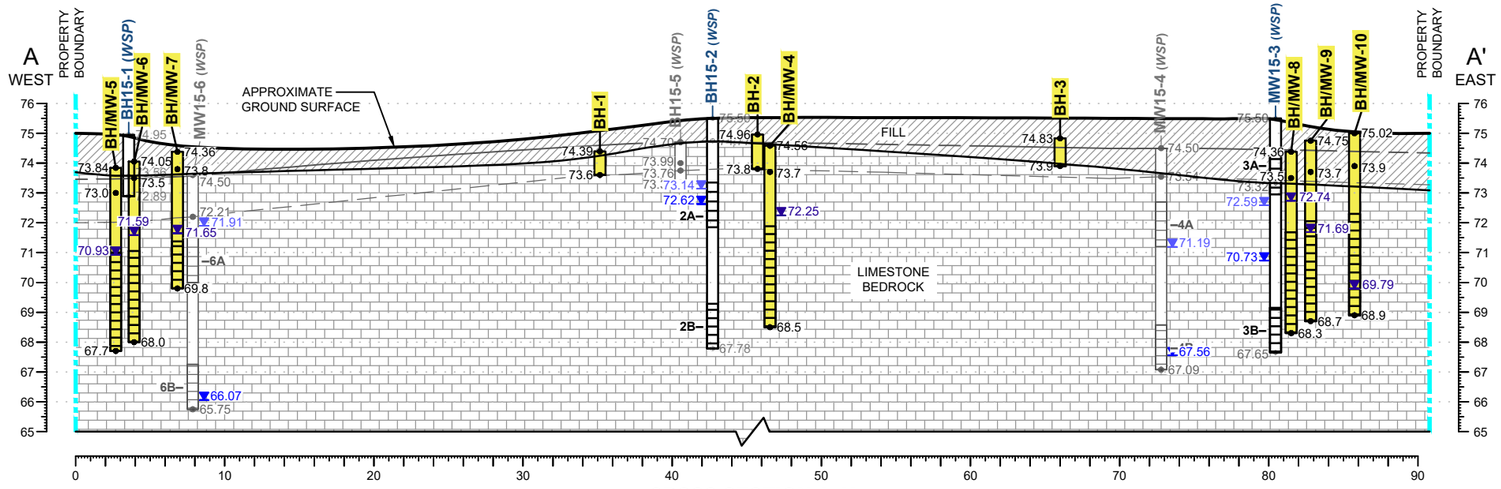
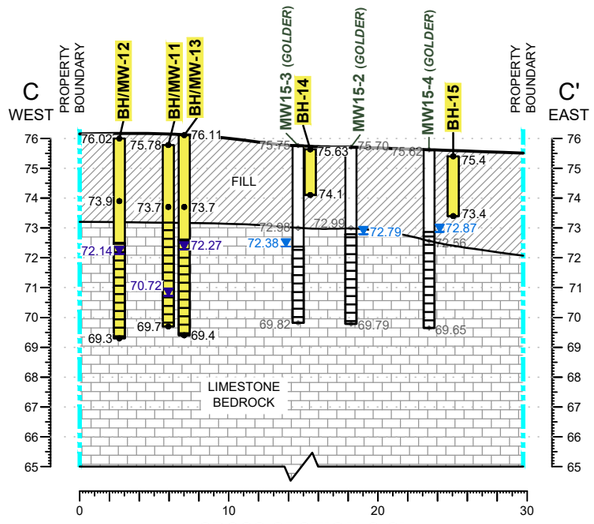
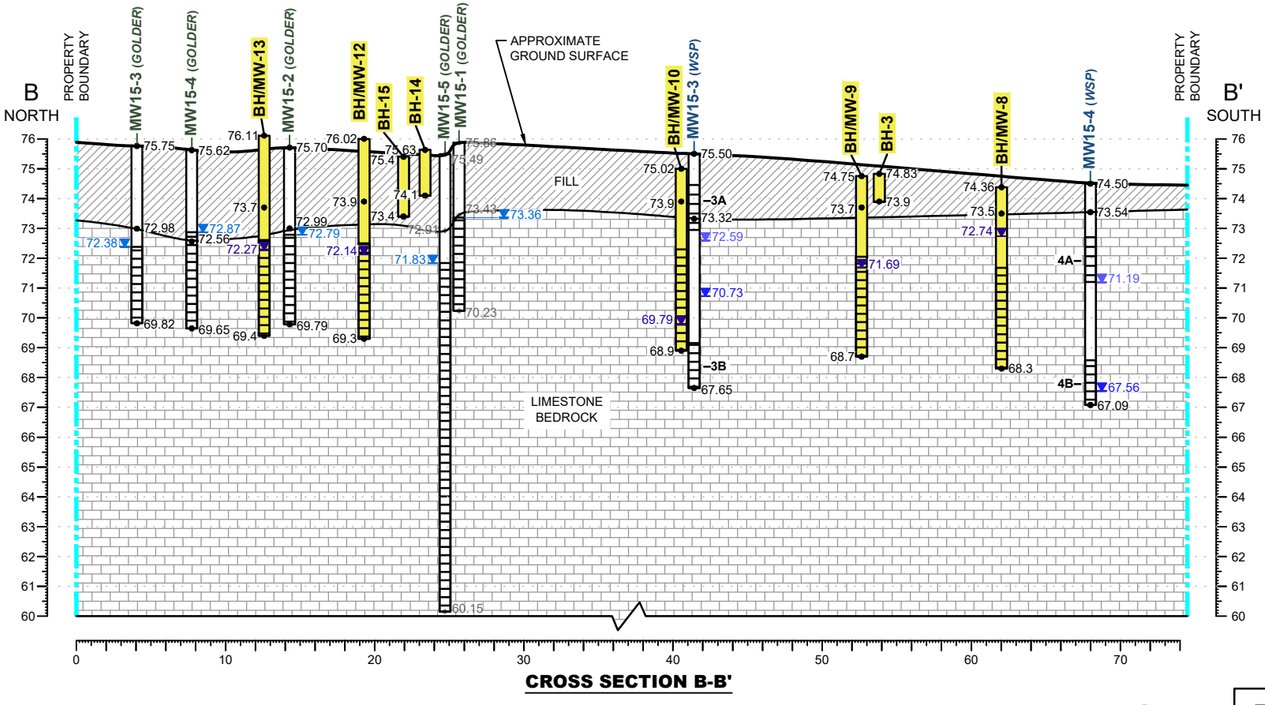
DESIGN: PS / MM; CHECKED: PS			scale 1:500
DRAWN BY: AS	TITLE: CROSS SECTION PLAN		FIG 4

Filename: E:\OTT\OTT-22019409-A0\60 Execution\65 Drawings\22019409-A0_Ph-2_June-2024.dwg
Last Saved: Jun 19, 2024 9:18 AM Last Plotted: Jun 19, 2024 9:19 AM Plotted by: SeverA







LEGEND

- PROPERTY BOUNDARY
- 72.59 ▼ GROUNDWATER ELEVATION FROM MARCH 1, 2016 (*WSP*) - SHALLOW
- 70.73 ▼ GROUNDWATER ELEVATION FROM MARCH 1, 2016 (*WSP*) - DEEP
- 71.83 ▼ GROUNDWATER ELEVATION FROM MARCH 27, 2016 (*GOLDER*)
- 71.65 ▼ GROUNDWATER ELEVATION FROM FEBRUARY, 2024 (*EXP*)

HORIZONTAL 1:400 (0, 4m, 8m, 16m)

VERTICAL 1:200 (0, 2m, 4m, 6m)

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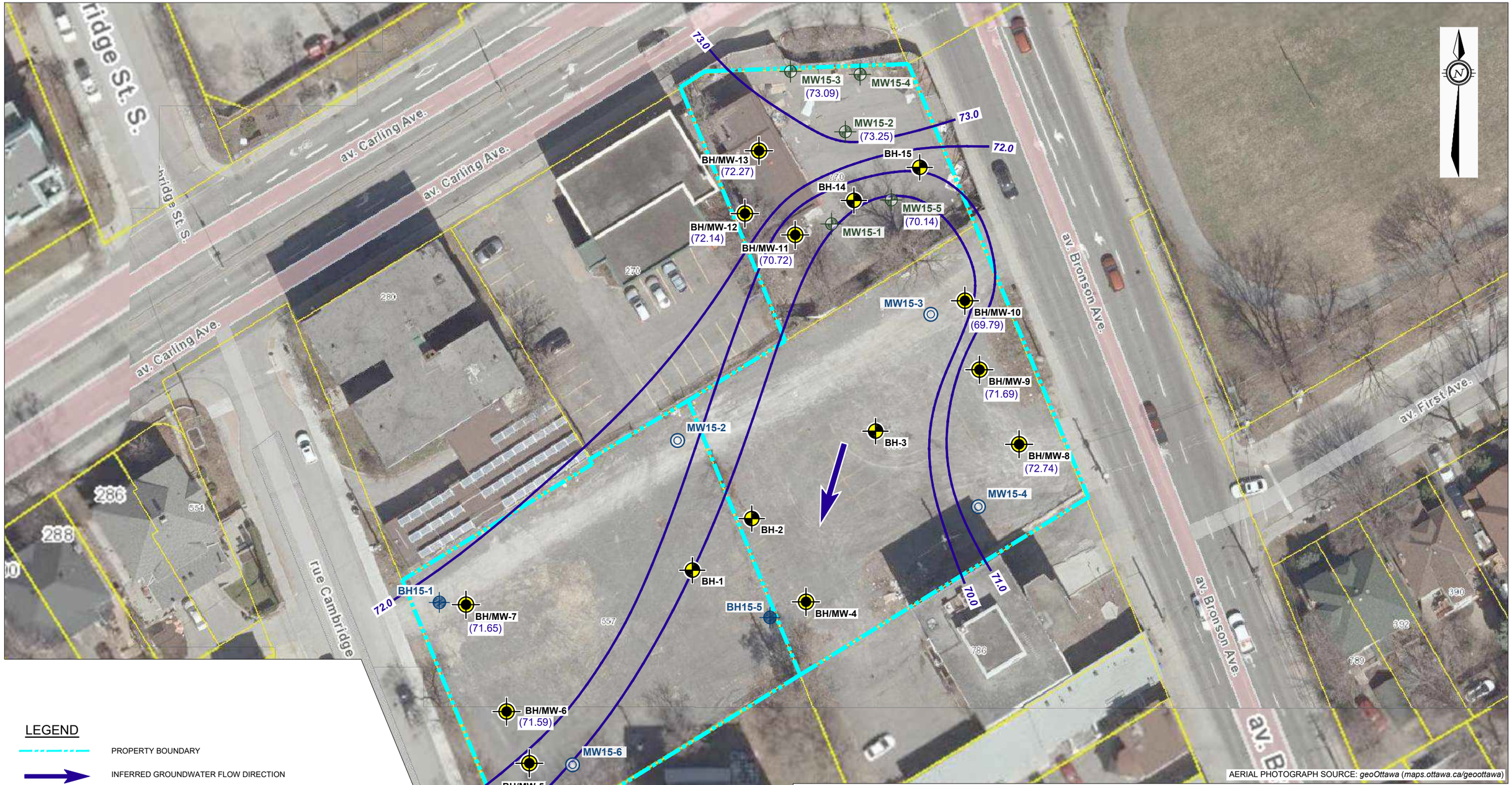
DATE: JUNE 2024	CLIENT: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT 770 & 774 BRONSON AVENUE + 557 CAMBRIDGE STREET, OTTAWA, ON		project no. OTT-22019409-A0
DESIGN: PS / MM	CHECKED: PS		scale: HORIZ 1:400, VERT 1:200
DRAWN BY: AS	TITLE: CROSS SECTIONS A-A', B-B', C-C'		FIG 5



LEGEND

- PROPERTY BOUNDARY
- INFERRED GROUNDWATER FLOW DIRECTION
- 72.50 — GROUNDWATER CONTOURS & ELEVATION FROM JANUARY 2024
- (XX.XX) — GROUNDWATER ELEVATION
- BH15-5 — BOREHOLE NUMBER AND LOCATION (*WSP*, 2016)
- MW15-2 — NESTED MONITORING WELL NUMBER AND LOCATION (*WSP*, 2016)
- MW15-1 — BOREHOLE / MONITORING WELL NUMBER AND LOCATION (*GOLDER*, 2015)
- BH-1 — 2024 BOREHOLE NUMBER AND LOCATION (FOR: VOC/PHC, PAH, METALS)
- BH/MW-4 — 2024 BOREHOLE / MONITORING WELL NUMBER AND LOCATION (FOR: VOC/PHC, PAH, METALS)

0 5m 10m 20m

HORIZONTAL 1:500

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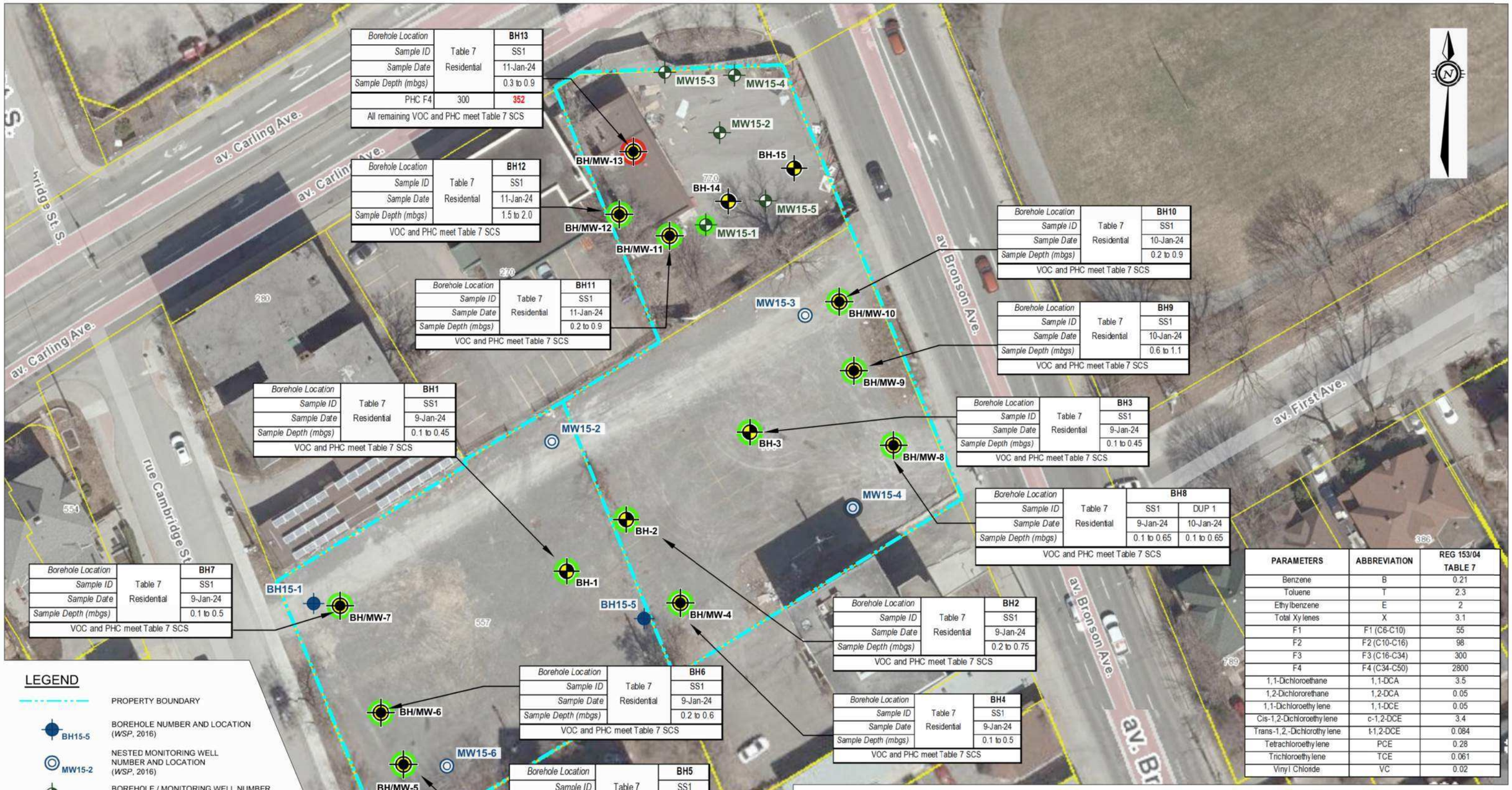
DESIGN: PS / MM	CHECKED: PS		scale 1:500
DRAWN BY: AS	TITLE: GROUNDWATER CONTOUR PLAN (FEBRUARY 2024)		FIG 6

Filename: E:\OTT\OTT-22019409-A0\60 Execution\65 Drawings\22019409-A0_Ph-2_June-2024.dwg
Last Saved: Jun 19, 2024 9:18 AM Last Plotted: Jun 19, 2024 9:24 AM Plotted by: SeverA



Borehole Location		BH13
Sample ID	Table 7	SS1
Sample Date	Residential	11-Jan-24
Sample Depth (mbgs)		0.3 to 0.9
PHC F4	300	352
All remaining VOC and PHC meet Table 7 SCS		

Borehole Location		BH12
Sample ID	Table 7	SS1
Sample Date	Residential	11-Jan-24
Sample Depth (mbgs)		1.5 to 2.0
VOC and PHC meet Table 7 SCS		

Borehole Location		BH11
Sample ID	Table 7	SS1
Sample Date	Residential	11-Jan-24
Sample Depth (mbgs)		0.2 to 0.9
VOC and PHC meet Table 7 SCS		

Borehole Location		BH10
Sample ID	Table 7	SS1
Sample Date	Residential	10-Jan-24
Sample Depth (mbgs)		0.2 to 0.9
VOC and PHC meet Table 7 SCS		

Borehole Location		BH9
Sample ID	Table 7	SS1
Sample Date	Residential	10-Jan-24
Sample Depth (mbgs)		0.6 to 1.1
VOC and PHC meet Table 7 SCS		

Borehole Location		BH1
Sample ID	Table 7	SS1
Sample Date	Residential	9-Jan-24
Sample Depth (mbgs)		0.1 to 0.45
VOC and PHC meet Table 7 SCS		

Borehole Location		BH3
Sample ID	Table 7	SS1
Sample Date	Residential	9-Jan-24
Sample Depth (mbgs)		0.1 to 0.45
VOC and PHC meet Table 7 SCS		

Borehole Location		BH8	
Sample ID	Table 7	SS1	DUP 1
Sample Date	Residential	9-Jan-24	10-Jan-24
Sample Depth (mbgs)		0.1 to 0.65	0.1 to 0.65
VOC and PHC meet Table 7 SCS			

Borehole Location		BH7
Sample ID	Table 7	SS1
Sample Date	Residential	9-Jan-24
Sample Depth (mbgs)		0.1 to 0.5
VOC and PHC meet Table 7 SCS		

Borehole Location		BH2
Sample ID	Table 7	SS1
Sample Date	Residential	9-Jan-24
Sample Depth (mbgs)		0.2 to 0.75
VOC and PHC meet Table 7 SCS		

Borehole Location		BH6
Sample ID	Table 7	SS1
Sample Date	Residential	9-Jan-24
Sample Depth (mbgs)		0.2 to 0.6
VOC and PHC meet Table 7 SCS		

Borehole Location		BH4
Sample ID	Table 7	SS1
Sample Date	Residential	9-Jan-24
Sample Depth (mbgs)		0.1 to 0.5
VOC and PHC meet Table 7 SCS		

Borehole Location		BH5
Sample ID	Table 7	SS1
Sample Date	Residential	9-Jan-24
Sample Depth (mbgs)		0.2 to 0.75
VOC and PHC meet Table 7 SCS		

PARAMETERS	ABBREVIATION	REG 153/04 TABLE 7
Benzene	B	0.21
Toluene	T	2.3
Ethylbenzene	E	2
Total Xylenes	X	3.1
F1	F1 (C6-C10)	55
F2	F2 (C10-C16)	98
F3	F3 (C16-C34)	300
F4	F4 (C34-C50)	2800
1,1-Dichloroethane	1,1-DCA	3.5
1,2-Dichlororethane	1,2-DCA	0.05
1,1-Dichloroethylene	1,1-DCE	0.05
Cis-1,2-Dichloroethylene	c-1,2-DCE	3.4
Trans-1,2,-Dichlorothylene	t-1,2-DCE	0.084
Tetrachloroethylene	PCE	0.28
Trichloroethylene	TCE	0.061
Vinyl Chloride	VC	0.02

LEGEND

- PROPERTY BOUNDARY
- BH15-5 — BOREHOLE NUMBER AND LOCATION (*WSP*, 2016)
- MW15-2 — NESTED MONITORING WELL NUMBER AND LOCATION (*WSP*, 2016)
- MW15-1 — BOREHOLE / MONITORING WELL NUMBER AND LOCATION (*GOLDER*, 2015)
- SOIL SAMPLE EXCEEDS TABLE 7 SCS
- SOIL SAMPLE MEETS TABLE 7 SCS
- LOCATION NOT SAMPLED
- BH-1 — 2024 BOREHOLE NUMBER AND LOCATION (FOR: VOC/PHC, PAH, METALS)
- BH/MW-4 — 2024 BOREHOLE / MONITORING WELL NUMBER AND LOCATION (FOR: VOC/PHC, PAH, METALS)

0 5m 10m 20m
HORIZONTAL 1:500

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DATE: JUNE 2024
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DRAWN BY: AS

CLIENT: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
770 & 774 BRONSON AVENUE + 557 CAMBRIDGE STREET, OTTAWA, ON

TITLE: SOIL ANALYTICAL RESULTS – PHC & VOC

project no. OTT-22019409-A0
scale 1:500
FIG 7

Filename: E:\OTT\OTT-22019409-A0\60 Execution\65 Drawings\22019409-A0_Ph-2_June-2024.dwg
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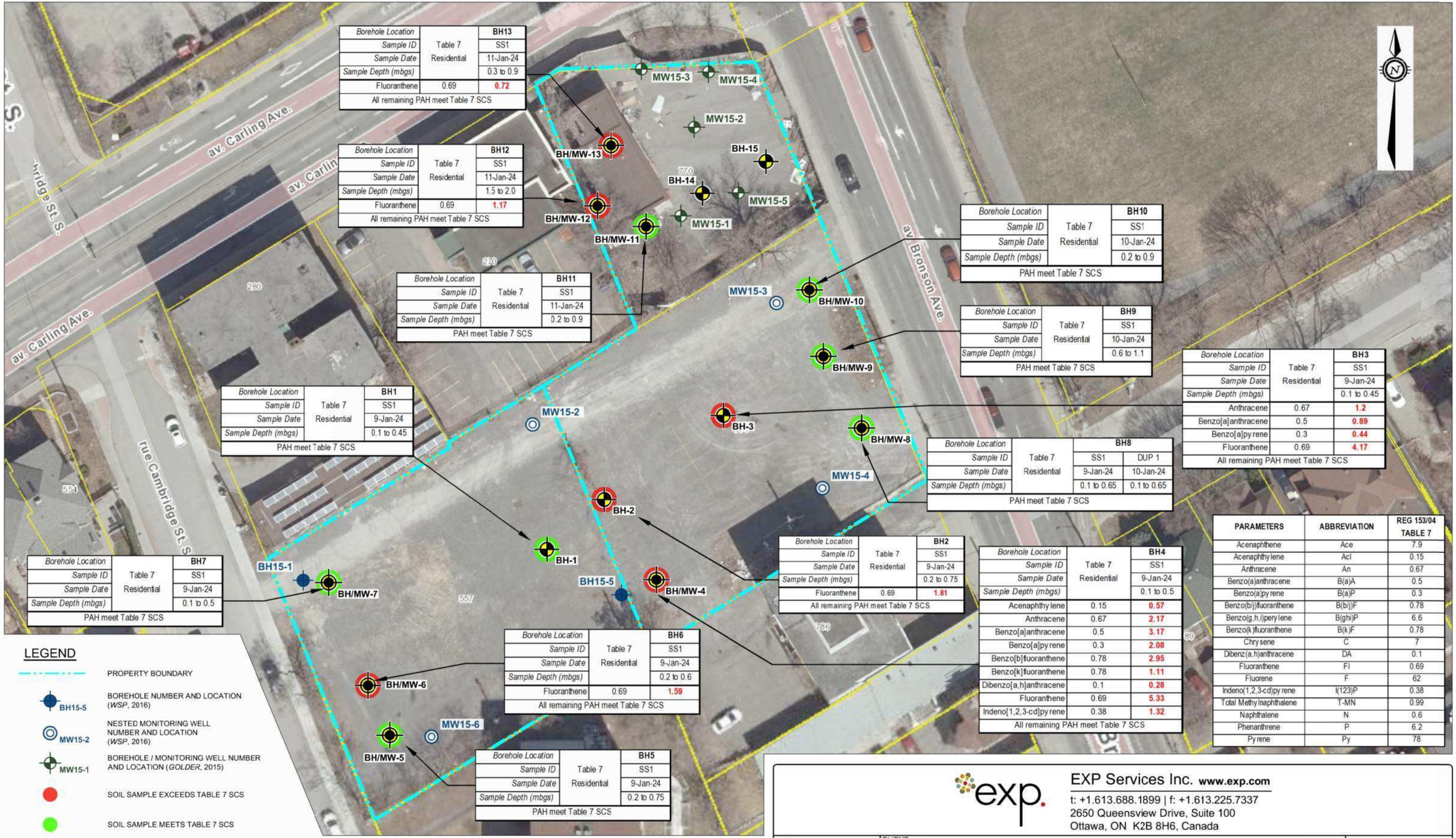

Borehole Location	Table 7 Residential	BH13
Sample ID		SS1
Sample Date		11-Jan-24
Sample Depth (mbgs)		0.3 to 0.9
Fluoranthene	0.69	0.72
All remaining PAH meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH12
Sample ID		SS1
Sample Date		11-Jan-24
Sample Depth (mbgs)		1.5 to 2.0
Fluoranthene	0.69	1.17
All remaining PAH meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH11
Sample ID		SS1
Sample Date		11-Jan-24
Sample Depth (mbgs)		0.2 to 0.9
PAH meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH10
Sample ID		SS1
Sample Date		10-Jan-24
Sample Depth (mbgs)		0.2 to 0.9
PAH meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH9
Sample ID		SS1
Sample Date		10-Jan-24
Sample Depth (mbgs)		0.6 to 1.1
PAH meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH1
Sample ID		SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.1 to 0.45
PAH meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH3
Sample ID		SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.1 to 0.45
Anthracene	0.67	1.2
Benzo[a]anthracene	0.5	0.89
Benzo[a]pyrene	0.3	0.44
Fluoranthene	0.69	4.17
All remaining PAH meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH8	
Sample ID		SS1	DUP 1
Sample Date		9-Jan-24	10-Jan-24
Sample Depth (mbgs)		0.1 to 0.65	0.1 to 0.65
PAH meet Table 7 SCS			

Borehole Location	Table 7 Residential	BH7
Sample ID		SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.1 to 0.5
PAH meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH2
Sample ID		SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.2 to 0.75
Fluoranthene	0.69	1.81
All remaining PAH meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH4
Sample ID		SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.1 to 0.5
Acenaphthylene	0.15	0.57
Anthracene	0.67	2.17
Benzo[a]anthracene	0.5	3.17
Benzo[a]pyrene	0.3	2.08
Benzo[b]fluoranthene	0.78	2.95
Benzo[k]fluoranthene	0.78	1.11
Dibenzo[a,h]anthracene	0.1	0.28
Fluoranthene	0.69	5.33
Indeno[1,2,3-cd]pyrene	0.38	1.32
All remaining PAH meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH6
Sample ID		SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.2 to 0.6
Fluoranthene	0.69	1.59
All remaining PAH meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH5
Sample ID		SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.2 to 0.75
PAH meet Table 7 SCS		

PARAMETERS	ABBREVIATION	REG 153/04 TABLE 7
Acenaphthene	Ace	7.9
Acenaphthylene	Acl	0.15
Anthracene	An	0.67
Benzo(a)anthracene	B(a)A	0.5
Benzo(a)pyrene	B(a)P	0.3
Benzo(b/j)fluoranthene	B(b/j)F	0.78
Benzo(g,h,i)perylene	B(ghi)P	6.6
Benzo(k)fluoranthene	B(k)F	0.78
Chrysene	C	7
Dibenz(a,h)anthracene	DA	0.1
Fluoranthene	Fl	0.69
Fluorene	F	62
Indeno(1,2,3-cd)pyrene	I(123)P	0.38
Total Methylnaphthalene	T-MN	0.99
Naphthalene	N	0.6
Phenanthrene	P	6.2
Pyrene	Py	78

LEGEND

- PROPERTY BOUNDARY
- BH15-5 — BOREHOLE NUMBER AND LOCATION (*WSP*, 2016)
- MW15-2 — NESTED MONITORING WELL NUMBER AND LOCATION (*WSP*, 2016)
- MW15-1 — BOREHOLE / MONITORING WELL NUMBER AND LOCATION (*GOLDER*, 2015)
- SOIL SAMPLE EXCEEDS TABLE 7 SCS
- SOIL SAMPLE MEETS TABLE 7 SCS
- LOCATION NOT SAMPLED
- BH-1 — 2024 BOREHOLE NUMBER AND LOCATION (FOR: VOC/PHC, PAH, METALS)
- BH/MW-4 — 2024 BOREHOLE / MONITORING WELL NUMBER AND LOCATION (FOR: VOC/PHC, PAH, METALS)

0 5m 10m 20m
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DATE: JUNE 2024
DESIGN: PS / MM
CHECKED: PS
DRAWN BY: AS

CLIENT: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
770 & 774 BRONSON AVENUE + 557 CAMBRIDGE STREET, OTTAWA, ON

TITLE: SOIL ANALYTICAL RESULTS – PAH

project no. OTT-22019409-A0
scale 1:500
FIG 8

Filename: E:\OTT\OTT-22019409-A0\60 Execution\65 Drawings\22019409-A0_Ph-2_June-2024.dwg
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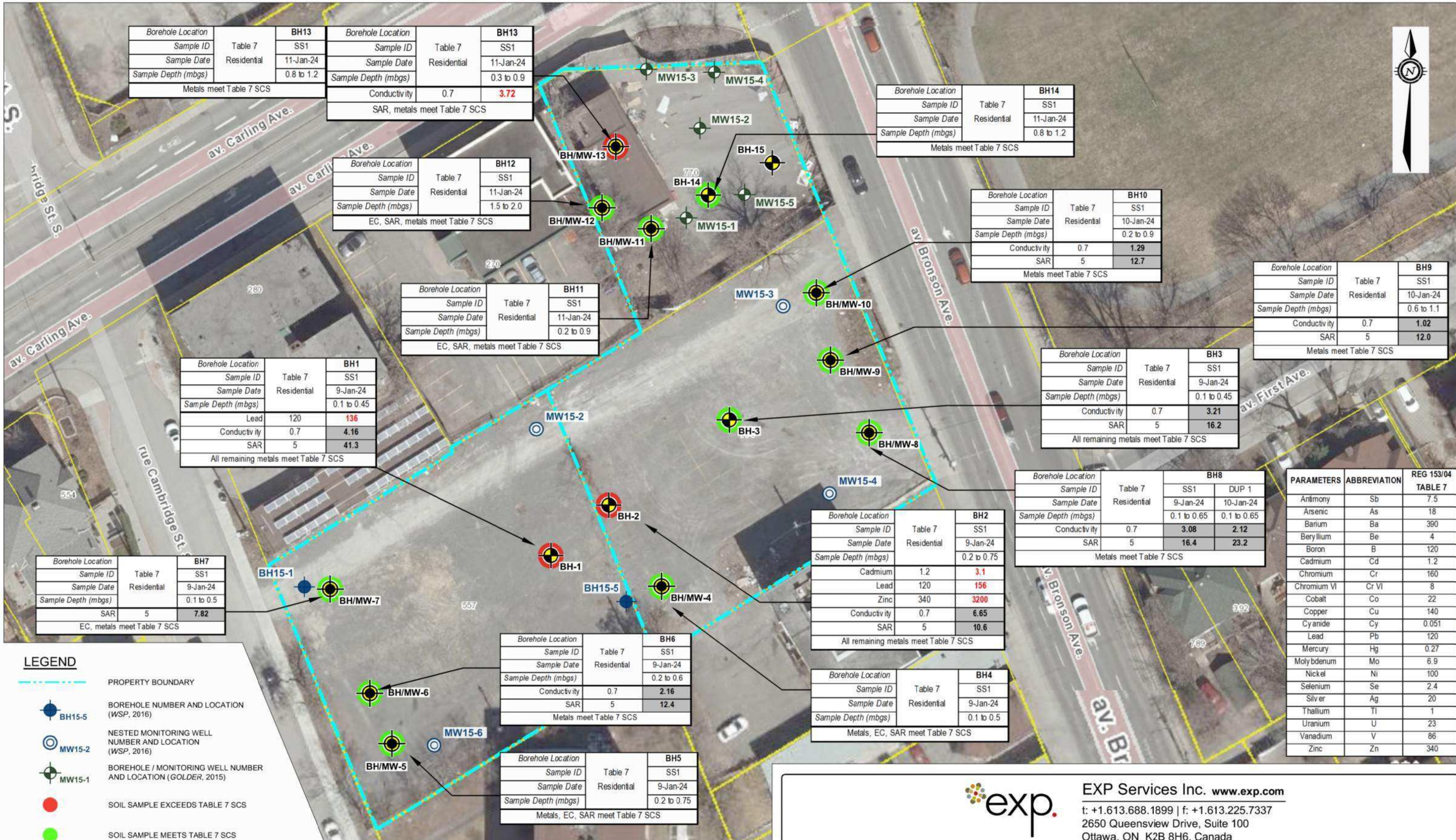

Borehole Location		BH13
Sample ID	Table 7 Residential	SS1
Sample Date		11-Jan-24
Sample Depth (mbgs)		0.8 to 1.2
Metals meet Table 7 SCS		

Borehole Location		BH13
Sample ID	Table 7 Residential	SS1
Sample Date		11-Jan-24
Sample Depth (mbgs)		0.3 to 0.9
Conductivity	0.7	3.72
SAR, metals meet Table 7 SCS		

Borehole Location		BH14
Sample ID	Table 7 Residential	SS1
Sample Date		11-Jan-24
Sample Depth (mbgs)		0.8 to 1.2
Metals meet Table 7 SCS		

Borehole Location		BH12
Sample ID	Table 7 Residential	SS1
Sample Date		11-Jan-24
Sample Depth (mbgs)		1.5 to 2.0
EC, SAR, metals meet Table 7 SCS		

Borehole Location		BH10
Sample ID	Table 7 Residential	SS1
Sample Date		10-Jan-24
Sample Depth (mbgs)		0.2 to 0.9
Conductivity	0.7	1.29
SAR	5	12.7
Metals meet Table 7 SCS		

Borehole Location		BH9
Sample ID	Table 7 Residential	SS1
Sample Date		10-Jan-24
Sample Depth (mbgs)		0.6 to 1.1
Conductivity	0.7	1.02
SAR	5	12.0
Metals meet Table 7 SCS		

Borehole Location		BH11
Sample ID	Table 7 Residential	SS1
Sample Date		11-Jan-24
Sample Depth (mbgs)		0.2 to 0.9
EC, SAR, metals meet Table 7 SCS		

Borehole Location		BH1
Sample ID	Table 7 Residential	SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.1 to 0.45
Lead	120	136
Conductivity	0.7	4.16
SAR	5	41.3
All remaining metals meet Table 7 SCS		

Borehole Location		BH3
Sample ID	Table 7 Residential	SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.1 to 0.45
Conductivity	0.7	3.21
SAR	5	16.2
All remaining metals meet Table 7 SCS		

Borehole Location		BH8	
Sample ID	Table 7 Residential	SS1	DUP 1
Sample Date		9-Jan-24	10-Jan-24
Sample Depth (mbgs)		0.1 to 0.65	0.1 to 0.65
Conductivity	0.7	3.08	2.12
SAR	5	16.4	23.2
Metals meet Table 7 SCS			

Borehole Location		BH2
Sample ID	Table 7 Residential	SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.2 to 0.75
Cadmium	1.2	3.1
Lead	120	156
Zinc	340	3200
Conductivity	0.7	6.65
SAR	5	10.6
All remaining metals meet Table 7 SCS		

Borehole Location		BH7
Sample ID	Table 7 Residential	SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.1 to 0.5
SAR	5	7.82
EC, metals meet Table 7 SCS		

Borehole Location		BH6
Sample ID	Table 7 Residential	SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.2 to 0.6
Conductivity	0.7	2.16
SAR	5	12.4
Metals meet Table 7 SCS		

Borehole Location		BH4
Sample ID	Table 7 Residential	SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.1 to 0.5
Metals, EC, SAR meet Table 7 SCS		

Borehole Location		BH5
Sample ID	Table 7 Residential	SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.2 to 0.75
Metals, EC, SAR meet Table 7 SCS		

PARAMETERS	ABBREVIATION	REG 153/04 TABLE 7
Antimony	Sb	7.5
Arsenic	As	18
Barium	Ba	390
Beryllium	Be	4
Boron	B	120
Cadmium	Cd	1.2
Chromium	Cr	160
Chromium VI	Cr VI	8
Cobalt	Co	22
Copper	Cu	140
Cyanide	Cy	0.051
Lead	Pb	120
Mercury	Hg	0.27
Molybdenum	Mo	6.9
Nickel	Ni	100
Selenium	Se	2.4
Silver	Ag	20
Thallium	Tl	1
Uranium	U	23
Vanadium	V	86
Zinc	Zn	340

LEGEND

- PROPERTY BOUNDARY
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- MW15-2 — NESTED MONITORING WELL NUMBER AND LOCATION (*WSP*, 2016)
- MW15-1 — BOREHOLE / MONITORING WELL NUMBER AND LOCATION (*GOLDER*, 2015)
- SOIL SAMPLE EXCEEDS TABLE 7 SCS
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0 5m 10m 20m
HORIZONTAL 1:500

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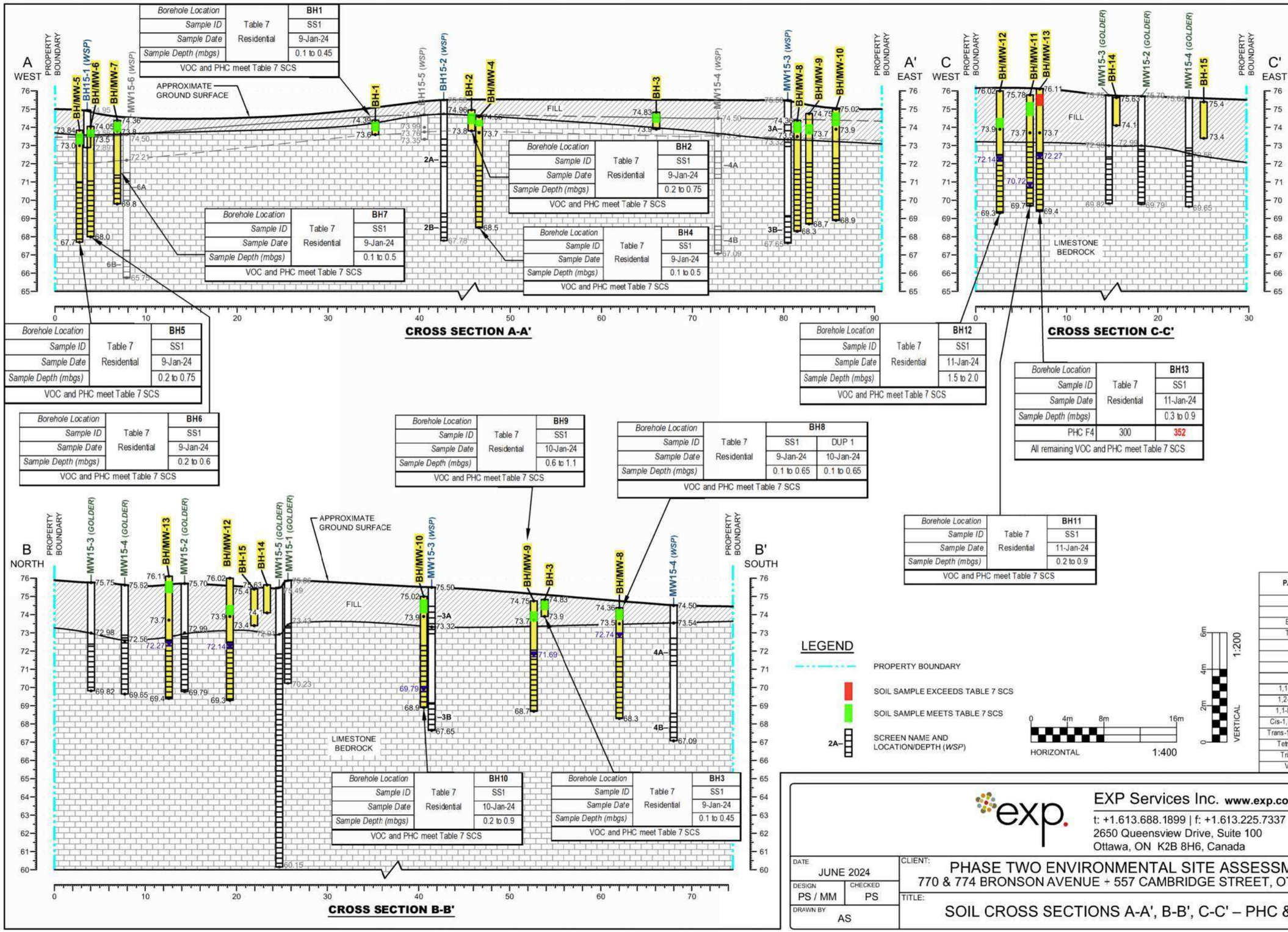
DATE: JUNE 2024		CLIENT: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT 770 & 774 BRONSON AVENUE + 557 CAMBRIDGE STREET, OTTAWA, ON	project no. OTT-22019409-A0
DESIGN: PS / MM	CHECKED: PS	TITLE: SOIL ANALYTICAL RESULTS – INORGANICS	scale: 1:500
DRAWN BY: AS			FIG 9

Filename: E:\OTT\OTT-22019409-A0\60 Execution\65 Drawings\22019409-A0_Ph-2_June-2024.dwg
Last Saved: Jun 20, 2024 12:13 PM Last Plotted: Jun 20, 2024 12:13 PM Plotted by: SeverA



Borehole Location	Table 7 Residential	BH1
Sample ID		SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.1 to 0.45
VOC and PHC meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH2
Sample ID		SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.2 to 0.75
VOC and PHC meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH4
Sample ID		SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.1 to 0.5
VOC and PHC meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH7
Sample ID		SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.1 to 0.5
VOC and PHC meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH5
Sample ID		SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.2 to 0.75
VOC and PHC meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH6
Sample ID		SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.2 to 0.6
VOC and PHC meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH9
Sample ID		SS1
Sample Date		10-Jan-24
Sample Depth (mbgs)		0.6 to 1.1
VOC and PHC meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH8	
Sample ID		SS1	DUP 1
Sample Date		9-Jan-24	10-Jan-24
Sample Depth (mbgs)		0.1 to 0.65	0.1 to 0.65
VOC and PHC meet Table 7 SCS			

Borehole Location	Table 7 Residential	BH12
Sample ID		SS1
Sample Date		11-Jan-24
Sample Depth (mbgs)		1.5 to 2.0
VOC and PHC meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH13
Sample ID		SS1
Sample Date		11-Jan-24
Sample Depth (mbgs)		0.3 to 0.9
PHC F4	300	352
All remaining VOC and PHC meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH11
Sample ID		SS1
Sample Date		11-Jan-24
Sample Depth (mbgs)		0.2 to 0.9
VOC and PHC meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH10
Sample ID		SS1
Sample Date		10-Jan-24
Sample Depth (mbgs)		0.2 to 0.9
VOC and PHC meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH3
Sample ID		SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.1 to 0.45
VOC and PHC meet Table 7 SCS		

LEGEND

- PROPERTY BOUNDARY
- SOIL SAMPLE EXCEEDS TABLE 7 SCS
- SOIL SAMPLE MEETS TABLE 7 SCS
- 2A– SCREEN NAME AND LOCATION/DEPTH (*WSP*)

HORIZONTAL 1:400 (0, 4m, 8m, 16m)

VERTICAL 1:200 (0, 2m, 4m, 6m)

PARAMETERS	ABBREVIATION	REG 153/04 TABLE 7
Benzene	B	0.21
Toluene	T	2.3
Ethylbenzene	E	2
Total Xylenes	X	3.1
F1	F1 (C6-C10)	55
F2	F2 (C10-C16)	98
F3	F3 (C16-C34)	300
F4	F4 (C34-C50)	2800
1,1-Dichloroethane	1,1-DCA	3.5
1,2-Dichlororethane	1,2-DCA	0.05
1,1-Dichloroethylene	1,1-DCE	0.05
Cis-1,2-Dichloroethylene	c-1,2-DCE	3.4
Trans-1,2,-Dichlorothylene	t-1,2-DCE	0.084
Tetrachloroethylene	PCE	0.28
Trichloroethylene	TCE	0.061
Vinyl Chloride	VC	0.02

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DATE: JUNE 2024
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DRAWN BY: AS

CLIENT: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
770 & 774 BRONSON AVENUE + 557 CAMBRIDGE STREET, OTTAWA, ON

TITLE: SOIL CROSS SECTIONS A-A', B-B', C-C' – PHC & VOC

project no. OTT-22019409-A0
scale HORIZ 1:400, VERT 1:200
FIG 10

Filename: E:\OTT\OTT-22019409-A0\60 Execution\65 Drawings\22019409-A0_Ph-2_June-2024.dwg
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Borehole Location	Table 7 Residential	BH2
Sample ID		SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.2 to 0.75
Fluoranthene	0.69	1.81
All remaining PAH meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH1
Sample ID		SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.1 to 0.45
PAH meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH7
Sample ID		SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.1 to 0.5
PAH meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH4
Sample ID		SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.1 to 0.5
Acenaphthylene	0.15	0.57
Anthracene	0.67	2.17
Benzo[a]anthracene	0.5	3.17
Benzo[a]pyrene	0.3	2.08
Benzo[b]fluoranthene	0.78	2.95
Benzo[k]fluoranthene	0.78	1.11
Dibenzo[a,h]anthracene	0.1	0.28
Fluoranthene	0.69	5.33
Indeno[1,2,3-cd]pyrene	0.38	1.32
All remaining PAH meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH5
Sample ID		SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.2 to 0.75
PAH meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH6
Sample ID		SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.2 to 0.6
Fluoranthene	0.69	1.59
All remaining PAH meet Table 7 SCS		

CROSS SECTION A-A'

Borehole Location	Table 7 Residential	BH12
Sample ID		SS1
Sample Date		11-Jan-24
Sample Depth (mbgs)		1.5 to 2.0
Fluoranthene	0.69	1.17
All remaining PAH meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH13
Sample ID		SS1
Sample Date		11-Jan-24
Sample Depth (mbgs)		0.3 to 0.9
Fluoranthene	0.69	0.72
All remaining PAH meet Table 7 SCS		

CROSS SECTION C-C'

Borehole Location	Table 7 Residential	BH9
Sample ID		SS1
Sample Date		10-Jan-24
Sample Depth (mbgs)		0.6 to 1.1
PAH meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH8	
Sample ID		SS1	DUP 1
Sample Date		9-Jan-24	10-Jan-24
Sample Depth (mbgs)		0.1 to 0.65	0.1 to 0.65
PAH meet Table 7 SCS			

Borehole Location	Table 7 Residential	BH11
Sample ID		SS1
Sample Date		11-Jan-24
Sample Depth (mbgs)		0.2 to 0.9
PAH meet Table 7 SCS		

CROSS SECTION B-B'

Borehole Location	Table 7 Residential	BH10
Sample ID		SS1
Sample Date		10-Jan-24
Sample Depth (mbgs)		0.2 to 0.9
PAH meet Table 7 SCS		

Borehole Location	Table 7 Residential	BH3
Sample ID		SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.1 to 0.45
Anthracene	0.67	1.2
Benzo[a]anthracene	0.5	0.89
Benzo[a]pyrene	0.3	0.44
Fluoranthene	0.69	4.17
All remaining PAH meet Table 7 SCS		

LEGEND

- PROPERTY BOUNDARY
- SOIL SAMPLE EXCEEDS TABLE 7 SCS
- SOIL SAMPLE MEETS TABLE 7 SCS
- 2A– SCREEN NAME AND LOCATION/DEPTH (WSP)

HORIZONTAL 1:400 (0, 4m, 8m, 16m)

VERTICAL 1:200 (0, 2m, 4m, 6m)

PARAMETERS	ABBREVIATION	REG 153/04 TABLE 7
Acenaphthene	Ace	7.9
Acenaphthylene	Acl	0.15
Anthracene	An	0.67
Benzo(a)anthracene	B(a)A	0.5
Benzo(a)pyrene	B(a)P	0.3
Benzo(b/j)fluoranthene	B(b/j)F	0.78
Benzo(g,h,i)perylene	B(ghi)P	6.6
Benzo(k)fluoranthene	B(k)F	0.78
Chrysene	C	7
Dibenz(a,h)anthracene	DA	0.1
Fluoranthene	Fl	0.69
Fluorene	F	62
Indeno(1,2,3-cd)pyrene	I(123)P	0.38
Total Methylnaphthalene	T-MN	0.99
Naphthalene	N	0.6
Phenanthrene	P	6.2
Pyrene	Py	78

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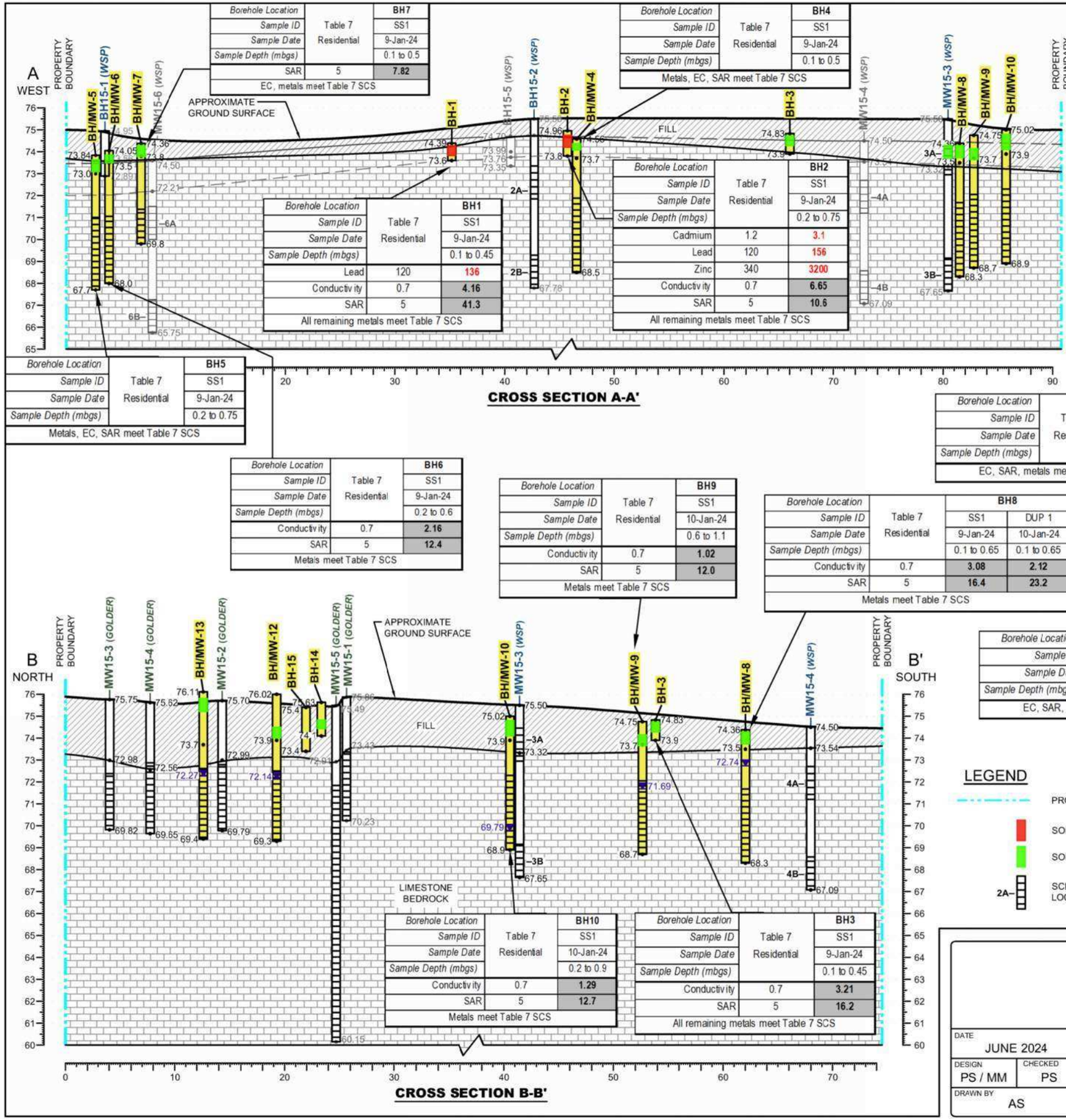
CLIENT: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
770 & 774 BRONSON AVENUE + 557 CAMBRIDGE STREET, OTTAWA, ON

TITLE: SOIL CROSS SECTIONS A-A', B-B', C-C' – PAH

project no. OTT-22019409-A0
scale HORIZ 1:400, VERT 1:200
FIG 11

Filename: E:\OTT\OTT-22019409-A0\60 Execution\65 Drawings\22019409-A0_Ph-2_June-2024.dwg
Last Saved: Jun 20, 2024 2:35 PM Last Plotted: Jun 20, 2024 2:37 PM Plotted by: SeverA



Borehole Location		BH7
Sample ID	Table 7 Residential	SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.1 to 0.5
SAR	5	7.82
EC, metals meet Table 7 SCS		

Borehole Location		BH4
Sample ID	Table 7 Residential	SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.1 to 0.5
Metals, EC, SAR meet Table 7 SCS		

Borehole Location		BH1
Sample ID	Table 7 Residential	SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.1 to 0.45
Lead	120	136
Conductivity	0.7	4.16
SAR	5	41.3
All remaining metals meet Table 7 SCS		

Borehole Location		BH2
Sample ID	Table 7 Residential	SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.2 to 0.75
Cadmium	1.2	3.1
Lead	120	156
Zinc	340	3200
Conductivity	0.7	6.65
SAR	5	10.6
All remaining metals meet Table 7 SCS		

Borehole Location		BH5
Sample ID	Table 7 Residential	SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.2 to 0.75
Metals, EC, SAR meet Table 7 SCS		

Borehole Location		BH12
Sample ID	Table 7 Residential	SS1
Sample Date		11-Jan-24
Sample Depth (mbgs)		1.5 to 2.0
EC, SAR, metals meet Table 7 SCS		

Borehole Location		BH14
Sample ID	Table 7 Residential	SS1
Sample Date		11-Jan-24
Sample Depth (mbgs)		0.8 to 1.2
Metals meet Table 7 SCS		

Borehole Location		BH13
Sample ID	Table 7 Residential	SS1
Sample Date		11-Jan-24
Sample Depth (mbgs)		0.3 to 0.9
Conductivity	0.7	3.72
SAR, metals meet Table 7 SCS		

Borehole Location		BH13
Sample ID	Table 7 Residential	SS1
Sample Date		11-Jan-24
Sample Depth (mbgs)		0.8 to 1.2
Metals meet Table 7 SCS		

Borehole Location		BH6
Sample ID	Table 7 Residential	SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.2 to 0.6
Conductivity	0.7	2.16
SAR	5	12.4
Metals meet Table 7 SCS		

Borehole Location		BH9
Sample ID	Table 7 Residential	SS1
Sample Date		10-Jan-24
Sample Depth (mbgs)		0.6 to 1.1
Conductivity	0.7	1.02
SAR	5	12.0
Metals meet Table 7 SCS		

Borehole Location		BH8	
Sample ID	Table 7 Residential	SS1	DUP 1
Sample Date		9-Jan-24	10-Jan-24
Sample Depth (mbgs)		0.1 to 0.65	0.1 to 0.65
Conductivity	0.7	3.08	2.12
SAR	5	16.4	23.2
Metals meet Table 7 SCS			

Borehole Location		BH11
Sample ID	Table 7 Residential	SS1
Sample Date		11-Jan-24
Sample Depth (mbgs)		0.2 to 0.9
EC, SAR, metals meet Table 7 SCS		

Borehole Location		BH10
Sample ID	Table 7 Residential	SS1
Sample Date		10-Jan-24
Sample Depth (mbgs)		0.2 to 0.9
Conductivity	0.7	1.29
SAR	5	12.7
Metals meet Table 7 SCS		

Borehole Location		BH3
Sample ID	Table 7 Residential	SS1
Sample Date		9-Jan-24
Sample Depth (mbgs)		0.1 to 0.45
Conductivity	0.7	3.21
SAR	5	16.2
All remaining metals meet Table 7 SCS		

LEGEND

- PROPERTY BOUNDARY
- SOIL SAMPLE EXCEEDS TABLE 7 SCS
- SOIL SAMPLE MEETS TABLE 7 SCS
- 2A– SCREEN NAME AND LOCATION/DEPTH (*WSP*)

HORIZONTAL 1:400 (0, 4m, 8m, 16m)

VERTICAL 1:200 (0, 2m, 4m, 6m)

PARAMETERS	ABBREVIATION	REG 153/04 TABLE 7
Antimony	Sb	7.5
Arsenic	As	18
Barium	Ba	390
Beryllium	Be	4
Boron	B	120
Cadmium	Cd	1.2
Chromium	Cr	160
Chromium VI	Cr VI	8
Cobalt	Co	22
Copper	Cu	140
Cyanide	Cy	0.051
Lead	Pb	120
Mercury	Hg	0.27
Molybdenum	Mo	6.9
Nickel	Ni	100
Selenium	Se	2.4
Silver	Ag	20
Thallium	Tl	1
Uranium	U	23
Vanadium	V	86
Zinc	Zn	340

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CLIENT: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
770 & 774 BRONSON AVENUE + 557 CAMBRIDGE STREET, OTTAWA, ON

TITLE: SOIL CROSS SECTIONS A-A', B-B', C-C' – INORGANICS

project no. OTT-22019409-A0
scale HORIZ 1:400, VERT 1:200

FIG 12

Filename: E:\OTT\OTT-22019409-A0\60 Execution\65 Drawings\22019409-A0_Ph-2_June-2024.dwg
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Location	Table 7 Residential	BH15-3
Sample ID		BH15-3
Sample Date		11-Aug-22
Screen Depth (mbgs)		4.4 to 5.9
Chloroform	2	<1
VOC and PHC meet Table 7 SCS		

Location	Table 7 Residential	MW13	
Sample ID		MW13	MW13
Sample Date		23-Jan-24	5-Feb-24
Screen Depth (mbgs)		3.6 to 6.6	
Benzene	0.5	0.67	<0.20
VOC and PHC meet Table 7 SCS			

Location	Table 7 Residential	BH15-4
Sample ID		BH15-3
Sample Date		11-Aug-22
Screen Depth (mbgs)		4.4 to 6.0
VOC and PHC meet Table 7 SCS		

Location	Table 7 Residential	BH15-2
Sample ID		BH15-2
Sample Date		11-Aug-22
Screen Depth (mbgs)		4.4 to 5.9
Benzene	0.5	<0.5
Chloroform	2	<1
VOC and PHC meet Table 7 SCS		

Location	Table 7 Residential	BH15-5	
Sample ID		BH15-3	DUP
Sample Date		11-Aug-22	11-Aug-22
Screen Depth (mbgs)		7.8 to 15.3	
VOC and PHC meet Table 7 SCS			

Location	Table 7 Residential	MW12
Sample ID		MW12
Sample Date		23-Jan-24
Screen Depth (mbgs)		3.6 to 6.6
VOC and PHC meet Table 7 SCS		

Location	Table 7 Residential	BH15-1
Sample ID		BH15-1
Sample Date		11-Aug-22
Screen Depth (mbgs)		4.1 to 5.6
Chloroform	2	<1
VOC and PHC meet Table 7 SCS		

Location	Table 7 Residential	MW11
Sample ID		MW11
Sample Date		23-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
VOC and PHC meet Table 7 SCS		

Location	Table 7 Residential	MW10	
Sample ID		MW10	MW10
Sample Date		23-Jan-24	5-Feb-24
Screen Depth (mbgs)		3.0 to 6.0	
Benzene	0.5	0.60	<0.20
VOC and PHC meet Table 7 SCS			

Location	Table 7 Residential	MW7	
Sample ID		MW7	DUP
Sample Date		24-Jan-24	24-Jan-24
Screen Depth (mbgs)		1.5 to 4.5	
VOC and PHC meet Table 7 SCS			

Location	Table 7 Residential	MW9
Sample ID		MW9
Sample Date		24-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
VOC and PHC meet Table 7 SCS		

Location	Table 7 Residential	MW6
Sample ID		MW6
Sample Date		24-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
VOC and PHC meet Table 7 SCS		

Location	Table 7 Residential	MW8
Sample ID		MW8
Sample Date		24-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
VOC and PHC meet Table 7 SCS		

Location	Table 7 Residential	MW5
Sample ID		MW5
Sample Date		23-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
VOC and PHC meet Table 7 SCS		

Location	Table 7 Residential	MW4
Sample ID		MW4
Sample Date		25-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
VOC and PHC meet Table 7 SCS		

PARAMETERS	ABBREVIATION	REG 153/04 TABLE 7
Benzene	B	0.5
Toluene	T	320
Ethylbenzene	E	54
Total Xylenes	X	72
F1	F1 (C6-C10)	420
F2	F2 (C10-C16)	150
F3	F3 (C16-C34)	500
F4	F4 (C34-C50)	500
Chloroform	CF	2
1,1-Dichloroethane	1,1-DCA	11
1,2-Dichlororethane	1,2-DCA	0.5
1,1-Dichloroethylene	1,1-DCE	0.5
Cis-1,2-Dichloroethylene	c-1,2-DCE	1.6
Trans-1,2,-Dichlorothylene	t-1,2-DCE	1.6
Tetrachloroethylene	PCE	0.5
Trichloroethylene	TCE	0.5
Vinyl Chloride	VC	0.5

LEGEND

- PROPERTY BOUNDARY
- BH15-5 — BOREHOLE NUMBER AND LOCATION (*WSP*, 2016)
- MW15-2 — NESTED MONITORING WELL NUMBER AND LOCATION (*WSP*, 2016)
- MW15-1 — BOREHOLE / MONITORING WELL NUMBER AND LOCATION (*GOLDER*, 2015)
- GROUNDWATER SAMPLE EXCEEDS TABLE 7 SCS
- GROUNDWATER SAMPLE MEETS TABLE 7 SCS
- LOCATION NOT SAMPLED
- BH-1 — 2024 BOREHOLE NUMBER AND LOCATION (FOR: VOC/PHC, PAH, METALS)
- BH/MW-4 — 2024 BOREHOLE / MONITORING WELL NUMBER AND LOCATION (FOR: VOC/PHC, PAH, METALS)

0 5m 10m 20m
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DESIGN: PS / MM	CHECKED: PS		scale: 1:500
DRAWN BY: AS	TITLE: GROUNDWATER ANALYTICAL RESULTS – PHC & VOC		FIG 13

Filename: E:\OTT\OTT-22019409-A0\60 Execution\65 Drawings\22019409-A0_Ph-2_June-2024.dwg
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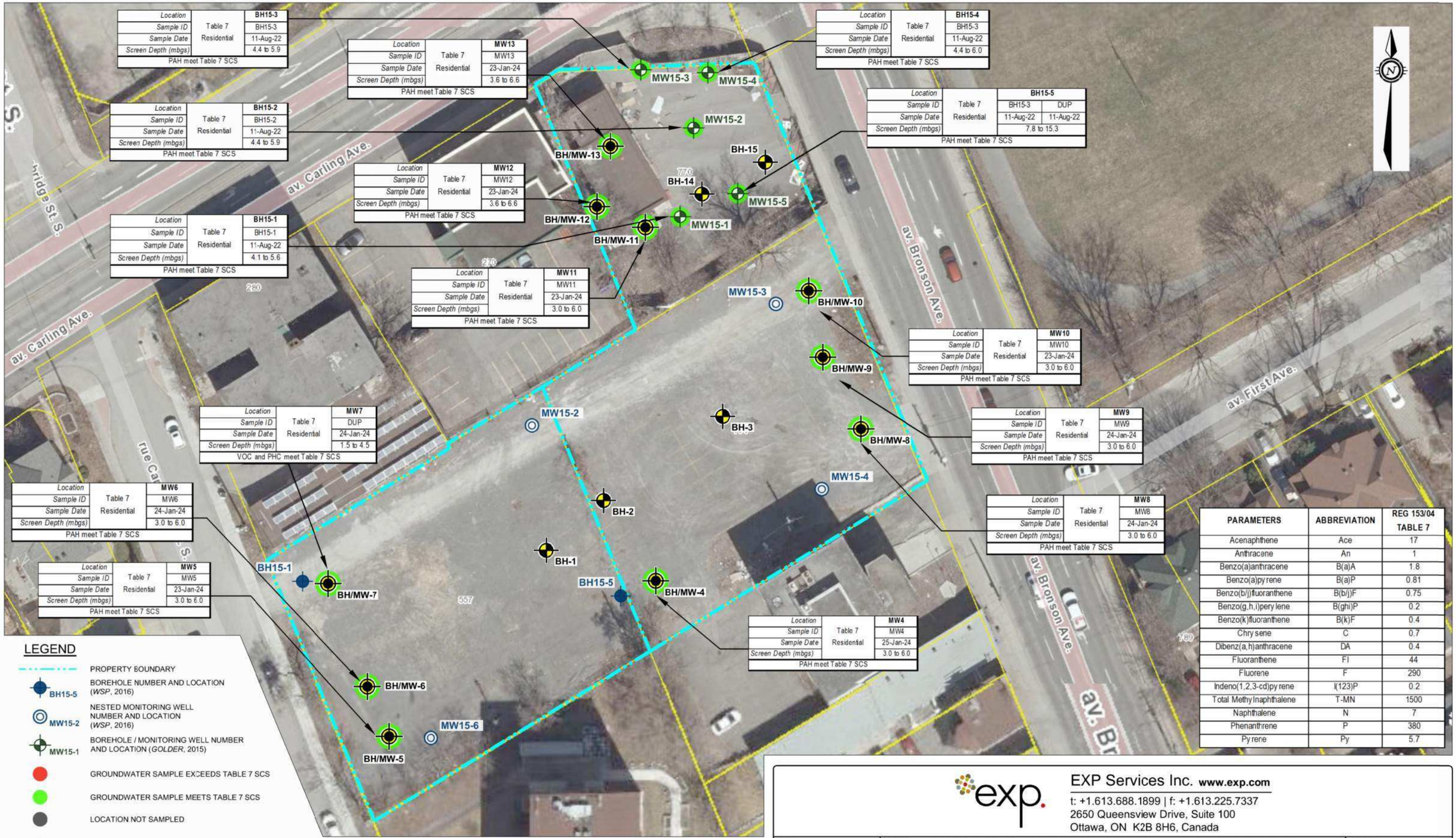

Location	Table 7 Residential	BH15-3
Sample ID		BH15-3
Sample Date		11-Aug-22
Screen Depth (mbgs)		4.4 to 5.9
PAH meet Table 7 SCS		

Location	Table 7 Residential	MW13
Sample ID		MW13
Sample Date		23-Jan-24
Screen Depth (mbgs)		3.6 to 6.6
PAH meet Table 7 SCS		

Location	Table 7 Residential	BH15-4
Sample ID		BH15-3
Sample Date		11-Aug-22
Screen Depth (mbgs)		4.4 to 6.0
PAH meet Table 7 SCS		

Location	Table 7 Residential	BH15-2
Sample ID		BH15-2
Sample Date		11-Aug-22
Screen Depth (mbgs)		4.4 to 5.9
PAH meet Table 7 SCS		

Location	Table 7 Residential	BH15-5	
Sample ID		BH15-3	DUP
Sample Date		11-Aug-22	11-Aug-22
Screen Depth (mbgs)		7.8 to 15.3	
PAH meet Table 7 SCS			

Location	Table 7 Residential	MW12
Sample ID		MW12
Sample Date		23-Jan-24
Screen Depth (mbgs)		3.6 to 6.6
PAH meet Table 7 SCS		

Location	Table 7 Residential	BH15-1
Sample ID		BH15-1
Sample Date		11-Aug-22
Screen Depth (mbgs)		4.1 to 5.6
PAH meet Table 7 SCS		

Location	Table 7 Residential	MW11
Sample ID		MW11
Sample Date		23-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
PAH meet Table 7 SCS		

Location	Table 7 Residential	MW10
Sample ID		MW10
Sample Date		23-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
PAH meet Table 7 SCS		

Location	Table 7 Residential	MW7
Sample ID		DUP
Sample Date		24-Jan-24
Screen Depth (mbgs)		1.5 to 4.5
VOC and PHC meet Table 7 SCS		

Location	Table 7 Residential	MW9
Sample ID		MW9
Sample Date		24-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
PAH meet Table 7 SCS		

Location	Table 7 Residential	MW6
Sample ID		MW6
Sample Date		24-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
PAH meet Table 7 SCS		

Location	Table 7 Residential	MW8
Sample ID		MW8
Sample Date		24-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
PAH meet Table 7 SCS		

Location	Table 7 Residential	MW5
Sample ID		MW5
Sample Date		23-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
PAH meet Table 7 SCS		

Location	Table 7 Residential	MW4
Sample ID		MW4
Sample Date		25-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
PAH meet Table 7 SCS		

PARAMETERS	ABBREVIATION	REG 153/04 TABLE 7
Acenaphthene	Ace	17
Anthracene	An	1
Benzo(a)anthracene	B(a)A	1.8
Benzo(a)pyrene	B(a)P	0.81
Benzo(b/j)fluoranthene	B(b/j)F	0.75
Benzo(g,h,i)perylene	B(ghi)P	0.2
Benzo(k)fluoranthene	B(k)F	0.4
Chrysene	C	0.7
Dibenz(a,h)anthracene	DA	0.4
Fluoranthene	Fl	44
Fluorene	F	290
Indeno(1,2,3-cd)pyrene	I(123)P	0.2
Total Methylnaphthalene	T-MN	1500
Naphthalene	N	7
Phenanthrene	P	380
Pyrene	Py	5.7

LEGEND

- PROPERTY BOUNDARY
- BH15-5 — BOREHOLE NUMBER AND LOCATION (*WSP*, 2016)
- MW15-2 — NESTED MONITORING WELL NUMBER AND LOCATION (*WSP*, 2016)
- MW15-1 — BOREHOLE / MONITORING WELL NUMBER AND LOCATION (*GOLDER*, 2015)
- GROUNDWATER SAMPLE EXCEEDS TABLE 7 SCS
- GROUNDWATER SAMPLE MEETS TABLE 7 SCS
- LOCATION NOT SAMPLED
- BH-1 — 2024 BOREHOLE NUMBER AND LOCATION (FOR: VOC/PHC, PAH, METALS)
- BH/MW-4 — 2024 BOREHOLE / MONITORING WELL NUMBER AND LOCATION (FOR: VOC/PHC, PAH, METALS)

0 5m 10m 20m
HORIZONTAL 1:500

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DATE: JUNE 2024
DESIGN: PS / MM
CHECKED: PS
DRAWN BY: AS

CLIENT: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
770 & 774 BRONSON AVENUE + 557 CAMBRIDGE STREET, OTTAWA, ON

TITLE: GROUNDWATER ANALYTICAL RESULTS – PAH

project no. OTT-22019409-A0
scale 1:500
FIG 14

Filename: E:\OTT\OTT-22019409-A0\60 Execution\65 Drawings\22019409-A0_Ph-2_June-2024.dwg
Last Saved: Jun 21, 2024 9:03 AM Last Plotted: Jun 21, 2024 9:04 AM Plotted by: SeverA

Location	Table 7 Residential	MW13
Sample ID		MW13
Sample Date		23-Jan-24
Screen Depth (mbgs)		3.6 to 6.6
Metals meet Table 7 SCS		

Location	Table 7 Residential	MW12
Sample ID		MW12
Sample Date		23-Jan-24
Screen Depth (mbgs)		3.6 to 6.6
Metals meet Table 7 SCS		

Location	Table 7 Residential	MW11
Sample ID		MW11
Sample Date		23-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
Metals meet Table 7 SCS		

Location	Table 7 Residential	MW10
Sample ID		MW10
Sample Date		23-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
Metals meet Table 7 SCS		

Location	Table 7 Residential	MW9
Sample ID		MW9
Sample Date		24-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
Metals meet Table 7 SCS		

Location	Table 7 Residential	MW8
Sample ID		MW8
Sample Date		24-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
Metals meet Table 7 SCS		

Location	Table 7 Residential	MW7	
Sample ID		MW7	DUP
Sample Date		24-Jan-24	24-Jan-24
Screen Depth (mbgs)		1.5 to 4.5	
Metals meet Table 7 SCS			

Location	Table 7 Residential	MW6
Sample ID		MW6
Sample Date		24-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
Metals meet Table 7 SCS		

Location	Table 7 Residential	MW5
Sample ID		MW5
Sample Date		23-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
Metals meet Table 7 SCS		

Location	Table 7 Residential	MW4
Sample ID		MW4
Sample Date		25-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
Metals meet Table 7 SCS		

PARAMETERS	ABBREVIATION	REG 153/04 TABLE 7
Antimony	Sb	16000
Arsenic	As	1500
Barium	Ba	23000
Beryllium	Be	53
Boron	B	36000
Cadmium	Cd	2.1
Chloride	Cl	1800000
Chromium	Cr	640
Chromium (VI)	Cr IV	110
Cobalt	Co	52
Copper	Cu	69
Cyanide	Cy	52
Lead	Pb	20
Mercury	Hg	0.1
Molybdenum	Mo	7300
Nickel	Ni	390
Selenium	Se	50
Silver	Ag	1.2
Sodium	Na	1800000
Thallium	Tl	400
Uranium	U	330
Vanadium	V	200
Zinc	Zn	890

LEGEND

- PROPERTY BOUNDARY
- BH15-5 — BOREHOLE NUMBER AND LOCATION (*WSP*, 2016)
- MW15-2 — NESTED MONITORING WELL NUMBER AND LOCATION (*WSP*, 2016)
- MW15-1 — BOREHOLE / MONITORING WELL NUMBER AND LOCATION (*GOLDER*, 2015)
- GROUNDWATER SAMPLE EXCEEDS TABLE 7 SCS
- GROUNDWATER SAMPLE MEETS TABLE 7 SCS
- LOCATION NOT SAMPLED
- BH-1 — 2024 BOREHOLE NUMBER AND LOCATION (FOR: VOC/PHC, PAH, METALS)
- BH/MW-4 — 2024 BOREHOLE / MONITORING WELL NUMBER AND LOCATION (FOR: VOC/PHC, PAH, METALS)

0 5m 10m 20m
HORIZONTAL 1:500

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DESIGN: PS / MM; CHECKED: PS		scale: 1:500
DRAWN BY: AS	TITLE: GROUNDWATER ANALYTICAL RESULTS – INORGANICS	FIG 15

Filename: E:\OTT\OTT-22019409-A0\60 Execution\65 Drawings\22019409-A0_Ph-2_June-2024.dwg
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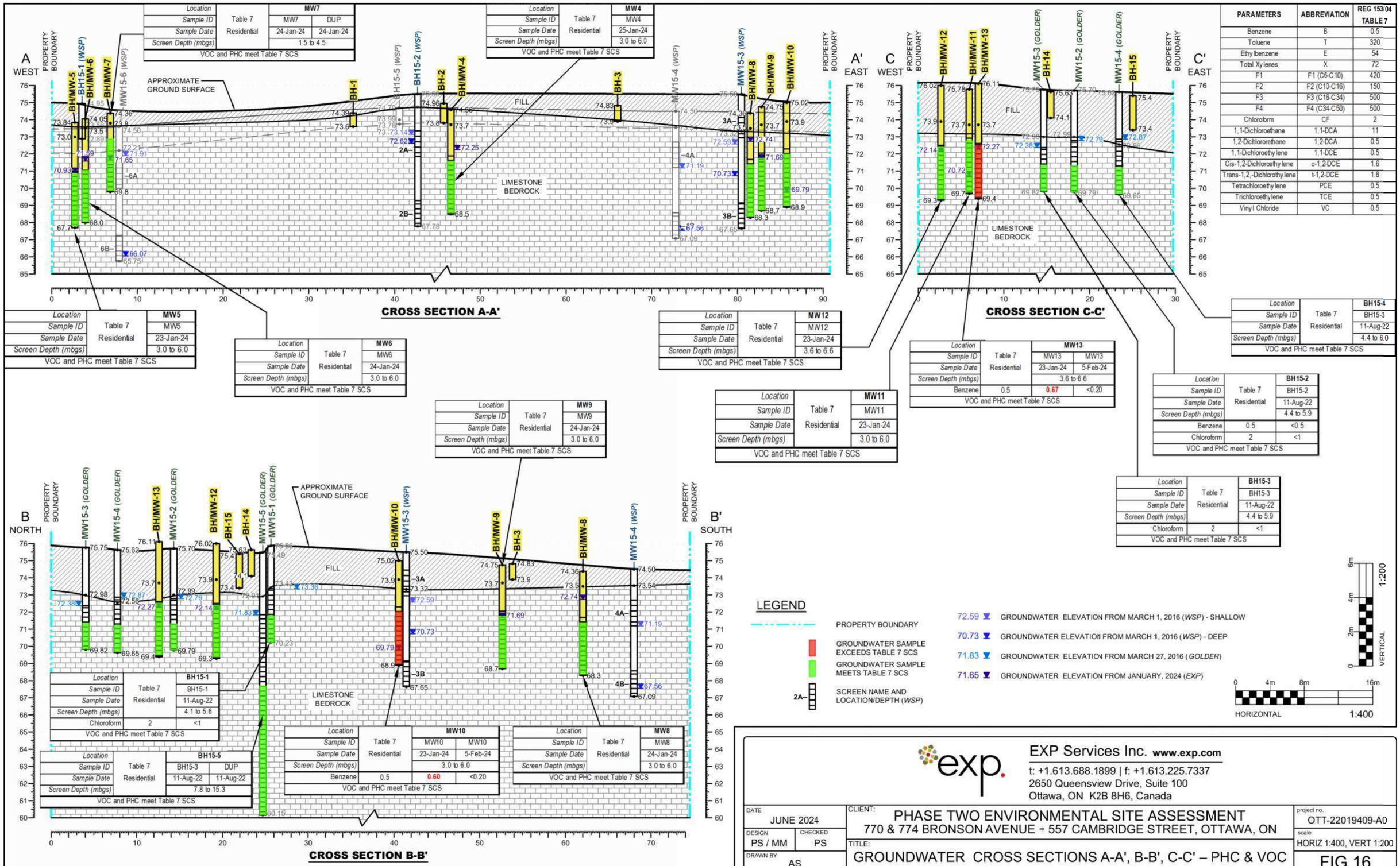

Location	Table 7	MW7	
Sample ID	Residential	MW7	DUP
Sample Date		24-Jan-24	24-Jan-24
Screen Depth (mbgs)		1.5 to 4.5	
VOC and PHC meet Table 7 SCS			

Location	Table 7	MW4
Sample ID	Residential	MW4
Sample Date		25-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
VOC and PHC meet Table 7 SCS		

PARAMETERS	ABBREVIATION	REG 153/04 TABLE 7
Benzene	B	0.5
Toluene	T	320
Ethylbenzene	E	54
Total Xylenes	X	72
F1	F1 (C6-C10)	420
F2	F2 (C10-C16)	150
F3	F3 (C16-C34)	500
F4	F4 (C34-C50)	500
Chloroform	CF	2
1,1-Dichloroethane	1,1-DCA	11
1,2-Dichloroethane	1,2-DCA	0.5
1,1-Dichloroethylene	1,1-DCE	0.5
Cis-1,2-Dichloroethylene	c-1,2-DCE	1.6
Trans-1,2,-Dichlorothylene	t-1,2-DCE	1.6
Tetrachloroethylene	PCE	0.5
Trichloroethylene	TCE	0.5
Vinyl Chloride	VC	0.5

Location	Table 7	MW5
Sample ID	Residential	MW5
Sample Date		23-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
VOC and PHC meet Table 7 SCS		

Location	Table 7	MW6
Sample ID	Residential	MW6
Sample Date		24-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
VOC and PHC meet Table 7 SCS		

Location	Table 7	MW12
Sample ID	Residential	MW12
Sample Date		23-Jan-24
Screen Depth (mbgs)		3.6 to 6.6
VOC and PHC meet Table 7 SCS		

Location	Table 7	MW13	
Sample ID	Residential	MW13	MW13
Sample Date		23-Jan-24	5-Feb-24
Screen Depth (mbgs)		3.6 to 6.6	
Benzene	0.5	0.67	<0.20
VOC and PHC meet Table 7 SCS			

Location	Table 7	BH15-4
Sample ID	Residential	BH15-3
Sample Date		11-Aug-22
Screen Depth (mbgs)		4.4 to 6.0
VOC and PHC meet Table 7 SCS		

Location	Table 7	MW9
Sample ID	Residential	MW9
Sample Date		24-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
VOC and PHC meet Table 7 SCS		

Location	Table 7	MW11
Sample ID	Residential	MW11
Sample Date		23-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
VOC and PHC meet Table 7 SCS		

Location	Table 7	BH15-2
Sample ID	Residential	BH15-2
Sample Date		11-Aug-22
Screen Depth (mbgs)		4.4 to 5.9
Benzene	0.5	<0.5
Chloroform	2	<1
VOC and PHC meet Table 7 SCS		

Location	Table 7	BH15-3
Sample ID	Residential	BH15-3
Sample Date		11-Aug-22
Screen Depth (mbgs)		4.4 to 5.9
Chloroform	2	<1
VOC and PHC meet Table 7 SCS		

Location	Table 7	BH15-1
Sample ID	Residential	BH15-1
Sample Date		11-Aug-22
Screen Depth (mbgs)		4.1 to 5.6
Chloroform	2	<1
VOC and PHC meet Table 7 SCS		

Location	Table 7	BH15-5	
Sample ID	Residential	BH15-3	DUP
Sample Date		11-Aug-22	11-Aug-22
Screen Depth (mbgs)		7.8 to 15.3	
VOC and PHC meet Table 7 SCS			

Location	Table 7	MW10	
Sample ID	Residential	MW10	MW10
Sample Date		23-Jan-24	5-Feb-24
Screen Depth (mbgs)		3.0 to 6.0	
Benzene	0.5	0.60	<0.20
VOC and PHC meet Table 7 SCS			

Location	Table 7	MW8
Sample ID	Residential	MW8
Sample Date		24-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
VOC and PHC meet Table 7 SCS		

LEGEND

- PROPERTY BOUNDARY
- GROUNDWATER SAMPLE EXCEEDS TABLE 7 SCS
- GROUNDWATER SAMPLE MEETS TABLE 7 SCS
- 2A– SCREEN NAME AND LOCATION/DEPTH (*WSP*)
- 72.59 GROUNDWATER ELEVATION FROM MARCH 1, 2016 (*WSP*) - SHALLOW
- 70.73 GROUNDWATER ELEVATION FROM MARCH 1, 2016 (*WSP*) - DEEP
- 71.83 GROUNDWATER ELEVATION FROM MARCH 27, 2016 (*GOLDER*)
- 71.65 GROUNDWATER ELEVATION FROM JANUARY, 2024 (*EXP*)

VERTICAL 1:200 (0, 2m, 4m, 6m)

HORIZONTAL 1:400 (0, 4m, 8m, 16m)

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DESIGN: PS / MM; CHECKED: PS		scale	HORIZ 1:400, VERT 1:200
DRAWN BY: AS	TITLE: GROUNDWATER CROSS SECTIONS A-A', B-B', C-C' – PHC & VOC		FIG 16

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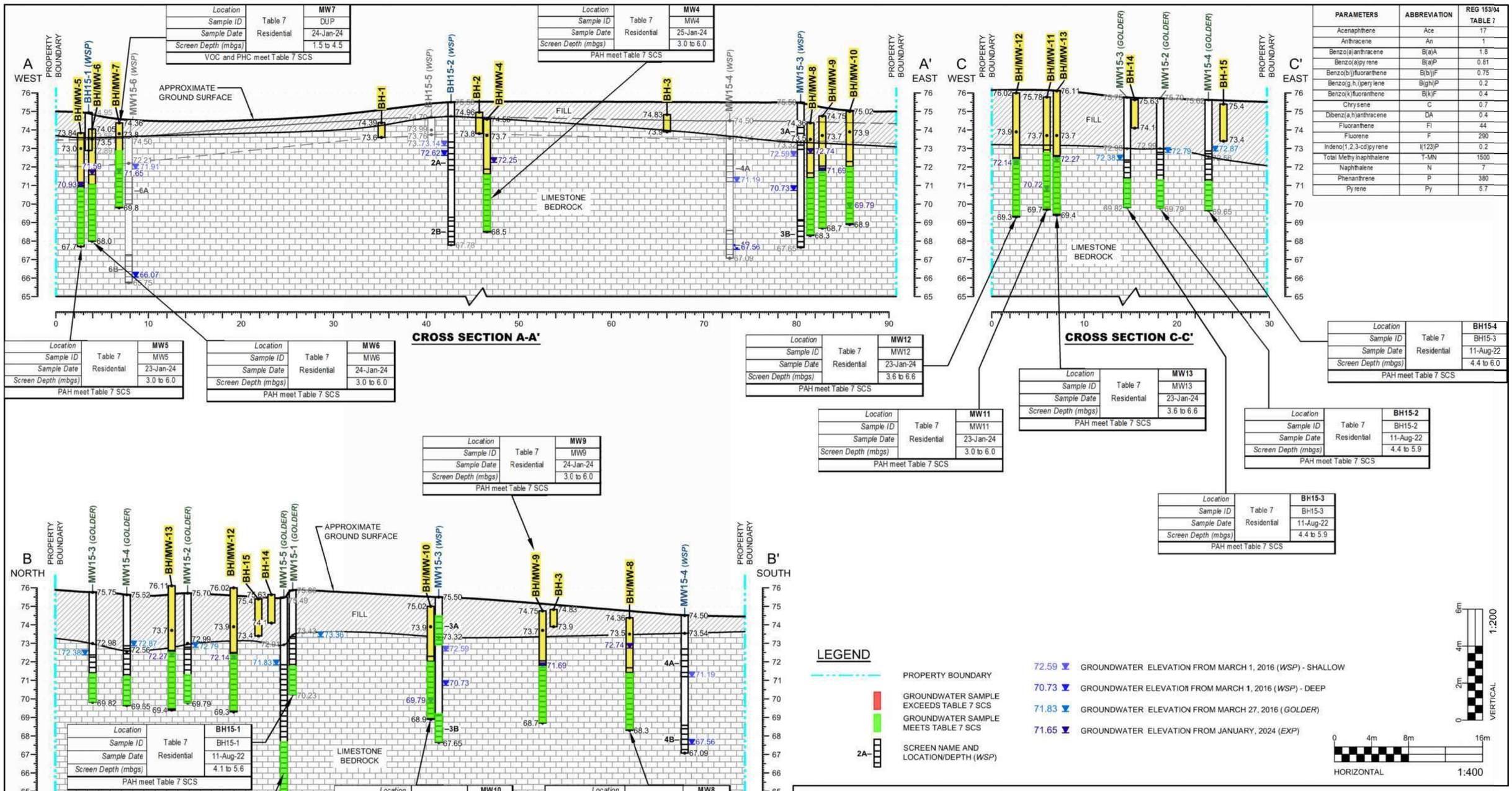

Location	Table 7 Residential	MW7
Sample ID		DUP
Sample Date		24-Jan-24
Screen Depth (mbgs)		1.5 to 4.5
VOC and PHC meet Table 7 SCS		

Location	Table 7 Residential	MW4
Sample ID		MW4
Sample Date		25-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
PAH meet Table 7 SCS		

PARAMETERS	ABBREVIATION	REG 153/04 TABLE 7
Acenaphthene	Ace	17
Anthracene	An	1
Benzo(a)anthracene	B(a)A	1.8
Benzo(a)pyrene	B(a)P	0.81
Benzo(b/j)fluoranthene	B(b/j)F	0.75
Benzo(g,h,i)perylene	B(ghi)P	0.2
Benzo(k)fluoranthene	B(k)F	0.4
Chrysene	C	0.7
Dibenz(a,h)anthracene	DA	0.4
Fluoranthene	Fl	44
Fluorene	F	290
Indeno(1,2,3-cd)pyrene	I(123)P	0.2
Total Methylnaphthalene	T-MN	1500
Naphthalene	N	7
Phenanthrene	P	380
Pyrene	Py	5.7

Location	Table 7 Residential	MW5
Sample ID		MW5
Sample Date		23-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
PAH meet Table 7 SCS		

Location	Table 7 Residential	MW6
Sample ID		MW6
Sample Date		24-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
PAH meet Table 7 SCS		

Location	Table 7 Residential	MW12
Sample ID		MW12
Sample Date		23-Jan-24
Screen Depth (mbgs)		3.6 to 6.6
PAH meet Table 7 SCS		

Location	Table 7 Residential	MW11
Sample ID		MW11
Sample Date		23-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
PAH meet Table 7 SCS		

Location	Table 7 Residential	MW13
Sample ID		MW13
Sample Date		23-Jan-24
Screen Depth (mbgs)		3.6 to 6.6
PAH meet Table 7 SCS		

Location	Table 7 Residential	BH15-4
Sample ID		BH15-3
Sample Date		11-Aug-22
Screen Depth (mbgs)		4.4 to 6.0
PAH meet Table 7 SCS		

Location	Table 7 Residential	BH15-2
Sample ID		BH15-2
Sample Date		11-Aug-22
Screen Depth (mbgs)		4.4 to 5.9
PAH meet Table 7 SCS		

Location	Table 7 Residential	MW9
Sample ID		MW9
Sample Date		24-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
PAH meet Table 7 SCS		

Location	Table 7 Residential	BH15-3
Sample ID		BH15-3
Sample Date		11-Aug-22
Screen Depth (mbgs)		4.4 to 5.9
PAH meet Table 7 SCS		

Location	Table 7 Residential	BH15-1
Sample ID		BH15-1
Sample Date		11-Aug-22
Screen Depth (mbgs)		4.1 to 5.6
PAH meet Table 7 SCS		

Location	Table 7 Residential	BH15-5	
Sample ID		BH15-3	DUP
Sample Date		11-Aug-22	11-Aug-22
Screen Depth (mbgs)		7.8 to 15.3	
PAH meet Table 7 SCS			

Location	Table 7 Residential	MW10
Sample ID		MW10
Sample Date		23-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
PAH meet Table 7 SCS		

Location	Table 7 Residential	MW8
Sample ID		MW8
Sample Date		24-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
PAH meet Table 7 SCS		

LEGEND

- PROPERTY BOUNDARY
- GROUNDWATER SAMPLE EXCEEDS TABLE 7 SCS
- GROUNDWATER SAMPLE MEETS TABLE 7 SCS
- 2A– SCREEN NAME AND LOCATION/DEPTH (*WSP*)
- 72.59 GROUNDWATER ELEVATION FROM MARCH 1, 2016 (*WSP*) - SHALLOW
- 70.73 GROUNDWATER ELEVATION FROM MARCH 1, 2016 (*WSP*) - DEEP
- 71.83 GROUNDWATER ELEVATION FROM MARCH 27, 2016 (*GOLDER*)
- 71.65 GROUNDWATER ELEVATION FROM JANUARY, 2024 (*EXP*)

VERTICAL 1:200 (0, 2m, 4m, 6m)

HORIZONTAL 1:400 (0, 4m, 8m, 16m)

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JUNE 2024	PHASE TWO ENVIRONMENTAL SITE ASSESSMENT 770 & 774 BRONSON AVENUE + 557 CAMBRIDGE STREET, OTTAWA, ON	OTT-22019409-A0
DESIGN: PS / MM; CHECKED: PS	TITLE: GROUNDWATER CROSS SECTIONS A-A', B-B', C-C' – PAH	scale: HORIZ 1:400, VERT 1:200
DRAWN BY: AS		FIG 17

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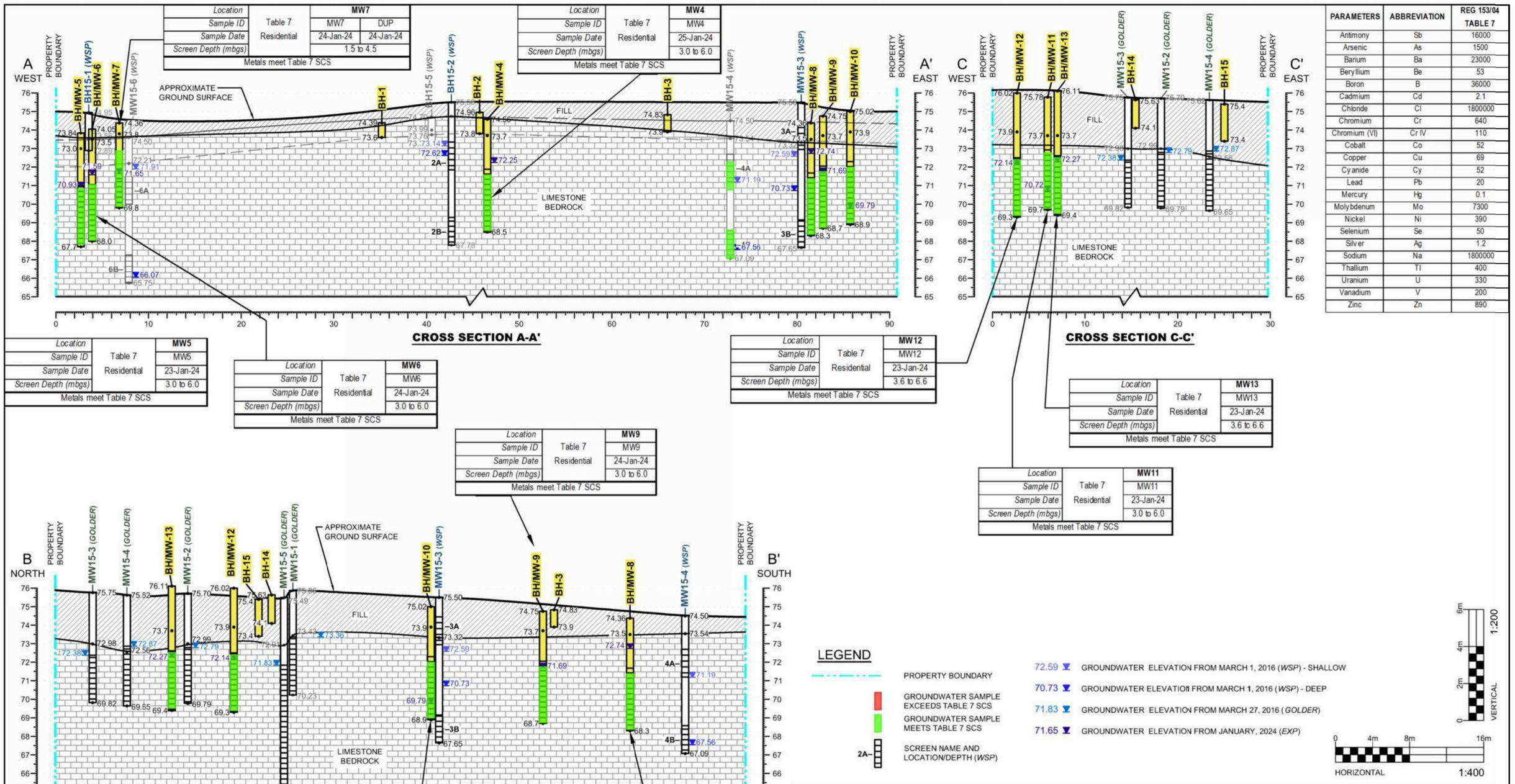

Location	Table 7 Residential	MW7	DUP
Sample ID		MW7	DUP
Sample Date		24-Jan-24	24-Jan-24
Screen Depth (mbgs)		1.5 to 4.5	
Metals meet Table 7 SCS			

Location	Table 7 Residential	MW4
Sample ID		MW4
Sample Date		25-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
Metals meet Table 7 SCS		

Location	Table 7 Residential	MW5
Sample ID		MW5
Sample Date		23-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
Metals meet Table 7 SCS		

Location	Table 7 Residential	MW6
Sample ID		MW6
Sample Date		24-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
Metals meet Table 7 SCS		

Location	Table 7 Residential	MW12
Sample ID		MW12
Sample Date		23-Jan-24
Screen Depth (mbgs)		3.6 to 6.6
Metals meet Table 7 SCS		

Location	Table 7 Residential	MW13
Sample ID		MW13
Sample Date		23-Jan-24
Screen Depth (mbgs)		3.6 to 6.6
Metals meet Table 7 SCS		

Location	Table 7 Residential	MW9
Sample ID		MW9
Sample Date		24-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
Metals meet Table 7 SCS		

Location	Table 7 Residential	MW11
Sample ID		MW11
Sample Date		23-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
Metals meet Table 7 SCS		

Location	Table 7 Residential	MW10
Sample ID		MW10
Sample Date		23-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
Metals meet Table 7 SCS		

Location	Table 7 Residential	MW8
Sample ID		MW8
Sample Date		24-Jan-24
Screen Depth (mbgs)		3.0 to 6.0
Metals meet Table 7 SCS		

PARAMETERS	ABBREVIATION	REG 153/04 TABLE 7
Antimony	Sb	16000
Arsenic	As	1500
Barium	Ba	23000
Beryllium	Be	53
Boron	B	36000
Cadmium	Cd	2.1
Chloride	Cl	1800000
Chromium	Cr	640
Chromium (VI)	Cr IV	110
Cobalt	Co	52
Copper	Cu	69
Cyanide	Cy	52
Lead	Pb	20
Mercury	Hg	0.1
Molybdenum	Mo	7300
Nickel	Ni	390
Selenium	Se	50
Silver	Ag	1.2
Sodium	Na	1800000
Thallium	Tl	400
Uranium	U	330
Vanadium	V	200
Zinc	Zn	890

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CLIENT: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
770 & 774 BRONSON AVENUE + 557 CAMBRIDGE STREET, OTTAWA, ON

TITLE: GROUNDWATER CROSS SECTIONS A-A', B-B', C-C' – INORGANICS

project no. OTT-22019409-A0
scale HORIZ 1:400, VERT 1:200

FIG 18

Filename: E:\OTT\OTT-22019409-A0\60 Execution\65 Drawings\22019409-A0_Ph-2_June-2024.dwg
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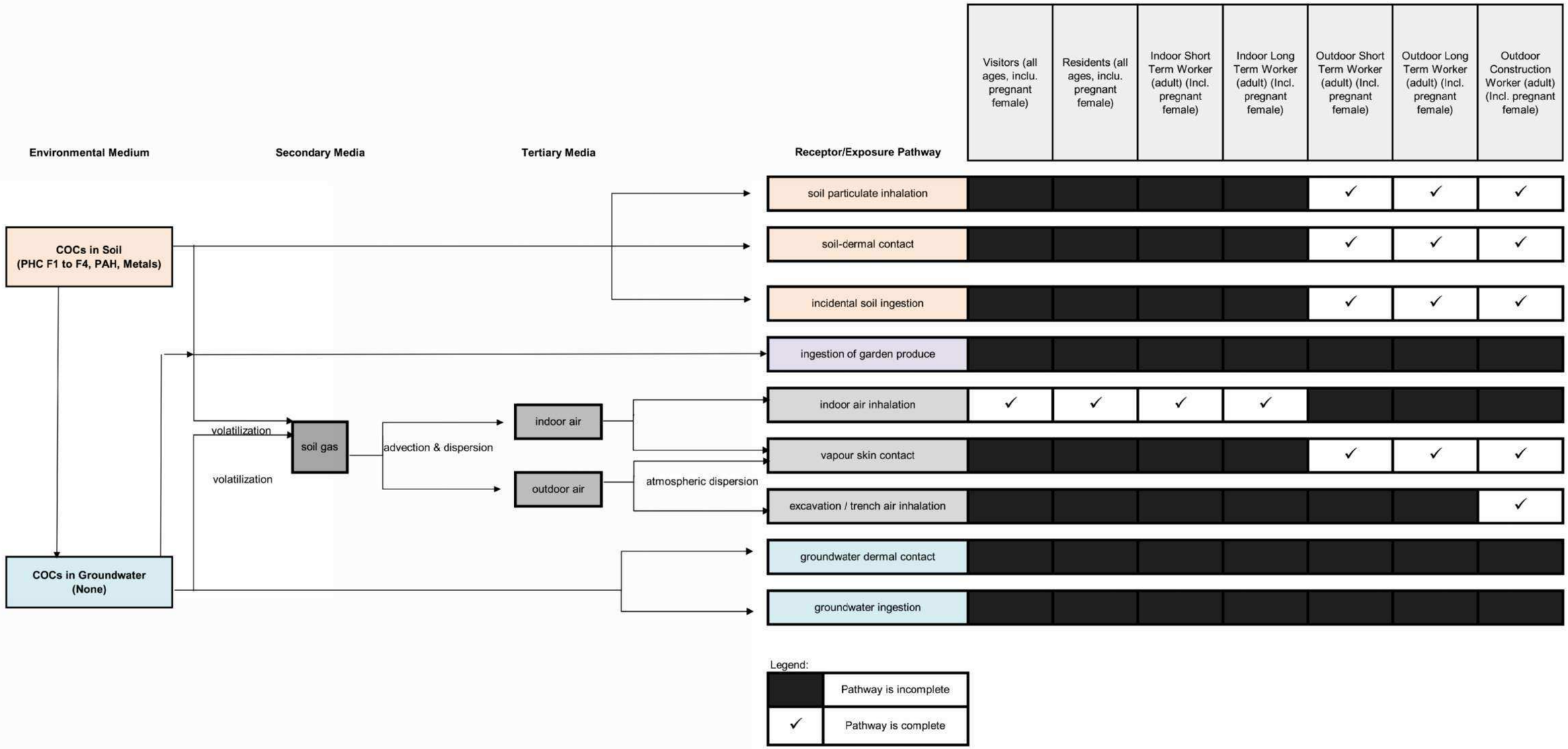

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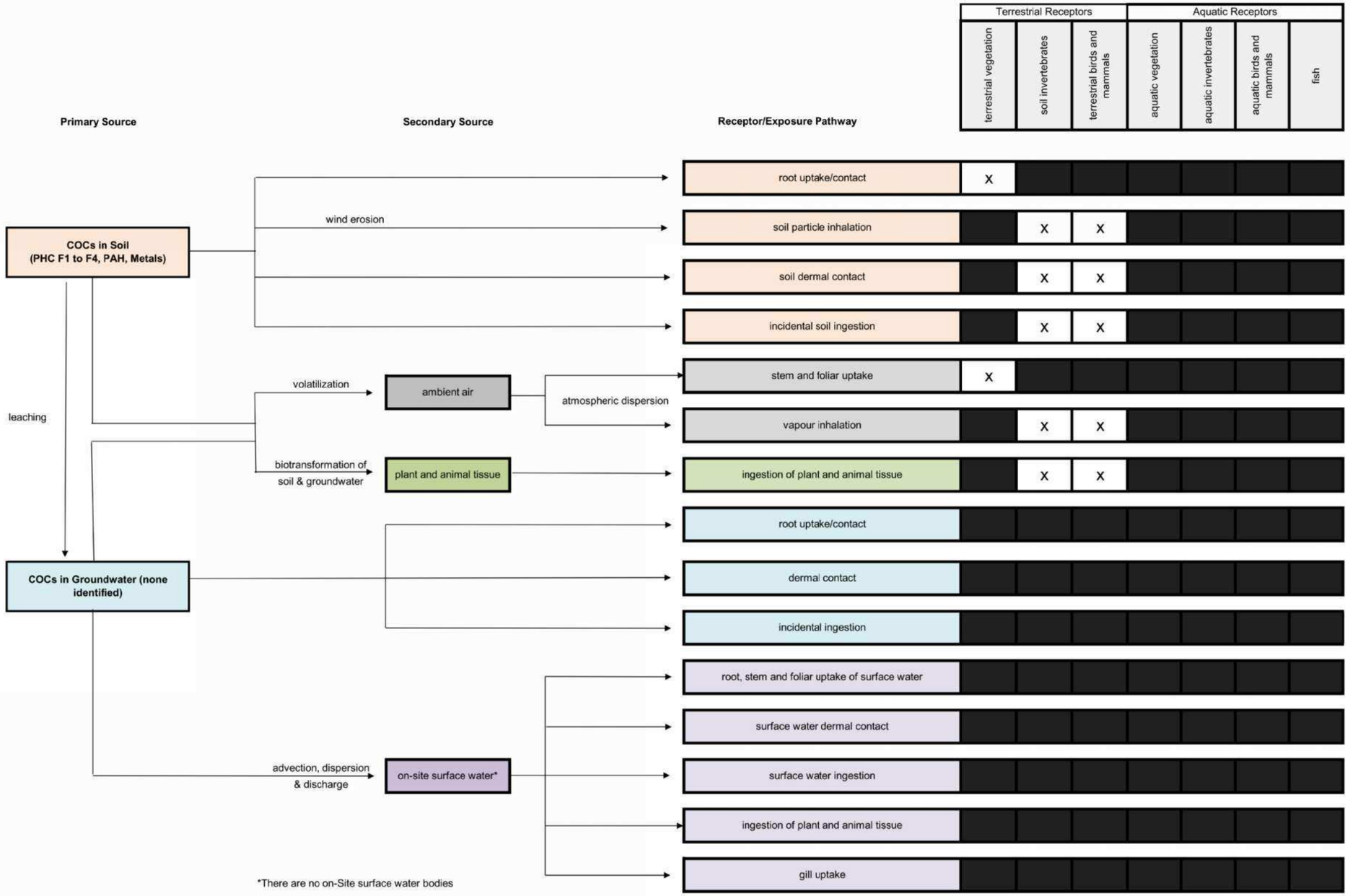
DESIGN: PS / MM	CHECKED: PS		scale: N.A.
DRAWN BY: AS	TITLE: HUMAN HEALTH RECEPTORS AND EXPOSURE PATHWAYS		FIG 19

Filename: E:\OTT\OTT-22019409-A0\60 Execution\65 Drawings\22019409-A0_Ph-2_July-2024.dwg
Last Saved: Jul 2, 2024 1:28 PM Last Plotted: Jul 2, 2024 1:28 PM Plotted by: SeverA



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Ottawa, ON K2B 8H6, Canada

DATE: JULY 2024	CLIENT: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT 770 & 774 BRONSON AVENUE + 557 CAMBRIDGE STREET, OTTAWA, ON		project no. OTT-22019409-A0
DESIGN: PS / MM; CHECKED: PS	TITLE: ECOLOGICAL RECEPTORS AND EXPOSURE PATHWAYS		scale: N.A.
DRAWN BY: AS			FIG 20

Filename: E:\OTT\OTT-22019409-A0\60 Execution\65 Drawings\22019409-A0_Ph-2_July-2024.dwg
Last Saved: Jul 2, 2024 1:45 PM Last Plotted: Jul 2, 2024 1:46 PM Plotted by: SeverA

Appendix B: Survey Plan

TOPOGRAPHICAL PLAN OF SURVEY OF

ALL OF LOTS 3, 4, 37 AND PART OF LOT 38 REGISTERED PLAN 28 CITY OF OTTAWA

Surveyed by Annis, O'Sullivan, Vollebekk Ltd.

Scale 1 : 200

8.0 6.0 4.0 2.0 0 4 8 Metres

Metric

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

Surveyor's Certificate

I CERTIFY THAT :

1. This survey and plan are correct and in accordance with the Surveys Act and the Surveyors Act and the regulations made under them,
2. The survey was completed on the 19th day of November, 2015.

Nov. 24/15
Date

V. Andrew Sheen
Ontario Land Surveyor

Notes & Legend

Denotes

FH	=	Fire Hydrant
OHW	=	Overhead Wires
CB	=	Catch Basin
AN	=	Anchor
UP	=	Utility Pole
65.00	=	Location of Elevations
65.00	=	Location of Elevations (Top of Curb)
65.00	=	Location of Elevations (Top of Wall)
T/G	=	Top of Grate
C/L	=	Centreline
Inv.	=	Invert
OHW	=	Overhead Wires
UP	=	Utility Pole
AN	=	Anchor
	=	Property Line
TB	=	Terminal Box
TB-B	=	Bell Terminal Box
WV	=	Water Valve
MH-S	=	Maintenance Hole (Sanitary)
MH-H	=	Maintenance Hole (Hydro)
MH	=	Maintenance Hole (Unidentified)
CRW	=	Concrete Retaining Wall
SRW	=	Stone Retaining Wall
CLF	=	Chain Link Fence
BF	=	Board Fence
SBF	=	Security Board Fence
	=	Deciduous Tree
	=	Coniferous Tree
	=	Survey Monument Planted
	=	Survey Monument Found
SIB	=	Standard Iron Bar
SSIB	=	Short Standard Iron Bar
IB	=	Iron Bar
CC	=	Cut Cross
*	=	Survey Monument 0.3 Long
(WIT)	=	Witness
(AOG)	=	Annis, O'Sullivan, Vollebekk Ltd.
Meas.	=	Measured
(P1)	=	Plan 5R-14360
(P2)	=	Plan 5R-13332
(P3)	=	(1692) Plan March 23, 2006
(P4)	=	(AOG) Plan September 6, 2013
(P5)	=	Registered Plan 28
(P6)	=	Plan 4R-27771

Bearings are grid bearings, derived from the westerly limit of Bronson Avenue, shown to be N22°59'20"W on Plan 4R-27771 and are referred to the Central Meridian of MTM Zone 9 (76°30' West Longitude) NAD-83 (original).

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
1955645

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

SITE AREA = 3628 m²

ELEVATION NOTES

1. Elevations shown are referred to geodetic datum.
2. It is the responsibility of the user of this information to verify that the job benchmark has not been altered or disturbed and that it's relative elevation and description agrees with the information shown on this drawing.

UTILITY NOTES

1. This drawing cannot be accepted as acknowledging all of the utilities and it will be the responsibility of the user to contact the respective utility authorities for confirmation.
2. Only visible surface utilities were located.
3. A field location of underground plant by the pertinent utility authority is mandatory before any work involving breaking ground, probing, excavating etc.

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Job No. I5040-15 SPM Lts 3,4,37&38 Pl. 28 T F

DETAIL SCALE 1:100

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Appendix C: Sampling and Analysis Plan

OTT-220194909-A0
Phase II ESA – 770 and 774 Bronson Avenue and 557 Cambridge Street, Ottawa, Ontario
2022 Sampling and Analysis Plan

Objective

- Investigate the groundwater in existing on-site monitoring wells at the subject property. There are five existing monitoring wells (MW15-1, MW15-2, MW15-3, MW15-4 and MW15-5), all of which are located on the 770 Bronson Avenue part of the property.

Areas of Potential Environmental Concern

A list of the PCA, APEC that are to be evaluated as part of this 2022 assessment, including the parameters to be analyzed in groundwater, and the monitoring well identifier(s) that were pre-existing were sampled during the current investigation is provided in Table 1 below. It is noted that the groundwater sampling program only assessed APEC #2. Groundwater parameters to be analyzed include petroleum hydrocarbons (PHC) F1 to F4, benzene, toluene, ethylbenzene, xylenes (BTEX), volatile organic compounds (VOC), and polycyclic aromatic hydrocarbons (PAH).

Table 1: Potentially Contaminating Activities and Areas of Potential Environmental Concern

Potentially Contaminating Activity (PCA) and Area of Potential Environmental Concern (APEC)	Contaminants of Potential Concern (COPC) and Media Potentially Impacted*	Monitoring Well, as Shown on Figure 1
#2. Former gas station at 770 Bronson Avenue	VOC, PHC F1 to F4, and PAH in groundwater	MW15-1, MW15-2, MW-15-3, MW15-4, and MW15-5

The environmental work will be undertaken in accordance with Ontario Regulation 153/04.

Scope of Work

- Check the entire property to determine if there are existing monitoring wells on 774 Bronson Avenue and 557 Cambridge Avenue.
- Develop wells by purging approximately three well volumes of groundwater, until the purged water becomes clear, or the monitoring well becomes dry. Record the amount of water purged.
- Measure depth to water and headspace readings prior to sampling same day.
- Sample MW15-1, MW15-2, MW15-3, MW15-4 and MW15-5 (at 770 Bronson Avenue) and any other monitoring well that is identified on the subject property using a low flow sampling method. Field duplicates should be submitted at a frequency of no less than 10% (i.e 1 duplicate if 10 or fewer samples are collected).

- Using low-flow sampling equipment, monitor water quality field parameters until stable readings are achieved. Stability is deemed to be achieved when three consecutive readings meet the following conditions:
    - Turbidity: within 10% for values greater than 5 nephelometric turbidity units (NTU), or three values less than 5 NTU;
    - Dissolved oxygen: within 10% for values greater than 0.5 mg/L, or three values less than 0.5 mg/L;
    - Conductivity: within 3%;
    - Temperature: ± 1°C;
    - pH: ± 0.1 unit; and,
    - Oxidation reduction potential: ±10 millivolts.
- Groundwater samples should be submitted to Caduceon for analysis of PHC, VOC, and PAH.

On the chains of custody, use EXP project number OTT-22019409-A0 in the Project Reference section.

If there are no obvious signs of visual or olfactory impact, groundwater may be purged to the ground. If there are signs of impact, it may be placed in drums for future removal.

OTT-220194909-A0
Phase II ESA – 770 and 774 Bronson Avenue and 557 Cambridge Street, Ottawa, Ontario
2024 Sampling and Analysis Plan

Objectives

- Investigate the soil and groundwater on-site to address the 15 APECs identified.
- Prepare a report to be used for a Site Plan Application and to file a Record of Site Condition

Areas of Potential Environmental Concern

A list of the PCA, APEC that are to be evaluated as part of this 2024 assessment, including the parameters to be analyzed in soil and groundwater, and the monitoring well identifier(s) that will be drilled during the current investigation is provided in Table 1 below. Parameters to be analyzed include petroleum hydrocarbons (PHC) F1 to F4, volatile organic compounds (VOC), metals and inorganics (including electrical conductivity (EC), sodium adsorption ratio (SAR), pH), and polycyclic aromatic hydrocarbons (PAH),

Table 1: Potentially Contaminating Activities and Areas of Potential Environmental Concern

Potentially Contaminating Activity (PCA) and Area of Potential Environmental Concern (APEC)	Contaminants of Potential Concern (COPC) and Media Potentially Impacted*	Monitoring Well, as Shown on Figure 1
#1. Former automotive garage at 770 Bronson Avenue	VOC, PHC F1 to F4, PAH, metals in soil; VOC, PHC F1 to F4, PAH, metals in groundwater	MW-13
#2. Former gas station at 770 Bronson Avenue	VOC, PHC F1 to F4, PAH, metals in soil; VOC, PHC F1 to F4, PAH, metals in groundwater	MW-11, BH14, BH15
#3. Former heating oil AST at 770 Bronson Avenue	VOC, PHC F1 to F4, PAH, metals in soil; VOC, PHC F1 to F4, PAH, metals in groundwater	MW-12
#4. Former waste oil AST at 770 Bronson Avenue	VOC, PHC F1 to F4, PAH, metals in soil; VOC, PHC F1 to F4, PAH, metals in groundwater	MW-11
#5. Former heating oil AST in the north residential building at 774 Bronson Avenue	VOC, PHC F1 to F4, PAH, metals in soil; VOC, PHC F1 to F4, PAH, metals in groundwater	MW-10
#6. Former heating oil AST in the south residential building at 774 Bronson Avenue	VOC, PHC F1 to F4, PAH, metals in soil; VOC, PHC F1 to F4, PAH, metals in groundwater	MW-9

Potentially Contaminating Activity (PCA) and Area of Potential Environmental Concern (APEC)	Contaminants of Potential Concern (COPC) and Media Potentially Impacted*	Monitoring Well, as Shown on Figure 1
#7. Former heating oil AST in the commercial building at 774 Bronson Avenue	VOC, PHC F1 to F4, PAH, metals in soil; VOC, PHC F1 to F4, PAH, metals in groundwater	MW-8
#8. Former heating oil AST in the south commercial building at 557 Cambridge Street	VOC, PHC F1 to F4, PAH, metals in soil; VOC, PHC F1 to F4, PAH, metals in groundwater	MW-5
#9. Former heating oil AST in the centre commercial building at 557 Cambridge Street	VOC, PHC F1 to F4, PAH, metals in soil; VOC, PHC F1 to F4, PAH, metals in groundwater	MW-6
#10. Former heating oil AST in the north commercial building at 557 Cambridge Street	VOC, PHC F1 to F4, PAH, metals in soil; VOC, PHC F1 to F4, PAH, metals in groundwater	MW-7
#11. Oil skimmings collected at former contractors' yard at 557 Cambridge Street	VOC, PHC F1 to F4, PAH, metals in soil	BH1
#12. Fill used to backfill former UST excavations and former building footprints	VOC, PHC F1 to F4, PAH, metals in soil	BH3
#13. Former commercial printing operation	VOC, PHC F1 to F4, PAH, metals in soil; VOC, PHC F1 to F4, PAH, metals in groundwater	MW-4
#14. Former dry cleaner at 786-788 Bronson Avenue	VOC, PHC F1 to F4, PAH, metals in soil; VOC, PHC F1 to F4, PAH, metals in groundwater	BH2, MW-4
#15. Former treated lumber storage at 557 Cambridge Street	VOC, PHC F1 to F4, PAH, metals in soil; VOC, PHC F1 to F4, PAH, metals in groundwater	MW-5

*Soil refers to worst-case sample.

The environmental work will be undertaken in accordance with Ontario Regulation 153/04.

Scope of Work

- Drilling 15 pre-remedial boreholes on the Phase Two property and completing 10 of them as monitoring wells (MW-4 to MW-13) to a max depth of 7 metres below grade.
- The monitoring wells should have a 3 metre PVC screened interval with an appropriate length of PVC riser pipe.
- Equip the monitoring wells with flush-mount casings.
- In the overburden, use a geoprobe with a core sampler to collect soil samples at 0.6 metre intervals.
- For each soil sample, log colour, grain size, moisture content, density, structures, texture, staining, odour, and field vapour readings.

- Develop wells using an inertial pump or bailer and record observations regarding development, including colour/clarity, presence of sheen/odour at the beginning of purging and once purging is complete, and approximate volume of water purged.
- Sample MW-4 to MW-13 using low flow sampling method. Measure depth to water and petroleum vapours in each well prior to sampling.

Soil and Groundwater Sampling

Table 2: Soil Sampling and Groundwater Plan

Sample Location	Depth of Borehole	Monitoring Well (Y/N) and Depth	Soil Analysis	Groundwater Analysis
BH1	Up to 7.0 mbgs	No	VOC, PHC F1 to F4, PAH, metals including EC, SAR, pH in soil (worst-case/water table depth)	N/A
BH2	Up to 7.0 mbgs	No	VOC, PHC F1 to F4, PAH, metals including EC, SAR, pH in soil (worst-case/water table depth)	N/A
BH3	Up to 7.0 mbgs	No	VOC, PHC F1 to F4, PAH, metals including EC, SAR, pH in soil (worst-case/water table depth)	N/A
MW-4	Up to 7.0 mbgs	Yes – 1 to 2 m below water table	VOC, PHC F1 to F4, PAH, metals including EC, SAR, pH in soil (worst-case/water table depth)	PHC, VOC, PAH, Metals
MW-5	Up to 7.0 mbgs	Yes – 1 to 2 m below water table	VOC, PHC F1 to F4, PAH, metals including EC, SAR, pH in soil (worst-case/water table depth)	PHC, VOC, PAH, Metals
MW – 6	Up to 7.0 mbgs	Yes – 1 to 2 m below water table	VOC, PHC F1 to F4, PAH, metals including EC, SAR, pH in soil (worst-case/water table depth)	PHC, VOC, PAH, Metals
MW-7	Up to 7.0 mbgs	Yes – 1 to 2 m below water table	VOC, PHC F1 to F4, PAH, metals including EC, SAR, pH in soil (worst-case/water table depth)	PHC, VOC, PAH, Metals
MW-8	Up to 7.0 mbgs	Yes – 1 to 2 m below water table	VOC, PHC F1 to F4, PAH, metals including EC, SAR, pH in soil (worst-case/water table depth)	PHC, VOC, PAH, Metals
MW-10	Up to 7.0 mbgs	Yes – 1 to 2 m below water table	VOC, PHC F1 to F4, PAH, metals including EC, SAR, pH in soil (worst-case/water table depth)	PHC, VOC, PAH, Metals
MW-11	Up to 7.0 mbgs	Yes – 1 to 2 m below water table	VOC, PHC F1 to F4, PAH, metals including EC, SAR, pH in soil (worst-case/water table depth)	PHC, VOC, PAH, Metals
MW-12	Up to 7.0 mbgs	Yes – 1 to 2 m below water table	VOC, PHC F1 to F4, PAH, metals including EC, SAR, pH in soil (worst-case/water table depth)	PHC, VOC, PAH, Metals

Sample Location	Depth of Borehole	Monitoring Well (Y/N) and Depth	Soil Analysis	Groundwater Analysis
MW-13	Up to 7.0 mbgs	Yes – 1 to 2 m below water table	VOC, PHC F1 to F4, PAH, metals including EC, SAR, pH in soil (worst-case/water table depth)	PHC, VOC, PAH, Metals
BH14	Up to 7.0 mbgs	No	VOC, PHC F1 to F4, PAH, metals (worst-case/water table depth)	N/A
BH15	Up to 7.0 mbgs	No	VOC, PHC F1 to F4, PAH, metals (worst-case/water table depth)	N/A

Note: N/A: Indicates analysis was not conducted

Soil samples should be submitted to AGAT Laboratories for analysis. On the chains of custody, use EXP project number OTT-22019409-A0 in the Project Reference section.

Groundwater Sampling

- Develop wells by purging approximately three well volumes of groundwater, until the purged water becomes clear, or the monitoring well becomes dry. Record the amount of water purged.
- Measure depth to water and headspace readings prior to sampling same day.
- Use low-flow sampling techniques to collect groundwater samples from MW-4 to MW-13, as well as 10% field duplicates. (1 duplicate for VOC, PHC F1-F4, PAH, Metals)
- Using low-flow sampling equipment, monitor water quality field parameters until stable readings were achieved. Stability is deemed to be achieved when three consecutive readings meet the following conditions:
    - Turbidity: within 10% for values greater than 5 nephelometric turbidity units (NTU), or three values less than 5 NTU;
    - Dissolved oxygen: within 10% for values greater than 0.5 mg/L, or three values less than 0.5 mg/L;
    - Conductivity: within 3%;
    - Temperature: ± 1°C;
    - pH: ± 0.1 unit; and,
    - Oxidation reduction potential: ±10 millivolts.

Groundwater samples should be submitted to AGAT Laboratories for analysis. On the chains of custody, use EXP project number OTT-22019409-A0 in the Project Reference section.

If there are no obvious signs of visual or olfactory impact, groundwater may be purged to the ground. If there are signs of impact, it may be placed in drums for future removal.

Appendix D: 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.

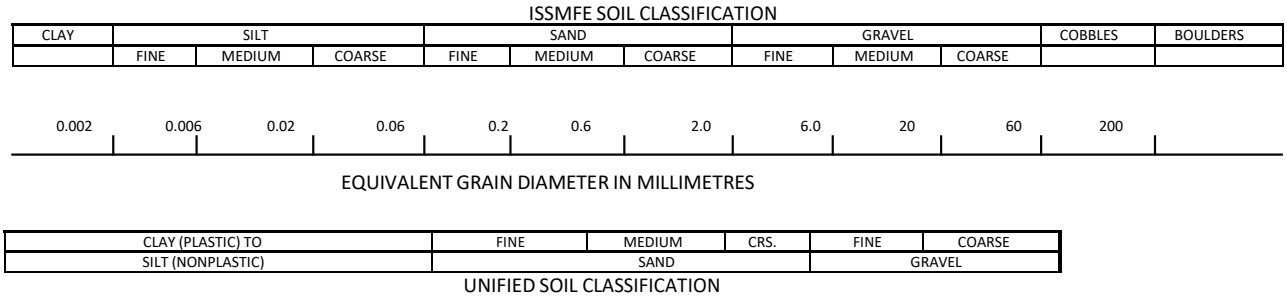
Seam: a thin, confined layer of soil having different particle size, texture, or color from materials above and below.

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≤Pp≤10%
Little	15≤Pp≤25%
Some	30≤Pp≤45%
Mostly	50≤Pp≤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≤N<10
Compact	10≤N<30
Dense	30≤N<50
Very Dense	50≤N

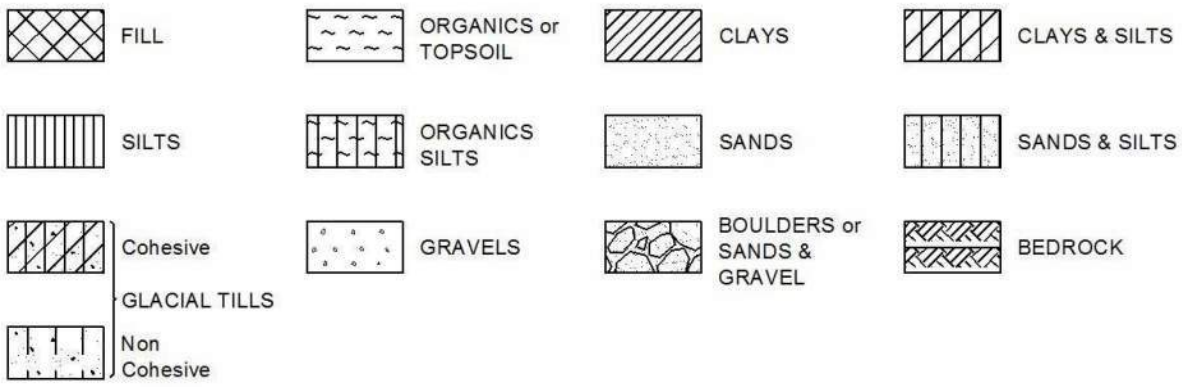
The standard terminology to describe cohesive soils includes consistency, which is based on undrained shear strength as measured by insitu vane tests, penetrometer tests, unconfined compression tests or similar field and laboratory analysis, Standard Penetration Test 'N' values can also be used to provide 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-22019409-A0

Project: Phase Two Environmental Site Assessment

Location: 770 and 774 Bronson Avenue, Ottawa, Ontario

Date Drilled: January 09, 2024'

Drill Type: CME-75 Truck-Mounted Drill Rig

Datum: Geodetic Elevation

Logged by: Ph.O Checked by: M.MC

Figure No. 1

Page. 1 of 1

Split Spoon Sample ⊠
Auger Sample ▮▯
SPT (N) Value ○
Dynamic Cone Test ——
Shelby Tube ■
Shear Strength by Vane Test +S

Combustible Vapour Reading □
Natural Moisture Content ×
Atterberg Limits ⊢○
Undrained Triaxial at % Strain at Failure ⊕
Shear Strength by Penetrometer Test ▲

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic Elevation m	Depth	Standard Penetration Test N Value / Shear Strength kPa	Combustible Vapour Reading (ppm) / Natural Moisture Content % / Atterberg Limits (% Dry Weight)	SAMPLES	Natural Unit Wt. kN/m³
		FILL Sandy clay, some crushed gravel, brown, moist, no odours, no stains	74.39	0	20 40 60 80 / 50 100 150 200	250 500 750 / 20 40 60	SS1	
			73.6					
		Auger Refusal at 0.8 m Depth						

NOTES:

1. Borehole data requires interpretation by EXP before use by others
2. Borehole was backfilled upon completion of drilling.
3. Field work supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-22019409-A0

WATER LEVEL RECORDS

Date	Water Level (m)	Hole Open To (m)

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %

LOG OF BOREHOLE BH LOGS - KEMPTVILLE.GPJ TROW OTTAWA.GDT 3/25/24

Log of Borehole BH-2

Project No: OTT-22019409-A0

Project: Phase Two Environmental Site Assessment

Location: 770 and 774 Bronson Avenue, Ottawa, Ontario

Figure No. 2

Page. 1 of 1

Date Drilled: January 09, 2024'

Drill Type: CME-75 Truck-Mounted Drill Rig

Datum: Geodetic Elevation

Logged by: Ph.O Checked by: M.MC

Split Spoon Sample ⊠
Auger Sample ▮▯
SPT (N) Value ○
Dynamic Cone Test ——
Shelby Tube ■
Shear Strength by Vane Test +S

Combustible Vapour Reading □
Natural Moisture Content ×
Atterberg Limits |—○
Undrained Triaxial at % Strain at Failure ⊕
Shear Strength by Penetrometer Test ▲

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic Elevation m	Depth	Standard Penetration Test N Value / Shear Strength kPa	Combustible Vapour Reading (ppm) / Natural Moisture Content % / Atterberg Limits (% Dry Weight)	SAMPLES	Natural Unit Wt. kN/m³
		FILL Sandy clay, some meduim gravel, crushed asphalt, brown, moist, no odours, no stains	74.96	0	20 40 60 80 / 50 100 150 200	250 500 750 / 20 40 60	SS1	
			73.8	1			SS2	
		Auger Refusal at 1.2 m Depth						

NOTES:

1. Borehole data requires interpretation by EXP before use by others
2. Borehole was backfilled upon completion of drilling.
3. Field work supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-22019409-A0

WATER LEVEL RECORDS

Date	Water Level (m)	Hole Open To (m)

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %

LOG OF BOREHOLE BH LOGS - KEMPTVILLE.GPJ TROW OTTAWA.GDT 3/25/24

Log of Borehole BH-3

Project No: OTT-22019409-A0

Project: Phase Two Environmental Site Assessment

Location: 770 and 774 Bronson Avenue, Ottawa, Ontario

Date Drilled: January 09, 2024'

Drill Type: CME-55 Track-Mounted Drill Rig

Datum: Geodetic Elevation

Logged by: Ph.O Checked by: M.MC

Figure No. 3

Page. 1 of 1

Split Spoon Sample ⊠
Auger Sample ▮▯
SPT (N) Value ○
Dynamic Cone Test ——
Shelby Tube ■
Shear Strength by Vane Test +S

Combustible Vapour Reading □
Natural Moisture Content ×
Atterberg Limits ⊢○
Undrained Triaxial at % Strain at Failure ⊕
Shear Strength by Penetrometer Test ▲

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic Elevation m	Depth	Standard Penetration Test N Value / Shear Strength kPa	Combustible Vapour Reading (ppm) / Natural Moisture Content % / Atterberg Limits (% Dry Weight)	SAMPLES	Natural Unit Wt. kN/m³
		FILL Silty clay, some fine gravel, crushed brick and concrete pieces, brown, moist, no odours, no stains	74.83	0	20 40 60 80 / 50 100 150 200	250 500 750 / 20 40 60	SS1	
			73.9				SS2	
		Auger Refusal at 0.9m Depth						

NOTES:

1. Borehole data requires interpretation by EXP before use by others
2. Borehole was backfilled upon completion of drilling.
3. Field work supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-22019409-A0

WATER LEVEL RECORDS

Date	Water Level (m)	Hole Open To (m)

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %

LOG OF BOREHOLE BH LOGS - KEMPTVILLE.GPJ TROW OTTAWA.GDT 3/25/24

Log of Borehole MW-4

Project No: OTT-22019409-A0

Project: Phase Two Environmental Site Assessment

Location: 770 and 774 Bronson Avenue, Ottawa, Ontario

Figure No. 4

Page. 1 of 1

Date Drilled: January 10, 2024'

Drill Type: CME-55 Rubber Track-Mounted Drill Rig

Datum: Geodetic Elevation

Logged by: Ph.O Checked by: M.MC

Split Spoon Sample ⊠
Auger Sample ▮▯
SPT (N) Value ○
Dynamic Cone Test ——
Shelby Tube ■
Shear Strength by Vane Test +S

Combustible Vapour Reading □
Natural Moisture Content ×
Atterberg Limits ⊢○
Undrained Triaxial at % Strain at Failure ⊕
Shear Strength by Penetrometer Test ▲

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic Elevation m	Depth	Standard Penetration Test N Value / Shear Strength kPa	Combustible Vapour Reading (ppm) / Natural Moisture Content % / Atterberg Limits (% Dry Weight)	SAMPLES	Natural Unit Wt. kN/m³
		FILL Silty sand, crushed rock, concrete and wood pieces, light grey to dark brown, moist, no odour, no stains	74.56	0	20 40 60 80 / 50 100 150 200	250 500 750 / 20 40 60	SS1	
		BEDROCK Refusal at 0.9 m depth air hammer from 0.9 m to 6.1 m depths.	73.7	1				
			72.25	2				
				3				
				4				
				5				
			68.5	6				
		Borehole terminated at 6.1 m Depth						

NOTES:

1. Borehole data requires interpretation by EXP before use by others
2. A 50 mm diameter monitoring well was installed, as shown.
3. Field work supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-22019409-A0

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

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

LOG OF BOREHOLE BH LOGS - KEMPTVILLE.GPJ TROW OTTAWA.GDT 3/25/24

Log of Borehole MW-5

Project No: OTT-22019409-A0

Project: Phase Two Environmental Site Assessment

Location: 770 and 774 Bronson Avenue, Ottawa, Ontario

Date Drilled: January 09, 2024'

Drill Type: CME-55 Track-Mounted Drill Rig

Datum: Geodetic Elevation

Logged by: Ph.O Checked by: M.MC

Figure No. 5

Page. 1 of 1

Split Spoon Sample ⊠
Auger Sample ▮▯
SPT (N) Value ○
Dynamic Cone Test ——
Shelby Tube ■
Shear Strength by Vane Test +S

Combustible Vapour Reading □
Natural Moisture Content ×
Atterberg Limits ⊢○
Undrained Triaxial at % Strain at Failure ⊕
Shear Strength by Penetrometer Test ▲

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic Elevation m	Depth	Standard Penetration Test N Value / Shear Strength kPa	Combustible Vapour Reading (ppm) / Natural Moisture Content % / Atterberg Limits (% Dry Weight)	SAMPLES	Natural Unit Wt. kN/m³
		FILL Silty sand, fine gravel, crushed asphalt, some broken rock pieces, no odour, no stains	73.84	0	20 40 60 80 / 50 100 150 200	250 500 750 / 20 40 60	SS1	
			73.0					
		BEDROCK Refusal at 0.8 m depth, air hammer from 0.8 m to 6.1m depths		1				
			71.65	2				
				3				
				4				
				5				
			67.7	6				
		Borehole Terminated at 6.1 m Depth						

NOTES:

1. Borehole data requires interpretation by EXP before use by others
2. A 50 mm diameter monitoring well was installed, as shown.
3. Field work supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-22019409-A0

WATER LEVEL RECORDS

Date	Water Level (m)	Hole Open To (m)

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %

LOG OF BOREHOLE BH LOGS - KEMPTVILLE.GPJ TROW OTTAWA.GDT 3/25/24

Log of Borehole MW-6

Project No: OTT-22019409-A0

Project: Phase Two Environmental Site Assessment

Location: 770 and 774 Bronson Avenue, Ottawa, Ontario

Date Drilled: January 09, 2024'

Drill Type: CME-55 Track-Mounted Drill Rig

Datum: Geodetic Elevation

Logged by: Ph.O Checked by: M.MC

Figure No. 6

Page. 1 of 1

Split Spoon Sample ⊠
Auger Sample ▮▯
SPT (N) Value ○
Dynamic Cone Test ——
Shelby Tube ■
Shear Strength by Vane Test +S

Combustible Vapour Reading □
Natural Moisture Content ×
Atterberg Limits ⊢○
Undrained Triaxial at % Strain at Failure ⊕
Shear Strength by Penetrometer Test ▲

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic Elevation m	Depth
		FILL Silty sand, with fine gravel, rock and asphalt pieces, brown, moist, no odour, no stain.	74.05	0
			73.5	
		BEDROCK Refusal at 0.6 m depth, air hammer from 0.6 m to 6.1m depths		1
				2
			71.38	3
				4
				5
			68.0	6
		Borehole Terminated at 6.1 m Depth		

Standard Penetration Test N Value: 20 40 60 80
Shear Strength: 50 100 150 200 kPa

Combustible Vapour Reading (ppm): 250 500 750
Natural Moisture Content % Atterberg Limits (% Dry Weight): 20 40 60

SAMPLES: SS1

Natural Unit Wt. kN/m³

NOTES:

1. Borehole data requires interpretation by EXP before use by others
2. A 50 mm diameter monitoring well was installed, as shown.
3. Field work supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-22019409-A0

WATER LEVEL RECORDS

Date	Water Level (m)	Hole Open To (m)

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %

LOG OF BOREHOLE BH LOGS - KEMPTVILLE.GPJ TROW OTTAWA.GDT 3/25/24

Log of Borehole MW-7

Project No: OTT-22019409-A0

Project: Phase Two Environmental Site Assessment

Location: 770 and 774 Bronson Avenue, Ottawa, Ontario

Date Drilled: January 09, 2024'

Drill Type: CME-55 Track-Mounted Drill Rig

Datum: Geodetic Elevation

Logged by: Ph.O Checked by: M.MC

Figure No. 7

Page. 1 of 1

Split Spoon Sample ⊠
Auger Sample ▮▯
SPT (N) Value ○
Dynamic Cone Test ——
Shelby Tube ■
Shear Strength by Vane Test +S

Combustible Vapour Reading □
Natural Moisture Content ×
Atterberg Limits ⊢○
Undrained Triaxial at % Strain at Failure ⊕
Shear Strength by Penetrometer Test ▲

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic Elevation m	Depth	Standard Penetration Test N Value / Shear Strength kPa	Combustible Vapour Reading (ppm) / Natural Moisture Content % / Atterberg Limits (% Dry Weight)	SAMPLES	Natural Unit Wt. kN/m³
		FILL Silty sand, silty clay, some fine gravel, brown, moist, no odour, no stain.	74.38	0	20 40 60 80 / 50 100 150 200	250 500 750 / 20 40 60	SS1	
			73.8					
		BEDROCK Refusal at 0.6 m depth, air hammer from 0.6 m to 4.6 m depths.		1				
				2				
			71.43	3				
				4				
			69.8					
		Borehole Terminated at 4.6 m Depth						

NOTES:

1. Borehole data requires interpretation by EXP before use by others
2. A 50 mm diameter monitoring well was installed, as shown.
3. Field work supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-22019409-A0

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

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

LOG OF BOREHOLE BH LOGS - KEMPTVILLE.GPJ TROW OTTAWA.GDT 3/25/24

Log of Borehole MW-8

Project No: OTT-22019409-A0

Project: Phase Two Environmental Site Assessment

Location: 770 and 774 Bronson Avenue, Ottawa, Ontario

Figure No. 8

Page. 1 of 1

Date Drilled: January 10, 2024'

Drill Type: CME-55 Track-Mounted Drill Rig

Datum: Geodetic Elevation

Logged by: Ph.O Checked by: M.MC

Split Spoon Sample ⊠
Auger Sample ▮▯
SPT (N) Value ○
Dynamic Cone Test ——
Shelby Tube ■
Shear Strength by Vane Test +S

Combustible Vapour Reading □
Natural Moisture Content ×
Atterberg Limits ⊢○
Undrained Triaxial at % Strain at Failure ⊕
Shear Strength by Penetrometer Test ▲

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic Elevation m	Depth
		FILL Sandy clay, meduim gravel, some crushed brick pieces, brown, moist, no odour, no stain.	74.36	0
			73.5	
		BEDROCK Refusal at 0.9 m depth, air hammer from 0.9 m to 6.1 m depths.		1
			72.45	2
				3
				4
				5
			68.3	6
		Borehole Terminated at 6.1 m Depth		

Standard Penetration Test N Value: 20 40 60 80
Shear Strength: 50 100 150 200 kPa
Combustible Vapour Reading (ppm): 250 500 750
Natural Moisture Content % Atterberg Limits (% Dry Weight): 20 40 60

SAMPLES: SS1

Natural Unit Wt. kN/m³

NOTES:

1. Borehole data requires interpretation by EXP before use by others
2. A 50 mm diameter monitoring well was installed, as shown.
3. Field work supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-22019409-A0

WATER LEVEL RECORDS

Date	Water Level (m)	Hole Open To (m)

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %

LOG OF BOREHOLE BH LOGS - KEMPTVILLE.GPJ TROW OTTAWA.GDT 3/25/24

Log of Borehole MW-9

Project No: OTT-22019409-A0

Project: Phase Two Environmental Site Assessment

Location: 770 and 774 Bronson Avenue, Ottawa, Ontario

Figure No. 9

Page. 1 of 1

Date Drilled: January 10, 2024'

Drill Type: CME-55 Track-Mounted Drill Rig

Datum: Geodetic Elevation

Logged by: Ph.O Checked by: M.MC

Split Spoon Sample ⊠
Auger Sample ▮▯
SPT (N) Value ○
Dynamic Cone Test ——
Shelby Tube ■
Shear Strength by Vane Test +S

Combustible Vapour Reading □
Natural Moisture Content ×
Atterberg Limits ⊢○
Undrained Triaxial at % Strain at Failure ⊕
Shear Strength by Penetrometer Test ▲

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic Elevation m	Depth
		FILL Silty sand, meduim gravel, grey, moist, no odour, no stain.	74.75 / 74.5	0
		FILL Silty clay, some meduim gravel, crushed rock and concrete pieces, brown, moist, no odour, no stain. Rock pieces in the tube from 0.6 m to 1.1 m depths.	73.7	1
		BEDROCK Refusal at 1.1 m depth, air hammer from 1.1 m to 6.1 m depths.		2
			71.48	3
				4
				5
			68.7	6
		Borehole Terminated at 6.1 m Depth		

Standard Penetration Test N Value: 20 40 60 80
Shear Strength: 50 100 150 200 kPa
Combustible Vapour Reading (ppm): 250 500 750
Natural Moisture Content % Atterberg Limits (% Dry Weight): 20 40 60

SAMPLES	Natural Unit Wt. kN/m³
SS1	
SS2	
SS3	

NOTES:

1. Borehole data requires interpretation by EXP before use by others
2. A 50 mm diameter monitoring well was installed, as shown.
3. Field work supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-22019409-A0

WATER LEVEL RECORDS

Date	Water Level (m)	Hole Open To (m)

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %

LOG OF BOREHOLE BH LOGS - KEMPTVILLE.GPJ TROW OTTAWA.GDT 3/25/24

Log of Borehole MW-10

Project No: OTT-22019409-A0

Project: Phase Two Environmental Site Assessment

Location: 770 and 774 Bronson Avenue, Ottawa, Ontario

Figure No. 10

Page. 1 of 1

Date Drilled: January 10, 2024'

Drill Type: CME-55 Track-Mounted Drill Rig

Datum: Geodetic Elevation

Logged by: Ph.O Checked by: M.MC

Split Spoon Sample ⊠
Auger Sample ▮▯
SPT (N) Value ○
Dynamic Cone Test ——
Shelby Tube ■
Shear Strength by Vane Test +S

Combustible Vapour Reading □
Natural Moisture Content ×
Atterberg Limits ⊢○
Undrained Triaxial at % Strain at Failure ⊕
Shear Strength by Penetrometer Test ▲

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic Elevation m	Depth
		FILL Fine sand, with meduim gravel, brown, moist, no odour, no stains	75.02 74.7	0
		FILL Sandy clay, brown, moist, no odour, no stains	73.9	1
		BEDROCK Refusal at 1.1 m depth air hammer from 1.1 m to 6.1 m depths.		2
				3
				4
				5
			69.32	
			68.9	6
		Borehole Terminated at 6.1 m Depth		

Standard Penetration Test N Value: 20 40 60 80
Shear Strength: 50 100 150 200 kPa
Combustible Vapour Reading (ppm): 250 500 750
Natural Moisture Content % Atterberg Limits (% Dry Weight): 20 40 60

SAMPLES	Natural Unit Wt. kN/m³
SS1	

NOTES:

1. Borehole data requires interpretation by EXP before use by others
2. A 50 mm diameter monitoring well was installed, as shown.
3. Field work supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-22019409-A0

WATER LEVEL RECORDS

Date	Water Level (m)	Hole Open To (m)

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %

LOG OF BOREHOLE BH LOGS - KEMPTVILLE.GPJ TROW OTTAWA.GDT 3/25/24

Log of Borehole MW-11

Project No: OTT-22019409-A0

Project: Phase Two Environmental Site Assessment

Location: 770 and 774 Bronson Avenue, Ottawa, Ontario

Date Drilled: January 11, 2024'

Drill Type: CME-55 Track-Mounted Drill Rig

Datum: Geodetic Elevation

Logged by: Ph.O Checked by: M.MC

Figure No. 11

Page. 1 of 1

Split Spoon Sample
Auger Sample
SPT (N) Value
Dynamic Cone Test
Shelby Tube
Shear Strength by Vane Test (S)

Combustible Vapour Reading
Natural Moisture Content
Atterberg Limits
Undrained Triaxial at % Strain at Failure
Shear Strength by Penetrometer Test

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic Elevation m	Depth
		ASPHALT ~50 mm thick	75.78	0
		FILL Silty sand, meduim gravel, grey, moist, no odour, no stain.	75.7	
		FILL Sandy clay, broken rock pieces, brown, moist, no odour, black stains.	75.0	1
		BEDROCK Refusal at 2.1 m depth, air hammer from 2.1 m to 6.1 m depths.	73.7	2
			70.44	5
		Borehole Terminated at 6.1 m Depth	69.7	6

Standard Penetration Test N Value: 20 40 60 80
Shear Strength: 50 100 150 200 kPa
Combustible Vapour Reading (ppm): 250 500 750
Natural Moisture Content % / Atterberg Limits (% Dry Weight): 20 40 60

SAMPLES	Natural Unit Wt. kN/m³
SS1	
SS2	
SS3	

NOTES:

1. Borehole data requires interpretation by EXP before use by others
2. A 50 mm diameter monitoring well was installed, as shown.
3. Field work supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-22019409-A0

WATER LEVEL RECORDS

Date	Water Level (m)	Hole Open To (m)

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %

LOG OF BOREHOLE BH LOGS - KEMPTVILLE.GPJ TROW OTTAWA.GDT 3/25/24

Log of Borehole MW-12

Project No: OTT-22019409-A0

Project: Phase Two Environmental Site Assessment

Location: 770 and 774 Bronson Avenue, Ottawa, Ontario

Date Drilled: January 11, 2024'

Drill Type: CME-55 Track-Mounted Drill Rig

Datum: Geodetic Elevation

Logged by: Ph.O Checked by: M.MC

Figure No. 12

Page. 1 of 1

Split Spoon Sample ⊠
Auger Sample ▮▯
SPT (N) Value ○
Dynamic Cone Test ——
Shelby Tube ■
Shear Strength by Vane Test +S

Combustible Vapour Reading □
Natural Moisture Content ×
Atterberg Limits ⊢○
Undrained Triaxial at % Strain at Failure ⊕
Shear Strength by Penetrometer Test ▲

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic Elevation m	Depth
		ASPHALT ~50 mm thick	76.02	0
		FILL Sandy clay, broken concrete and brick pieces, brown, moist, no odours, no stains	76.0	
				1
				2
		BEDROCK Refusal at 2.1 m depth, air hammer from 2.1 m to 6.7 m depths.	73.9	
				3
				4
				5
			70.68	
				6
			69.3	
		Borehole Terminated at 6.7 m Depth		

Standard Penetration Test N Value: 20 40 60 80
Shear Strength: 50 100 150 200 kPa

Combustible Vapour Reading (ppm): 250 500 750
Natural Moisture Content % Atterberg Limits (% Dry Weight): 20 40 60

SAMPLES	Natural Unit Wt. kN/m³
SS1	
SS2	
SS3	

LOG OF BOREHOLE BH LOGS - KEMPTVILLE.GPJ TROW OTTAWA.GDT 3/25/24

NOTES:

1. Borehole data requires interpretation by EXP before use by others
2. A 50 mm diameter monitoring well was installed, as shown.
3. Field work supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-22019409-A0

WATER LEVEL RECORDS

Date	Water Level (m)	Hole Open To (m)

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %

Log of Borehole MW-13

Project No: OTT-22019409-A0

Project: Phase Two Environmental Site Assessment

Location: 770 and 774 Bronson Avenue, Ottawa, Ontario

Date Drilled: January 11, 2024'

Drill Type: CME-55 Track-Mounted Drill Rig

Datum: Geodetic Elevation

Logged by: Ph.O Checked by: M.MC

Figure No. 13

Page. 1 of 1

Split Spoon Sample ⊠
Auger Sample ▮▯
SPT (N) Value ○
Dynamic Cone Test ——
Shelby Tube ■
Shear Strength by Vane Test +S

Combustible Vapour Reading □
Natural Moisture Content ×
Atterberg Limits ⊢○
Undrained Triaxial at % Strain at Failure ⊕
Shear Strength by Penetrometer Test ▲

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic Elevation m	Depth
		ASPHALT ~50 mm thick	76.11	0
		76.1		
		FILL		
		Sandy clay, broken concrete and brick pieces, possible cobbles, gravel, Black oil, petroleum odour		1
		Black oil found at 2.4 m depth.		2
		73.7		
		BEDROCK		
		Refusal at 2.4 m depth, air hammer from 2.4 m to 6.7 m depths.		3
				4
			71.61	
				5
				6
		69.4		
		Borehole Terminated at 6.7 m Depth		

Standard Penetration Test N Value: 20 40 60 80
Shear Strength: 50 100 150 200 kPa

Combustible Vapour Reading (ppm): 250 500 750
Natural Moisture Content % Atterberg Limits (% Dry Weight): 20 40 60

SAMPLES: SS1, SS2

Natural Unit Wt. kN/m³

NOTES:

1. Borehole data requires interpretation by EXP before use by others
2. A 50 mm diameter monitoring well was installed, as shown.
3. Field work supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-22019409-A0

WATER LEVEL RECORDS

Date	Water Level (m)	Hole Open To (m)

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %

LOG OF BOREHOLE BH LOGS - KEMPTVILLE.GPJ TROW OTTAWA.GDT 3/25/24

Log of Borehole BH-14

Project No: OTT-22019409-A0

Project: Phase Two Environmental Site Assessment

Location: 770 and 774 Bronson Avenue, Ottawa, Ontario

Figure No. 14

Page. 1 of 1

Date Drilled: January 11, 2024'

Drill Type: CME-75 Truck-Mounted Drill Rig

Datum: Geodetic Elevation

Logged by: Ph.O Checked by: M.MC

Split Spoon Sample ⊠
Auger Sample ▮▯
SPT (N) Value ○
Dynamic Cone Test ——
Shelby Tube ■
Shear Strength by Vane Test +S

Combustible Vapour Reading □
Natural Moisture Content ×
Atterberg Limits ⊢○
Undrained Triaxial at % Strain at Failure ⊕
Shear Strength by Penetrometer Test ▲

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic Elevation m	Depth	Standard Penetration Test N Value / Shear Strength kPa	Combustible Vapour Reading (ppm) / Natural Moisture Content % / Atterberg Limits (% Dry Weight)	SAMPLES	Natural Unit Wt. kN/m³
		ASPHALT ~50 mm thick	75.63	0	20 40 60 80 / 50 100 150 200	250 500 750 / 20 40 60	SS1	
		GRANULAR 'A' FILL (BASE) ~200 mm thick	75.6					
		Fine sand and gravel, light brown, moist, no odour, no stain	75.4					
		FILL		1			SS2	
		Fine sand, with medium gravel, crushed brick pieces, brown, moist, no odours, no stains	74.1					
		Auger Refusal at 1.5 m Depth						

NOTES:

1. Borehole data requires interpretation by EXP before use by others
2. Borehole was backfilled upon completion of drilling.
3. Field work supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-22019409-A0

WATER LEVEL RECORDS

Date	Water Level (m)	Hole Open To (m)

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %

LOG OF BOREHOLE BH LOGS - KEMPTVILLE.GPJ TROW OTTAWA.GDT 3/25/24

Log of Borehole BH-15

Project No: OTT-22019409-A0

Project: Phase Two Environmental Site Assessment

Location: 770 and 774 Bronson Avenue, Ottawa, Ontario

Figure No. 15

Page. 1 of 1

Date Drilled: January 11, 2024'

Drill Type: CME-55 Track-Mounted Drill Rig

Datum: Geodetic Elevation

Logged by: Ph.O Checked by: M.MC

Split Spoon Sample
Auger Sample
SPT (N) Value
Dynamic Cone Test
Shelby Tube
Shear Strength by Vane Test (S)

Combustible Vapour Reading
Natural Moisture Content
Atterberg Limits
Undrained Triaxial at % Strain at Failure
Shear Strength by Penetrometer Test

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic Elevation m	Depth	Standard Penetration Test N Value / Shear Strength kPa	Combustible Vapour Reading (ppm) / Natural Moisture Content % / Atterberg Limits (% Dry Weight)	SAMPLES	Natural Unit Wt. kN/m³
		ASPHALT ~50 mm thick	75.4	0	20 40 60 80 / 50 100 150 200	250 500 750 / 20 40 60	SS1	
		GRANULAR 'A' FILL (BASE) ~ 550 mm thick	74.8					
		Fine sand and gravel, brown, moist, no odour, no stain		1			SS2	
		FILL Fine sand, some brocken rock pieces, brown, moist, no odours, no stains					SS3	
			73.4	2				
		Auger Refusal at 2 m Depth						

NOTES:

1. Borehole data requires interpretation by EXP before use by others
2. Borehole was backfilled upon completion of drilling.
3. Field work supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-22019409-A0

WATER LEVEL RECORDS

Date	Water Level (m)	Hole Open To (m)

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %

LOG OF BOREHOLE BH LOGS - KEMPTVILLE.GPJ TROW OTTAWA.GDT 3/25/24

Appendix E: Hydraulic Conductivity

770 Bronson Avenue, Ottawa **MW4**
Rising Head Test Analysis
Hvorslev Method (1951)

H_0 2.08 m
(static water level in metres)

Time (sec)	Water Level (m)	Drawdown (m)	H-h/H-h0	Recovery to Original Water Level (%)
0	4.88	2.80	1.00	0
30	4.88	2.80	1.00	0
60	4.87	2.79	1.00	0
90	4.87	2.79	1.00	0
120	4.86	2.78	0.99	1
150	4.86	2.78	0.99	1
210	4.86	2.78	0.99	1
270	4.85	2.77	0.99	1
330	4.85	2.77	0.99	1
390	4.84	2.76	0.99	1
450	4.84	2.76	0.99	1
510	4.83	2.75	0.98	2
630	4.82	2.74	0.98	2
750	4.82	2.74	0.98	2
870	4.81	2.73	0.98	3
990	4.79	2.71	0.97	3
1110	4.77	2.69	0.96	4
1410	4.76	2.68	0.96	4
1710	4.75	2.67	0.95	5
2010	4.74	2.66	0.95	5
2310	4.67	2.59	0.93	8
2610	4.62	2.54	0.91	9
2910	4.51	2.43	0.87	13

To constant= 0.37

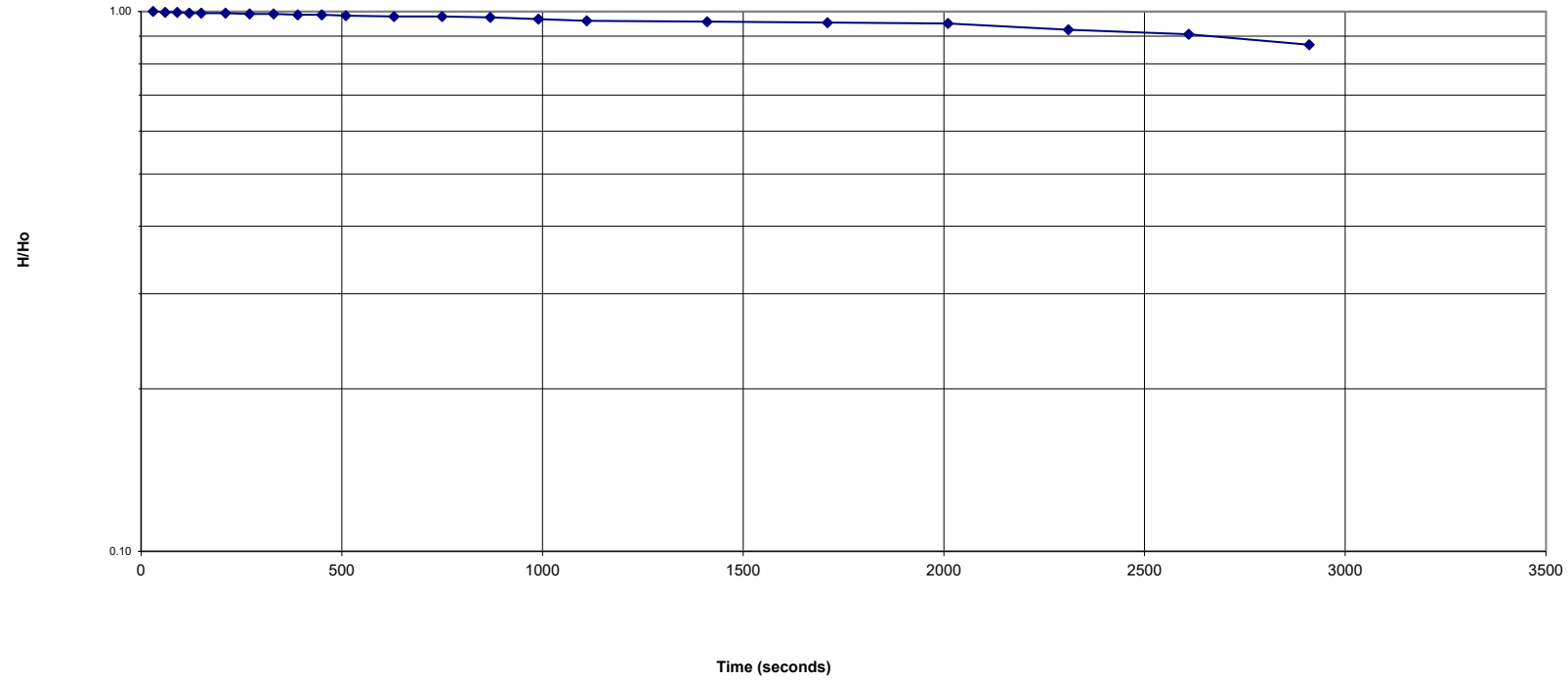
L/R	ln(L/R)
122.0	4.804021

$$K = \frac{r^2 \ln(L/R)}{2(To)(L)}$$

	input	
r=	0.0032	(pipe radius)
L=	3.05	(effective screen length, if straddles water)
R=	0.03	(hole radius)
To=	8180	

K= 9.86E-10 m/sec or **9.86E-08 cm/sec**

Rising Head Test MW4



770 Bronson Avenue, Ottawa **MW7**
Rising Head Test Analysis
Hvorslev Method (1951)

H_0 2.58 m
(static water level in metres)

Time (sec)	Water Level (m)	Drawdown (m)	H-h/H-h0	Recovery to Original Water Level (%)
0	2.66	0.08	1.00	0
30	2.66	0.08	1.00	0
60	2.66	0.08	1.00	0
90	2.66	0.08	1.00	0
120	2.66	0.08	1.00	0
150	2.65	0.07	0.87	13
210	2.65	0.07	0.87	13
270	2.65	0.07	0.87	13
330	2.64	0.06	0.75	25
390	2.64	0.06	0.75	25
450	2.64	0.06	0.75	25
510	2.64	0.06	0.75	25
630	2.63	0.05	0.62	38
750	2.63	0.05	0.62	38
870	2.62	0.04	0.50	50
990	2.62	0.04	0.50	50
1110	2.61	0.03	0.37	63
1410	2.61	0.03	0.37	63
1710	2.6	0.02	0.25	75
2010	2.6	0.02	0.25	75
2310	2.59	0.01	0.12	88

To constant= 0.37

L/R	ln(L/R)
122.0	4.804021

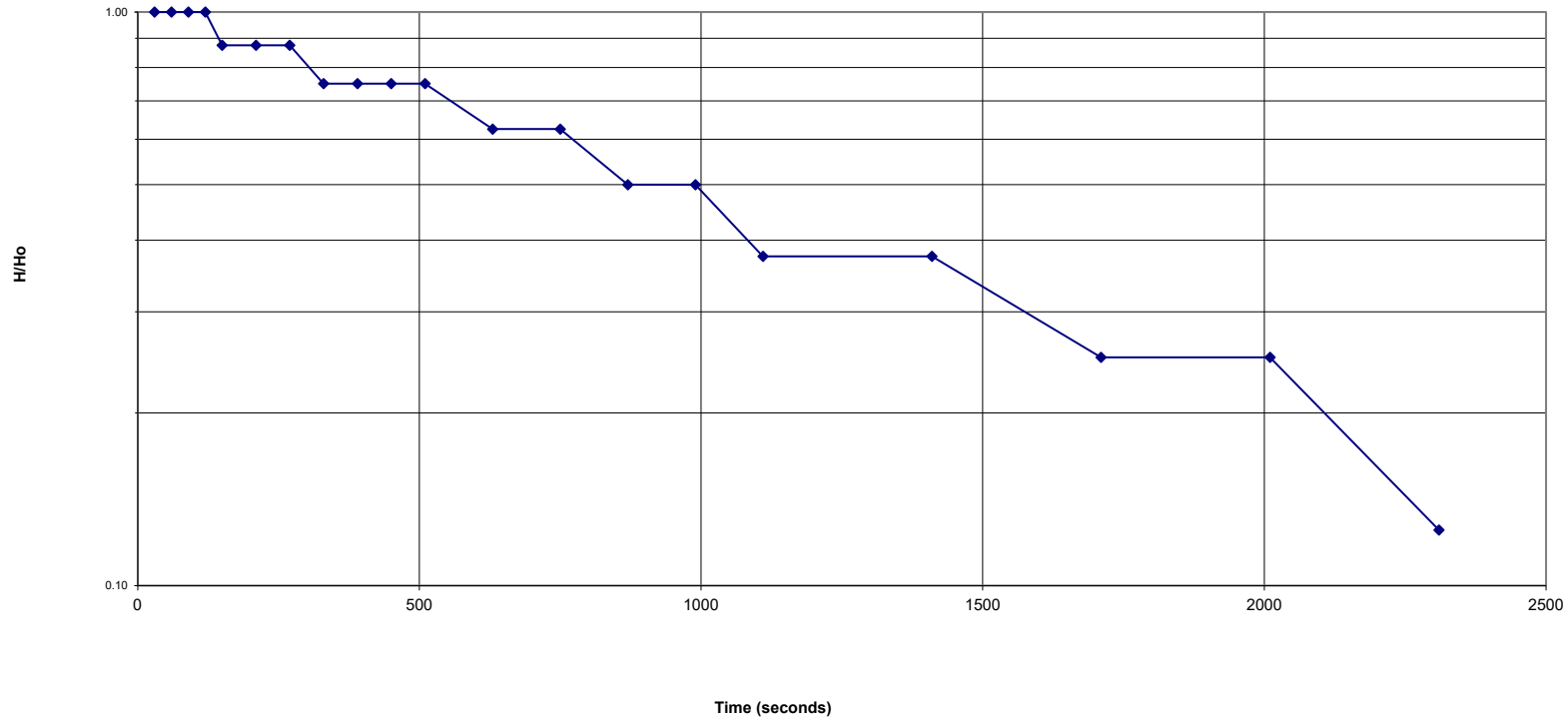
input

r= 0.0032 (pipe radius)
L= 3.05 (effective screen length, if straddles water)
R= 0.03 (hole radius)
To= 620

$$K = \frac{r^2 \ln(L/R)}{2(To)(L)}$$

K= 1.30E-08 m/sec or **1.30E-06 cm/sec**

Rising Head Test MW7



Appendix F: Analytical Summary Tables

Table 1 - Analytical Results in Soil - PHC and VOC
770 and 775 Bronson Avenue, 557 Cambridge Street, Ottawa, ON
OTT-22019409-A0

Parameter	Units	MECP Table 7 [1]	BH1 SS1	BH2 SS1	BH3 SS1	MW4 SS1	MW5 SS1	MW6 SS1	MW7 SS1	MW8 SS1	DUP1 (Field Duplicate to MW8 SS1)	MW9 SS1	MW10 SS1	MW11 SS1	MW12 SS1	MW13 SS1
Sampling Date			9-Jan-2024	9-Jan-2024	9-Jan-2024	10-Jan-2024	9-Jan-2024	9-Jan-2024	9-Jan-2024	10-Jan-2024	10-Jan-2024	10-Jan-2024	10-Jan-2024	11-Jan-2024	11-Jan-2024	11-Jan-2024
Sample Depth (mbgs)			0.1 to 0.45	0.2 to 0.75	0.1 to 0.45	0.1 to 0.5	0.2 to 0.75	0.2 to 0.6	0.1 to 0.5	0.1 to 0.65	0.1 to 0.65	0.6 to 1.1	0.2 to 0.9	0.2 to 0.9	1.5 to 2.0	0.3 to 0.9
Date of Analysis		Orange	18-Jan-2024	18-Jan-2024	18-Jan-2024	15-Jan-2024	18-Jan-2024	18-Jan-2024	18-Jan-2024	15-Jan-2024	15-Jan-2024	15-Jan-2024	15-Jan-2024	18-Jan-2024	18-Jan-2024	18-Jan-2024
Certificate of Analysis			24Z110204	24Z110204	24Z110204	24Z110615	24Z110204	24Z110204	24Z110204	24Z110615	24Z110615	24Z110615	24Z110615	24Z111530	24Z111530	24Z111530
Volatile Organic Compounds																
Acetone	ug/g dry	16	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	ug/g dry	0.21	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Bromodichloromethane	ug/g dry	13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromoform	ug/g dry	0.27	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromomethane	ug/g dry	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbon Tetrachloride	ug/g dry	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorobenzene	ug/g dry	2.4	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloroform	ug/g dry	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibromochloromethane	ug/g dry	9.4	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorodifluoromethane	ug/g dry	16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,2-Dichlorobenzene	ug/g dry	3.4	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,3-Dichlorobenzene	ug/g dry	4.8	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,4-Dichlorobenzene	ug/g dry	0.083	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,1-Dichloroethane	ug/g dry	3.5	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,2-Dichloroethane	ug/g dry	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,1-Dichloroethylene	ug/g dry	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
cis-1,2-Dichloroethylene	ug/g dry	3.4	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
trans-1,2-Dichloroethylene	ug/g dry	0.084	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,2-Dichloropropane	ug/g dry	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,3-Dichloropropene, total	ug/g dry	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethylbenzene	ug/g dry	2	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethylene dibromide	ug/g dry	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Hexane	ug/g dry	2.8	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methyl Ethyl Ketone	ug/g dry	16	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl Isobutyl Ketone	ug/g dry	1.7	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl tert-butyl ether	ug/g dry	0.75	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methylene Chloride	ug/g dry	0.1	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Styrene	ug/g dry	0.7	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,1,1,2-Tetrachloroethane	ug/g dry	0.058	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,1,2,2-Tetrachloroethane	ug/g dry	0.5	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloroethylene	ug/g dry	0.28	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Toluene	ug/g dry	2.3	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
1,1,1-Trichloroethane	ug/g dry	0.38	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,1,2-Trichloroethane	ug/g dry	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethylene	ug/g dry	0.061	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichlorofluoromethane	ug/g dry	4	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Vinyl Chloride	ug/g dry	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Xylenes, total	ug/g dry	3.1	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Petroleum Hydrocarbons																
F1 PHC (C6 - C10) - BTEX*	ug/g dry	55	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
F2 PHC (C10-C16)	ug/g dry	98	<10	<10	<10	12	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F3 PHC (C16-C34)	ug/g dry	300	221	<50	<50	62	<50	<50	<50	<50	<50	<50	<50	<50	78	**352**
F4 PHC (C34-C50)**	ug/g dry	2800	81	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	56

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 7 Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional Property Use (coarse textured soils)
*	F1 fraction does not include BTEX.
**	In instances where the PHC F2 to F4 chromatogram did not reach baseline, the F4 fraction result shown is the highest value obtained via the gas chromatograph/flame ionization detection method or the gravimetric method.
ND	Non-detectable results are shown as "< (RDL)" where RDL represents the reporting detection limit.
NV	No Value
N/A	Not Applicable
-	Parameter not analyzed
m bgs	Metres below ground surface
	Indicates soil exceedance of MECP Table 7 generic site condition standard for coarse textured soil and residential/parkland/institutional property use

Table 2 - Analytical Results in Soil - PAH
770 and 775 Bronson Avenue, 557 Cambridge Street, Ottawa, ON
OTT-22019409-A0

Parameter	Units	MECP Table 7 [1]	BH1 SS1	BH2 SS1	BH3 SS1	MW4 SS1	MW5 SS1	MW6 SS1	MW7 SS1	MW8 SS1	DUP1 (Field Duplicate to MW8 SS1)	MW9 SS1	MW10 SS1	MW11 SS1	MW12 SS1	MW13 SS1
Sampling Date			9-Jan-2024	9-Jan-2024	9-Jan-2024	10-Jan-2024	9-Jan-2024	9-Jan-2024	9-Jan-2024	10-Jan-2024	10-Jan-2024	10-Jan-2024	10-Jan-2024	11-Jan-2024	11-Jan-2024	11-Jan-2024
Sample Depth (mbgs)		Orange	0.1 to 0.45	0.2 to 0.75	0.1 to 0.45	0.1 to 0.5	0.2 to 0.75	0.2 to 0.6	0.1 to 0.5	0.1 to 0.65	0.1 to 0.65	0.6 to 1.1	0.2 to 0.9	0.2 to 0.9	1.5 to 2.0	0.3 to 0.9
Date of Analysis			18-Jan-2024	18-Jan-2024	18-Jan-2024	15-Jan-2024	18-Jan-2024	18-Jan-2024	18-Jan-2024	15-Jan-2024	15-Jan-2024	15-Jan-2024	15-Jan-2024	18-Jan-2024	18-Jan-2024	18-Jan-2024
Paracel Certificate of Analysis			24Z110204	24Z110204	24Z110204	24Z110615	24Z110204	24Z110204	24Z110204	24Z110615	24Z110615	24Z110615	24Z110615	24Z111530	24Z111530	24Z111530
Semi-Volatiles																
Acenaphthene	ug/g dry	7.9	<0.05	0.08	0.28	1.97	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.12	<0.05
Acenaphthylene	ug/g dry	0.15	<0.05	<0.05	0.06	**0.57**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	ug/g dry	0.67	<0.05	0.43	**1.2**	**2.17**	<0.05	0.38	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.25	0.13
Benzo[a]anthracene	ug/g dry	0.5	<0.05	0.25	**0.89**	**3.17**	<0.05	0.15	<0.05	0.06	<0.05	<0.05	<0.05	0.08	0.42	0.31
Benzo[a]pyrene	ug/g dry	0.3	<0.05	0.19	**0.44**	**2.08**	0.08	0.18	<0.05	<0.05	<0.05	<0.05	<0.05	0.09	0.26	0.19
Benzo[b]fluoranthene	ug/g dry	0.78	<0.05	0.36	0.62	**2.95**	0.12	0.21	<0.05	0.09	<0.05	<0.05	<0.05	0.14	0.38	0.32
Benzo[g,h,i]perylene	ug/g dry	6.6	<0.05	0.12	0.19	1.33	<0.05	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	0.11	0.16	0.14
Benzo[k]fluoranthene	ug/g dry	0.78	<0.05	0.15	0.33	**1.11**	0.07	0.13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.16	0.13
Chrysene	ug/g dry	7	0.09	0.58	1.23	3.33	0.13	0.34	<0.05	0.06	<0.05	<0.05	<0.05	0.12	0.52	0.34
Dibenzo[a,h]anthracene	ug/g dry	0.1	<0.05	<0.05	<0.05	**0.28**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	ug/g dry	0.69	0.28	**1.81**	**4.17**	**5.33**	0.35	**1.59**	<0.05	0.07	<0.05	<0.05	<0.05	0.2	**1.17**	**0.72**
Fluorene	ug/g dry	62	<0.05	0.17	0.54	1.49	<0.05	0.14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.17	0.05
Indeno[1,2,3-cd]pyrene	ug/g dry	0.38	<0.05	0.08	0.16	**1.32**	<0.05	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	0.13	0.11
Methylnaphthalene (1&2)	ug/g dry	0.99	<0.05	<0.05	0.23	0.87	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Naphthalene	ug/g dry	0.6	<0.05	<0.05	0.16	0.44	<0.05	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	ug/g dry	6.2	0.17	1.6	3.96	5.8	0.17	1.48	<0.05	<0.05	<0.05	<0.05	<0.05	0.19	1.33	0.56
Pyrene	ug/g dry	78	0.25	1.5	3.12	3.96	0.28	1.23	<0.05	0.06	<0.05	<0.05	<0.05	0.15	0.92	0.6

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 7 Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional Property Use (coarse textured soils)
ND	Non-detectable results are shown as "< (RDL)" where RDL represents the reporting detection limit.
NV	No Value
N/A	Not Applicable
-	Parameter not analyzed
m bgs	Metres below ground surface
	Indicates soil exceedance of MECP Table 7 generic site condition standard for coarse textured soil and residential/parkland/institutional property use

Table 3 - Analytical Results in Soil - Inorganic Parameters
770 and 775 Bronson Avenue, 557 Cambridge Street, Ottawa, ON
OTT-22019409-A0

Parameter	Units	MECP Table 7 [2]	BH1 SS1	BH2 SS1	BH3 SS1	MW4 SS1	MW5 SS1	MW6 SS1	MW7 SS1	MW8 SS1	DUP1 (Field Duplicate to MW8 SS1)	MW9 SS1	MW10 SS1	MW11 SS1	MW12 SS1	MW13 SS1	BH14 SS1	BH15 SS1
Sampling Date			9-Jan-2024	9-Jan-2024	9-Jan-2024	10-Jan-2024	9-Jan-2024	9-Jan-2024	9-Jan-2024	10-Jan-2024	10-Jan-2024	10-Jan-2024	10-Jan-2024	11-Jan-2024	11-Jan-2024	11-Jan-2024	11-Jan-2024	11-Jan-2024
Sample Depth (mbgs)		Orange	0.1 to 0.45	0.2 to 0.75	0.1 to 0.45	0.1 to 0.5	0.2 to 0.75	0.2 to 0.6	0.1 to 0.5	0.1 to 0.65	Field Duplicate	0.6 to 1.1	0.2 to 0.9	0.2 to 0.9	1.5 to 2.0	0.3 to 0.9	0.8 to 1.2	0.8 to 1.2
Date of Analysis			18-Jan-2024	18-Jan-2024	18-Jan-2024	15-Jan-2024	18-Jan-2024	18-Jan-2024	18-Jan-2024	15-Jan-2024	15-Jan-2024	15-Jan-2024	15-Jan-2024	18-Jan-2024	18-Jan-2024	18-Jan-2024	18-Jan-2024	18-Jan-2024
Certificate of Analysis			24Z110204	24Z110204	24Z110204	24Z110615	24Z110204	24Z110204	24Z110204	24Z110615	of MW8 SS1	24Z110615	24Z110615	24Z111530	24Z111530	24Z111530	24Z111530	24Z111530
Metals																		
Antimony	ug/g dry	7.5	<0.8	0.8	<0.8	2.2	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	0.9	<0.8	2	<0.8	<0.8
Arsenic	ug/g dry	18	2	18	2	8	6	5	5	8	9	3	2	18	9	6	2	3
Barium	ug/g dry	390	86.9	192	337	87.8	73.6	102	62.8	44.2	45.5	76.9	73.1	149	118	171	74.3	99.2
Beryllium	ug/g dry	4	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5
Boron	ug/g dry	120	<5	8	5	7	5	<5	<5	6	6	7	6	<5	7	9	8	10
Cadmium	ug/g dry	1.2	0.9	**3.1**	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	ug/g dry	160	16	25	6	21	17	21	13	12	10	18	17	20	17	16	12	13
Cobalt	ug/g dry	22	4.8	7.6	2.9	4.4	5.5	5.8	6.4	8.2	8.4	6.4	5.9	7.4	5.4	4.9	4.9	6.5
Copper	ug/g dry	140	13.3	31.3	4.3	26.7	13.6	16.8	19.1	12	9.6	14.7	14.7	21.5	14.9	15.9	16.3	19.4
Lead	ug/g dry	120	**136**	**156**	7	106	58	105	50	46	36	7	6	103	103	113	6	8
Molybdenum	ug/g dry	6.9	0.8	3.1	0.5	1.8	1.1	1.3	1.5	3.5	3.9	0.7	<0.5	2.1	1.6	1.3	0.8	1.2
Nickel	ug/g dry	100	11	19	8	16.0	12	13	15	15.0	15.0	14.0	12.0	15.0	12.0	12	11	15
Selenium	ug/g dry	2.4	<0.8	1.2	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Silver	ug/g dry	20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Thallium	ug/g dry	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Uranium	ug/g dry	23	<0.50	0.83	<0.50	<0.50	0.63	0.53	0.52	0.7	0.7	0.81	0.73	1.27	0.58	0.59	0.56	0.62
Vanadium	ug/g dry	86	23.1	35.6	5.8	30.9	20.2	22.9	19.1	16.7	12.7	26.8	25.7	27.1	21.5	21.8	19.2	25.1
Zinc	ug/g dry	340	257	**3200**	20	312	78	105	69	28	21	22	20	105	112	169	28	35
General Inorganics																		
Conductivity	mS/cm	0.7	**4.16**	**6.65**	**3.21**	0.445	0.278	**2.16**	0.671	**3.08**	**2.12**	**1.02**	**1.29**	0.457	0.495	**3.72**	-	-
SAR	-	5	**41.3**	**10.6**	**16.9**	3.81	1.52	**12.4**	**7.82**	**16.4**	**23.2**	**12**	**12.7**	0.704	0.577	2.01	-	-
pH	pH Units	5 to 9	7.94	7.41	8.13	7.82	7.93	7.96	8.16	7.86	8.01	8.31	7.89	7.53	8.01	8.04	-	-

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 7 Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional Property Use (coarse textured soils)
ND	Non-detectable results are shown as "< (RDL)" where RDL represents the reporting detection limit.
NV	No Value
N/A	Not Applicable
-	Parameter not analyzed
m bgs	Metres below ground surface
	Indicates soil exceedance of MECP Table 7 generic site condition standard for coarse textured soil and residential/parkland/institutional property use

Table 4 - Analytical Results in Groundwater - PHC and VOC
770 and 775 Bronson Avenue, 557 Cambridge Street, Ottawa, ON
OTT-22019409-A0

Parameter	Units	MECP Table 7 [2]	MW15-1	MW15-2	MW15-3	MW15-5	Dup 1 (Field Duplicate MW15-5)	MW4	MW5	MW6	MW7	DUP1 (Field Duplice MW7)	MW8	MW9	MW10	MW10	MW11	MW12	MW13	MW13
Sampling Date			11-Aug-2022	11-Aug-2022	11-Aug-2022	11-Aug-2022	11-Aug-2022	25-Jan-2024	23-Jan-2024	24-Jan-2024	24-Jan-2024	24-Jan-2024	24-Jan-2024	24-Jan-2024	23-Jan-2024	5-Feb-2024	23-Jan-2024	23-Jan-2024	23-Jan-2024	5-Feb-2024
Screen Depth (mbgs)		Dark Orange	4.1 to 5.6	4.4 to 5.9	4.4 to 5.9	7.82 to 15.34	7.82 to 15.34	3.0 to 6.0	3.0 to 6.0	3.0 to 6.0	1.5 to 4.5	1.5 to 4.5	3.0 to 6.0	3.0 to 6.0	3.0 to 6.0	3.0 to 6.0	3.0 to 6.0	3.6 to 6.6	3.6 to 6.6	3.6 to 6.6
Date of Analysis			18-Aug-2022	18-Aug-2022	18-Aug-2022	18-Aug-2022	18-Aug-2022	1-Feb-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024	7-Feb-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024	7-Feb-2024
Certificate of Analysis			B22-25709	B22-25709	B22-25709	B22-25709	B22-25709	24Z115058	24Z114812	24Z114812	24Z114812	24Z114812	24Z114812	24Z114812	24Z114812	24Z117784	24Z114812	24Z114812	24Z114812	24Z117784
Volatile Organic Compounds																				
Acetone	ug/L	100000	< 30	< 30	< 30	< 30	< 30	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	-
Benzene	ug/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.20	0.29	<0.20	<0.20	<0.20	<0.20	<0.20	**0.60**	<0.20	0.46	0.34	**0.67**	<0.20
Bromodichloromethane	ug/L	67000	< 2	< 2	< 2	< 2	< 2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	-	<0.20	<0.20	<0.20	-
Bromoform	ug/L	5	< 5	< 5	< 5	< 5	< 5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	-
Bromomethane	ug/L	0.89	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	-	<0.20	<0.20	<0.20	-
Carbon Tetrachloride	ug/L	0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	-	<0.20	<0.20	<0.20	-
Chlorobenzene	ug/L	140	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	-
Chloroform	ug/L	2	< 1	< 1	< 1	< 1	< 1	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	-	<0.20	<0.20	<0.20	-
Dibromochloromethane	ug/L	65000	< 2	< 2	< 2	< 2	< 2	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	-
Dichlorodifluoromethane	ug/L	3500	< 2	< 2	< 2	< 2	< 2	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	-	<0.40	<0.40	<0.40	-
1,2-Dichlorobenzene	ug/L	150	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	-
1,3-Dichlorobenzene	ug/L	7600	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	-
1,4-Dichlorobenzene	ug/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	-
1,1-Dichloroethane	ug/L	11	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	-
1,2-Dichloroethane	ug/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	-	<0.20	<0.20	<0.20	-
1,1-Dichloroethylene	ug/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	-
cis-1,2-Dichloroethylene	ug/L	1.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	-	<0.20	<0.20	<0.20	-
trans-1,2-Dichloroethylene	ug/L	1.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	-	<0.20	<0.20	<0.20	-
1,2-Dichloropropane	ug/L	0.58	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	-	<0.20	<0.20	<0.20	-
1,3-Dichloropropene, total	ug/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	-
Ethylbenzene	ug/L	54	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.13	0.12	0.66	<0.10
Ethylene dibromide	ug/L	0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	-
Hexane	ug/L	5	< 5	< 5	< 5	< 5	< 5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	-	<0.20	<0.20	<0.20	-
Methyl Ethyl Ketone	ug/L	21000	< 20	< 20	< 20	< 20	< 20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	-
Methyl Isobutyl Ketone	ug/L	5200	< 20	< 20	< 20	< 20	< 20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	-
Methyl tert-butyl ether	ug/L	15	< 2	< 2	< 2	< 2	< 2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	-	<0.20	<0.20	<0.20	-
Methylene Chloride	ug/L	26	< 5	< 5	< 5	< 5	< 5	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	-
Styrene	ug/L	43	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	-
1,1,1,2-Tetrachloroethane	ug/L	1.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	-
1,1,2,2-Tetrachloroethane	ug/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	-
Tetrachloroethylene	ug/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	-	<0.20	<0.20	<0.20	-
Toluene	ug/L	320	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.29	1.24	<0.20	<0.20	<0.20	0.76	<0.20	1.00	0.32	0.54	<0.20	0.39	<0.20
1,1,1-Trichloroethane	ug/L	23	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	-
1,1,2-Trichloroethane	ug/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	-	<0.20	<0.20	<0.20	-
Trichloroethylene	ug/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	-	<0.20	<0.20	<0.20	-
Trichlorofluoromethane	ug/L	2000	< 5	< 5	< 5	< 5	< 5	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	-	<0.40	<0.40	<0.40	-
Vinyl Chloride	ug/L	0.50	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	-	<0.17	<0.17	<0.17	-
Xylenes, total	ug/L	72	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	0.46	0.35	0.39	<0.20	<0.20	0.70	<0.20	<0.20	<0.20	0.35	0.35	1.34	<0.20
Petroleum Hydrocarbons																				
F1 PHC (C6 - C10) - BTEX*	ug/L	420	< 25	< 25	< 25	< 25	< 25	<25	<25	<25	<25	<25	<25	<25	<25	-	<25	<25	<25	-
F2 PHC (C10-C16)	ug/L	150	< 50	< 50	< 50	< 50	< 50	<100	<100	<100	<100	<100	<100	<100	<100	-	<100	<100	<100	-
F3 PHC (C16-C34)	ug/L	500	< 400	< 400	< 400	< 400	< 400	<200	<200	<200	<200	<200	<200	<200	<200	-	<200	<200	<200	-
F4 PHC (C34-C50)**	ug/L	500	< 400	< 400	< 400	< 400	< 400	<200	<200	<200	<200	<200	<200	<200	<200	-	<200	<200	<200	-

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 7 Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional Property Use (coarse textured soils)

* F1 fraction does not include BTEX.

** In instances where the PHC F2 to F4 chromatogram did not reach baseline, the F4 fraction result shown is the highest value obtained via the gas chromatograph/flame ionization detection method or the gravimetric method.

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

NV No Value

N/A Not Applicable

\- Parameter not analyzed

m bgs Metres below ground surface

Indicates groundwater exceedance of MECP Table 7 generic site condition standard for coarse textured soil and residential/parkland/institutional property use

Table 5 - Analytical Results in Groundwater - PAH
770 and 775 Bronson Avenue, 557 Cambridge Street, Ottawa, ON
OTT-22019409-A0

Parameter	Units	MECP Table 7 [2]	MW15-1	MW15-2	MW15-3	MW15-5	Dup 1 (Field Duplicate MW15-5)	MW4	MW5	MW6	MW7	DUP1 (Field Duplice MW7)	MW8	MW9	MW10	MW11	MW12	MW13
Sampling Date		Dark Orange	11-Aug-2022	11-Aug-2022	11-Aug-2022	11-Aug-2022	11-Aug-2022	25-Jan-2024	23-Jan-2024	24-Jan-2024	24-Jan-2024	24-Jan-2024	24-Jan-2024	24-Jan-2024	23-Jan-2024	23-Jan-2024	23-Jan-2024	23-Jan-2024
Screen Depth (mbgs)			4.1 to 5.6	4.4 to 5.9	4.4 to 5.9	7.82 to 15.34	7.82 to 15.34	3.0 to 6.0	3.0 to 6.0	3.0 to 6.0	1.5 to 4.5	Field Duplicate	3.0 to 6.0	3.0 to 6.0	3.0 to 6.0	3.0 to 6.0	3.6 to 6.6	3.6 to 6.6
Date of Analysis			18-Aug-2022	18-Aug-2022	18-Aug-2022	18-Aug-2022	18-Aug-2022	1-Feb-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024
Certificate of Analysis			B22-25709	B22-25709	B22-25709	B22-25709	B22-25709	24Z115058	24Z114812	24Z114812	24Z114812	of MW7	24Z114812	24Z114812	24Z114812	24Z114812	24Z114812	24Z114812
Semi-Volatiles																		
Acenaphthene	ug/L	17	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Acenaphthylene	ug/L	1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Anthracene	ug/L	1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Benzo[a]anthracene	ug/L	1.8	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Benzo[a]pyrene	ug/L	0.81	0.012	< 0.01	< 0.01	< 0.01	< 0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo[b]fluoranthene	ug/L	0.75	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Benzo[g,h,i]perylene	ug/L	0.2	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Benzo[k]fluoranthene	ug/L	0.4	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chrysene	ug/L	0.7	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dibenzo[a,h]anthracene	ug/L	0.4	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Fluoranthene	ug/L	44	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Fluorene	ug/L	290	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Indeno[1,2,3-cd]pyrene	ug/L	0.2	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Methylnaphthalene (1&2)	ug/L	1500	< 1	< 1	< 1	< 1	< 1	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Naphthalene	ug/L	7	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Phenanthrene	ug/L	380	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Pyrene	ug/L	5.7	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

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 7 Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional Property Use (coarse textured soils)
ND	Non-detectable results are shown as "< (RDL)" where RDL represents the reporting detection limit.
NV	No Value
N/A	Not Applicable
-	Parameter not analyzed
m bgs	Metres below ground surface
	Indicates goundwater exceedance of MECP Table 7 generic site condition standard for coarse textured soil and residential/parkland/institutional property use

Table 6 - Analytical Results in Groundwater - Inorganics
770 and 775 Bronson Avenue, 557 Cambridge Street, Ottawa, ON
OTT-22019409-A0

Parameter	Units	MECP Table 7 [2]	MW4	MW5	MW6	MW7	DUP1 (Field Duplice MW7)	MW8	MW9	MW10	MW11	MW12	MW13
Sampling Date			25-Jan-2024	23-Jan-2024	24-Jan-2024	24-Jan-2024	24-Jan-2024	24-Jan-2024	24-Jan-2024	23-Jan-2024	23-Jan-2024	23-Jan-2024	23-Jan-2024
Screen Depth (mbgs)		Dark Orange	3.0 to 6.0	3.0 to 6.0	3.0 to 6.0	1.5 to 4.5	1.5 to 4.5	3.0 to 6.0	3.0 to 6.0	3.0 to 6.0	3.0 to 6.0	3.6 to 6.6	3.6 to 6.6
Date of Analysis			1-Feb-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024
Certificate of Analysis			24Z115058	24Z114812	24Z114812	24Z114812	of MW7	24Z114812	24Z114812	24Z114812	24Z114812	24Z114812	24Z114812
Metals & Inorganics													
Antimony	ug/L	16000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Arsenic	ug/L	1500	1	12.3	<1.0	2.2	3	6.6	<1.0	<1.0	<1.0	2.3	2.3
Barium	ug/L	23000	249	561	346	188	201	292	447	227	145	178	251
Beryllium	ug/L	53	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Boron	ug/L	36000	281	134	649	56.3	56.5	332	572	692	367	503	446
Cadmium	ug/L	2.1	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chromium	ug/L	640	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Cobalt	ug/L	52	2.47	0.96	0.77	<0.50	<0.50	7.37	3.87	2.42	1.34	2.17	1.41
Copper	ug/L	69	1.7	<1.0	1.2	1.6	1.3	1.9	<1.0	1.4	1.8	<1.0	<1.0
Lead	ug/L	20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Molybdenum	ug/L	7300	4.74	4.96	1.67	4.32	2.89	6.88	1.72	5.4	3.25	2.6	6.1
Nickel	ug/L	390	9.3	2	2.2	1.4	2.2	19.4	8.2	3.6	5.8	7	4.5
Selenium	ug/L	50	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Silver	ug/L	1.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Thallium	ug/L	400	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Uranium	ug/L	330	2.22	1.03	2.24	1.25	1.24	5.46	2.28	2.52	2.18	2.88	1.12
Vanadium	ug/L	200	<0.40	0.49	0.4	<0.40	<0.40	0.54	<0.40	0.63	<0.40	0.41	<0.40
Zinc	ug/L	890	5.8	<5.0	5.9	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.2

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 7 Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional 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
	Indicates goundwater exceedance of MECP Table 7 generic site condition standard for coarse textured soil and residential/parkland/institutional property use

Table 7 - Maximum Concentration - Soil
770 and 775 Bronson Avenue, 557 Cambridge Street, Ottawa, ON
OTT-22019409-A0

Parameter	Sample Location	Sample Depth (mbgs)	Sampling Date	Maximum Concentration	MECP Table 7
Metals and Inorganics					
Antimony	MW4 SS1	0.1 to 0.5	10-Jan-2024	2.2	7.5
Arsenic	BH2 SS1, MW11 SS1	0.2 to 0.9	9&11-Jan-2024	18	18
Barium	BH3 SS1	0.1 to 0.45	9-Jan-2024	337	390
Beryllium	BH2 SS1	0.2 to 0.75	9-Jan-2024	0.6	4
Boron	BH15 SS1	0.8 to 1.2	11-Jan-2024	10	120
Cadmium	BH2 SS1	0.2 to 0.75	9-Jan-2024	3.1	1.2
Chromium	BH2 SS1	0.2 to 0.75	9-Jan-2024	25	160
Cobalt	BH2 SS1	0.2 to 0.75	9-Jan-2024	7.6	22
Copper	BH2 SS1	0.2 to 0.75	9-Jan-2024	31.3	140
Lead	BH2 SS1	0.2 to 0.75	9-Jan-2024	156	120
Molybdenum	MW8 SS1	0.1 to 0.65	9-Jan-2024	3.9	6.9
Nickel	BH2 SS1	0.2 to 0.75	9-Jan-2024	19	100
Selenium	BH2 SS1	0.2 to 0.75	9-Jan-2024	1.2	2.4
Silver	All sampling locations	0.0 to 2.0	All sampling dates	<0.5	20
Thallium	All sampling locations	0.0 to 2.0	All sampling dates	<0.5	1
Uranium	MW11 SS1	0.2 to 0.9	11-Jan-2024	1.27	23
Vanadium	BH2 SS1	0.2 to 0.75	9-Jan-2024	35.6	86
Zinc	BH2 SS1	0.2 to 0.75	9-Jan-2024	3200	340
Conductivity	BH2 SS1	0.2 to 0.75	9-Jan-2024	6.65 mS/cm	0.7 mS/cm
SAR	BH2 SS1	0.2 to 0.75	9-Jan-2024	41.3 (no units)	5 (no units)
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	MW4 SS1	0.1 to 0.5	10-Jan-2024	1.97	7.9
Acenaphthylene	MW4 SS1	0.1 to 0.5	10-Jan-2024	0.57	0.15
Anthracene	MW4 SS1	0.1 to 0.5	10-Jan-2024	2.17	0.67
Benzo[a]anthracene	MW4 SS1	0.1 to 0.5	10-Jan-2024	3.17	0.5
Benzo[a]pyrene	MW4 SS1	0.1 to 0.5	10-Jan-2024	2.08	0.3
Benzo[b]fluoranthene	MW4 SS1	0.1 to 0.5	10-Jan-2024	2.95	0.78
Benzo[g,h,i]perylene	MW4 SS1	0.1 to 0.5	10-Jan-2024	1.33	6.6
Benzo[k]fluoranthene	MW4 SS1	0.1 to 0.5	10-Jan-2024	1.11	0.78
Chrysene	MW4 SS1	0.1 to 0.5	10-Jan-2024	3.33	7
Dibenzo[a,h]anthracene	MW4 SS1	0.1 to 0.5	10-Jan-2024	0.28	0.1
Fluoranthene	MW4 SS1	0.1 to 0.5	10-Jan-2024	5.33	0.69
Fluorene	MW4 SS1	0.1 to 0.5	10-Jan-2024	1.49	62
Indeno[1,2,3-cd]pyrene	MW4 SS1	0.1 to 0.5	10-Jan-2024	1.32	0.38
Methylnaphthalene (1&2)	MW4 SS1	0.1 to 0.5	10-Jan-2024	0.87	0.99
Naphthalene	MW4 SS1	0.1 to 0.5	10-Jan-2024	0.44	0.6
Phenanthrene	MW4 SS1	0.1 to 0.5	10-Jan-2024	5.8	6.2
Pyrene	MW4 SS1	0.1 to 0.5	10-Jan-2024	3.96	78
Petroleum Hydrocarbons					
F1 PHC (C6 - C10) - BTEX	All sampling locations	0.0 to 2.0	All sampling dates	<5	55
F2 PHC (C10-C16)	MW4 SS1	0.1 to 0.5	10-Jan-2024	12	98
F3 PHC (C16-C34)	MW13 SS1	0.3 to 0.9	11-Jan-2024	352	300
F4 PHC (C34-C50)	BH1 SS1	0.1 to 0.45	9-Jan-2024	81	2800
Volatile Organic Compounds					
Acetone	All sampling locations	0.0 to 2.0	All sampling dates	<0.50	16
Benzene	All sampling locations	0.0 to 2.0	All sampling dates	<0.020	0.21
Bromodichloromethane	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	13
Bromoform	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	0.27
Bromomethane	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	0.05
Carbon Tetrachloride	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	0.05
Chlorobenzene	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	2.4
Chloroform	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	0.05
Dibromochloromethane	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	9.4
Dichlorodifluoromethane	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	16
1,2-Dichlorobenzene	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	3.4
1,3-Dichlorobenzene	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	4.8
1,4-Dichlorobenzene	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	0.083
1,1-Dichloroethane	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	3.5
1,2-Dichloroethane	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	0.05
1,1-Dichloroethylene	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	0.05
cis-1,2-Dichloroethylene	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	3.4
trans-1,2-Dichloroethylene	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	0.084
1,2-Dichloropropane	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	0.05
1,3-Dichloropropene, total	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	0.05
Ethylbenzene	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	2
Ethylene dibromide	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	0.05
Hexane	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	2.8
Methyl Ethyl Ketone	All sampling locations	0.0 to 2.0	All sampling dates	<0.50	16
Methyl Isobutyl Ketone	All sampling locations	0.0 to 2.0	All sampling dates	<0.50	1.7
Methyl tert-butyl ether	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	0.75
Methylene Chloride	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	0.1
Styrene	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	0.7
1,1,1,2-Tetrachloroethane	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	0.058
1,1,2,2-Tetrachloroethane	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	0.5
Tetrachloroethylene	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	0.28
Toluene	All sampling locations	0.0 to 2.0	All sampling dates	<0.020	2.3
1,1,1-Trichloroethane	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	0.38
1,1,2-Trichloroethane	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	0.05
Trichloroethylene	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	0.061
Trichlorofluoromethane	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	4
Vinyl Chloride	All sampling locations	0.0 to 2.0	All sampling dates	<0.020	0.02
Total Xylenes	All sampling locations	0.0 to 2.0	All sampling dates	<0.050	3.1

NOTES:
Results are shown in ppm unless otherwise indicated
NV - No value
Non-detectable results are shown as "< (RDL)" where RDL represents the reporting detection limit.

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 7 Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional Property Use Property Use (coarse textured soils)

Table 8 - Maximum Concentration - Groundwater

770 and 775 Bronson Avenue, 557 Cambridge Street, Ottawa, ON

OTT-22019409-A0

Parameter	Sample Location	Screen Depth (mbgs)	Sampling Date	Maximum Concentration	MECP Table 7
Metals and Inorganics					
Antimony	All sampling locations	1.5 to 15.3	All sampling dates	<1.0	16000
Arsenic	MW5	3.0 to 6.0	23-Jan-2024	12.3	1500
Barium	MW5	3.0 to 6.0	23-Jan-2024	561	23000
Beryllium	All sampling locations	1.5 to 15.3	All sampling dates	<0.50	53
Boron	MW10	3.0 to 6.0	23-Jan-2024	692	36000
Cadmium	All sampling locations	1.5 to 15.3	All sampling dates	<0.20	2.1
Chromium	All sampling locations	1.5 to 15.3	All sampling dates	<2.0	640
Cobalt	MW8	3.0 to 6.0	24-Jan-2024	7.37	52
Copper	All sampling locations	1.5 to 15.3	All sampling dates	1.7	69
Lead	All sampling locations	1.5 to 15.3	All sampling dates	<0.50	20
Molybdenum	MW8	3.0 to 6.0	24-Jan-2024	6.88	7300
Nickel	MW8	3.0 to 6.0	24-Jan-2024	19.4	390
Selenium	MW6	3.0 to 6.0	24-Jan-2024	1.2	50
Silver	All sampling locations	1.5 to 15.3	All sampling dates	<0.20	1.2
Thallium	All sampling locations	1.5 to 15.3	All sampling dates	<0.30	400
Uranium	MW8	3.0 to 6.0	24-Jan-2024	5.46	330
Vanadium	MW6	3.0 to 6.0	24-Jan-2024	0.63	200
Zinc	MW4	3.0 to 6.0	25-Jan-2024	5.8	890
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	All sampling locations	1.5 to 15.3	All sampling dates	<0.20	17
Acenaphthylene	All sampling locations	1.5 to 15.3	All sampling dates	<0.20	1
Anthracene	All sampling locations	1.5 to 15.3	All sampling dates	<0.10	1
Benzo[a]anthracene	All sampling locations	1.5 to 15.3	All sampling dates	<0.20	1.8
Benzo[a]pyrene	MW15-1	4.1 to 5.6	18-Aug-2022	0.012	0.81
Benzo[b]fluoranthene	All sampling locations	1.5 to 15.3	All sampling dates	<0.10	0.75
Benzo[g,h,i]perylene	All sampling locations	1.5 to 15.3	All sampling dates	<0.20	0.2
Benzo[k]fluoranthene	All sampling locations	1.5 to 15.3	All sampling dates	<0.10	0.4
Chrysene	All sampling locations	1.5 to 15.3	All sampling dates	<0.10	0.7
Dibenzo[a,h]anthracene	All sampling locations	1.5 to 15.3	All sampling dates	<0.20	0.4
Fluoranthene	All sampling locations	1.5 to 15.3	All sampling dates	<0.20	44
Fluorene	All sampling locations	1.5 to 15.3	All sampling dates	<0.20	290
Indeno[1,2,3-cd]pyrene	All sampling locations	1.5 to 15.3	All sampling dates	<0.20	0.2
Methylnaphthalene (1&2)	All sampling locations	1.5 to 15.3	All sampling dates	<1	1500
Naphthalene	All sampling locations	1.5 to 15.3	All sampling dates	<0.20	7
Phenanthrene	All sampling locations	1.5 to 15.3	All sampling dates	<0.10	380
Pyrene	All sampling locations	1.5 to 15.3	All sampling dates	<0.20	5.7
Petroleum Hydrocarbons					
F1 PHC (C6 - C10) - BTEX	All sampling locations	1.5 to 15.3	All sampling dates	<5	420
F2 PHC (C10-C16)	All sampling locations	1.5 to 15.3	All sampling dates	<100	150
F3 PHC (C16-C34)	All sampling locations	1.5 to 15.3	All sampling dates	<400	500
F4 PHC (C34-C50)	All sampling locations	1.5 to 15.3	All sampling dates	<400	500
Volatile Organic Compounds					
Acetone	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 30	100000
Benzene	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 0.5	0.5
Bromodichloromethane	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 2	67000
Bromoform	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 5	5
Bromomethane	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 0.5	0.89
Carbon Tetrachloride	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 0.2	0.2
Chlorobenzene	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 0.5	140
Chloroform	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 1	2
Dibromochloromethane	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 2	65000
Dichlorodifluoromethane	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 2	3500
1,2-Dichlorobenzene	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 0.5	150
1,3-Dichlorobenzene	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 0.5	7600
1,4-Dichlorobenzene	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 0.5	0.5
1,1-Dichloroethane	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 0.5	11
1,2-Dichloroethane	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 0.5	0.5
1,1-Dichloroethylene	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 0.5	0.5
cis-1,2-Dichloroethylene	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 0.5	1.6
trans-1,2-Dichloroethylene	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 0.5	1.6
1,2-Dichloropropane	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 0.5	0.58
1,3-Dichloropropene, total	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 0.5	0.5
Ethylbenzene	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 0.5	54
Ethylene dibromide	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 0.2	0.2
Hexane	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 5	5
Methyl Ethyl Ketone	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 20	21000
Methyl Isobutyl Ketone	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 20	5200
Methyl tert-butyl ether	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 2	15
Methylene Chloride	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 5	26
Styrene	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 0.5	43
1,1,1,2-Tetrachloroethane	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 0.5	1.1
1,1,2,2-Tetrachloroethane	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 0.5	0.5
Tetrachloroethylene	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 0.5	0.5
Toluene	MW5	3.0 to 6.0	24-Jan-2024	1.24	320
1,1,1-Trichloroethane	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 0.5	23
1,1,2-Trichloroethane	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 0.5	0.5
Trichloroethylene	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 0.5	0.5
Trichlorofluoromethane	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 5	2000
Vinyl Chloride	MW15-1, MW15-2, MW15-3, MW15-5	4.1 to 15.3	11-Aug-2022	< 0.2	0.50
Xylenes, total	MW13	3.6 to 6.6	23-Jan-2024	1.34	72

NOTES:

Results are shown in ppb unless otherwise indicated

NV - No value

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

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 7 Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional Property Use Property Use (coarse textured soils)

Table 9 - Relative Percent Differences - PHC and VOC in Soil
770 and 775 Bronson Avenue, 557 Cambridge Street, Ottawa, ON
OTT-22019409-A0

Parameter	Units	RDL	MW8 SS1	DUP1	RPD (%)	Alert Limit (%)
			10-Jan-2024	10-Jan-2024		
Petroleum Hydrocarbons						
F1 PHC (C6 - C10) - BTEX	ug/g dry	7	<10	<10	nc	60
F2 PHC (C10-C16)	ug/g dry	4	<10	<10	nc	60
F3 PHC (C16-C34)	ug/g dry	8	<50	<50	nc	60
F4 PHC (C34-C50)	ug/g dry	6	<50	140	nc	60
Volatiles						
Acetone	ug/g dry	0.50	<0.50	<0.50	nc	100
Benzene	ug/g dry	0.02	<0.020	<0.020	nc	100
Bromodichloromethane	ug/g dry	0.05	<0.050	<0.050	nc	100
Bromoform	ug/g dry	0.05	<0.050	<0.050	nc	100
Bromomethane	ug/g dry	0.05	<0.050	<0.050	nc	100
Carbon Tetrachloride	ug/g dry	0.05	<0.050	<0.050	nc	100
Chlorobenzene	ug/g dry	0.05	<0.050	<0.050	nc	100
Chloroform	ug/g dry	0.05	<0.050	<0.050	nc	100
Dibromochloromethane	ug/g dry	0.05	<0.050	<0.050	nc	100
Dichlorodifluoromethane	ug/g dry	0.05	<0.050	<0.050	nc	100
1,2-Dichlorobenzene	ug/g dry	0.05	<0.050	<0.050	nc	100
1,3-Dichlorobenzene	ug/g dry	0.05	<0.050	<0.050	nc	100
1,4-Dichlorobenzene	ug/g dry	0.05	<0.050	<0.050	nc	100
1,1-Dichloroethane	ug/g dry	0.05	<0.050	<0.050	nc	100
1,2-Dichloroethane	ug/g dry	0.05	<0.050	<0.050	nc	100
1,1-Dichloroethylene	ug/g dry	0.05	<0.050	<0.050	nc	100
cis-1,2-Dichloroethylene	ug/g dry	0.05	<0.050	<0.050	nc	100
trans-1,2-Dichloroethylene	ug/g dry	0.05	<0.050	<0.050	nc	100
1,2-Dichloropropane	ug/g dry	0.05	<0.050	<0.050	nc	100
cis-1,3-Dichloropropylene	ug/g dry	0.05	<0.030	<0.030	nc	100
trans-1,3-Dichloropropylene	ug/g dry	0.05	<0.040	<0.040	nc	100
1,3-Dichloropropene, total	ug/g dry	0.05	<0.050	<0.050	nc	100
Ethylbenzene	ug/g dry	0.05	<0.050	<0.050	nc	100
Ethylene dibromide (dibromoethane, 1,2-)	ug/g dry	0.05	<0.050	<0.050	nc	100
Hexane	ug/g dry	0.05	<0.050	<0.050	nc	100
Methyl Ethyl Ketone (2-Butanone)	ug/g dry	0.50	<0.50	<0.50	nc	100
Methyl Isobutyl Ketone	ug/g dry	0.50	<0.50	<0.50	nc	100
Methyl tert-butyl ether	ug/g dry	0.05	<0.050	<0.050	nc	100
Methylene Chloride	ug/g dry	0.05	<0.050	<0.050	nc	100
Styrene	ug/g dry	0.05	<0.050	<0.050	nc	100
1,1,1,2-Tetrachloroethane	ug/g dry	0.05	<0.050	<0.050	nc	100
1,1,2,2-Tetrachloroethane	ug/g dry	0.05	<0.050	<0.050	nc	100
Tetrachloroethylene	ug/g dry	0.05	<0.050	<0.050	nc	100
Toluene	ug/g dry	0.05	<0.020	<0.020	nc	100
1,1,1-Trichloroethane	ug/g dry	0.05	<0.050	<0.050	nc	100
1,1,2-Trichloroethane	ug/g dry	0.05	<0.050	<0.050	nc	100
Trichloroethylene	ug/g dry	0.05	<0.050	<0.050	nc	100
Trichlorofluoromethane	ug/g dry	0.05	<0.050	<0.050	nc	100
Vinyl Chloride	ug/g dry	0.02	<0.020	<0.020	nc	100
m/p-Xylene	ug/g dry	0.05	<0.020	<0.020	nc	100
o-Xylene	ug/g dry	0.05	<0.020	<0.020	nc	100
Xylenes, total	ug/g dry	0.05	<0.050	<0.050	nc	100

NOTES:

All results on dry weight basis; Non-detectable results are shown as "< (RDL)" where RDL represents the reporting detection limit.

- means "not analysed"

nc means "not calculable" - one (or both) of the results are <5x RDL

Exceedances of alert limits are shown in **bold**

Table 10 - Relative Percent Differences - PAH in Soil
770 and 775 Bronson Avenue, 557 Cambridge Street, Ottawa, ON
OTT-22019409-A0

Parameter	Units	RDL	MW8 SS1	DUP1	RPD (%)	Alert Limit (%)
			10-Jan-2024	10-Jan-2024		
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	ug/g dry	0.02	<0.0050	<0.0050	nc	80
Acenaphthylene	ug/g dry	0.02	<0.0050	<0.0050	nc	80
Anthracene	ug/g dry	0.02	<0.0050	<0.0050	nc	80
Benzo[a]anthracene	ug/g dry	0.02	<0.0050	0.02	nc	80
Benzo[a]pyrene	ug/g dry	0.02	<0.0050	0.02	nc	80
Benzo[b]fluoranthene	ug/g dry	0.02	<0.010	0.035	nc	80
Benzo[g,h,i]perylene	ug/g dry	0.02	<0.0050	0.015	nc	80
Benzo[k]fluoranthene	ug/g dry	0.02	<0.0050	0.0099	nc	80
Chrysene	ug/g dry	0.02	<0.0050	0.02	nc	80
Dibenzo[a,h]anthracene	ug/g dry	0.02	<0.0050	<0.0050	nc	80
Fluoranthene	ug/g dry	0.02	0.0084	0.035	nc	80
Fluorene	ug/g dry	0.02	<0.0050	<0.0050	nc	80
Indeno[1,2,3-cd]pyrene	ug/g dry	0.02	<0.0050	0.0099	nc	80
Methylnaphthalene (1&2)	ug/g dry	0.04	<0.0071	<0.0071	nc	80
Naphthalene	ug/g dry	0.01	<0.0050	<0.0050	nc	80
Phenanthrene	ug/g dry	0.02	<0.0050	0.02	nc	80
Pyrene	ug/g dry	0.02	0.0084	0.03	nc	80

NOTES:

Analysis by Paracel Labratories Ltd.

All results on dry weight basis; Non-detectable results are shown as "ND (RDL)" where RDL represents the reporting detection limit.

- means "not analysed"

nc means "not calculable" - one (or both) of the results are <5x RDL

Exceedances of alert limits are shown in **bold**

Table 11 - Relative Percent Differences - Inorganics in Soil
770 and 775 Bronson Avenue, 557 Cambridge Street, Ottawa, ON
OTT-22019409-A0

Parameter	Units	RDL	MW8 SS1	DUP1	RPD (%)	Alert Limit (%)
			10-Jan-2024	10-Jan-2024		
Metals						
Antimony	ug/g dry	1.0	<0.8	<0.8	nc	60
Arsenic	ug/g dry	1.0	8	9	12	60
Barium	ug/g dry	1.0	44.2	45.5	3	60
Beryllium	ug/g dry	0.5	<0.5	<0.5	nc	60
Boron	ug/g dry	5.0	6	6	nc	60
Cadmium	ug/g dry	0.5	<0.5	<0.5	nc	60
Chromium	ug/g dry	5.0	12	10	nc	60
Cobalt	ug/g dry	1.0	8.2	8.4	2	60
Copper	ug/g dry	5.0	12	9.6	nc	60
Lead	ug/g dry	1.0	46	36	24	60
Molybdenum	ug/g dry	1.0	3.5	3.9	nc	60
Nickel	ug/g dry	5.0	15	15	nc	60
Selenium	ug/g dry	1.0	<0.8	<0.8	nc	60
Silver	ug/g dry	0.3	<0.5	<0.5	nc	60
Thallium	ug/g dry	1.0	<0.5	<0.5	nc	60
Uranium	ug/g dry	1.0	0.7	0.7	nc	60
Vanadium	ug/g dry	10.0	16.7	12.7	nc	60
Zinc	ug/g dry	20.0	28	21	nc	60

NOTES:

All results on dry weight basis; Non-detectable results are shown as "< (RDL)" where RDL represents the reporting detection limit.

- means "not analysed"

nc means "not calculable" - one (or both) of the results are <5x RDL

Exceedances of alert limits are shown in **bold**

Table 12 - Relative Percent Differences - PHC and VOC in Groundwater
770 and 775 Bronson Avenue, 557 Cambridge Street, Ottawa, ON
OTT-22019409-A0

Parameter	Units	RDL	MW15-5	DUP 1	RPD (%)	Alert Limit (%)
			11-Aug-2022	11-Aug-2022		
Petroleum Hydrocarbons						
F1 PHC (C6 - C10) - BTEX	ug/L	25	< 25	< 25	nc	60
F2 PHC (C10-C16)	ug/L	100	< 50	< 50	nc	60
F3 PHC (C16-C34)	ug/L	100	< 400	< 400	nc	60
F4 PHC (C34-C50)	ug/L	100	< 400	< 400	nc	60
Volatiles						
Acetone	ug/L	5.0	< 30	< 30	nc	60
Benzene	ug/L	0.5	< 0.5	< 0.5	nc	60
Bromodichloromethane	ug/L	0.5	< 2	< 2	nc	60
Bromoform	ug/L	0.5	< 5	< 5	nc	60
Bromomethane	ug/L	0.5	< 0.5	< 0.5	nc	60
Carbon Tetrachloride	ug/L	0.2	< 0.2	< 0.2	nc	60
Chlorobenzene	ug/L	0.5	< 0.5	< 0.5	nc	60
Chloroform	ug/L	0.5	< 1	< 1	nc	60
Dibromochloromethane	ug/L	0.5	< 2	< 2	nc	60
Dichlorodifluoromethane	ug/L	1.0	< 2	< 2	nc	60
1,2-Dichlorobenzene	ug/L	0.5	< 0.5	< 0.5	nc	60
1,3-Dichlorobenzene	ug/L	0.5	< 0.5	< 0.5	nc	60
1,4-Dichlorobenzene	ug/L	0.5	< 0.5	< 0.5	nc	60
1,1-Dichloroethane	ug/L	0.5	< 0.5	< 0.5	nc	60
1,2-Dichloroethane	ug/L	0.5	< 0.5	< 0.5	nc	60
1,1-Dichloroethylene	ug/L	0.5	< 0.5	< 0.5	nc	60
cis-1,2-Dichloroethylene	ug/L	0.5	< 0.5	< 0.5	nc	60
trans-1,2-Dichloroethylene	ug/L	0.5	< 0.5	< 0.5	nc	60
1,2-Dichloropropane	ug/L	0.5	< 0.5	< 0.5	nc	60
cis-1,3-Dichloropropylene	ug/L	0.5	< 0.5	< 0.5	nc	60
trans-1,3-Dichloropropylene	ug/L	0.5	< 0.5	< 0.5	nc	60
1,3-Dichloropropene, total	ug/L	0.5	< 0.5	< 0.5	nc	60
Ethylbenzene	ug/L	0.5	< 0.5	< 0.5	nc	60
Ethylene dibromide (dibromoethane, 1,2-)	ug/L	0.2	< 0.2	< 0.2	nc	60
Hexane	ug/L	1.0	< 5	< 5	nc	60
Methyl Ethyl Ketone (2-Butanone)	ug/L	5.0	< 20	< 20	nc	60
Methyl Isobutyl Ketone	ug/L	5.0	< 20	< 20	nc	60
Methyl tert-butyl ether	ug/L	2.0	< 2	< 2	nc	60
Methylene Chloride	ug/L	5.0	< 5	< 5	nc	60
Styrene	ug/L	0.5	< 0.5	< 0.5	nc	60
1,1,1,2-Tetrachloroethane	ug/L	0.5	< 0.5	< 0.5	nc	60
1,1,2,2-Tetrachloroethane	ug/L	0.5	< 0.5	< 0.5	nc	60
Tetrachloroethylene	ug/L	0.5	< 0.5	< 0.5	nc	60
Toluene	ug/L	0.5	< 0.5	< 0.5	nc	60
1,1,1-Trichloroethane	ug/L	0.5	< 0.5	< 0.5	nc	60
1,1,2-Trichloroethane	ug/L	0.5	< 0.5	< 0.5	nc	60
Trichloroethylene	ug/L	0.5	< 0.5	< 0.5	nc	60
Trichlorofluoromethane	ug/L	1.0	< 5	< 5	nc	60
Vinyl Chloride	ug/L	0.5	< 0.2	< 0.2	nc	60
m/p-Xylene	ug/L	0.5	< 1.0	< 1.0	nc	60
o-Xylene	ug/L	0.5	< 0.5	< 0.5	nc	60
Xylenes, total	ug/L	0.5	< 1.1	< 1.1	nc	60

NOTES:

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

- means "not analysed"

nc means "not calculable" - one (or both) of the results are <5x RDL

Exceedances of alert limits are shown in **bold**

Table 12 - Relative Percent Differences - PHC and VOC in Groundwater
770 and 775 Bronson Avenue, 557 Cambridge Street, Ottawa, ON
OTT-22019409-A0

Parameter	Units	RDL	MW7	DUP1	RPD (%)	Alert Limit (%)
			24-Jan-2024	24-Jan-2024		
Petroleum Hydrocarbons						
F1 PHC (C6 - C10) - BTEX	ug/L	25	<25	<25	nc	60
F2 PHC (C10-C16)	ug/L	100	<100	<100	nc	60
F3 PHC (C16-C34)	ug/L	100	<200	<200	nc	60
F4 PHC (C34-C50)	ug/L	100	<200	<200	nc	60
Volatiles						
Acetone	ug/L	5.0	<1.0	<1.0	nc	60
Benzene	ug/L	0.5	<0.20	<0.20	nc	60
Bromodichloromethane	ug/L	0.5	<0.20	<0.20	nc	60
Bromoform	ug/L	0.5	<0.10	<0.10	nc	60
Bromomethane	ug/L	0.5	<0.20	<0.20	nc	60
Carbon Tetrachloride	ug/L	0.2	<0.20	<0.20	nc	60
Chlorobenzene	ug/L	0.5	<0.10	<0.10	nc	60
Chloroform	ug/L	0.5	<0.20	<0.20	nc	60
Dibromochloromethane	ug/L	0.5	<0.10	<0.10	nc	60
Dichlorodifluoromethane	ug/L	1.0	<0.40	<0.40	nc	60
1,2-Dichlorobenzene	ug/L	0.5	<0.10	<0.10	nc	60
1,3-Dichlorobenzene	ug/L	0.5	<0.10	<0.10	nc	60
1,4-Dichlorobenzene	ug/L	0.5	<0.10	<0.10	nc	60
1,1-Dichloroethane	ug/L	0.5	<0.30	<0.30	nc	60
1,2-Dichloroethane	ug/L	0.5	<0.20	<0.20	nc	60
1,1-Dichloroethylene	ug/L	0.5	<0.30	<0.30	nc	60
cis-1,2-Dichloroethylene	ug/L	0.5	<0.20	<0.20	nc	60
trans-1,2-Dichloroethylene	ug/L	0.5	<0.20	<0.20	nc	60
1,2-Dichloropropane	ug/L	0.5	<0.20	<0.20	nc	60
cis-1,3-Dichloropropylene	ug/L	0.5	<0.30	<0.30	nc	60
trans-1,3-Dichloropropylene	ug/L	0.5	<0.10	<0.10	nc	60
1,3-Dichloropropene, total	ug/L	0.5	<0.10	<0.10	nc	60
Ethylbenzene	ug/L	0.5	<0.20	<0.20	nc	60
Ethylene dibromide (dibromoethane, 1,2-)	ug/L	0.2	<1.0	<1.0	nc	60
Hexane	ug/L	1.0	<1.0	<1.0	nc	60
Methyl Ethyl Ketone (2-Butanone)	ug/L	5.0	<0.20	<0.20	nc	60
Methyl Isobutyl Ketone	ug/L	5.0	<0.30	<0.30	nc	60
Methyl tert-butyl ether	ug/L	2.0	<0.10	<0.10	nc	60
Methylene Chloride	ug/L	5.0	<0.10	<0.10	nc	60
Styrene	ug/L	0.5	<0.10	<0.10	nc	60
1,1,1,2-Tetrachloroethane	ug/L	0.5	<0.20	<0.20	nc	60
1,1,2,2-Tetrachloroethane	ug/L	0.5	<0.20	<0.20	nc	60
Tetrachloroethylene	ug/L	0.5	<0.30	<0.30	nc	60
Toluene	ug/L	0.5	<0.20	<0.20	nc	60
1,1,1-Trichloroethane	ug/L	0.5	<0.20	<0.20	nc	60
1,1,2-Trichloroethane	ug/L	0.5	<0.40	<0.40	nc	60
Trichloroethylene	ug/L	0.5	<0.17	<0.17	nc	60
Trichlorofluoromethane	ug/L	1.0	<0.20	<0.20	nc	60
Vinyl Chloride	ug/L	0.5	<0.20	<0.20	nc	60
Xylenes, total	ug/L	0.5	<0.20	<0.20	nc	60

NOTES:

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

\- means "not analysed"

nc means "not calculable" - one (or both) of the results are <5x RDL

Exceedances of alert limits are shown in **bold**

Table 13 - Relative Percent Differences - PAH in Groundwater
770 and 775 Bronson Avenue, 557 Cambridge Street, Ottawa, ON
OTT-22019409-A0

Parameter	Units	RDL	MW15-5	DUP 1	RPD (%)	Alert Limit (%)
			11-Aug-2022	11-Aug-2022		
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	ug/L	0.05	< 0.05	< 0.05	nc	60
Acenaphthylene	ug/L	0.05	< 0.05	< 0.05	nc	60
Anthracene	ug/L	0.01	< 0.05	< 0.05	nc	60
Benzo[a]anthracene	ug/L	0.01	< 0.05	< 0.05	nc	60
Benzo[a]pyrene	ug/L	0.01	< 0.01	< 0.01	nc	60
Benzo[b]fluoranthene	ug/L	0.05	< 0.05	< 0.05	nc	60
Benzo[g,h,i]perylene	ug/L	0.05	< 0.05	< 0.05	nc	60
Benzo[k]fluoranthene	ug/L	0.05	< 0.05	< 0.05	nc	60
Chrysene	ug/L	0.05	< 0.05	< 0.05	nc	60
Dibenzo[a,h]anthracene	ug/L	0.05	< 0.05	< 0.05	nc	60
Fluoranthene	ug/L	0.01	< 0.05	< 0.05	nc	60
Fluorene	ug/L	0.05	< 0.05	< 0.05	nc	60
Indeno[1,2,3-cd]pyrene	ug/L	0.05	< 0.05	< 0.05	nc	60
1-Methylnaphthalene	ug/L	0.05	< 0.05	< 0.05	nc	60
2-Methylnaphthalene	ug/L	0.05	< 0.05	< 0.05	nc	60
Methylnaphthalene (1&2)	ug/L	0.10	< 1	< 1	nc	60
Naphthalene	ug/L	0.05	< 0.05	< 0.05	nc	60
Phenanthrene	ug/L	0.05	< 0.05	< 0.05	nc	60
Pyrene	ug/L	0.01	< 0.05	< 0.05	mc	60

NOTES:

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

- means "not analysed"

nc means "not calculable" - one (or both) of the results are <5x RDL

Exceedances of alert limits are shown in **bold**

Parameter	Units	RDL	MW7	DUP1	RPD (%)	Alert Limit (%)
			24-Jan-2024	24-Jan-2024		
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	ug/L	0.05	<0.20	<0.20	nc	60
Acenaphthylene	ug/L	0.05	<0.20	<0.20	nc	60
Anthracene	ug/L	0.01	<0.10	<0.10	nc	60
Benzo[a]anthracene	ug/L	0.01	<0.20	<0.20	nc	60
Benzo[a]pyrene	ug/L	0.01	<0.01	<0.01	nc	60
Benzo[b]fluoranthene	ug/L	0.05	<0.10	<0.10	nc	60
Benzo[g,h,i]perylene	ug/L	0.05	<0.20	<0.20	nc	60
Benzo[k]fluoranthene	ug/L	0.05	<0.10	<0.10	nc	60
Chrysene	ug/L	0.05	<0.10	<0.10	nc	60
Dibenzo[a,h]anthracene	ug/L	0.05	<0.20	<0.20	nc	60
Fluoranthene	ug/L	0.01	<0.20	<0.20	nc	60
Fluorene	ug/L	0.05	<0.20	<0.20	nc	60
Indeno[1,2,3-cd]pyrene	ug/L	0.05	<0.20	<0.20	nc	60
Methylnaphthalene (1&2)	ug/L	0.10	<0.20	<0.20	nc	60
Naphthalene	ug/L	0.05	<0.20	<0.20	nc	60
Phenanthrene	ug/L	0.05	<0.10	<0.10	nc	60
Pyrene	ug/L	0.01	<0.20	<0.20	mc	60

NOTES:

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

- means "not analysed"

nc means "not calculable" - one (or both) of the results are <5x RDL

Exceedances of alert limits are shown in **bold**

Table 14 - Relative Percent Differences - Metals in Groundwater

770 and 775 Bronson Avenue, 557 Cambridge Street, Ottawa, ON

OTT-22019409-A0

Parameter	Units	RDL	MW7	DUP1	RPD (%)	Alert Limit (%)
			24-Jan-2024	24-Jan-2024		
Metals						
Antimony	ug/L	0.5	<0.50	0.62	nc	40
Arsenic	ug/L	1	<1.0	<1.0	nc	40
Barium	ug/L	1	190	77	**85**	40
Beryllium	ug/L	0.5	<0.50	<0.50	nc	40
Boron	ug/L	10	61	300	**132**	40
Cadmium	ug/L	0.1	<0.10	<0.10	nc	40
Chromium	ug/L	1	<5.0	<5.0	nc	40
Cobalt	ug/L	0.5	1.1	1.2	nc	40
Copper	ug/L	0.5	1.7	1.7	nc	40
Lead	ug/L	0.1	<0.50	<0.50	nc	40
Molybdenum	ug/L	0.5	2	4.7	nc	40
Nickel	ug/L	1	2.5	3.4	nc	40
Selenium	ug/L	1	460000	520000	12	40
Silver	ug/L	0.1	<2.0	2.9	nc	40
Sodium	ug/L	200	<0.10	<0.10	nc	40
Thallium	ug/L	0.1	<0.050	0.074	nc	40
Uranium	ug/L	0.1	1.8	3.1	**53**	40
Vanadium	ug/L	0.5	<0.50	<0.50	nc	40
Zinc	ug/L	5	<5.0	<5.0	nc	40

NOTES:

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

- means "not analysed"

nc means "not calculable" - one (or both) of the results are <5x RDL

Exceedances of alert limits are shown in **bold**

Appendix G: Laboratory Certificates of Analysis

AGAT Laboratories

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**
2650 QUEENSVIEW DRIVE, UNIT 100
OTTAWA, ON K2B8H6
(613) 688-1899
ATTENTION TO: **Mark McCalla**
PROJECT: **OTT-22019409-A0**
AGAT WORK ORDER: **24Z110204**
SOIL ANALYSIS REVIEWED BY: **Sukhwinder Randhawa, Inorganic Team Lead**
TRACE ORGANICS REVIEWED BY: **Neli Popnikolova, Senior Chemist**
DATE REPORTED: **Jan 18, 2024**
PAGES (INCLUDING COVER): **16**
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.*

AGAT Laboratories

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

Certificate of Analysis

AGAT WORK ORDER: 24Z110204

PROJECT: OTT-22019409-A0

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Oliveira

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

DATE RECEIVED: 2024-01-10 **DATE REPORTED: 2024-01-18**

SAMPLE DESCRIPTION:				MW5	MW6	MW7	BH1		BH2		BH3
SAMPLE TYPE:				Soil	Soil	Soil	Soil		Soil		Soil
DATE SAMPLED:				2024-01-09 10:00	2024-01-09 12:00	2024-01-09 13:30	2024-01-09 14:30		2024-01-09 14:45		2024-01-09 15:00
Parameter	Unit	G / S	RDL	5579523	5579534	5579535	5579537	RDL	5579538	RDL	5579539
Antimony	µg/g		0.8	<0.8	<0.8	<0.8	<0.8	0.8	0.8	0.8	<0.8
Arsenic	µg/g		1	6	5	5	2	1	18	1	2
Barium	µg/g		2.0	73.6	102	62.8	86.9	2.0	192	2.0	337
Beryllium	µg/g		0.5	<0.5	<0.5	<0.5	<0.5	0.5	0.6	0.5	<0.5
Boron	µg/g		5	5	<5	<5	<5	5	8	5	5
Cadmium	µg/g		0.5	<0.5	<0.5	<0.5	0.9	0.5	3.1	0.5	<0.5
Chromium	µg/g		5	17	21	13	16	5	25	5	6
Cobalt	µg/g		0.8	5.5	5.8	6.4	4.8	0.8	7.6	0.8	2.9
Copper	µg/g		1.0	13.6	16.8	19.1	13.3	1.0	31.3	1.0	4.3
Lead	µg/g		1	58	105	50	136	1	156	1	7
Molybdenum	µg/g		0.5	1.1	1.3	1.5	0.8	0.5	3.1	0.5	0.5
Nickel	µg/g		1	12	13	15	11	1	19	1	8
Selenium	µg/g		0.8	<0.8	<0.8	<0.8	<0.8	0.8	1.2	0.8	<0.8
Silver	µg/g		0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	0.5	<0.5
Thallium	µg/g		0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	0.5	<0.5
Uranium	µg/g		0.50	0.63	0.53	0.52	<0.50	0.50	0.83	0.50	<0.50
Vanadium	µg/g		2.0	20.2	22.9	19.1	23.1	2.0	35.6	2.0	5.8
Zinc	µg/g		5	78	105	69	257	50	3200	5	20

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5579538 Dilution required, RDL has been increased accordingly.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

AGAT Laboratories

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http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 24Z110204

PROJECT: OTT-22019409-A0

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Oliveira

O. Reg. 153(511) - ORPs (Soil)

DATE RECEIVED: 2024-01-10 **DATE REPORTED: 2024-01-18**

				SAMPLE DESCRIPTION:	MW5	MW6	MW7	BH1	BH2	BH3
				SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil
				DATE SAMPLED:	2024-01-09 10:00	2024-01-09 12:00	2024-01-09 13:30	2024-01-09 14:30	2024-01-09 14:45	2024-01-09 15:00
Parameter	Unit	G / S	RDL		5579523	5579534	5579535	5579537	5579538	5579539
Electrical Conductivity (2:1)	mS/cm		0.005		0.278	2.16	0.671	4.16	6.65	3.21
pH, 2:1 CaCl2 Extraction	pH Units		NA		7.93	7.96	8.16	7.94	7.41	8.13
Sodium Adsorption Ratio (2:1) (Calc.)	N/A		N/A		1.52	12.4	7.82	41.3	10.6	16.9

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5579523-5579539 EC was determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil). pH was determined on the 0.01M CaCl2 extract obtained from 2:1 leaching procedure (2 parts extraction fluid:1 part wet soil). SAR is a calculated parameter.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 24Z110204

PROJECT: OTT-22019409-A0

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Oliveira

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

DATE RECEIVED: 2024-01-10 **DATE REPORTED: 2024-01-18**

				SAMPLE DESCRIPTION:	MW5	MW6	MW7	BH1	BH2	BH3
				SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil
				DATE SAMPLED:	2024-01-09 10:00	2024-01-09 12:00	2024-01-09 13:30	2024-01-09 14:30	2024-01-09 14:45	2024-01-09 15:00
Parameter	**Unit**	**G / S**	**RDL**		**5579523**	**5579534**	**5579535**	**5579537**	**5579538**	**5579539**
Naphthalene	µg/g		0.05		<0.05	0.06	<0.05	<0.05	<0.05	0.16
Acenaphthylene	µg/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05	0.06
Acenaphthene	µg/g		0.05		<0.05	<0.05	<0.05	<0.05	0.08	0.28
Fluorene	µg/g		0.05		<0.05	0.14	<0.05	<0.05	0.17	0.54
Phenanthrene	µg/g		0.05		0.17	1.48	<0.05	0.17	1.60	3.96
Anthracene	µg/g		0.05		<0.05	0.38	<0.05	<0.05	0.43	1.20
Fluoranthene	µg/g		0.05		0.35	1.59	<0.05	0.28	1.81	4.17
Pyrene	µg/g		0.05		0.28	1.23	<0.05	0.25	1.50	3.12
Benz(a)anthracene	µg/g		0.05		<0.05	0.15	<0.05	<0.05	0.25	0.89
Chrysene	µg/g		0.05		0.13	0.34	<0.05	0.09	0.58	1.23
Benzo(b)fluoranthene	µg/g		0.05		0.12	0.21	<0.05	<0.05	0.36	0.62
Benzo(k)fluoranthene	µg/g		0.05		0.07	0.13	<0.05	<0.05	0.15	0.33
Benzo(a)pyrene	µg/g		0.05		0.08	0.18	<0.05	<0.05	0.19	0.44
Indeno(1,2,3-cd)pyrene	µg/g		0.05		<0.05	0.06	<0.05	<0.05	0.08	0.16
Dibenz(a,h)anthracene	µg/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g		0.05		<0.05	0.08	<0.05	<0.05	0.12	0.19
1 and 2 Methlynaphthalene	µg/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05	0.23
Moisture Content	%		0.1		14.8	9.4	5.1	5.4	12.6	7.0
Surrogate	**Unit**	**Acceptable Limits**								
Naphthalene-d8	%	50-140			70	70	70	60	70	75
Acridine-d9	%	50-140			70	70	105	85	75	80
Terphenyl-d14	%	50-140			85	70	80	85	75	110

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5579523-5579539 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: NPopowich

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 24Z110204

PROJECT: OTT-22019409-A0

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Oliveira

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

DATE RECEIVED: 2024-01-10 **DATE REPORTED: 2024-01-18**

				SAMPLE DESCRIPTION:	MW5	MW6	MW7	BH1	BH2	BH3
				SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil
				DATE SAMPLED:	2024-01-09 10:00	2024-01-09 12:00	2024-01-09 13:30	2024-01-09 14:30	2024-01-09 14:45	2024-01-09 15:00
Parameter	**Unit**	**G / S**	**RDL**		**5579523**	**5579534**	**5579535**	**5579537**	**5579538**	**5579539**
F1 (C6 to C10)	µg/g		5		<5	<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g		5		<5	<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g		10		<10	<10	<10	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10		<10	<10	<10	<10	<10	<10
F3 (C16 to C34)	µg/g		50		<50	<50	<50	221	<50	<50
F3 (C16 to C34) minus PAHs	µg/g		50		<50	<50	<50	220	<50	<50
F4 (C34 to C50)	µg/g		50		<50	<50	<50	81	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g		50		NA	NA	NA	NA	NA	NA
Moisture Content	%		0.1		14.8	9.4	5.1	5.4	12.6	7.0
Surrogate	**Unit**	**Acceptable Limits**								
Toluene-d8	%	50-140			102	99	103	101	101	106
Terphenyl	%	60-140			83	92	87	100	94	89

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5579523-5579539 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: N Popowich

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 24Z110204

PROJECT: OTT-22019409-A0

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Oliveira

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

DATE RECEIVED: 2024-01-10 **DATE REPORTED: 2024-01-18**

		SAMPLE DESCRIPTION:		MW5	MW6	MW7	BH1	BH2	BH3
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2024-01-09 10:00	2024-01-09 12:00	2024-01-09 13:30	2024-01-09 14:30	2024-01-09 14:45	2024-01-09 15:00
Parameter	Unit	G / S	RDL	5579523	5579534	5579535	5579537	5579538	5579539
Dichlorodifluoromethane	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	ug/g		0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Bromomethane	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acetone	ug/g		0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trans- 1,2-Dichloroethylene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl tert-butyl Ether	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1-Dichloroethane	ug/g		0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Methyl Ethyl Ketone	ug/g		0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cis- 1,2-Dichloroethylene	ug/g		0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	ug/g		0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,2-Dichloroethane	ug/g		0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
1,1,1-Trichloroethane	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzene	ug/g		0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-Dichloropropane	ug/g		0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Trichloroethylene	ug/g		0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Bromodichloromethane	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl Isobutyl Ketone	ug/g		0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	ug/g		0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Toluene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromochloromethane	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylene Dibromide	ug/g		0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Tetrachloroethylene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,1,2-Tetrachloroethane	ug/g		0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Chlorobenzene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Certified By: N Popnikolof

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Certificate of Analysis

AGAT WORK ORDER: 24Z110204

PROJECT: OTT-22019409-A0

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Oliveira

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

DATE RECEIVED: 2024-01-10 **DATE REPORTED: 2024-01-18**

				SAMPLE DESCRIPTION:	MW5	MW6	MW7	BH1	BH2	BH3
				SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil
				DATE SAMPLED:	2024-01-09 10:00	2024-01-09 12:00	2024-01-09 13:30	2024-01-09 14:30	2024-01-09 14:45	2024-01-09 15:00
Parameter	**Unit**	**G / S**	**RDL**		**5579523**	**5579534**	**5579535**	**5579537**	**5579538**	**5579539**
m & p-Xylene	ug/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bromoform	ug/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Styrene	ug/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,2,2-Tetrachloroethane	ug/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
o-Xylene	ug/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,3-Dichlorobenzene	ug/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,4-Dichlorobenzene	ug/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,2-Dichlorobenzene	ug/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	ug/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,3-Dichloropropene (Cis + Trans)	µg/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
n-Hexane	µg/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1		14.8	9.4	5.1	5.4	12.6	7.0
Surrogate	**Unit**	**Acceptable Limits**								
Toluene-d8	% Recovery	50-140			102	99	103	101	101	106
4-Bromofluorobenzene	% Recovery	50-140			80	83	80	78	78	78

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5579523-5579539 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: NPopowich

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Quality Assurance

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z110204

PROJECT: OTT-22019409-A0

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Oliveira

Soil Analysis

RPT Date: Jan 18, 2024			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	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	5579523	5579523	<0.8	<0.8	NA	< 0.8	132%	70%	130%	86%	80%	120%	76%	70%	130%
Arsenic	5579523	5579523	6	5	18.2%	< 1	116%	70%	130%	109%	80%	120%	122%	70%	130%
Barium	5579523	5579523	73.6	70.3	4.6%	< 2.0	102%	70%	130%	99%	80%	120%	114%	70%	130%
Beryllium	5579523	5579523	<0.5	<0.5	NA	< 0.5	102%	70%	130%	113%	80%	120%	107%	70%	130%
Boron	5579523	5579523	5	<5	NA	< 5	74%	70%	130%	103%	80%	120%	92%	70%	130%
Cadmium	5579523	5579523	<0.5	<0.5	NA	< 0.5	118%	70%	130%	100%	80%	120%	118%	70%	130%
Chromium	5579523	5579523	17	15	NA	< 5	96%	70%	130%	107%	80%	120%	120%	70%	130%
Cobalt	5579523	5579523	5.5	5.0	9.5%	< 0.8	101%	70%	130%	109%	80%	120%	121%	70%	130%
Copper	5579523	5579523	13.6	12.2	10.9%	< 1.0	90%	70%	130%	105%	80%	120%	101%	70%	130%
Lead	5579523	5579523	58	52	10.9%	< 1	107%	70%	130%	100%	80%	120%	91%	70%	130%
Molybdenum	5579523	5579523	1.1	1.0	NA	< 0.5	109%	70%	130%	108%	80%	120%	125%	70%	130%
Nickel	5579523	5579523	12	11	8.7%	< 1	103%	70%	130%	108%	80%	120%	115%	70%	130%
Selenium	5579523	5579523	<0.8	<0.8	NA	< 0.8	112%	70%	130%	113%	80%	120%	122%	70%	130%
Silver	5579523	5579523	<0.5	<0.5	NA	< 0.5	124%	70%	130%	102%	80%	120%	109%	70%	130%
Thallium	5579523	5579523	<0.5	<0.5	NA	< 0.5	95%	70%	130%	102%	80%	120%	129%	70%	130%
Uranium	5579523	5579523	0.63	0.58	NA	< 0.50	117%	70%	130%	107%	80%	120%	123%	70%	130%
Vanadium	5579523	5579523	20.2	18.6	8.2%	< 2.0	96%	70%	130%	108%	80%	120%	118%	70%	130%
Zinc	5579523	5579523	78	71	9.4%	< 5	100%	70%	130%	108%	80%	120%	103%	70%	130%

Comments: NA Signifies Not Applicable.
Duplicate NA: results are under 5X the RDL and will not be calculated.
More than 90% of the elements met acceptance limits and overall data quality is acceptable for use. For a multi-element scan up to 10% of analytes may exceed the quoted limits by up to 10% absolute.

O. Reg. 153(511) - ORPs (Soil)									
Electrical Conductivity (2:1)	5579523	5579523	0.278	0.236	16.3%	< 0.005	109%	80%	120%
pH, 2:1 CaCl2 Extraction	5580818		7.75	7.68	0.9%	NA	102%	80%	120%
Sodium Adsorption Ratio (2:1) (Calc.)	5579523	5579523	1.52	1.33	13.3%	NA			

Comments: NA signifies Not Applicable.
pH duplicates QA acceptance criteria was met relative as stated in Table 5-15 of Analytical Protocol document.

Certified By:

AGAT Laboratories

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Quality Assurance

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z110204

PROJECT: OTT-22019409-A0

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Oliveira

Trace Organics Analysis

RPT Date: Jan 18, 2024			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	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 to C10)	5579539	5579539	<5	<5	NA	< 5	128%	60%	140%	112%	60%	140%	90%	60%	140%
F2 (C10 to C16)	5580657		< 10	< 10	NA	< 10	122%	60%	140%	87%	60%	140%	83%	60%	140%
F3 (C16 to C34)	5580657		< 50	< 50	NA	< 50	117%	60%	140%	100%	60%	140%	112%	60%	140%
F4 (C34 to C50)	5580657		< 50	< 50	NA	< 50	67%	60%	140%	89%	60%	140%	98%	60%	140%
O. Reg. 153(511) - VOCs (with PHC) (Soil)															
Dichlorodifluoromethane	5579539	5579539	<0.05	<0.05	NA	< 0.05	118%	50%	140%	109%	50%	140%	79%	50%	140%
Vinyl Chloride	5579539	5579539	<0.02	<0.02	NA	< 0.02	104%	50%	140%	104%	50%	140%	117%	50%	140%
Bromomethane	5579539	5579539	<0.05	<0.05	NA	< 0.05	100%	50%	140%	105%	50%	140%	95%	50%	140%
Trichlorofluoromethane	5579539	5579539	<0.05	<0.05	NA	< 0.05	100%	50%	140%	104%	50%	140%	93%	50%	140%
Acetone	5579539	5579539	<0.50	<0.50	NA	< 0.50	103%	50%	140%	107%	50%	140%	81%	50%	140%
1,1-Dichloroethylene	5579539	5579539	<0.05	<0.05	NA	< 0.05	91%	50%	140%	95%	60%	130%	89%	50%	140%
Methylene Chloride	5579539	5579539	<0.05	<0.05	NA	< 0.05	102%	50%	140%	105%	60%	130%	106%	50%	140%
Trans- 1,2-Dichloroethylene	5579539	5579539	<0.05	<0.05	NA	< 0.05	94%	50%	140%	99%	60%	130%	116%	50%	140%
Methyl tert-butyl Ether	5579539	5579539	<0.05	<0.05	NA	< 0.05	71%	50%	140%	63%	60%	130%	102%	50%	140%
1,1-Dichloroethane	5579539	5579539	<0.02	<0.02	NA	< 0.02	99%	50%	140%	77%	60%	130%	70%	50%	140%
Methyl Ethyl Ketone	5579539	5579539	<0.50	<0.50	NA	< 0.50	99%	50%	140%	104%	50%	140%	95%	50%	140%
Cis- 1,2-Dichloroethylene	5579539	5579539	<0.02	<0.02	NA	< 0.02	95%	50%	140%	79%	60%	130%	75%	50%	140%
Chloroform	5579539	5579539	<0.04	<0.04	NA	< 0.04	93%	50%	140%	84%	60%	130%	75%	50%	140%
1,2-Dichloroethane	5579539	5579539	<0.03	<0.03	NA	< 0.03	97%	50%	140%	99%	60%	130%	100%	50%	140%
1,1,1-Trichloroethane	5579539	5579539	<0.05	<0.05	NA	< 0.05	100%	50%	140%	95%	60%	130%	81%	50%	140%
Carbon Tetrachloride	5579539	5579539	<0.05	<0.05	NA	< 0.05	92%	50%	140%	87%	60%	130%	78%	50%	140%
Benzene	5579539	5579539	<0.02	<0.02	NA	< 0.02	101%	50%	140%	89%	60%	130%	84%	50%	140%
1,2-Dichloropropane	5579539	5579539	<0.03	<0.03	NA	< 0.03	104%	50%	140%	86%	60%	130%	78%	50%	140%
Trichloroethylene	5579539	5579539	<0.03	<0.03	NA	< 0.03	95%	50%	140%	85%	60%	130%	80%	50%	140%
Bromodichloromethane	5579539	5579539	<0.05	<0.05	NA	< 0.05	93%	50%	140%	84%	60%	130%	75%	50%	140%
Methyl Isobutyl Ketone	5579539	5579539	<0.50	<0.50	NA	< 0.50	99%	50%	140%	100%	50%	140%	78%	50%	140%
1,1,2-Trichloroethane	5579539	5579539	<0.04	<0.04	NA	< 0.04	92%	50%	140%	75%	60%	130%	86%	50%	140%
Toluene	5579539	5579539	<0.05	<0.05	NA	< 0.05	105%	50%	140%	97%	60%	130%	89%	50%	140%
Dibromochloromethane	5579539	5579539	<0.05	<0.05	NA	< 0.05	97%	50%	140%	105%	60%	130%	89%	50%	140%
Ethylene Dibromide	5579539	5579539	<0.04	<0.04	NA	< 0.04	94%	50%	140%	106%	60%	130%	73%	50%	140%
Tetrachloroethylene	5579539	5579539	<0.05	<0.05	NA	< 0.05	104%	50%	140%	97%	60%	130%	89%	50%	140%
1,1,1,2-Tetrachloroethane	5579539	5579539	<0.04	<0.04	NA	< 0.04	86%	50%	140%	72%	60%	130%	84%	50%	140%
Chlorobenzene	5579539	5579539	<0.05	<0.05	NA	< 0.05	96%	50%	140%	90%	60%	130%	88%	50%	140%
Ethylbenzene	5579539	5579539	<0.05	<0.05	NA	< 0.05	101%	50%	140%	105%	60%	130%	82%	50%	140%
m & p-Xylene	5579539	5579539	<0.05	<0.05	NA	< 0.05	102%	50%	140%	107%	60%	130%	82%	50%	140%
Bromoform	5579539	5579539	<0.05	<0.05	NA	< 0.05	84%	50%	140%	80%	60%	130%	86%	50%	140%
Styrene	5579539	5579539	<0.05	<0.05	NA	< 0.05	97%	50%	140%	96%	60%	130%	68%	50%	140%
1,1,2,2-Tetrachloroethane	5579539	5579539	<0.05	<0.05	NA	< 0.05	94%	50%	140%	96%	60%	130%	83%	50%	140%
o-Xylene	5579539	5579539	<0.05	<0.05	NA	< 0.05	105%	50%	140%	91%	60%	130%	81%	50%	140%

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Quality Assurance

CLIENT NAME: EXP SERVICES INC
PROJECT: OTT-22019409-A0
SAMPLING SITE:

AGAT WORK ORDER: 24Z110204
ATTENTION TO: Mark McCalla
SAMPLED BY:Philip Oliveira

Trace Organics Analysis (Continued)

RPT Date: Jan 18, 2024			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
1,3-Dichlorobenzene	5579539	5579539	<0.05	<0.05	NA	< 0.05	91%	50%	140%	105%	60%	130%	83%	50%	140%
1,4-Dichlorobenzene	5579539	5579539	<0.05	<0.05	NA	< 0.05	90%	50%	140%	106%	60%	130%	86%	50%	140%
1,2-Dichlorobenzene	5579539	5579539	<0.05	<0.05	NA	< 0.05	87%	50%	140%	104%	60%	130%	81%	50%	140%
n-Hexane	5579539	5579539	<0.05	<0.05	NA	< 0.05	62%	50%	140%	78%	60%	130%	97%	50%	140%
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	5580533		<0.05	<0.05	NA	< 0.05	67%	50%	140%	80%	50%	140%	60%	50%	140%
Acenaphthylene	5580533		<0.05	<0.05	NA	< 0.05	97%	50%	140%	85%	50%	140%	78%	50%	140%
Acenaphthene	5580533		<0.05	<0.05	NA	< 0.05	108%	50%	140%	93%	50%	140%	73%	50%	140%
Fluorene	5580533		<0.05	<0.05	NA	< 0.05	115%	50%	140%	98%	50%	140%	75%	50%	140%
Phenanthrene	5580533		<0.05	<0.05	NA	< 0.05	111%	50%	140%	90%	50%	140%	88%	50%	140%
Anthracene	5580533		<0.05	<0.05	NA	< 0.05	112%	50%	140%	93%	50%	140%	78%	50%	140%
Fluoranthene	5580533		<0.05	<0.05	NA	< 0.05	110%	50%	140%	75%	50%	140%	88%	50%	140%
Pyrene	5580533		<0.05	<0.05	NA	< 0.05	105%	50%	140%	80%	50%	140%	73%	50%	140%
Benz(a)anthracene	5580533		<0.05	<0.05	NA	< 0.05	101%	50%	140%	80%	50%	140%	73%	50%	140%
Chrysene	5580533		<0.05	<0.05	NA	< 0.05	111%	50%	140%	90%	50%	140%	80%	50%	140%
Benzo(b)fluoranthene	5580533		<0.05	<0.05	NA	< 0.05	75%	50%	140%	78%	50%	140%	78%	50%	140%
Benzo(k)fluoranthene	5580533		<0.05	<0.05	NA	< 0.05	77%	50%	140%	95%	50%	140%	73%	50%	140%
Benzo(a)pyrene	5580533		<0.05	<0.05	NA	< 0.05	112%	50%	140%	93%	50%	140%	93%	50%	140%
Indeno(1,2,3-cd)pyrene	5580533		<0.05	<0.05	NA	< 0.05	68%	50%	140%	73%	50%	140%	93%	50%	140%
Dibenz(a,h)anthracene	5580533		<0.05	<0.05	NA	< 0.05	71%	50%	140%	85%	50%	140%	73%	50%	140%
Benzo(g,h,i)perylene	5580533		<0.05	<0.05	NA	< 0.05	75%	50%	140%	110%	50%	140%	90%	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: N Popnikolof

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QC Exceedance

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z110204

PROJECT: OTT-22019409-A0

ATTENTION TO: Mark McCalla

RPT Date: Jan 18, 2024		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	5579523	132%	70%	130%	86%	80%	120%	76%	70%	130%

Comments: NA Signifies Not Applicable.
Duplicate NA: results are under 5X the RDL and will not be calculated.
More than 90% of the elements met acceptance limits and overall data quality is acceptable for use. For a multi-element scan up to 10% of analytes may exceed the quoted limits by up to 10% absolute.

AGAT Laboratories

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Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z110204

PROJECT: OTT-22019409-A0

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Oliveira

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
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
Electrical Conductivity (2:1)	INOR-93-6075	modified from MSA PART 3, CH 14 and SM 2510 B	PC TITRATE
pH, 2:1 CaCl2 Extraction	INOR-93-6075	modified from EPA 9045D, MCKEAGUE 3.11 E3137	PC TITRATE
Sodium Adsorption Ratio (2:1) (Calc.)	INOR-93-6007	modified from EPA 6010D & Analytical Protocol	ICP/OES

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Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z110204

PROJECT: OTT-22019409-A0

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Oliveira

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
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 Methlynaphthalene	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 to 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

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Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z110204

PROJECT: OTT-22019409-A0

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Oliveira

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

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Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z110204

PROJECT: OTT-22019409-A0

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SAMPLING SITE:

SAMPLED BY:Philip Oliveira

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

AGAT Laboratories

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Mississauga, Ontario L4Z 1Y2
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Chain of Custody Record

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

Laboratory Use Only

Work Order #: 24Z110204

Cooler Quantity: one ice packs

Arrival Temperatures: 9.6 | 8.4 | 8.1
5-8 | 5-2 | 5-4

Custody Seal Intact: ☐ Yes ☐ No ☐ N/A

Notes: bagged

Report Information:

Company: EXP SERVICES INC
Contact: Mark McCalla
Address: 2650 QUEENSVIEW DR.
OTTAWA
Phone: 613-688-1899 Fax:
Reports to be sent to:
1. Email: Mark.McCalla@exp.com
2. Email: Philip.Oliveira@exp.com

Regulatory Requirements:

(Please check all applicable boxes)

☒ Regulation 153/04
Table _____ *Indicate One*
☐ Ind/Com ☐ Res/Park ☐ Agriculture
Soil Texture *(Check One)* ☐ Coarse ☐ Fine

☐ Excess Soils R406
Table _____ *Indicate One*
☐ Regulation 558
☐ CCME

☐ Sewer Use ☐ Sanitary ☐ Storm
_____ *Region*
☐ Prov. Water Quality Objectives (PWQO)
☐ Other
_____ *Indicate One*

Turnaround Time (TAT) Required:

Regular TAT ☒ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply):

Please provide prior notification for rush TAT
**TAT is exclusive of weekends and statutory holidays*

For 'Same Day' analysis, please contact your AGAT CPM

Project Information:

Project: OTT-220 19409-A0
Site Location:
Sampled By: Philip Oliveira
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Is this submission for a **Record of Site Condition?** ☐ Yes ☐ No

Report Guideline on *Certificate of Analysis* ☐ Yes ☐ No

Invoice Information:

Bill To Same: Yes ☒ No ☐

Company: EXP SERVICES INC
Contact: Accounts payable
Address: 2650 QUEENSVIEW DR
Email:

Sample Matrix Legend

B	Biota
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	Field Filtered - Metals, Hg, CrVI, DOC Y/N	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs, Analyze F4G if required ☐ Yes ☐ No	O. Reg 153: PAHs	O. Reg 153: PCBs	O. Reg 153: VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Soil: EC/SAR		Potentially Hazardous or High Concentration (Y/N)
MW 5	Jan 09/24	10h00 AM PM	5	S			X	X	X	X		X				X	X	
MW 6		12h00 AM PM																
MW 7		13h30 AM PM																
BH1		14h30 AM PM																
BH2		14h45 AM PM																
BH3		15h00 AM PM																
		AM PM																
		AM PM																
		AM PM																
		AM PM																
		AM PM																

Samples Relinquished By (Print Name and Sign): PHILIP OLIVEIRA	Date: 01-05-24	Time: 17h00	Samples Received By (Print Name and Sign): C. Guthrie	Date: 01/10/24	Time: 08h05
Samples Relinquished By (Print Name and Sign):	Date:	Time:	Samples Received By (Print Name and Sign): TN	Date: Jan 11	Time: 8:50 AM
Samples Relinquished By (Print Name and Sign): CC to PWQO	Date: 01/10/24	Time: 15h30	Samples Received By (Print Name and Sign):	Date:	Time:

Page 1 of 1

N°: T 129318

Document ID: DIV-78-1511-001

Pink Copy - Client | Yellow Copy - AGAT | White Copy- AGAT

Revised: March 19, 2021

AGAT Laboratories

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CLIENT NAME: **EXP SERVICES INC**
2650 QUEENSVIEW DRIVE, UNIT 100
OTTAWA, ON K2B8H6
(613) 688-1899
ATTENTION TO: **Mark McCalla**
PROJECT: **OTT-22019409-A0**
AGAT WORK ORDER: **24Z110615**
SOIL ANALYSIS REVIEWED BY: **Nivine Basily, Inorganic Team Lead**
TRACE ORGANICS REVIEWED BY: **Neli Popnikolova, Senior Chemist**
DATE REPORTED: **Jan 19, 2024**
PAGES (INCLUDING COVER): **16**
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.*

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Certificate of Analysis

AGAT WORK ORDER: 24Z110615

PROJECT: OTT-22019409-A0

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Oliverira

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

DATE RECEIVED: 2024-01-10 **DATE REPORTED: 2024-01-15**

		SAMPLE DESCRIPTION:		MW4	MW8	MW9	MW10	Dup1
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2024-01-10 09:45	2024-01-10 11:50	2024-01-10 13:00	2024-01-10 14:00	2024-01-10 15:00
Parameter	Unit	G / S	RDL	5580650	5580654	5580655	5580656	5580657
Antimony	µg/g		0.8	2.2	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g		1	8	8	3	2	9
Barium	µg/g		2.0	87.8	44.2	76.9	73.1	45.5
Beryllium	µg/g		0.5	<0.5	<0.5	0.5	<0.5	<0.5
Boron	µg/g		5	7	6	7	6	6
Cadmium	µg/g		0.5	0.6	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g		5	21	12	18	17	10
Cobalt	µg/g		0.8	4.4	8.2	6.4	5.9	8.4
Copper	µg/g		1.0	26.7	12.0	14.7	14.7	9.6
Lead	µg/g		1	106	46	7	6	36
Molybdenum	µg/g		0.5	1.8	3.5	0.7	<0.5	3.9
Nickel	µg/g		1	16	15	14	12	15
Selenium	µg/g		0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Silver	µg/g		0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Thallium	µg/g		0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Uranium	µg/g		0.50	<0.50	0.70	0.81	0.73	0.70
Vanadium	µg/g		2.0	30.9	16.7	26.8	25.7	12.7
Zinc	µg/g		5	312	28	22	20	21

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 24Z110615

PROJECT: OTT-22019409-A0

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Oliverira

O. Reg. 153(511) - ORPs (Soil)

DATE RECEIVED: 2024-01-10 **DATE REPORTED: 2024-01-16**

				SAMPLE DESCRIPTION:	MW4	MW8	MW9	MW10	Dup1
				SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil
				DATE SAMPLED:	2024-01-10 09:45	2024-01-10 11:50	2024-01-10 13:00	2024-01-10 14:00	2024-01-10 15:00
Parameter	**Unit**	**G / S**	**RDL**		**5580650**	**5580654**	**5580655**	**5580656**	**5580657**
Electrical Conductivity (2:1)	mS/cm		0.005		0.445	3.08	1.02	1.29	2.12
pH, 2:1 CaCl2 Extraction	pH Units		NA		7.82	7.86	8.31	7.89	8.01
Sodium Adsorption Ratio (2:1) (Calc.)	N/A		N/A		3.81	16.4	12.0	12.7	23.2

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5580650-5580657 EC was determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil). pH was determined on the 0.01M CaCl2 extract obtained from 2:1 leaching procedure (2 parts extraction fluid:1 part wet soil). SAR is a calculated parameter.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 24Z110615

PROJECT: OTT-22019409-A0

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Oliverira

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

DATE RECEIVED: 2024-01-10 **DATE REPORTED: 2024-01-18**

		SAMPLE DESCRIPTION:		MW4	MW8	MW9	MW10	Dup1
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2024-01-10 09:45	2024-01-10 11:50	2024-01-10 13:00	2024-01-10 14:00	2024-01-10 15:00
Parameter	**Unit**	**G / S**	**RDL**	**5580650**	**5580654**	**5580655**	**5580656**	**5580657**
Naphthalene	µg/g		0.05	0.44	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	µg/g		0.05	0.57	<0.05	<0.05	<0.05	<0.05
Acenaphthene	µg/g		0.05	1.97	<0.05	<0.05	<0.05	<0.05
Fluorene	µg/g		0.05	1.49	<0.05	<0.05	<0.05	<0.05
Phenanthrene	µg/g		0.05	5.80	<0.05	<0.05	<0.05	<0.05
Anthracene	µg/g		0.05	2.17	<0.05	<0.05	<0.05	<0.05
Fluoranthene	µg/g		0.05	5.33	0.07	<0.05	<0.05	<0.05
Pyrene	µg/g		0.05	3.96	0.06	<0.05	<0.05	<0.05
Benz(a)anthracene	µg/g		0.05	3.17	0.06	<0.05	<0.05	<0.05
Chrysene	µg/g		0.05	3.33	0.06	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g		0.05	2.95	0.09	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/g		0.05	1.11	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g		0.05	2.08	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g		0.05	1.32	<0.05	<0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g		0.05	0.28	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g		0.05	1.33	<0.05	<0.05	<0.05	<0.05
1 and 2 Methlynaphthalene	µg/g		0.05	0.87	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	22.9	10.8	7.7	12.8	10.9
Surrogate	**Unit**	**Acceptable Limits**						
Naphthalene-d8	%	50-140		70	75	75	70	80
Acridine-d9	%	50-140		80	75	75	110	80
Terphenyl-d14	%	50-140		70	75	105	75	90

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5580650-5580657 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: NPopowich

AGAT Laboratories

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FAX (905)712-5122
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 24Z110615

PROJECT: OTT-22019409-A0

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Oliverira

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

DATE RECEIVED: 2024-01-10 **DATE REPORTED: 2024-01-18**

		SAMPLE DESCRIPTION:		MW4	MW8	MW9	MW10	Dup1
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2024-01-10 09:45	2024-01-10 11:50	2024-01-10 13:00	2024-01-10 14:00	2024-01-10 15:00
Parameter	**Unit**	**G / S**	**RDL**	**5580650**	**5580654**	**5580655**	**5580656**	**5580657**
F1 (C6 to C10)	µg/g		5	<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g		5	<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g		10	12	<10	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10	12	<10	<10	<10	<10
F3 (C16 to C34)	µg/g		50	62	<50	<50	<50	<50
F3 (C16 to C34) minus PAHs	µg/g		50	<50	<50	<50	<50	<50
F4 (C34 to C50)	µg/g		50	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g		50	NA	NA	NA	NA	NA
Moisture Content	%		0.1	22.9	10.8	7.7	12.8	10.9
Surrogate	**Unit**	**Acceptable Limits**						
Toluene-d8	%	50-140		104	104	102	103	100
Terphenyl	%	60-140		71	85	94	77	93

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5580650-5580657 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: N Popnikolof

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Certificate of Analysis

AGAT WORK ORDER: 24Z110615

PROJECT: OTT-22019409-A0

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Oliverira

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

DATE RECEIVED: 2024-01-10 **DATE REPORTED: 2024-01-15**

		SAMPLE DESCRIPTION:		MW4	MW8	MW9	MW10	Dup1
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2024-01-10 09:45	2024-01-10 11:50	2024-01-10 13:00	2024-01-10 14:00	2024-01-10 15:00
Parameter	Unit	G / S	RDL	5580650	5580654	5580655	5580656	5580657
Dichlorodifluoromethane	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	ug/g		0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Bromomethane	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acetone	ug/g		0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trans- 1,2-Dichloroethylene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl tert-butyl Ether	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1-Dichloroethane	ug/g		0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Methyl Ethyl Ketone	ug/g		0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cis- 1,2-Dichloroethylene	ug/g		0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	ug/g		0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,2-Dichloroethane	ug/g		0.03	<0.03	<0.03	<0.03	<0.03	<0.03
1,1,1-Trichloroethane	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzene	ug/g		0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-Dichloropropane	ug/g		0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Trichloroethylene	ug/g		0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Bromodichloromethane	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl Isobutyl Ketone	ug/g		0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	ug/g		0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Toluene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromochloromethane	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylene Dibromide	ug/g		0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Tetrachloroethylene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,1,2-Tetrachloroethane	ug/g		0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Chlorobenzene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Certified By: N Popowich

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Certificate of Analysis

AGAT WORK ORDER: 24Z110615

PROJECT: OTT-22019409-A0

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Oliverira

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

DATE RECEIVED: 2024-01-10 **DATE REPORTED: 2024-01-15**

				SAMPLE DESCRIPTION:	MW4	MW8	MW9	MW10	Dup1
				SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil
				DATE SAMPLED:	2024-01-10 09:45	2024-01-10 11:50	2024-01-10 13:00	2024-01-10 14:00	2024-01-10 15:00
Parameter	**Unit**	**G / S**	**RDL**		**5580650**	**5580654**	**5580655**	**5580656**	**5580657**
m & p-Xylene	ug/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Bromoform	ug/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Styrene	ug/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05
1,1,2,2-Tetrachloroethane	ug/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05
o-Xylene	ug/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05
1,3-Dichlorobenzene	ug/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05
1,4-Dichlorobenzene	ug/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05
1,2-Dichlorobenzene	ug/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	ug/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05
1,3-Dichloropropene (Cis + Trans)	µg/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05
n-Hexane	µg/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1		22.9	10.8	7.7	12.8	10.9
Surrogate	**Unit**	**Acceptable Limits**							
Toluene-d8	% Recovery	50-140			104	104	102	103	100
4-Bromofluorobenzene	% Recovery	50-140			86	86	86	88	86

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5580650-5580657 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: N Popnikolof

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Quality Assurance

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z110615

PROJECT: OTT-22019409-A0

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Oliverira

Soil Analysis

RPT Date:			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	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	5580810		<0.8	<0.8	NA	< 0.8	136%	70%	130%	86%	80%	120%	81%	70%	130%
Arsenic	5580810		2	2	NA	< 1	109%	70%	130%	98%	80%	120%	119%	70%	130%
Barium	5580810		22.4	22.3	0.4%	< 2.0	99%	70%	130%	98%	80%	120%	116%	70%	130%
Beryllium	5580810		<0.5	<0.5	NA	< 0.5	100%	70%	130%	102%	80%	120%	122%	70%	130%
Boron	5580810		<5	<5	NA	< 5	77%	70%	130%	100%	80%	120%	111%	70%	130%
Cadmium	5580810		<0.5	<0.5	NA	< 0.5	111%	70%	130%	100%	80%	120%	129%	70%	130%
Chromium	5580810		10	11	NA	< 5	97%	70%	130%	109%	80%	120%	125%	70%	130%
Cobalt	5580810		4.2	4.2	0.0%	< 0.8	90%	70%	130%	92%	80%	120%	106%	70%	130%
Copper	5580810		9.0	8.8	2.2%	< 1.0	93%	70%	130%	100%	80%	120%	111%	70%	130%
Lead	5580810		3	3	NA	< 1	105%	70%	130%	93%	80%	120%	113%	70%	130%
Molybdenum	5580810		<0.5	<0.5	NA	< 0.5	106%	70%	130%	101%	80%	120%	128%	70%	130%
Nickel	5580810		8	8	0.0%	< 1	94%	70%	130%	94%	80%	120%	110%	70%	130%
Selenium	5580810		<0.8	<0.8	NA	< 0.8	113%	70%	130%	94%	80%	120%	116%	70%	130%
Silver	5580810		<0.5	<0.5	NA	< 0.5	105%	70%	130%	99%	80%	120%	118%	70%	130%
Thallium	5580810		<0.5	<0.5	NA	< 0.5	101%	70%	130%	96%	80%	120%	126%	70%	130%
Uranium	5580810		<0.50	<0.50	NA	< 0.50	112%	70%	130%	98%	80%	120%	122%	70%	130%
Vanadium	5580810		20.0	20.4	2.0%	< 2.0	102%	70%	130%	103%	80%	120%	115%	70%	130%
Zinc	5580810		22	23	NA	< 5	99%	70%	130%	98%	80%	120%	117%	70%	130%

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

More than 90% of the elements met acceptance limits and overall data quality is acceptable for use. For a multi-element scan up to 10% of analytes may exceed the quoted limits by up to 10% absolute.

O. Reg. 153(511) - ORPs (Soil)									
Electrical Conductivity (2:1)	5582581	0.221	0.238	7.6%	< 0.005	108%	80%	120%
pH, 2:1 CaCl2 Extraction	5580818	7.75	7.68	0.8%	NA	102%	80%	120%
Sodium Adsorption Ratio (2:1) (Calc.)	5582581	0.873	0.857	1.8%	NA			

Comments: NA signifies Not Applicable.
pH duplicates QA acceptance criteria was met relative as stated in Table 5-15 of Analytical Protocol document.

Certified By:

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Quality Assurance

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z110615

PROJECT: OTT-22019409-A0

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Oliverira

Trace Organics Analysis

RPT Date:			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	5580657	5580657	<0.05	<0.05	NA	< 0.05	81%	50%	140%	90%	50%	140%	75%	50%	140%
Acenaphthylene	5580657	5580657	<0.05	<0.05	NA	< 0.05	100%	50%	140%	80%	50%	140%	75%	50%	140%
Acenaphthene	5580657	5580657	<0.05	<0.05	NA	< 0.05	102%	50%	140%	88%	50%	140%	73%	50%	140%
Fluorene	5580657	5580657	<0.05	<0.05	NA	< 0.05	89%	50%	140%	85%	50%	140%	83%	50%	140%
Phenanthrene	5580657	5580657	<0.05	<0.05	NA	< 0.05	101%	50%	140%	93%	50%	140%	73%	50%	140%
Anthracene	5580657	5580657	<0.05	<0.05	NA	< 0.05	103%	50%	140%	85%	50%	140%	73%	50%	140%
Fluoranthene	5580657	5580657	<0.05	<0.05	NA	< 0.05	96%	50%	140%	88%	50%	140%	73%	50%	140%
Pyrene	5580657	5580657	<0.05	<0.05	NA	< 0.05	94%	50%	140%	85%	50%	140%	73%	50%	140%
Benz(a)anthracene	5580657	5580657	<0.05	<0.05	NA	< 0.05	85%	50%	140%	80%	50%	140%	85%	50%	140%
Chrysene	5580657	5580657	<0.05	<0.05	NA	< 0.05	112%	50%	140%	90%	50%	140%	70%	50%	140%
Benzo(b)fluoranthene	5580657	5580657	<0.05	<0.05	NA	< 0.05	69%	50%	140%	80%	50%	140%	80%	50%	140%
Benzo(k)fluoranthene	5580657	5580657	<0.05	<0.05	NA	< 0.05	110%	50%	140%	85%	50%	140%	78%	50%	140%
Benzo(a)pyrene	5580657	5580657	<0.05	<0.05	NA	< 0.05	88%	50%	140%	95%	50%	140%	70%	50%	140%
Indeno(1,2,3-cd)pyrene	5580657	5580657	<0.05	<0.05	NA	< 0.05	72%	50%	140%	85%	50%	140%	78%	50%	140%
Dibenz(a,h)anthracene	5580657	5580657	<0.05	<0.05	NA	< 0.05	77%	50%	140%	83%	50%	140%	90%	50%	140%
Benzo(g,h,i)perylene	5580657	5580657	<0.05	<0.05	NA	< 0.05	90%	50%	140%	80%	50%	140%	90%	50%	140%
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)															
F1 (C6 to C10)	5582542		<5	<5	NA	< 5	123%	60%	140%	99%	60%	140%	105%	60%	140%
F2 (C10 to C16)	5580657	5580657	< 10	< 10	NA	< 10	122%	60%	140%	87%	60%	140%	83%	60%	140%
F3 (C16 to C34)	5580657	5580657	< 50	< 50	NA	< 50	117%	60%	140%	100%	60%	140%	112%	60%	140%
F4 (C34 to C50)	5580657	5580657	< 50	< 50	NA	< 50	67%	60%	140%	89%	60%	140%	98%	60%	140%
O. Reg. 153(511) - VOCs (with PHC) (Soil)															
Dichlorodifluoromethane	5582542		<0.05	<0.05	NA	< 0.05	97%	50%	140%	93%	50%	140%	75%	50%	140%
Vinyl Chloride	5582542		<0.02	<0.02	NA	< 0.02	99%	50%	140%	118%	50%	140%	100%	50%	140%
Bromomethane	5582542		<0.05	<0.05	NA	< 0.05	97%	50%	140%	88%	50%	140%	89%	50%	140%
Trichlorofluoromethane	5582542		<0.05	<0.05	NA	< 0.05	104%	50%	140%	103%	50%	140%	77%	50%	140%
Acetone	5582542		<0.50	<0.50	NA	< 0.50	104%	50%	140%	84%	50%	140%	94%	50%	140%
1,1-Dichloroethylene	5582542		<0.05	<0.05	NA	< 0.05	107%	50%	140%	118%	60%	130%	81%	50%	140%
Methylene Chloride	5582542		<0.05	<0.05	NA	< 0.05	107%	50%	140%	117%	60%	130%	108%	50%	140%
Trans- 1,2-Dichloroethylene	5582542		<0.05	<0.05	NA	< 0.05	116%	50%	140%	116%	60%	130%	77%	50%	140%
Methyl tert-butyl Ether	5582542		<0.05	<0.05	NA	< 0.05	70%	50%	140%	73%	60%	130%	87%	50%	140%
1,1-Dichloroethane	5582542		<0.02	<0.02	NA	< 0.02	115%	50%	140%	117%	60%	130%	82%	50%	140%
Methyl Ethyl Ketone	5582542		<0.50	<0.50	NA	< 0.50	85%	50%	140%	92%	50%	140%	92%	50%	140%
Cis- 1,2-Dichloroethylene	5582542		<0.02	<0.02	NA	< 0.02	109%	50%	140%	107%	60%	130%	88%	50%	140%
Chloroform	5582542		<0.04	<0.04	NA	< 0.04	110%	50%	140%	100%	60%	130%	92%	50%	140%
1,2-Dichloroethane	5582542		<0.03	<0.03	NA	< 0.03	112%	50%	140%	117%	60%	130%	103%	50%	140%
1,1,1-Trichloroethane	5582542		<0.05	<0.05	NA	< 0.05	110%	50%	140%	106%	60%	130%	92%	50%	140%
Carbon Tetrachloride	5582542		<0.05	<0.05	NA	< 0.05	108%	50%	140%	104%	60%	130%	81%	50%	140%

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Quality Assurance

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z110615

PROJECT: OTT-22019409-A0

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Oliverira

Trace Organics Analysis (Continued)

RPT Date:			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Benzene	5582542		<0.02	<0.02	NA	< 0.02	114%	50%	140%	102%	60%	130%	97%	50%	140%
1,2-Dichloropropane	5582542		<0.03	<0.03	NA	< 0.03	114%	50%	140%	100%	60%	130%	97%	50%	140%
Trichloroethylene	5582542		<0.03	<0.03	NA	< 0.03	113%	50%	140%	101%	60%	130%	92%	50%	140%
Bromodichloromethane	5582542		<0.05	<0.05	NA	< 0.05	111%	50%	140%	100%	60%	130%	92%	50%	140%
Methyl Isobutyl Ketone	5582542		<0.50	<0.50	NA	< 0.50	96%	50%	140%	91%	50%	140%	85%	50%	140%
1,1,2-Trichloroethane	5582542		<0.04	<0.04	NA	< 0.04	100%	50%	140%	102%	60%	130%	113%	50%	140%
Toluene	5582542		<0.05	<0.05	NA	< 0.05	102%	50%	140%	111%	60%	130%	100%	50%	140%
Dibromochloromethane	5582542		<0.05	<0.05	NA	< 0.05	118%	50%	140%	105%	60%	130%	88%	50%	140%
Ethylene Dibromide	5582542		<0.04	<0.04	NA	< 0.04	105%	50%	140%	105%	60%	130%	94%	50%	140%
Tetrachloroethylene	5582542		<0.05	<0.05	NA	< 0.05	107%	50%	140%	112%	60%	130%	94%	50%	140%
1,1,1,2-Tetrachloroethane	5582542		<0.04	<0.04	NA	< 0.04	97%	50%	140%	81%	60%	130%	101%	50%	140%
Chlorobenzene	5582542		<0.05	<0.05	NA	< 0.05	104%	50%	140%	108%	60%	130%	105%	50%	140%
Ethylbenzene	5582542		<0.05	<0.05	NA	< 0.05	79%	50%	140%	105%	60%	130%	92%	50%	140%
m & p-Xylene	5582542		<0.05	<0.05	NA	< 0.05	108%	50%	140%	103%	60%	130%	93%	50%	140%
Bromoform	5582542		<0.05	<0.05	NA	< 0.05	96%	50%	140%	117%	60%	130%	120%	50%	140%
Styrene	5582542		<0.05	<0.05	NA	< 0.05	112%	50%	140%	86%	60%	130%	86%	50%	140%
1,1,2,2-Tetrachloroethane	5582542		<0.05	<0.05	NA	< 0.05	94%	50%	140%	109%	60%	130%	112%	50%	140%
o-Xylene	5582542		<0.05	<0.05	NA	< 0.05	100%	50%	140%	102%	60%	130%	96%	50%	140%
1,3-Dichlorobenzene	5582542		<0.05	<0.05	NA	< 0.05	119%	50%	140%	94%	60%	130%	102%	50%	140%
1,4-Dichlorobenzene	5582542		<0.05	<0.05	NA	< 0.05	118%	50%	140%	93%	60%	130%	104%	50%	140%
1,2-Dichlorobenzene	5582542		<0.05	<0.05	NA	< 0.05	118%	50%	140%	91%	60%	130%	102%	50%	140%
n-Hexane	5582542		<0.05	<0.05	NA	< 0.05	106%	50%	140%	109%	60%	130%	107%	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: N Popnikolof

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QC Exceedance

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z110615

PROJECT: OTT-22019409-A0

ATTENTION TO: Mark McCalla

RPT Date:		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		136%	70%	130%	86%	80%	120%	81%	70%	130%

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

More than 90% of the elements met acceptance limits and overall data quality is acceptable for use. For a multi-element scan up to 10% of analytes may exceed the quoted limits by up to 10% absolute.

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Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z110615

PROJECT: OTT-22019409-A0

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Oliverira

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
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
Electrical Conductivity (2:1)	INOR-93-6075	modified from MSA PART 3, CH 14 and SM 2510 B	PC TITRATE
pH, 2:1 CaCl2 Extraction	INOR-93-6075	modified from EPA 9045D, MCKEAGUE 3.11 E3137	PC TITRATE
Sodium Adsorption Ratio (2:1) (Calc.)	INOR-93-6007	modified from EPA 6010D & Analytical Protocol	ICP/OES

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Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z110615

PROJECT: OTT-22019409-A0

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Oliverira

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
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 Methlynaphthalene	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 to 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

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Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z110615

PROJECT: OTT-22019409-A0

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Oliverira

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

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Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z110615

PROJECT: OTT-22019409-A0

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Oliverira

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

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Chain of Custody Record

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

Laboratory Use Only

Work Order #: 24Z110615

Cooler Quantity: One - no ice packs

Arrival Temperatures: 5.5 5.2 5.0 / 2.1 2.0 1.9

Custody Seal Intact: ☐ Yes ☐ No ☐ N/A

Notes: bagged - c

Report Information:

Company: EXP SERVICES INC
Contact: MARK McCALLA
Address: 2650 QUEENSVIEW DR. OTTAWA
Phone: 613-688-1899 Fax:
Reports to be sent to:
1. Email: Mark.McCalla@exp.com
2. Email: Philip.Oliveira@exp.com

Regulatory Requirements:

(Please check all applicable boxes)

☒ Regulation 153/04
Table (Indicate One): ☐ Ind/Com ☐ Res/Park ☐ Agriculture
Soil Texture (Check One): ☐ Coarse ☐ Fine

☐ Regulation 406
Table (Indicate One)

☐ Regulation 558

☐ CCME

☐ Sewer Use ☐ Sanitary ☐ Storm
Region

☐ Prov. Water Quality Objectives (PWQO)

☐ Other
Indicate One

Turnaround Time (TAT) Required:

Regular TAT ☒ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply):

Please provide prior notification for rush TAT
*TAT is exclusive of weekends and statutory holidays

For 'Same Day' analysis, please contact your AGAT CPM

Project Information:

Project: OTT-2201940 9-A0
Site Location:
Sampled By: Philip Oliveira
AGAT Quote #: EXP Standing OFFER PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Is this submission for a **Record of Site Condition?** ☐ Yes ☐ No

Report Guideline on Certificate of Analysis ☐ Yes ☐ No

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	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	O. Reg 153: CrVI, Hg, HWSB (Metals)	O. Reg 153: BTEX, F1-F4 PHCs	VOC	PAHs	PCBs	PCBs: Aroclors ☐	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ BiaP ☐ PCBs	O. Reg 406: Regulation 406 SPLP Rainwater Leach ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Regulation 406 Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Corrosivity: ☐ Moisture ☐ Sulphide	SAR	EC	pH				Potentially Hazardous or High Concentration (Y/N)
1. MW4	01-10-24	9h45 AM/PM	4	S				X	X	X	X							X	X	X				
2. MW8	↓	11h50 AM/PM	↓	↓				↓	↓	↓	↓							↓	↓	↓				
3. MW9		13h00 AM/PM																						
4. MW10		14h00 AM/PM																						
5. Dup 1		15h00 AM/PM																						
6.		AM/PM																						
7.		AM/PM																						
8.		AM/PM																						
9.		AM/PM																						
10.		AM/PM																						
11.		AM/PM																						

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Philip Oliveira	Jan 10, 2024	16h00	C. Griffith	01/10/24	16h00
Philip Oliveira				Jan 12	8:45 am
C to FedEx	01/11/24	15h30			

Page 1 of 1

N°: T-151730

Pink Copy - Client | Yellow Copy - AGAT | White Copy - AGAT

Document ID: DW-TR-1511-122

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CLIENT NAME: **EXP SERVICES INC**
2650 QUEENSVIEW DRIVE, UNIT 100
OTTAWA, ON K2B8H6
(613) 688-1899
ATTENTION TO: **Mark McCalla**
PROJECT: **OTT-22019409-A0**
AGAT WORK ORDER: **24Z111530**
SOIL ANALYSIS REVIEWED BY: **Nivine Basily, Inorganic Team Lead**
TRACE ORGANICS REVIEWED BY: **Neli Popnikolova, Senior Chemist**
DATE REPORTED: **Jan 18, 2024**
PAGES (INCLUDING COVER): **15**
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.*

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Certificate of Analysis

AGAT WORK ORDER: 24Z111530

PROJECT: OTT-22019409-A0

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Oliveira

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

DATE RECEIVED: 2024-01-11 **DATE REPORTED: 2024-01-18**

				SAMPLE DESCRIPTION:	MW11	MW12	MW13	BH 14	BH 15
				SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil
				DATE SAMPLED:	2024-01-11 09:00	2024-01-11 10:15	2024-01-11 12:00	2024-01-11 14:30	2024-01-11 14:15
Parameter	Unit	G / S	RDL		5583264	5583265	5583266	5583267	5583268
Antimony	µg/g		0.8		0.9	<0.8	2.0	<0.8	<0.8
Arsenic	µg/g		1		18	9	6	2	3
Barium	µg/g		2.0		149	118	171	74.3	99.2
Beryllium	µg/g		0.5		0.5	<0.5	<0.5	<0.5	<0.5
Boron	µg/g		5		<5	7	9	8	10
Cadmium	µg/g		0.5		<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g		5		20	17	16	12	13
Cobalt	µg/g		0.8		7.4	5.4	4.9	4.9	6.5
Copper	µg/g		1.0		21.5	14.9	15.9	16.3	19.4
Lead	µg/g		1		103	103	113	6	8
Molybdenum	µg/g		0.5		2.1	1.6	1.3	0.8	1.2
Nickel	µg/g		1		15	12	12	11	15
Selenium	µg/g		0.8		<0.8	<0.8	<0.8	<0.8	<0.8
Silver	µg/g		0.5		<0.5	<0.5	<0.5	<0.5	<0.5
Thallium	µg/g		0.5		<0.5	<0.5	<0.5	<0.5	<0.5
Uranium	µg/g		0.50		1.27	0.58	0.59	0.56	0.62
Vanadium	µg/g		2.0		27.1	21.5	21.8	19.2	25.1
Zinc	µg/g		5		105	112	169	28	35

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 24Z111530

PROJECT: OTT-22019409-A0

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Oliveira

O. Reg. 153(511) - ORPs (Soil)

DATE RECEIVED: 2024-01-11 **DATE REPORTED: 2024-01-18**

				SAMPLE DESCRIPTION:	MW11	MW12	MW13
				SAMPLE TYPE:	Soil	Soil	Soil
				DATE SAMPLED:	2024-01-11 09:00	2024-01-11 10:15	2024-01-11 12:00
Parameter	**Unit**	**G / S**	**RDL**		**5583264**	**5583265**	**5583266**
Electrical Conductivity (2:1)	mS/cm		0.005		0.457	0.495	3.72
pH, 2:1 CaCl2 Extraction	pH Units		NA		7.53	8.01	10.4
Sodium Adsorption Ratio (2:1) (Calc.)	N/A		N/A		0.704	0.577	2.01

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5583264-5583266 EC was determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil). pH was determined on the 0.01M CaCl2 extract obtained from 2:1 leaching procedure (2 parts extraction fluid:1 part wet soil). SAR is a calculated parameter.

Analysis performed at AGAT Toronto (unless marked by *)

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AGAT WORK ORDER: 24Z111530

PROJECT: OTT-22019409-A0

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Oliveira

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

DATE RECEIVED: 2024-01-11 **DATE REPORTED: 2024-01-18**

		SAMPLE DESCRIPTION:		MW11	MW12	MW13
		SAMPLE TYPE:		Soil	Soil	Soil
		DATE SAMPLED:		2024-01-11 09:00	2024-01-11 10:15	2024-01-11 12:00
Parameter	**Unit**	**G / S**	**RDL**	**5583264**	**5583265**	**5583266**
Naphthalene	µg/g		0.05	<0.05	<0.05	<0.05
Acenaphthylene	µg/g		0.05	<0.05	<0.05	<0.05
Acenaphthene	µg/g		0.05	<0.05	0.12	<0.05
Fluorene	µg/g		0.05	<0.05	0.17	0.05
Phenanthrene	µg/g		0.05	0.19	1.33	0.56
Anthracene	µg/g		0.05	<0.05	0.25	0.13
Fluoranthene	µg/g		0.05	0.20	1.17	0.72
Pyrene	µg/g		0.05	0.15	0.92	0.60
Benz(a)anthracene	µg/g		0.05	0.08	0.42	0.31
Chrysene	µg/g		0.05	0.12	0.52	0.34
Benzo(b)fluoranthene	µg/g		0.05	0.14	0.38	0.32
Benzo(k)fluoranthene	µg/g		0.05	<0.05	0.16	0.13
Benzo(a)pyrene	µg/g		0.05	0.09	0.26	0.19
Indeno(1,2,3-cd)pyrene	µg/g		0.05	0.08	0.13	0.11
Dibenz(a,h)anthracene	µg/g		0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g		0.05	0.11	0.16	0.14
1 and 2 Methlynaphthalene	µg/g		0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	13.8	13.4	13.1
Surrogate	**Unit**	**Acceptable Limits**				
Naphthalene-d8	%	50-140		70	70	70
Acridine-d9	%	50-140		80	95	70
Terphenyl-d14	%	50-140		75	90	120

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5583264-5583266 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: NPopowich

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AGAT WORK ORDER: 24Z111530

PROJECT: OTT-22019409-A0

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Oliveira

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

DATE RECEIVED: 2024-01-11 **DATE REPORTED: 2024-01-18**

				SAMPLE DESCRIPTION:	MW11	MW12	MW13
				SAMPLE TYPE:	Soil	Soil	Soil
				DATE SAMPLED:	2024-01-11 09:00	2024-01-11 10:15	2024-01-11 12:00
Parameter	**Unit**	**G / S**	**RDL**		**5583264**	**5583265**	**5583266**
F1 (C6 to C10)	µg/g		5		<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g		5		<5	<5	<5
F2 (C10 to C16)	µg/g		10		<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10		<10	<10	<10
F3 (C16 to C34)	µg/g		50		<50	78	352
F3 (C16 to C34) minus PAHs	µg/g		50		<50	73	349
F4 (C34 to C50)	µg/g		50		<50	<50	56
Gravimetric Heavy Hydrocarbons	µg/g		50		NA	NA	NA
Moisture Content	%		0.1		13.8	13.4	13.1
Surrogate	**Unit**	**Acceptable Limits**					
Toluene-d8	%	50-140			106	107	103
Terphenyl	%	60-140			70	83	62

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5583264-5583266 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: N Popowich

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AGAT WORK ORDER: 24Z111530

PROJECT: OTT-22019409-A0

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Oliveira

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

DATE RECEIVED: 2024-01-11

DATE REPORTED: 2024-01-18

		SAMPLE DESCRIPTION:		MW11	MW12	MW13
		SAMPLE TYPE:		Soil	Soil	Soil
		DATE SAMPLED:		2024-01-11 09:00	2024-01-11 10:15	2024-01-11 12:00
Parameter	Unit	G / S	RDL	5583264	5583265	5583266
Dichlorodifluoromethane	µg/g		0.05	<0.05	<0.05	<0.05
Vinyl Chloride	ug/g		0.02	<0.02	<0.02	<0.02
Bromomethane	ug/g		0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	ug/g		0.05	<0.05	<0.05	<0.05
Acetone	ug/g		0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	ug/g		0.05	<0.05	<0.05	<0.05
Methylene Chloride	ug/g		0.05	<0.05	<0.05	<0.05
Trans- 1,2-Dichloroethylene	ug/g		0.05	<0.05	<0.05	<0.05
Methyl tert-butyl Ether	ug/g		0.05	<0.05	<0.05	<0.05
1,1-Dichloroethane	ug/g		0.02	<0.02	<0.02	<0.02
Methyl Ethyl Ketone	ug/g		0.50	<0.50	<0.50	<0.50
Cis- 1,2-Dichloroethylene	ug/g		0.02	<0.02	<0.02	<0.02
Chloroform	ug/g		0.04	<0.04	<0.04	<0.04
1,2-Dichloroethane	ug/g		0.03	<0.03	<0.03	<0.03
1,1,1-Trichloroethane	ug/g		0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	ug/g		0.05	<0.05	<0.05	<0.05
Benzene	ug/g		0.02	<0.02	<0.02	<0.02
1,2-Dichloropropane	ug/g		0.03	<0.03	<0.03	<0.03
Trichloroethylene	ug/g		0.03	<0.03	<0.03	<0.03
Bromodichloromethane	ug/g		0.05	<0.05	<0.05	<0.05
Methyl Isobutyl Ketone	ug/g		0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	ug/g		0.04	<0.04	<0.04	<0.04
Toluene	ug/g		0.05	<0.05	<0.05	<0.05
Dibromochloromethane	ug/g		0.05	<0.05	<0.05	<0.05
Ethylene Dibromide	ug/g		0.04	<0.04	<0.04	<0.04
Tetrachloroethylene	ug/g		0.05	<0.05	<0.05	<0.05
1,1,1,2-Tetrachloroethane	ug/g		0.04	<0.04	<0.04	<0.04
Chlorobenzene	ug/g		0.05	<0.05	<0.05	<0.05
Ethylbenzene	ug/g		0.05	<0.05	<0.05	<0.05

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AGAT WORK ORDER: 24Z111530

PROJECT: OTT-22019409-A0

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Oliveira

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

DATE RECEIVED: 2024-01-11 **DATE REPORTED: 2024-01-18**

				SAMPLE DESCRIPTION:	MW11	MW12	MW13
				SAMPLE TYPE:	Soil	Soil	Soil
				DATE SAMPLED:	2024-01-11 09:00	2024-01-11 10:15	2024-01-11 12:00
Parameter	**Unit**	**G / S**	**RDL**		**5583264**	**5583265**	**5583266**
m & p-Xylene	ug/g		0.05		<0.05	<0.05	<0.05
Bromoform	ug/g		0.05		<0.05	<0.05	<0.05
Styrene	ug/g		0.05		<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	<0.05
1,3-Dichlorobenzene	ug/g		0.05		<0.05	<0.05	<0.05
1,4-Dichlorobenzene	ug/g		0.05		<0.05	<0.05	<0.05
1,2-Dichlorobenzene	ug/g		0.05		<0.05	<0.05	<0.05
Xylenes (Total)	ug/g		0.05		<0.05	<0.05	<0.05
1,3-Dichloropropene (Cis + Trans)	µg/g		0.05		<0.05	<0.05	<0.05
n-Hexane	µg/g		0.05		<0.05	<0.05	<0.05
Moisture Content	%		0.1		13.8	13.4	13.1
Surrogate	**Unit**	**Acceptable Limits**					
Toluene-d8	% Recovery	50-140			106	107	103
4-Bromofluorobenzene	% Recovery	50-140			78	83	76

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5583264-5583266 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: N Popowich

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Quality Assurance

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z111530

PROJECT: OTT-22019409-A0

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Oliveira

Soil Analysis

RPT Date: Jan 18, 2024			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	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	5582373		<0.8	<0.8	NA	< 0.8	122%	70%	130%	105%	80%	120%	77%	70%	130%
Arsenic	5582373		5	5	0.0%	< 1	106%	70%	130%	103%	80%	120%	120%	70%	130%
Barium	5582373		49.1	47.8	2.7%	< 2.0	99%	70%	130%	99%	80%	120%	113%	70%	130%
Beryllium	5582373		<0.5	<0.5	NA	< 0.5	84%	70%	130%	99%	80%	120%	107%	70%	130%
Boron	5582373		7	8	NA	< 5	78%	70%	130%	102%	80%	120%	105%	70%	130%
Cadmium	5582373		<0.5	<0.5	NA	< 0.5	102%	70%	130%	101%	80%	120%	123%	70%	130%
Chromium	5582373		18	17	NA	< 5	102%	70%	130%	104%	80%	120%	119%	70%	130%
Cobalt	5582373		3.9	3.8	NA	< 0.8	91%	70%	130%	101%	80%	120%	106%	70%	130%
Copper	5582373		25.9	26.5	2.3%	< 1.0	90%	70%	130%	107%	80%	120%	100%	70%	130%
Lead	5582373		26	26	0.0%	< 1	99%	70%	130%	94%	80%	120%	103%	70%	130%
Molybdenum	5582373		<0.5	<0.5	NA	< 0.5	100%	70%	130%	107%	80%	120%	124%	70%	130%
Nickel	5582373		9	8	11.8%	< 1	95%	70%	130%	106%	80%	120%	112%	70%	130%
Selenium	5582373		<0.8	<0.8	NA	< 0.8	78%	70%	130%	105%	80%	120%	123%	70%	130%
Silver	5582373		<0.5	<0.5	NA	< 0.5	97%	70%	130%	102%	80%	120%	109%	70%	130%
Thallium	5582373		<0.5	<0.5	NA	< 0.5	103%	70%	130%	96%	80%	120%	123%	70%	130%
Uranium	5582373		0.60	0.61	NA	< 0.50	111%	70%	130%	103%	80%	120%	117%	70%	130%
Vanadium	5582373		24.7	24.3	1.6%	< 2.0	101%	70%	130%	108%	80%	120%	123%	70%	130%
Zinc	5582373		101	101	0.0%	< 5	100%	70%	130%	108%	80%	120%	112%	70%	130%

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

O. Reg. 153(511) - ORPs (Soil)									
Electrical Conductivity (2:1)	5585164	3.20	3.24	1.1%	< 0.005	110%	80%	120%
pH, 2:1 CaCl2 Extraction	5580818	7.75	7.68	0.8%	NA	102%	80%	120%
Sodium Adsorption Ratio (2:1) (Calc.)	5582543	0.193	0.188	2.7%	NA			

Comments: NA signifies Not Applicable.
pH duplicates QA acceptance criteria was met relative as stated in Table 5-15 of Analytical Protocol document.

Certified By:

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Quality Assurance

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z111530

PROJECT: OTT-22019409-A0

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Oliveira

Trace Organics Analysis

RPT Date: Jan 18, 2024			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	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 to C10)	5582552		<5	<5	NA	< 5	96%	60%	140%	111%	60%	140%	99%	60%	140%
F2 (C10 to C16)	5580789		< 10	< 10	NA	< 10	113%	60%	140%	98%	60%	140%	86%	60%	140%
F3 (C16 to C34)	5580789		66	57	NA	< 50	117%	60%	140%	99%	60%	140%	111%	60%	140%
F4 (C34 to C50)	5580789		< 50	< 50	NA	< 50	95%	60%	140%	91%	60%	140%	107%	60%	140%
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	5582579		<0.05	<0.05	NA	< 0.05	87%	50%	140%	80%	50%	140%	73%	50%	140%
Acenaphthylene	5582579		<0.05	<0.05	NA	< 0.05	99%	50%	140%	85%	50%	140%	115%	50%	140%
Acenaphthene	5582579		<0.05	<0.05	NA	< 0.05	113%	50%	140%	105%	50%	140%	78%	50%	140%
Fluorene	5582579		<0.05	<0.05	NA	< 0.05	115%	50%	140%	105%	50%	140%	75%	50%	140%
Phenanthrene	5582579		<0.05	<0.05	NA	< 0.05	97%	50%	140%	110%	50%	140%	105%	50%	140%
Anthracene	5582579		<0.05	<0.05	NA	< 0.05	73%	50%	140%	88%	50%	140%	110%	50%	140%
Fluoranthene	5582579		<0.05	<0.05	NA	< 0.05	81%	50%	140%	108%	50%	140%	93%	50%	140%
Pyrene	5582579		<0.05	<0.05	NA	< 0.05	72%	50%	140%	108%	50%	140%	85%	50%	140%
Benz(a)anthracene	5582579		<0.05	<0.05	NA	< 0.05	77%	50%	140%	85%	50%	140%	80%	50%	140%
Chrysene	5582579		<0.05	<0.05	NA	< 0.05	89%	50%	140%	93%	50%	140%	80%	50%	140%
Benzo(b)fluoranthene	5582579		<0.05	<0.05	NA	< 0.05	117%	50%	140%	78%	50%	140%	78%	50%	140%
Benzo(k)fluoranthene	5582579		<0.05	<0.05	NA	< 0.05	90%	50%	140%	83%	50%	140%	80%	50%	140%
Benzo(a)pyrene	5582579		<0.05	<0.05	NA	< 0.05	66%	50%	140%	73%	50%	140%	80%	50%	140%
Indeno(1,2,3-cd)pyrene	5582579		<0.05	<0.05	NA	< 0.05	66%	50%	140%	78%	50%	140%	78%	50%	140%
Dibenz(a,h)anthracene	5582579		<0.05	<0.05	NA	< 0.05	76%	50%	140%	80%	50%	140%	75%	50%	140%
Benzo(g,h,i)perylene	5582579		<0.05	<0.05	NA	< 0.05	89%	50%	140%	78%	50%	140%	90%	50%	140%
O. Reg. 153(511) - VOCs (with PHC) (Soil)															
Dichlorodifluoromethane	5582552		<0.05	<0.05	NA	< 0.05	93%	50%	140%	94%	50%	140%	67%	50%	140%
Vinyl Chloride	5582552		<0.02	<0.02	NA	< 0.02	108%	50%	140%	108%	50%	140%	112%	50%	140%
Bromomethane	5582552		<0.05	<0.05	NA	< 0.05	108%	50%	140%	103%	50%	140%	107%	50%	140%
Trichlorofluoromethane	5582552		<0.05	<0.05	NA	< 0.05	103%	50%	140%	100%	50%	140%	99%	50%	140%
Acetone	5582552		<0.50	<0.50	NA	< 0.50	114%	50%	140%	101%	50%	140%	114%	50%	140%
1,1-Dichloroethylene	5582552		<0.05	<0.05	NA	< 0.05	115%	50%	140%	100%	60%	130%	117%	50%	140%
Methylene Chloride	5582552		<0.05	<0.05	NA	< 0.05	103%	50%	140%	96%	60%	130%	104%	50%	140%
Trans- 1,2-Dichloroethylene	5582552		<0.05	<0.05	NA	< 0.05	107%	50%	140%	100%	60%	130%	83%	50%	140%
Methyl tert-butyl Ether	5582552		<0.05	<0.05	NA	< 0.05	70%	50%	140%	79%	60%	130%	66%	50%	140%
1,1-Dichloroethane	5582552		<0.02	<0.02	NA	< 0.02	108%	50%	140%	102%	60%	130%	99%	50%	140%
Methyl Ethyl Ketone	5582552		<0.50	<0.50	NA	< 0.50	93%	50%	140%	90%	50%	140%	79%	50%	140%
Cis- 1,2-Dichloroethylene	5582552		<0.02	<0.02	NA	< 0.02	99%	50%	140%	94%	60%	130%	92%	50%	140%
Chloroform	5582552		<0.04	<0.04	NA	< 0.04	98%	50%	140%	90%	60%	130%	90%	50%	140%
1,2-Dichloroethane	5582552		<0.03	<0.03	NA	< 0.03	92%	50%	140%	99%	60%	130%	88%	50%	140%
1,1,1-Trichloroethane	5582552		<0.05	<0.05	NA	< 0.05	88%	50%	140%	79%	60%	130%	111%	50%	140%
Carbon Tetrachloride	5582552		<0.05	<0.05	NA	< 0.05	87%	50%	140%	74%	60%	130%	70%	50%	140%

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Quality Assurance

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z111530

PROJECT: OTT-22019409-A0

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Oliveira

Trace Organics Analysis (Continued)

RPT Date: Jan 18, 2024			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Benzene	5582552		<0.02	<0.02	NA	< 0.02	106%	50%	140%	89%	60%	130%	99%	50%	140%
1,2-Dichloropropane	5582552		<0.03	<0.03	NA	< 0.03	94%	50%	140%	79%	60%	130%	82%	50%	140%
Trichloroethylene	5582552		<0.03	<0.03	NA	< 0.03	87%	50%	140%	102%	60%	130%	104%	50%	140%
Bromodichloromethane	5582552		<0.05	<0.05	NA	< 0.05	76%	50%	140%	98%	60%	130%	86%	50%	140%
Methyl Isobutyl Ketone	5582552		<0.50	<0.50	NA	< 0.50	107%	50%	140%	100%	50%	140%	74%	50%	140%
1,1,2-Trichloroethane	5582552		<0.04	<0.04	NA	< 0.04	93%	50%	140%	119%	60%	130%	99%	50%	140%
Toluene	5582552		<0.05	<0.05	NA	< 0.05	115%	50%	140%	111%	60%	130%	97%	50%	140%
Dibromochloromethane	5582552		<0.05	<0.05	NA	< 0.05	89%	50%	140%	99%	60%	130%	72%	50%	140%
Ethylene Dibromide	5582552		<0.04	<0.04	NA	< 0.04	105%	50%	140%	111%	60%	130%	87%	50%	140%
Tetrachloroethylene	5582552		<0.05	<0.05	NA	< 0.05	84%	50%	140%	96%	60%	130%	105%	50%	140%
1,1,1,2-Tetrachloroethane	5582552		<0.04	<0.04	NA	< 0.04	98%	50%	140%	96%	60%	130%	93%	50%	140%
Chlorobenzene	5582552		<0.05	<0.05	NA	< 0.05	112%	50%	140%	109%	60%	130%	96%	50%	140%
Ethylbenzene	5582552		<0.05	<0.05	NA	< 0.05	102%	50%	140%	102%	60%	130%	84%	50%	140%
m & p-Xylene	5582552		<0.05	<0.05	NA	< 0.05	99%	50%	140%	93%	60%	130%	82%	50%	140%
Bromoform	5582552		<0.05	<0.05	NA	< 0.05	75%	50%	140%	82%	60%	130%	89%	50%	140%
Styrene	5582552		<0.05	<0.05	NA	< 0.05	82%	50%	140%	79%	60%	130%	82%	50%	140%
1,1,2,2-Tetrachloroethane	5582552		<0.05	<0.05	NA	< 0.05	117%	50%	140%	119%	60%	130%	110%	50%	140%
o-Xylene	5582552		<0.05	<0.05	NA	< 0.05	102%	50%	140%	97%	60%	130%	88%	50%	140%
1,3-Dichlorobenzene	5582552		<0.05	<0.05	NA	< 0.05	103%	50%	140%	95%	60%	130%	92%	50%	140%
1,4-Dichlorobenzene	5582552		<0.05	<0.05	NA	< 0.05	103%	50%	140%	98%	60%	130%	91%	50%	140%
1,2-Dichlorobenzene	5582552		<0.05	<0.05	NA	< 0.05	106%	50%	140%	96%	60%	130%	84%	50%	140%
n-Hexane	5582552		<0.05	<0.05	NA	< 0.05	112%	50%	140%	110%	60%	130%	83%	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: N Popnikolof

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Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z111530

PROJECT: OTT-22019409-A0

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Oliveira

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
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
Electrical Conductivity (2:1)	INOR-93-6075	modified from MSA PART 3, CH 14 and SM 2510 B	PC TITRATE
pH, 2:1 CaCl2 Extraction	INOR-93-6075	modified from EPA 9045D, MCKEAGUE 3.11 E3137	PC TITRATE
Sodium Adsorption Ratio (2:1) (Calc.)	INOR-93-6007	modified from EPA 6010D & Analytical Protocol	ICP/OES

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Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z111530

PROJECT: OTT-22019409-A0

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Oliveira

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
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 Methlynaphthalene	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 to 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

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Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z111530

PROJECT: OTT-22019409-A0

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Oliveira

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

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Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z111530

PROJECT: OTT-22019409-A0

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SAMPLING SITE:

SAMPLED BY:Philip Oliveira

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

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webearth.agatlabs.com

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 QUEENSVIEW DR. OTTAWA
Phone: 613-688-1899 Fax:
Reports to be sent to:
1. Email: Mark.McCalla@exp.com
2. Email: Philip.Oliveira@exp.com

Project Information:

Project: OTT-220194 09-A0
Site Location:
Sampled By: Philip Oliveira
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: EXP. SERVICES INC.
Contact: Accounts Payable.
Address: 2650 QUEENSVIEW DR. OTTAWA.
Email:

Regulatory Requirements:

(Please check all applicable boxes)

☒ Regulation 153/04
Table (Indicate One): ☐ Ind/Com ☐ Res/Park ☐ Agriculture
Soil Texture (Check One): ☐ Coarse ☐ Fine

☐ Regulation 406
Table (Indicate One)

☐ Regulation 558

☐ CCME

☐ Sewer Use ☐ Sanitary ☐ Storm
Region

☐ Prov. Water Quality Objectives (PWQO)

☐ Other
Indicate One

Is this submission for a **Record of Site Condition?** ☐ Yes ☐ No

Report Guideline on *Certificate of Analysis* ☐ Yes ☐ No

Sample Matrix Legend

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

Laboratory Use Only

Work Order #: 24211530
Cooler Quantity: one - ice packs
Arrival Temperatures: 2.4 | 2.2 | 2.4 | 1.3 | 1.2 | 1.6
Custody Seal Intact: ☐ Yes ☐ No ☒ N/A
Notes: BAGGED ICE

Turnaround Time (TAT) Required:

Regular TAT ☒ 5 to 7 Business Days
Rush TAT (Rush Surcharges Apply)
☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day
OR Date Required (Rush Surcharges May Apply):
Please provide prior notification for rush TAT
*TAT is exclusive of weekends and statutory holidays
For 'Same Day' analysis, please contact your AGAT CPM

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals (☐ CrVI, ☐ Hg, ☐ HWSB)	O. Reg 153: BTEX, F1-F4 PHCs	O. Reg 153: VOC	O. Reg 153: PAHs	O. Reg 153: PCBs	PCBs: Aroclors ☐	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Regulation 406 SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Regulation 406 Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Corrosivity: ☐ Moisture ☐ Sulphide	SAR	EC	pH			Potentially Hazardous or High Concentration (Y/N)
1.	MW 11	01-11-24 9h00 AM/PM	4	S				X	X	X	X							X	X	X			
2.	MW 12	" 10h15 AM/PM	4	"				X	X	X	X							X	X	X			
3.	MW 13	" 12h00 AM/PM	4	"				X	X	X	X							X	X	X			
4.	BH 14	" 14h30 AM/PM	1	"				X															
5.	BH 15	" 14h15 AM/PM	1	"				X															
6.		AM/PM																					
7.		AM/PM																					
8.		AM/PM																					
9.		AM/PM																					
10.		AM/PM																					
11.		AM/PM																					

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Philip Oliveira	01-11-24	15h15	C. Griffith	01/11/24	15h10
Philip Oliveira				01/12/24	10:15AM
Philip Oliveira	01/12/24	15h30			

Page 1 of 1
N°: T-151729

Pink Copy - Client | Yellow Copy - AGAT | White Copy - AGAT

AGAT Laboratories

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CANADA L4Z 1Y2
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http://www.agatlabs.com

CLIENT NAME: **EXP SERVICES INC**
2650 QUEENSVIEW DRIVE, UNIT 100
OTTAWA, ON K2B8H6
(613) 688-1899
ATTENTION TO: **Mark McCalla**
PROJECT: **OTT-22019409-AO**
AGAT WORK ORDER: **24Z114812**
TRACE ORGANICS REVIEWED BY: **Neli Popnikolova, Senior Chemist**
WATER ANALYSIS REVIEWED BY: **Yris Verastegui, Inorganic Team Lead**
DATE REPORTED: **Jan 31, 2024**
PAGES (INCLUDING COVER): **19**
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.*
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- *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.*

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Certificate of Analysis

AGAT WORK ORDER: 24Z114812

PROJECT: OTT-22019409-AO

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Oliveira

O. Reg. 153(511) - PAHs (Water)

DATE RECEIVED: 2024-01-25 **DATE REPORTED: 2024-01-31**

		SAMPLE DESCRIPTION:		MW12	MW11	MW13	MW5	MW7	MW6	MW8	MW9
		SAMPLE TYPE:		Water	Water	Water	Water	Water	Water	Water	Water
		DATE SAMPLED:		2024-01-23 11:15	2024-01-23 13:30	2024-01-23 14:45	2024-01-23 16:30	2024-01-24 10:35	2024-01-24 11:45	2024-01-24 13:45	2024-01-24 14:50
Parameter	**Unit**	**G / S**	**RDL**	**5604775**	**5604777**	**5604778**	**5604779**	**5604781**	**5604782**	**5604783**	**5604784**
Naphthalene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Acenaphthylene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Acenaphthene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Fluorene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Phenanthrene	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Anthracene	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Fluoranthene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Pyrene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Benzo(a)anthracene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chrysene	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(b)fluoranthene	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(k)fluoranthene	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(a)pyrene	µg/L		0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dibenz(a,h)anthracene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Benzo(g,h,i)perylene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
2-and 1-methyl Napthalene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Sediment				1	1	1	1	1	1	1	1
Surrogate	**Unit**	**Acceptable Limits**									
Naphthalene-d8	%	50-140		79	82	76	82	79	94	81	78
Acridine-d9	%	50-140		112	112	112	99	99	88	115	103
Terphenyl-d14	%	50-140		90	72	111	82	101	76	76	111

Certified By: NPopowich

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Certificate of Analysis

AGAT WORK ORDER: 24Z114812

PROJECT: OTT-22019409-AO

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Oliveira

O. Reg. 153(511) - PAHs (Water)

DATE RECEIVED: 2024-01-25 **DATE REPORTED: 2024-01-31**

		SAMPLE DESCRIPTION:		MW10	DUP1
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2024-01-25 10:30	2024-01-24 09:30
Parameter	**Unit**	**G / S**	**RDL**	**5604785**	**5604786**
Naphthalene	µg/L		0.20	<0.20	<0.20
Acenaphthylene	µg/L		0.20	<0.20	<0.20
Acenaphthene	µg/L		0.20	<0.20	<0.20
Fluorene	µg/L		0.20	<0.20	<0.20
Phenanthrene	µg/L		0.10	<0.10	<0.10
Anthracene	µg/L		0.10	<0.10	<0.10
Fluoranthene	µg/L		0.20	<0.20	<0.20
Pyrene	µg/L		0.20	<0.20	<0.20
Benzo(a)anthracene	µg/L		0.20	<0.20	<0.20
Chrysene	µg/L		0.10	<0.10	<0.10
Benzo(b)fluoranthene	µg/L		0.10	<0.10	<0.10
Benzo(k)fluoranthene	µg/L		0.10	<0.10	<0.10
Benzo(a)pyrene	µg/L		0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	µg/L		0.20	<0.20	<0.20
Dibenz(a,h)anthracene	µg/L		0.20	<0.20	<0.20
Benzo(g,h,i)perylene	µg/L		0.20	<0.20	<0.20
2-and 1-methyl Napthalene	µg/L		0.20	<0.20	<0.20
Sediment				1	1
Surrogate	**Unit**	**Acceptable Limits**			
Naphthalene-d8	%	50-140		77	81
Acridine-d9	%	50-140		109	103
Terphenyl-d14	%	50-140		87	100

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5604775-5604786 Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.
Legend: 1 = no sediment present; 2 = sediment present; 3 = sediment present in trace amount
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. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popowich

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Certificate of Analysis

AGAT WORK ORDER: 24Z114812

PROJECT: OTT-22019409-AO

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Oliveira

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

DATE RECEIVED: 2024-01-25 **DATE REPORTED: 2024-01-31**

		SAMPLE DESCRIPTION:		MW12	MW11	MW13	MW5	MW7	MW6	MW8	MW9
		SAMPLE TYPE:		Water	Water	Water	Water	Water	Water	Water	Water
		DATE SAMPLED:		2024-01-23 11:15	2024-01-23 13:30	2024-01-23 14:45	2024-01-23 16:30	2024-01-24 10:35	2024-01-24 11:45	2024-01-24 13:45	2024-01-24 14:50
Parameter	**Unit**	**G / S**	**RDL**	**5604775**	**5604777**	**5604778**	**5604779**	**5604781**	**5604782**	**5604783**	**5604784**
F1 (C6 to C10)	µg/L		25	<25	<25	<25	<25	<25	<25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L		25	<25	<25	<25	<25	<25	<25	<25	<25
F2 (C10 to C16)	µg/L		100	<100	<100	<100	<100	<100	<100	<100	<100
F2 (C10 to C16) minus Naphthalene	µg/L		100	<100	<100	<100	<100	<100	<100	<100	<100
F3 (C16 to C34)	µg/L		100	<100	<100	<100	<100	<100	<100	<100	<100
F3 (C16 to C34) minus PAHs	µg/L		100	<100	<100	<100	<100	<100	<100	<100	<100
F4 (C34 to C50)	µg/L		100	<100	<100	<100	<100	<100	<100	<100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500	NA	NA	NA	NA	NA	NA	NA	NA
Sediment				1	1	1	1	1	1	1	1
Surrogate	**Unit**	**Acceptable Limits**									
Toluene-d8	%	50-140		108	103	105	104	100	102	102	102
Terphenyl	% Recovery	60-140		75	71	91	95	82	79	78	95

Certified By: N Popnikolof

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AGAT WORK ORDER: 24Z114812

PROJECT: OTT-22019409-AO

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Oliveira

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

DATE RECEIVED: 2024-01-25 **DATE REPORTED: 2024-01-31**

				SAMPLE DESCRIPTION:	MW10	DUP1
				SAMPLE TYPE:	Water	Water
				DATE SAMPLED:	2024-01-25 10:30	2024-01-24 09:30
Parameter	**Unit**	**G / S**	**RDL**		**5604785**	**5604786**
F1 (C6 to C10)	µg/L		25		<25	<25
F1 (C6 to C10) minus BTEX	µg/L		25		<25	<25
F2 (C10 to C16)	µg/L		100		<100	<100
F2 (C10 to C16) minus Naphthalene	µg/L		100		<100	<100
F3 (C16 to C34)	µg/L		100		<100	<100
F3 (C16 to C34) minus PAHs	µg/L		100		<100	<100
F4 (C34 to C50)	µg/L		100		<100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500		NA	NA
Sediment					1	1
Surrogate	**Unit**	**Acceptable Limits**				
Toluene-d8	%	50-140			102	103
Terphenyl	% Recovery	60-140			62	96

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5604775-5604786 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.

Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.
Legend: 1 = no sediment present; 2 = sediment present; 3 = sediment present in trace amounts

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popnikolof

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AGAT WORK ORDER: 24Z114812

PROJECT: OTT-22019409-AO

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Oliveira

O. Reg. 153(511) - VOCs (with PHC) (Water)

DATE RECEIVED: 2024-01-25

DATE REPORTED: 2024-01-31

SAMPLE DESCRIPTION:				MW12	MW11	MW13	MW5	MW7	MW6	MW8	MW9
SAMPLE TYPE:				Water	Water	Water	Water	Water	Water	Water	Water
DATE SAMPLED:				2024-01-23 11:15	2024-01-23 13:30	2024-01-23 14:45	2024-01-23 16:30	2024-01-24 10:35	2024-01-24 11:45	2024-01-24 13:45	2024-01-24 14:50
Parameter	Unit	G / S	RDL	5604775	5604777	5604778	5604779	5604781	5604782	5604783	5604784
Dichlorodifluoromethane	µg/L		0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Vinyl Chloride	µg/L		0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Bromomethane	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L		0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Acetone	µg/L		1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene	µg/L		0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Methylene Chloride	µg/L		0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Methyl tert-butyl ether	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1-Dichloroethane	µg/L		0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Methyl Ethyl Ketone	µg/L		1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chloroform	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloroethane	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1,1-Trichloroethane	µg/L		0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Carbon Tetrachloride	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Benzene	µg/L		0.20	0.34	0.46	0.67	0.29	<0.20	<0.20	<0.20	<0.20
1,2-Dichloropropane	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichloroethylene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Bromodichloromethane	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Methyl Isobutyl Ketone	µg/L		1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	µg/L		0.20	<0.20	0.54	0.39	1.24	<0.20	<0.20	0.76	<0.20
Dibromochloromethane	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ethylene Dibromide	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Tetrachloroethylene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chlorobenzene	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ethylbenzene	µg/L		0.10	0.12	0.13	0.66	<0.10	<0.10	<0.10	<0.10	<0.10

Certified By:

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AGAT WORK ORDER: 24Z114812

PROJECT: OTT-22019409-AO

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Oliveira

O. Reg. 153(511) - VOCs (with PHC) (Water)

DATE RECEIVED: 2024-01-25 **DATE REPORTED: 2024-01-31**

		SAMPLE DESCRIPTION:		MW12	MW11	MW13	MW5	MW7	MW6	MW8	MW9
		SAMPLE TYPE:		Water	Water	Water	Water	Water	Water	Water	Water
		DATE SAMPLED:		2024-01-23 11:15	2024-01-23 13:30	2024-01-23 14:45	2024-01-23 16:30	2024-01-24 10:35	2024-01-24 11:45	2024-01-24 13:45	2024-01-24 14:50
Parameter	**Unit**	**G / S**	**RDL**	**5604775**	**5604777**	**5604778**	**5604779**	**5604781**	**5604782**	**5604783**	**5604784**
m & p-Xylene	µg/L		0.20	<0.20	<0.20	<0.20	0.35	<0.20	0.39	0.49	<0.20
Bromoform	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Styrene	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
o-Xylene	µg/L		0.10	0.35	0.35	1.34	<0.10	<0.10	<0.10	0.21	<0.10
1,3-Dichlorobenzene	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,4-Dichlorobenzene	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,2-Dichlorobenzene	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,3-Dichloropropene	µg/L		0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Xylenes (Total)	µg/L		0.20	0.35	0.35	1.34	0.35	<0.20	0.39	0.70	<0.20
n-Hexane	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Surrogate	**Unit**	**Acceptable Limits**									
Toluene-d8	% Recovery	50-140		108	103	105	104	100	102	102	102
4-Bromofluorobenzene	% Recovery	50-140		92	93	99	94	91	91	92	92

Certified By: N Popowich

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AGAT WORK ORDER: 24Z114812

PROJECT: OTT-22019409-AO

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

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SAMPLED BY:Philip Oliveira

O. Reg. 153(511) - VOCs (with PHC) (Water)

DATE RECEIVED: 2024-01-25

DATE REPORTED: 2024-01-31

		SAMPLE DESCRIPTION:		MW10	DUP1
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2024-01-25 10:30	2024-01-24 09:30
Parameter	Unit	G / S	RDL	5604785	5604786
Dichlorodifluoromethane	µg/L		0.40	<0.40	<0.40
Vinyl Chloride	µg/L		0.17	<0.17	<0.17
Bromomethane	µg/L		0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L		0.40	<0.40	<0.40
Acetone	µg/L		1.0	<1.0	<1.0
1,1-Dichloroethylene	µg/L		0.30	<0.30	<0.30
Methylene Chloride	µg/L		0.30	<0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L		0.20	<0.20	<0.20
Methyl tert-butyl ether	µg/L		0.20	<0.20	<0.20
1,1-Dichloroethane	µg/L		0.30	<0.30	<0.30
Methyl Ethyl Ketone	µg/L		1.0	<1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L		0.20	<0.20	<0.20
Chloroform	µg/L		0.20	<0.20	<0.20
1,2-Dichloroethane	µg/L		0.20	<0.20	<0.20
1,1,1-Trichloroethane	µg/L		0.30	<0.30	<0.30
Carbon Tetrachloride	µg/L		0.20	<0.20	<0.20
Benzene	µg/L		0.20	0.60	<0.20
1,2-Dichloropropane	µg/L		0.20	<0.20	<0.20
Trichloroethylene	µg/L		0.20	<0.20	<0.20
Bromodichloromethane	µg/L		0.20	<0.20	<0.20
Methyl Isobutyl Ketone	µg/L		1.0	<1.0	<1.0
1,1,2-Trichloroethane	µg/L		0.20	<0.20	<0.20
Toluene	µg/L		0.20	1.00	<0.20
Dibromochloromethane	µg/L		0.10	<0.10	<0.10
Ethylene Dibromide	µg/L		0.10	<0.10	<0.10
Tetrachloroethylene	µg/L		0.20	<0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L		0.10	<0.10	<0.10
Chlorobenzene	µg/L		0.10	<0.10	<0.10
Ethylbenzene	µg/L		0.10	<0.10	<0.10

Certified By: N Popnikolof

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Certificate of Analysis

AGAT WORK ORDER: 24Z114812

PROJECT: OTT-22019409-AO

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Oliveira

O. Reg. 153(511) - VOCs (with PHC) (Water)

DATE RECEIVED: 2024-01-25

DATE REPORTED: 2024-01-31

		SAMPLE DESCRIPTION:		MW10	DUP1
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2024-01-25 10:30	2024-01-24 09:30
Parameter	**Unit**	**G / S**	**RDL**	**5604785**	**5604786**
m & p-Xylene	µg/L		0.20	<0.20	<0.20
Bromoform	µg/L		0.10	<0.10	<0.10
Styrene	µg/L		0.10	<0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L		0.10	<0.10	<0.10
o-Xylene	µg/L		0.10	0.18	<0.10
1,3-Dichlorobenzene	µg/L		0.10	<0.10	<0.10
1,4-Dichlorobenzene	µg/L		0.10	<0.10	<0.10
1,2-Dichlorobenzene	µg/L		0.10	<0.10	<0.10
1,3-Dichloropropene	µg/L		0.30	<0.30	<0.30
Xylenes (Total)	µg/L		0.20	<0.20	<0.20
n-Hexane	µg/L		0.20	<0.20	<0.20
Surrogate	**Unit**	**Acceptable Limits**			
Toluene-d8	% Recovery	50-140		102	103
4-Bromofluorobenzene	% Recovery	50-140		90	93

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5604775-5604786 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and 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 parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popowich

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Certificate of Analysis

AGAT WORK ORDER: 24Z114812

PROJECT: OTT-22019409-AO

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Oliveira

O. Reg. 153(511) - Metals (Including Hydrides) (Water)

DATE RECEIVED: 2024-01-25 **DATE REPORTED: 2024-01-31**

		SAMPLE DESCRIPTION:		MW12	MW11	MW13	MW5	MW7	MW6	MW8	MW9
		SAMPLE TYPE:		Water	Water	Water	Water	Water	Water	Water	Water
		DATE SAMPLED:		2024-01-23 11:15	2024-01-23 13:30	2024-01-23 14:45	2024-01-23 16:30	2024-01-24 10:35	2024-01-24 11:45	2024-01-24 13:45	2024-01-24 14:50
Parameter	Unit	G / S	RDL	5604775	5604777	5604778	5604779	5604781	5604782	5604783	5604784
Dissolved Antimony	µg/L		1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Arsenic	µg/L		1.0	2.3	<1.0	2.3	12.3	2.2	<1.0	6.6	<1.0
Dissolved Barium	µg/L		2.0	178	145	251	561	188	346	292	447
Dissolved Beryllium	µg/L		0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Boron	µg/L		10.0	503	367	446	134	56.3	649	332	572
Dissolved Cadmium	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dissolved Chromium	µg/L		2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Cobalt	µg/L		0.50	2.17	1.34	1.41	0.96	<0.50	0.77	7.37	3.87
Dissolved Copper	µg/L		1.0	<1.0	1.8	<1.0	<1.0	1.6	1.2	1.9	<1.0
Dissolved Lead	µg/L		0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Molybdenum	µg/L		0.50	2.6	3.25	6.10	4.96	4.32	1.67	6.88	1.72
Dissolved Nickel	µg/L		1.0	7.0	5.8	4.5	2.0	1.4	2.2	19.4	8.2
Dissolved Selenium	µg/L		1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0
Dissolved Silver	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dissolved Thallium	µg/L		0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Dissolved Uranium	µg/L		0.50	2.88	2.18	1.12	1.03	1.25	2.24	5.46	2.28
Dissolved Vanadium	µg/L		0.40	0.41	<0.40	<0.40	0.49	<0.40	0.40	0.54	<0.40
Dissolved Zinc	µg/L		5.0	<5.0	<5.0	5.2	<5.0	<5.0	5.9	<5.0	<5.0

Certified By: Iris Verástegui

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 24Z114812

PROJECT: OTT-22019409-AO

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Oliveira

O. Reg. 153(511) - Metals (Including Hydrides) (Water)

DATE RECEIVED: 2024-01-25 **DATE REPORTED: 2024-01-31**

		SAMPLE DESCRIPTION:		MW10	DUP1
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2024-01-25 10:30	2024-01-24 09:30
Parameter	Unit	G / S	RDL	5604785	5604786
Dissolved Antimony	µg/L		1.0	<1.0	<1.0
Dissolved Arsenic	µg/L		1.0	<1.0	3.0
Dissolved Barium	µg/L		2.0	227	201
Dissolved Beryllium	µg/L		0.50	<0.50	<0.50
Dissolved Boron	µg/L		10.0	692	56.5
Dissolved Cadmium	µg/L		0.20	<0.20	<0.20
Dissolved Chromium	µg/L		2.0	<2.0	<2.0
Dissolved Cobalt	µg/L		0.50	2.42	<0.50
Dissolved Copper	µg/L		1.0	1.4	1.3
Dissolved Lead	µg/L		0.50	<0.50	<0.50
Dissolved Molybdenum	µg/L		0.50	5.40	2.89
Dissolved Nickel	µg/L		1.0	3.6	2.2
Dissolved Selenium	µg/L		1.0	<1.0	<1.0
Dissolved Silver	µg/L		0.20	<0.20	<0.20
Dissolved Thallium	µg/L		0.30	<0.30	<0.30
Dissolved Uranium	µg/L		0.50	2.52	1.24
Dissolved Vanadium	µg/L		0.40	0.63	<0.40
Dissolved Zinc	µg/L		5.0	<5.0	<5.0

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5604775-5604786 Metals analysis completed on a filtered sample.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: Iris Verástegui

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Quality Assurance

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z114812

PROJECT: OTT-22019409-AO

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Oliveira

Trace Organics Analysis

RPT Date: Jan 31, 2024			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	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) (Water)															
F1 (C6 to C10)	5604786	5604786	<25	<25	NA	< 25	86%	60%	140%	87%	60%	140%	92%	60%	140%
F2 (C10 to C16)	5595057		< 100	< 100	NA	< 100	102%	60%	140%	81%	60%	140%	91%	60%	140%
F3 (C16 to C34)	5595057		< 100	< 100	NA	< 100	106%	60%	140%	69%	60%	140%	86%	60%	140%
F4 (C34 to C50)	5595057		< 100	< 100	NA	< 100	65%	60%	140%	96%	60%	140%	111%	60%	140%
O. Reg. 153(511) - VOCs (with PHC) (Water)															
Dichlorodifluoromethane	5604786	5604786	<0.40	<0.40	NA	< 0.40	103%	50%	140%	91%	50%	140%	73%	50%	140%
Vinyl Chloride	5604786	5604786	<0.17	<0.17	NA	< 0.17	116%	50%	140%	117%	50%	140%	122%	50%	140%
Bromomethane	5604786	5604786	<0.20	<0.20	NA	< 0.20	102%	50%	140%	89%	50%	140%	90%	50%	140%
Trichlorofluoromethane	5604786	5604786	<0.40	<0.40	NA	< 0.40	100%	50%	140%	92%	50%	140%	90%	50%	140%
Acetone	5604786	5604786	<1.0	<1.0	NA	< 1.0	78%	50%	140%	75%	50%	140%	70%	50%	140%
1,1-Dichloroethylene	5604786	5604786	<0.30	<0.30	NA	< 0.30	82%	50%	140%	79%	60%	130%	90%	50%	140%
Methylene Chloride	5604786	5604786	<0.30	<0.30	NA	< 0.30	105%	50%	140%	103%	60%	130%	107%	50%	140%
trans- 1,2-Dichloroethylene	5604786	5604786	<0.20	<0.20	NA	< 0.20	76%	50%	140%	69%	60%	130%	76%	50%	140%
Methyl tert-butyl ether	5604786	5604786	<0.20	<0.20	NA	< 0.20	99%	50%	140%	99%	60%	130%	84%	50%	140%
1,1-Dichloroethane	5604786	5604786	<0.30	<0.30	NA	< 0.30	82%	50%	140%	73%	60%	130%	78%	50%	140%
Methyl Ethyl Ketone	5604786	5604786	<1.0	<1.0	NA	< 1.0	81%	50%	140%	98%	50%	140%	114%	50%	140%
cis- 1,2-Dichloroethylene	5604786	5604786	<0.20	<0.20	NA	< 0.20	91%	50%	140%	81%	60%	130%	89%	50%	140%
Chloroform	5604786	5604786	<0.20	<0.20	NA	< 0.20	88%	50%	140%	80%	60%	130%	87%	50%	140%
1,2-Dichloroethane	5604786	5604786	<0.20	<0.20	NA	< 0.20	85%	50%	140%	76%	60%	130%	98%	50%	140%
1,1,1-Trichloroethane	5604786	5604786	<0.30	<0.30	NA	< 0.30	81%	50%	140%	110%	60%	130%	102%	50%	140%
Carbon Tetrachloride	5604786	5604786	<0.20	<0.20	NA	< 0.20	90%	50%	140%	116%	60%	130%	107%	50%	140%
Benzene	5604786	5604786	<0.20	<0.20	NA	< 0.20	95%	50%	140%	89%	60%	130%	95%	50%	140%
1,2-Dichloropropane	5604786	5604786	<0.20	<0.20	NA	< 0.20	90%	50%	140%	81%	60%	130%	86%	50%	140%
Trichloroethylene	5604786	5604786	<0.20	<0.20	NA	< 0.20	99%	50%	140%	90%	60%	130%	100%	50%	140%
Bromodichloromethane	5604786	5604786	<0.20	<0.20	NA	< 0.20	89%	50%	140%	80%	60%	130%	87%	50%	140%
Methyl Isobutyl Ketone	5604786	5604786	<1.0	<1.0	NA	< 1.0	112%	50%	140%	81%	50%	140%	84%	50%	140%
1,1,2-Trichloroethane	5604786	5604786	<0.20	<0.20	NA	< 0.20	117%	50%	140%	105%	60%	130%	117%	50%	140%
Toluene	5604786	5604786	<0.20	<0.20	NA	< 0.20	111%	50%	140%	100%	60%	130%	113%	50%	140%
Dibromochloromethane	5604786	5604786	<0.10	<0.10	NA	< 0.10	101%	50%	140%	99%	60%	130%	98%	50%	140%
Ethylene Dibromide	5604786	5604786	<0.10	<0.10	NA	< 0.10	115%	50%	140%	104%	60%	130%	107%	50%	140%
Tetrachloroethylene	5604786	5604786	<0.20	<0.20	NA	< 0.20	119%	50%	140%	110%	60%	130%	118%	50%	140%
1,1,1,2-Tetrachloroethane	5604786	5604786	<0.10	<0.10	NA	< 0.10	106%	50%	140%	117%	60%	130%	110%	50%	140%
Chlorobenzene	5604786	5604786	<0.10	<0.10	NA	< 0.10	112%	50%	140%	101%	60%	130%	116%	50%	140%
Ethylbenzene	5604786	5604786	<0.10	<0.10	NA	< 0.10	101%	50%	140%	93%	60%	130%	101%	50%	140%
m & p-Xylene	5604786	5604786	<0.20	<0.20	NA	< 0.20	102%	50%	140%	92%	60%	130%	102%	50%	140%
Bromoform	5604786	5604786	<0.10	<0.10	NA	< 0.10	98%	50%	140%	106%	60%	130%	94%	50%	140%
Styrene	5604786	5604786	<0.10	<0.10	NA	< 0.10	92%	50%	140%	80%	60%	130%	94%	50%	140%
1,1,2,2-Tetrachloroethane	5604786	5604786	<0.10	<0.10	NA	< 0.10	116%	50%	140%	103%	60%	130%	117%	50%	140%
o-Xylene	5604786	5604786	<0.10	<0.10	NA	< 0.10	104%	50%	140%	90%	60%	130%	102%	50%	140%

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Quality Assurance

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z114812

PROJECT: OTT-22019409-AO

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Oliveira

Trace Organics Analysis (Continued)

RPT Date: Jan 31, 2024			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
1,3-Dichlorobenzene	5604786	5604786	<0.10	<0.10	NA	< 0.10	116%	50%	140%	98%	60%	130%	111%	50%	140%
1,4-Dichlorobenzene	5604786	5604786	<0.10	<0.10	NA	< 0.10	117%	50%	140%	98%	60%	130%	115%	50%	140%
1,2-Dichlorobenzene	5604786	5604786	<0.10	<0.10	NA	< 0.10	117%	50%	140%	97%	60%	130%	112%	50%	140%
n-Hexane	5604786	5604786	<0.20	<0.20	NA	< 0.20	113%	50%	140%	106%	60%	130%	111%	50%	140%
O. Reg. 153(511) - PAHs (Water)															
Naphthalene	5604775	5604775	<0.20	<0.20	NA	< 0.20	104%	50%	140%	76%	50%	140%	94%	50%	140%
Acenaphthylene	5604775	5604775	<0.20	<0.20	NA	< 0.20	72%	50%	140%	76%	50%	140%	88%	50%	140%
Acenaphthene	5604775	5604775	<0.20	<0.20	NA	< 0.20	112%	50%	140%	96%	50%	140%	98%	50%	140%
Fluorene	5604775	5604775	<0.20	<0.20	NA	< 0.20	105%	50%	140%	76%	50%	140%	81%	50%	140%
Phenanthrene	5604775	5604775	<0.10	<0.10	NA	< 0.10	111%	50%	140%	81%	50%	140%	84%	50%	140%
Anthracene	5604775	5604775	<0.10	<0.10	NA	< 0.10	102%	50%	140%	81%	50%	140%	80%	50%	140%
Fluoranthene	5604775	5604775	<0.20	<0.20	NA	< 0.20	115%	50%	140%	84%	50%	140%	88%	50%	140%
Pyrene	5604775	5604775	<0.20	<0.20	NA	< 0.20	111%	50%	140%	83%	50%	140%	86%	50%	140%
Benzo(a)anthracene	5604775	5604775	<0.20	<0.20	NA	< 0.20	94%	50%	140%	84%	50%	140%	77%	50%	140%
Chrysene	5604775	5604775	<0.10	<0.10	NA	< 0.10	110%	50%	140%	106%	50%	140%	107%	50%	140%
Benzo(b)fluoranthene	5604775	5604775	<0.10	<0.10	NA	< 0.10	112%	50%	140%	86%	50%	140%	94%	50%	140%
Benzo(k)fluoranthene	5604775	5604775	<0.10	<0.10	NA	< 0.10	119%	50%	140%	108%	50%	140%	114%	50%	140%
Benzo(a)pyrene	5604775	5604775	<0.01	<0.01	NA	< 0.01	113%	50%	140%	77%	50%	140%	86%	50%	140%
Indeno(1,2,3-cd)pyrene	5604775	5604775	<0.20	<0.20	NA	< 0.20	81%	50%	140%	113%	50%	140%	95%	50%	140%
Dibenz(a,h)anthracene	5604775	5604775	<0.20	<0.20	NA	< 0.20	100%	50%	140%	108%	50%	140%	87%	50%	140%
Benzo(g,h,i)perylene	5604775	5604775	<0.20	<0.20	NA	< 0.20	101%	50%	140%	107%	50%	140%	75%	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: N Popowkof

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Quality Assurance

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z114812

PROJECT: OTT-22019409-AO

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Oliveira

Water Analysis

RPT Date: Jan 31, 2024			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals (Including Hydrides) (Water)															
Dissolved Antimony	5604775	5604775	<1.0	<1.0	NA	< 1.0	101%	70%	130%	100%	80%	120%	109%	70%	130%
Dissolved Arsenic	5604775	5604775	2.3	<1.0	NA	< 1.0	106%	70%	130%	98%	80%	120%	114%	70%	130%
Dissolved Barium	5604775	5604775	178	183	2.8%	< 2.0	93%	70%	130%	94%	80%	120%	110%	70%	130%
Dissolved Beryllium	5604775	5604775	<0.50	<0.50	NA	< 0.50	108%	70%	130%	106%	80%	120%	108%	70%	130%
Dissolved Boron	5604775	5604775	503	472	6.4%	< 10.0	102%	70%	130%	107%	80%	120%	99%	70%	130%
Dissolved Cadmium	5604775	5604775	<0.20	<0.20	NA	< 0.20	100%	70%	130%	100%	80%	120%	105%	70%	130%
Dissolved Chromium	5604775	5604775	<2.0	<2.0	NA	< 2.0	102%	70%	130%	98%	80%	120%	106%	70%	130%
Dissolved Cobalt	5604775	5604775	2.17	1.61	NA	< 0.50	103%	70%	130%	100%	80%	120%	103%	70%	130%
Dissolved Copper	5604775	5604775	<1.0	1.2	NA	< 1.0	99%	70%	130%	101%	80%	120%	100%	70%	130%
Dissolved Lead	5604775	5604775	<0.50	<0.50	NA	< 0.50	100%	70%	130%	99%	80%	120%	98%	70%	130%
Dissolved Molybdenum	5604775	5604775	2.6	2.9	10.9%	< 0.50	105%	70%	130%	102%	80%	120%	108%	70%	130%
Dissolved Nickel	5604775	5604775	7.0	6.0	15.4%	< 1.0	105%	70%	130%	97%	80%	120%	99%	70%	130%
Dissolved Selenium	5604775	5604775	<1.0	1.2	NA	< 1.0	102%	70%	130%	97%	80%	120%	111%	70%	130%
Dissolved Silver	5604775	5604775	<0.20	<0.20	NA	< 0.20	102%	70%	130%	95%	80%	120%	87%	70%	130%
Dissolved Thallium	5604775	5604775	<0.30	<0.30	NA	< 0.30	101%	70%	130%	100%	80%	120%	99%	70%	130%
Dissolved Uranium	5604775	5604775	2.88	2.91	1.0%	< 0.50	104%	70%	130%	100%	80%	120%	105%	70%	130%
Dissolved Vanadium	5604775	5604775	0.41	<0.40	NA	< 0.40	102%	70%	130%	103%	80%	120%	106%	70%	130%
Dissolved Zinc	5604775	5604775	<5.0	<5.0	NA	< 5.0	102%	70%	130%	102%	80%	120%	104%	70%	130%

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

Certified By: Iris Verástegui

AGAT Laboratories

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http://www.agatlabs.com

Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z114812

PROJECT: OTT-22019409-AO

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Oliveira

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Fluorene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Anthracene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Pyrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(a)anthracene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Chrysene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
2-and 1-methyl Napthalene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Sediment			N/A
F1 (C6 to C10)	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	modified from MOE PHC-E3421	P&T GC/FID
Toluene-d8	VOL-91- 5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F3 (C16 to C34)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F3 (C16 to C34) minus PAHs	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F4 (C34 to C50)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	modified from MOE PHC-E3421	BALANCE
Terphenyl	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Dichlorodifluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z114812

PROJECT: OTT-22019409-AO

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Oliveira

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Vinyl Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
trans- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl tert-butyl ether	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
cis- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z114812

PROJECT: OTT-22019409-AO

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Oliveira

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
m & p-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z114812

PROJECT: OTT-22019409-AO

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Oliveira

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis			
Dissolved Antimony	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Arsenic	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Barium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Beryllium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Boron	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Cadmium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Chromium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Cobalt	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Copper	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Lead	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Molybdenum	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Nickel	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Selenium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Silver	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Thallium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Uranium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Vanadium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Zinc	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS

AGAT Laboratories

Have feedback? Scan here for a quick survey!

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Mississauga, Ontario L4Z 1Y2
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webearth.agatlabs.com

Chain of Custody Record

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

Laboratory Use Only

Work Order #: 24711481 2

Cooler Quantity: one - Dageyice

Arrival Temperatures: c.1 16 5 16.3 / 1.0 1.4 1.9

Custody Seal Intact: ☐Yes ☐No ☐N/A

Notes:

Report Information:

Company: EXP SERVICES INC
Contact: MARK McCALLA
Address: 2650 QUEENSVIEW DR. OTTAWA
Phone: 613-688-1899 Fax:
Reports to be sent to:
1. Email: Mark.McCalla@exp.com
2. Email: Philip.Oliveira@exp.com

Project Information:

Project: OTT-22019409-A0
Site Location:
Sampled By: Philip Oliveira
AGAT Quote #: EXP standing OFFER 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: EXP SERVICES INC.
Contact: Accounts Payable
Address: 2650 QUEENSVIEW DR.
Email:

Regulatory Requirements:

(Please check all applicable boxes)

☒ Regulation 153/04
Table (Indicate One) ☐ Ind/Com ☐ Res/Park ☐ Agriculture
Soil Texture (Check One) ☐ Coarse ☐ Fine

☐ Regulation 406
Table (Indicate One)

☐ Regulation 558

☐ CCME

☐ Sewer Use ☐ Sanitary ☐ Storm
(Region)

☐ Prov. Water Quality Objectives (PWQO)

☐ Other
(Indicate One)

Is this submission for a **Record of Site Condition?** ☐ Yes ☐ No

Report Guideline on *Certificate of Analysis* ☐ Yes ☐ No

Turnaround Time (TAT) Required:

Regular TAT ☒ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply):

Please provide prior notification for rush TAT
*TAT is exclusive of weekends and statutory holidays

For 'Same Day' analysis, please contact your AGAT CPM

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	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs	VOC	PAHs	PCBs	PCBs: Aroclors ☐	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Regulation 406 SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Regulation 406 Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Corrosivity: ☐ Moisture ☐ Sulphide	Potentially Hazardous or High Concentration (Y/N)
1. MW12	01-23-24	11h15 AM/PM	8	GW		Y	X		X	X	X							
2. MW11	01-23-24	13h30 AM/PM																
3. MW13	01-23-24	14h45 AM/PM																
4. MW5	01-23-24	16h30 AM/PM																
5. MW7	01-24-24	10h35 AM/PM																
6. MW16	01-24-24	11h45 AM/PM																
7. MW18	01-24-24	13h45 AM/PM																
8. MW9	01-24-24	14h50 AM/PM																
9. MW10	01-25-24	10h30 AM/PM																
10.		AM/PM																
11. Dup 1	01-24-24	9h30 AM/PM																

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Philip Oliveira	01-25-24	13h00		01/25/24	13h00
Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
				Jan 26	8:39
Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
	01/25/24	15h30			

Page 1 of 1

N°: T-150701

Pink Copy - Client | Yellow Copy - AGAT | White Copy - AGAT

Document ID: DW-78-1511-022

Date Issued: May 10, 2023

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http://www.agatlabs.com

CLIENT NAME: **EXP SERVICES INC**
2650 QUEENSVIEW DRIVE, UNIT 100
OTTAWA, ON K2B8H6
(613) 688-1899
ATTENTION TO: **Mark McCalla**
PROJECT: **OTT-22019409-AO**
AGAT WORK ORDER: **24Z115058**
TRACE ORGANICS REVIEWED BY: **Neli Popnikolova, Senior Chemist**
WATER ANALYSIS REVIEWED BY: **Nivine Basily, Inorganic Team Lead**
DATE REPORTED: **Feb 01, 2024**
PAGES (INCLUDING COVER): **14**
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.*

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Certificate of Analysis

AGAT WORK ORDER: 24Z115058

PROJECT: OTT-22019409-AO

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Olivera

O. Reg. 153(511) - PAHs (Water)

DATE RECEIVED: 2024-01-25

DATE REPORTED: 2024-02-01

		SAMPLE DESCRIPTION:		MW4
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2024-01-25 16:00
Parameter	**Unit**	**G / S**	**RDL**	**5608927**
Naphthalene	µg/L		0.20	<0.20
Acenaphthylene	µg/L		0.20	<0.20
Acenaphthene	µg/L		0.20	<0.20
Fluorene	µg/L		0.20	<0.20
Phenanthrene	µg/L		0.10	<0.10
Anthracene	µg/L		0.10	<0.10
Fluoranthene	µg/L		0.20	<0.20
Pyrene	µg/L		0.20	<0.20
Benzo(a)anthracene	µg/L		0.20	<0.20
Chrysene	µg/L		0.10	<0.10
Benzo(b)fluoranthene	µg/L		0.10	<0.10
Benzo(k)fluoranthene	µg/L		0.10	<0.10
Benzo(a)pyrene	µg/L		0.01	<0.01
Indeno(1,2,3-cd)pyrene	µg/L		0.20	<0.20
Dibenz(a,h)anthracene	µg/L		0.20	<0.20
Benzo(g,h,i)perylene	µg/L		0.20	<0.20
2-and 1-methyl Napthalene	µg/L		0.20	<0.20
Sediment				2
Surrogate	**Unit**	**Acceptable Limits**		
Naphthalene-d8	%	50-140		75
Acridine-d9	%	50-140		109
Terphenyl-d14	%	50-140		71

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5608927 Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.
Legend: 1 = no sediment present; 2 = sediment present; 3 = sediment present in trace amount
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. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: NPopowkolof

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 24Z115058

PROJECT: OTT-22019409-AO

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Olivera

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

DATE RECEIVED: 2024-01-25 **DATE REPORTED: 2024-02-01**

			SAMPLE DESCRIPTION:	MW4
			SAMPLE TYPE:	Water
			DATE SAMPLED:	2024-01-25 16:00
Parameter	**Unit**	**G / S**	**RDL**	**5608927**
F1 (C6 to C10)	µg/L		25	<25
F1 (C6 to C10) minus BTEX	µg/L		25	<25
F2 (C10 to C16)	µg/L		100	<100
F2 (C10 to C16) minus Naphthalene	µg/L		100	<100
F3 (C16 to C34)	µg/L		100	<100
F3 (C16 to C34) minus PAHs	µg/L		100	<100
F4 (C34 to C50)	µg/L		100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500	NA
Sediment				2
Surrogate	**Unit**	**Acceptable Limits**		
Toluene-d8	%	50-140		104
Terphenyl	% Recovery	60-140		81

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5608927 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.

Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.
Legend: 1 = no sediment present; 2 = sediment present; 3 = sediment present in trace amounts

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popnikolof

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 24Z115058

PROJECT: OTT-22019409-AO

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Olivera

O. Reg. 153(511) - VOCs (with PHC) (Water)

DATE RECEIVED: 2024-01-25

DATE REPORTED: 2024-02-01

		SAMPLE DESCRIPTION:		MW4
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2024-01-25 16:00
Parameter	Unit	G / S	RDL	5608927
Dichlorodifluoromethane	µg/L		0.40	<0.40
Vinyl Chloride	µg/L		0.17	<0.17
Bromomethane	µg/L		0.20	<0.20
Trichlorofluoromethane	µg/L		0.40	<0.40
Acetone	µg/L		1.0	<1.0
1,1-Dichloroethylene	µg/L		0.30	<0.30
Methylene Chloride	µg/L		0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L		0.20	<0.20
Methyl tert-butyl ether	µg/L		0.20	<0.20
1,1-Dichloroethane	µg/L		0.30	<0.30
Methyl Ethyl Ketone	µg/L		1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L		0.20	<0.20
Chloroform	µg/L		0.20	<0.20
1,2-Dichloroethane	µg/L		0.20	<0.20
1,1,1-Trichloroethane	µg/L		0.30	<0.30
Carbon Tetrachloride	µg/L		0.20	<0.20
Benzene	µg/L		0.20	<0.20
1,2-Dichloropropane	µg/L		0.20	<0.20
Trichloroethylene	µg/L		0.20	<0.20
Bromodichloromethane	µg/L		0.20	<0.20
Methyl Isobutyl Ketone	µg/L		1.0	<1.0
1,1,2-Trichloroethane	µg/L		0.20	<0.20
Toluene	µg/L		0.20	0.29
Dibromochloromethane	µg/L		0.10	<0.10
Ethylene Dibromide	µg/L		0.10	<0.10
Tetrachloroethylene	µg/L		0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L		0.10	<0.10
Chlorobenzene	µg/L		0.10	<0.10
Ethylbenzene	µg/L		0.10	<0.10

Certified By: N Popnikolof

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Certificate of Analysis

AGAT WORK ORDER: 24Z115058

PROJECT: OTT-22019409-AO

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Olivera

O. Reg. 153(511) - VOCs (with PHC) (Water)

DATE RECEIVED: 2024-01-25

DATE REPORTED: 2024-02-01

		SAMPLE DESCRIPTION:		MW4
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2024-01-25 16:00
Parameter	**Unit**	**G / S**	**RDL**	**5608927**
m & p-Xylene	µg/L		0.20	0.29
Bromoform	µg/L		0.10	<0.10
Styrene	µg/L		0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L		0.10	<0.10
o-Xylene	µg/L		0.10	0.17
1,3-Dichlorobenzene	µg/L		0.10	<0.10
1,4-Dichlorobenzene	µg/L		0.10	<0.10
1,2-Dichlorobenzene	µg/L		0.10	<0.10
1,3-Dichloropropene	µg/L		0.30	<0.30
Xylenes (Total)	µg/L		0.20	0.46
n-Hexane	µg/L		0.20	<0.20
Surrogate	**Unit**	**Acceptable Limits**		
Toluene-d8	% Recovery	50-140		104
4-Bromofluorobenzene	% Recovery	50-140		92

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5608927 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and 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 parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popowich

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Certificate of Analysis

AGAT WORK ORDER: 24Z115058

PROJECT: OTT-22019409-AO

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Olivera

O. Reg. 153(511) - Metals (Including Hydrides) (Water)

DATE RECEIVED: 2024-01-25

DATE REPORTED: 2024-02-01

		SAMPLE DESCRIPTION:		MW4
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2024-01-25 16:00
Parameter	Unit	G / S	RDL	5608927
Dissolved Antimony	µg/L		1.0	<1.0
Dissolved Arsenic	µg/L		1.0	1.0
Dissolved Barium	µg/L		2.0	249
Dissolved Beryllium	µg/L		0.50	<0.50
Dissolved Boron	µg/L		10.0	281
Dissolved Cadmium	µg/L		0.20	<0.20
Dissolved Chromium	µg/L		2.0	<2.0
Dissolved Cobalt	µg/L		0.50	2.47
Dissolved Copper	µg/L		1.0	1.7
Dissolved Lead	µg/L		0.50	<0.50
Dissolved Molybdenum	µg/L		0.50	4.74
Dissolved Nickel	µg/L		1.0	9.3
Dissolved Selenium	µg/L		1.0	<1.0
Dissolved Silver	µg/L		0.20	<0.20
Dissolved Thallium	µg/L		0.30	<0.30
Dissolved Uranium	µg/L		0.50	2.22
Dissolved Vanadium	µg/L		0.40	<0.40
Dissolved Zinc	µg/L		5.0	5.8

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5608927 Metals analysis completed on a filtered sample.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

AGAT Laboratories

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Quality Assurance

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z115058

PROJECT: OTT-22019409-AO

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Olivera

Trace Organics Analysis

RPT Date: Feb 01, 2024			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	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) (Water)															
F1 (C6 to C10)	5604786		<25	<25	NA	< 25	86%	60%	140%	87%	60%	140%	92%	60%	140%
F2 (C10 to C16)	5608112		< 100	< 100	NA	< 100	107%	60%	140%	101%	60%	140%	87%	60%	140%
F3 (C16 to C34)	5608112		< 100	< 100	NA	< 100	116%	60%	140%	81%	60%	140%	67%	60%	140%
F4 (C34 to C50)	5608112		< 100	< 100	NA	< 100	78%	60%	140%	76%	60%	140%	100%	60%	140%
O. Reg. 153(511) - PAHs (Water)															
Naphthalene	5604775		<0.20	<0.20	NA	< 0.20	104%	50%	140%	76%	50%	140%	94%	50%	140%
Acenaphthylene	5604775		<0.20	<0.20	NA	< 0.20	72%	50%	140%	76%	50%	140%	88%	50%	140%
Acenaphthene	5604775		<0.20	<0.20	NA	< 0.20	112%	50%	140%	96%	50%	140%	98%	50%	140%
Fluorene	5604775		<0.20	<0.20	NA	< 0.20	105%	50%	140%	76%	50%	140%	81%	50%	140%
Phenanthrene	5604775		<0.10	<0.10	NA	< 0.10	111%	50%	140%	81%	50%	140%	84%	50%	140%
Anthracene	5604775		<0.10	<0.10	NA	< 0.10	102%	50%	140%	81%	50%	140%	80%	50%	140%
Fluoranthene	5604775		<0.20	<0.20	NA	< 0.20	115%	50%	140%	84%	50%	140%	88%	50%	140%
Pyrene	5604775		<0.20	<0.20	NA	< 0.20	111%	50%	140%	83%	50%	140%	86%	50%	140%
Benzo(a)anthracene	5604775		<0.20	<0.20	NA	< 0.20	94%	50%	140%	84%	50%	140%	77%	50%	140%
Chrysene	5604775		<0.10	<0.10	NA	< 0.10	110%	50%	140%	106%	50%	140%	107%	50%	140%
Benzo(b)fluoranthene	5604775		<0.10	<0.10	NA	< 0.10	112%	50%	140%	86%	50%	140%	94%	50%	140%
Benzo(k)fluoranthene	5604775		<0.10	<0.10	NA	< 0.10	119%	50%	140%	108%	50%	140%	114%	50%	140%
Benzo(a)pyrene	5604775		<0.01	<0.01	NA	< 0.01	113%	50%	140%	77%	50%	140%	86%	50%	140%
Indeno(1,2,3-cd)pyrene	5604775		<0.20	<0.20	NA	< 0.20	81%	50%	140%	113%	50%	140%	95%	50%	140%
Dibenz(a,h)anthracene	5604775		<0.20	<0.20	NA	< 0.20	100%	50%	140%	108%	50%	140%	87%	50%	140%
Benzo(g,h,i)perylene	5604775		<0.20	<0.20	NA	< 0.20	101%	50%	140%	107%	50%	140%	75%	50%	140%
O. Reg. 153(511) - VOCs (with PHC) (Water)															
Dichlorodifluoromethane	5604786		<0.40	<0.40	NA	< 0.40	103%	50%	140%	91%	50%	140%	73%	50%	140%
Vinyl Chloride	5604786		<0.17	<0.17	NA	< 0.17	116%	50%	140%	117%	50%	140%	122%	50%	140%
Bromomethane	5604786		<0.20	<0.20	NA	< 0.20	102%	50%	140%	89%	50%	140%	90%	50%	140%
Trichlorofluoromethane	5604786		<0.40	<0.40	NA	< 0.40	100%	50%	140%	92%	50%	140%	90%	50%	140%
Acetone	5604786		<1.0	<1.0	NA	< 1.0	78%	50%	140%	75%	50%	140%	70%	50%	140%
1,1-Dichloroethylene	5604786		<0.30	<0.30	NA	< 0.30	82%	50%	140%	79%	60%	130%	90%	50%	140%
Methylene Chloride	5604786		<0.30	<0.30	NA	< 0.30	105%	50%	140%	103%	60%	130%	107%	50%	140%
trans- 1,2-Dichloroethylene	5604786		<0.20	<0.20	NA	< 0.20	76%	50%	140%	69%	60%	130%	76%	50%	140%
Methyl tert-butyl ether	5604786		<0.20	<0.20	NA	< 0.20	99%	50%	140%	99%	60%	130%	84%	50%	140%
1,1-Dichloroethane	5604786		<0.30	<0.30	NA	< 0.30	82%	50%	140%	73%	60%	130%	78%	50%	140%
Methyl Ethyl Ketone	5604786		<1.0	<1.0	NA	< 1.0	81%	50%	140%	98%	50%	140%	114%	50%	140%
cis- 1,2-Dichloroethylene	5604786		<0.20	<0.20	NA	< 0.20	91%	50%	140%	81%	60%	130%	89%	50%	140%
Chloroform	5604786		<0.20	<0.20	NA	< 0.20	88%	50%	140%	80%	60%	130%	87%	50%	140%
1,2-Dichloroethane	5604786		<0.20	<0.20	NA	< 0.20	85%	50%	140%	76%	60%	130%	98%	50%	140%
1,1,1-Trichloroethane	5604786		<0.30	<0.30	NA	< 0.30	81%	50%	140%	110%	60%	130%	102%	50%	140%
Carbon Tetrachloride	5604786		<0.20	<0.20	NA	< 0.20	90%	50%	140%	116%	60%	130%	107%	50%	140%

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Quality Assurance

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z115058

PROJECT: OTT-22019409-AO

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Olivera

Trace Organics Analysis (Continued)

RPT Date: Feb 01, 2024			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Benzene	5604786		<0.20	<0.20	NA	< 0.20	95%	50%	140%	89%	60%	130%	95%	50%	140%
1,2-Dichloropropane	5604786		<0.20	<0.20	NA	< 0.20	90%	50%	140%	81%	60%	130%	86%	50%	140%
Trichloroethylene	5604786		<0.20	<0.20	NA	< 0.20	99%	50%	140%	90%	60%	130%	100%	50%	140%
Bromodichloromethane	5604786		<0.20	<0.20	NA	< 0.20	89%	50%	140%	80%	60%	130%	87%	50%	140%
Methyl Isobutyl Ketone	5604786		<1.0	<1.0	NA	< 1.0	112%	50%	140%	81%	50%	140%	84%	50%	140%
1,1,2-Trichloroethane	5604786		<0.20	<0.20	NA	< 0.20	117%	50%	140%	105%	60%	130%	117%	50%	140%
Toluene	5604786		<0.20	<0.20	NA	< 0.20	111%	50%	140%	100%	60%	130%	113%	50%	140%
Dibromochloromethane	5604786		<0.10	<0.10	NA	< 0.10	101%	50%	140%	99%	60%	130%	98%	50%	140%
Ethylene Dibromide	5604786		<0.10	<0.10	NA	< 0.10	115%	50%	140%	104%	60%	130%	107%	50%	140%
Tetrachloroethylene	5604786		<0.20	<0.20	NA	< 0.20	119%	50%	140%	110%	60%	130%	118%	50%	140%
1,1,1,2-Tetrachloroethane	5604786		<0.10	<0.10	NA	< 0.10	106%	50%	140%	117%	60%	130%	110%	50%	140%
Chlorobenzene	5604786		<0.10	<0.10	NA	< 0.10	112%	50%	140%	101%	60%	130%	116%	50%	140%
Ethylbenzene	5604786		<0.10	<0.10	NA	< 0.10	101%	50%	140%	93%	60%	130%	101%	50%	140%
m & p-Xylene	5604786		<0.20	<0.20	NA	< 0.20	102%	50%	140%	92%	60%	130%	102%	50%	140%
Bromoform	5604786		<0.10	<0.10	NA	< 0.10	98%	50%	140%	106%	60%	130%	94%	50%	140%
Styrene	5604786		<0.10	<0.10	NA	< 0.10	92%	50%	140%	80%	60%	130%	94%	50%	140%
1,1,2,2-Tetrachloroethane	5604786		<0.10	<0.10	NA	< 0.10	116%	50%	140%	103%	60%	130%	117%	50%	140%
o-Xylene	5604786		<0.10	<0.10	NA	< 0.10	104%	50%	140%	90%	60%	130%	102%	50%	140%
1,3-Dichlorobenzene	5604786		<0.10	<0.10	NA	< 0.10	116%	50%	140%	98%	60%	130%	111%	50%	140%
1,4-Dichlorobenzene	5604786		<0.10	<0.10	NA	< 0.10	117%	50%	140%	98%	60%	130%	115%	50%	140%
1,2-Dichlorobenzene	5604786		<0.10	<0.10	NA	< 0.10	117%	50%	140%	97%	60%	130%	112%	50%	140%
n-Hexane	5604786		<0.20	<0.20	NA	< 0.20	113%	50%	140%	106%	60%	130%	111%	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: N Popnikolof

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Quality Assurance

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z115058

PROJECT: OTT-22019409-AO

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Olivera

Water Analysis

RPT Date: Feb 01, 2024			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals (Including Hydrides) (Water)															
Dissolved Antimony	5608928		<1.0	<1.0	NA	< 1.0	101%	70%	130%	100%	80%	120%	92%	70%	130%
Dissolved Arsenic	5608928		<1.0	<1.0	NA	< 1.0	102%	70%	130%	99%	80%	120%	109%	70%	130%
Dissolved Barium	5608928		10.0	10.1	1.0%	< 2.0	93%	70%	130%	96%	80%	120%	103%	70%	130%
Dissolved Beryllium	5608928		<0.50	<0.50	NA	< 0.50	102%	70%	130%	103%	80%	120%	108%	70%	130%
Dissolved Boron	5608928		40.3	37.3	NA	< 10.0	103%	70%	130%	105%	80%	120%	102%	70%	130%
Dissolved Cadmium	5608928		<0.20	<0.20	NA	< 0.20	101%	70%	130%	99%	80%	120%	107%	70%	130%
Dissolved Chromium	5608928		<2.0	<2.0	NA	< 2.0	100%	70%	130%	102%	80%	120%	106%	70%	130%
Dissolved Cobalt	5608928		1.64	1.60	NA	< 0.50	103%	70%	130%	103%	80%	120%	103%	70%	130%
Dissolved Copper	5608928		<1.0	<1.0	NA	< 1.0	101%	70%	130%	100%	80%	120%	97%	70%	130%
Dissolved Lead	5608928		<0.50	<0.50	NA	< 0.50	101%	70%	130%	101%	80%	120%	89%	70%	130%
Dissolved Molybdenum	5608928		<0.50	0.68	NA	< 0.50	104%	70%	130%	109%	80%	120%	111%	70%	130%
Dissolved Nickel	5608928		4.1	4.1	NA	< 1.0	102%	70%	130%	102%	80%	120%	98%	70%	130%
Dissolved Selenium	5608928		<1.0	2.3	NA	< 1.0	103%	70%	130%	99%	80%	120%	112%	70%	130%
Dissolved Silver	5608928		<0.20	<0.20	NA	< 0.20	105%	70%	130%	103%	80%	120%	95%	70%	130%
Dissolved Thallium	5608928		<0.30	<0.30	NA	< 0.30	102%	70%	130%	101%	80%	120%	92%	70%	130%
Dissolved Uranium	5608928		<0.50	<0.50	NA	< 0.50	97%	70%	130%	105%	80%	120%	99%	70%	130%
Dissolved Vanadium	5608928		<0.40	<0.40	NA	< 0.40	103%	70%	130%	105%	80%	120%	113%	70%	130%
Dissolved Zinc	5608928		168	162	3.6%	< 5.0	102%	70%	130%	101%	80%	120%	97%	70%	130%

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

Certified By:

AGAT Laboratories

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

Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z115058

PROJECT: OTT-22019409-AO

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Olivera

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Fluorene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Anthracene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Pyrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(a)anthracene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Chrysene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
2-and 1-methyl Napthalene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Sediment			N/A
F1 (C6 to C10)	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	modified from MOE PHC-E3421	P&T GC/FID
Toluene-d8	VOL-91- 5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F3 (C16 to C34)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F3 (C16 to C34) minus PAHs	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F4 (C34 to C50)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	modified from MOE PHC-E3421	BALANCE
Terphenyl	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Dichlorodifluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z115058

PROJECT: OTT-22019409-AO

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Olivera

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Vinyl Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
trans- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl tert-butyl ether	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
cis- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z115058

PROJECT: OTT-22019409-AO

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Olivera

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
m & p-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z115058

PROJECT: OTT-22019409-AO

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Olivera

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis			
Dissolved Antimony	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Arsenic	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Barium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Beryllium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Boron	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Cadmium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Chromium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Cobalt	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Copper	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Lead	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Molybdenum	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Nickel	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Selenium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Silver	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Thallium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Uranium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Vanadium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Zinc	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS

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5835 Coopers Avenue
Mississauga, Ontario L4Z 1Y2
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webearth.agatlabs.com

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 Queensview Dr. Ottawa.
Phone: 613-688-1899 Fax:
Reports to be sent to:
1. Email: Mark.McCalla@exp.com
2. Email: Philip.Oliveira@exp.com

Project Information:

Project: OTT-22019409-A0
Site Location:
Sampled By: Philip Oliveira
AGAT Quote #: EXP. standing offer 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:

Regulatory Requirements:

(Please check all applicable boxes)

☒ Regulation 153/04
Table _____ *Indicate One*
☐ Ind/Com
☐ Res/Park
☐ Agriculture
Soil Texture *(Check One)*
☐ Coarse
☐ Fine

☐ Regulation 406
Table _____ *Indicate One*
☐ Regulation 558
☐ CCME

☐ Sewer Use
☐ Sanitary ☐ Storm
_____ *Region*
☐ Prov. Water Quality Objectives (PWQO)
☐ Other
_____ *Indicate One*

Is this submission for a **Record of Site Condition?** ☐ Yes ☐ No

Report Guideline on *Certificate of Analysis* ☐ Yes ☐ No

Laboratory Use Only

Work Order #: 24211505 8
Cooler Quantity: one - ice packs
Arrival Temperatures: 4.6 | 4.5 | 4.3
2.6 | 3.1 | 3.9
Custody Seal Intact: ☐ Yes ☐ No ☒ N/A
Notes: bagged ice

Turnaround Time (TAT) Required:

Regular TAT ☒ 5 to 7 Business Days
Rush TAT (Rush Surcharges Apply)
☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day
OR Date Required (Rush Surcharges May Apply):
Please provide prior notification for rush TAT
**TAT is exclusive of weekends and statutory holidays*
For 'Same Day' analysis, please contact your AGAT CPM

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	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs	O. Reg 153: VOC	O. Reg 153: PAHs	O. Reg 153: PCBs	O. Reg 153: PCBs: Arocolors ☐	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Regulation 406 SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Regulation 406 Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Corrosivity: ☐ Moisture ☐ Sulphide	Potentially Hazardous or High Concentration (Y/N)
1. MW4	01-25-24	16h00 (PM)	8	GW		Y	X		X	X	X							
2.		AM PM																
3.		AM PM																
4.		AM PM																
5.		AM PM																
6.		AM PM																
7.		AM PM																
8.		AM PM																
9.		AM PM																
10.		AM PM																
11.		AM PM																

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Philip Oliveira	01-25-24	16h30	C. Griffith	01/25/24	16h32
Philip Oliveira				29/01/24	10:40 am
CC to Dino	01/26/24	15h30			

Page 1 of 1
N°: T - 148019

Pink Copy - Client I Yellow Copy - AGAT I White Copy - AGAT

Document ID: DIN-78-1511.022

Date Issued: Mar 30, 2023

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CANADA L4Z 1Y2
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FAX (905)712-5122
http://www.agatlabs.com

CLIENT NAME: EXP SERVICES INC
2650 QUEENSVIEW DRIVE, UNIT 100
OTTAWA, ON K2B8H6
(613) 688-1899
ATTENTION TO: Mark McCalla
PROJECT: OTT-22019409-AO
AGAT WORK ORDER: 24Z117784
TRACE ORGANICS REVIEWED BY: Radhika Chakraberty, Trace Organics Lab Manager
DATE REPORTED: Feb 07, 2024
PAGES (INCLUDING COVER): 5
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.*

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 24Z117784

PROJECT: OTT-22019409-AO

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE:

ATTENTION TO: Mark McCalla

SAMPLED BY:Philip Oliveira

O. Reg. 153(511) - BTEX (Water)

DATE RECEIVED: 2024-02-05

DATE REPORTED: 2024-02-07

				SAMPLE DESCRIPTION:	MW10	MW13
				SAMPLE TYPE:	Water	Water
				DATE SAMPLED:	2024-02-05 13:00	2024-02-05 14:00
Parameter	**Unit**	**G / S**	**RDL**		**5628628**	**5628629**
Benzene	µg/L		0.20		<0.20	<0.20
Toluene	µg/L		0.20		0.32	<0.20
Ethylbenzene	µg/L		0.10		<0.10	<0.10
m & p-Xylene	µg/L		0.20		0.27	<0.20
o-Xylene	µg/L		0.10		0.22	<0.10
Xylenes (Total)	µg/L		0.20		0.49	<0.20
Surrogate	**Unit**	**Acceptable Limits**				
Toluene-d8	% Recovery	50-140			101	105
4-Bromofluorobenzene	% Recovery	50-140			104	103

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

5628628-5628629 Results relate only to the items tested.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene + o-Xylene. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: R. Chakraberty

AGAT Laboratories

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Quality Assurance

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z117784

PROJECT: OTT-22019409-AO

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Oliveira

Trace Organics Analysis

RPT Date: Feb 07, 2024			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - BTEX (Water)															
Benzene	5623564		<0.20	<0.20	NA	< 0.20	97%	50%	140%	84%	60%	130%	117%	50%	140%
Toluene	5623564		<0.20	<0.20	NA	< 0.20	92%	50%	140%	85%	60%	130%	89%	50%	140%
Ethylbenzene	5623564		<0.10	<0.10	NA	< 0.10	72%	50%	140%	75%	60%	130%	70%	50%	140%
m & p-Xylene	5623564		<0.20	<0.20	NA	< 0.20	110%	50%	140%	106%	60%	130%	80%	50%	140%
o-Xylene	5623564		<0.10	<0.10	NA	< 0.10	84%	50%	140%	79%	60%	130%	67%	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: R. Chakraberty

AGAT Laboratories

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Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 24Z117784

PROJECT: OTT-22019409-AO

ATTENTION TO: Mark McCalla

SAMPLING SITE:

SAMPLED BY:Philip Oliveira

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Benzene	VOL-91-5001	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
Toluene	VOL-91-5001	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5001	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
m & p-Xylene	VOL-91-5001	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5001	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5001	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91- 5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Ph: 905.712.5100 Fax: 905.712.5122
webearth.agatlabs.com

Chain of Custody Record

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

RUSH!!

Report Information:

Company: EXP SERVICES INC.
Contact: MARK McCALLA
Address: 2650 QUEENSVIEW DR. OTTAWA
Phone: 613-688-1899 Fax:
Reports to be sent to:
1. Email: Mark.McCalla@exp.com
2. Email: Philip.Oliveira@exp.com

Project Information:

Project: OTT-220 19409 - A0
Site Location:
Sampled By: Philip Oliveira
AGAT Quote #: EXP Standing Offer 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: Accounts Payable
Address:
Email:

Regulatory Requirements:

(Please check all applicable boxes)

☒ Regulation 153/04
Table _____ *Indicate One*
☐ Ind/Com
☐ Res/Park
☐ Agriculture
Soil Texture *(Check One)*
☐ Coarse
☐ Fine

☐ Regulation 406
Table _____ *Indicate One*
☐ Regulation 558
☐ CCME

☐ Sewer Use
☐ Sanitary ☐ Storm
_____ *Region*
☐ Prov. Water Quality Objectives (PWQO)
☐ Other
_____ *Indicate One*

Is this submission for a Record of Site Condition? ☐ Yes ☐ No

Report Guideline on *Certificate of Analysis* ☐ Yes ☐ No

Laboratory Use Only

Work Order #: 24Z117784
Cooler Quantity: One
Arrival Temperatures: 10.8 | 10.7 | 10.8 / 2.1 | 2.5 | 2.9
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes: biggest - a

Turnaround Time (TAT) Required:

Regular TAT ☐ 5 to 7 Business Days
Rush TAT (Rush Surcharges Apply)
☐ 3 Business Days ☒ 2 Business Days ☐ Next Business Day
OR Date Required (Rush Surcharges May Apply):
Please provide prior notification for rush TAT
**TAT is exclusive of weekends and statutory holidays*
For 'Same Day' analysis, please contact your AGAT CPM

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	Field Filtered - Metals, Hg, CrVI, DOC Y/N	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX F1-F4 PHCs	VOC	PAHs	PCBs	PCBs: Aroclors ☐	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Regulation 406 SPLP Rainwater Leach SPLP ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Regulation 406 Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Corrosivity: ☐ Moisture ☐ Sulphide	Potentially Hazardous or High Concentration (Y/N)
1. MW10	Feb05/24	13h00 AM/PM	3	GW	Please RUSH 2 day				X									
2. MW13	Feb05/24	14h00 AM/PM	3	GW	Please RUSH 2 day				X									
3.		AM/PM																
4.		AM/PM																
5.		AM/PM																
6.		AM/PM																
7.		AM/PM																
8.		AM/PM																
9.		AM/PM																
10.		AM/PM																
11.		AM/PM																

Samples Relinquished By (Print Name and Sign): Philip Oliveira	Date: Feb 05/24	Time: 14h30	Samples Received By (Print Name and Sign): Robert Hoot	Date: 24/02/05	Time: 14h30
Samples Relinquished By (Print Name and Sign):	Date:	Time:	Samples Received By (Print Name and Sign):	Date:	Time:
Samples Relinquished By (Print Name and Sign): CD40PWQ	Date: 2024/02/05	Time: 15h00	Samples Received By (Print Name and Sign):	Date: Feb 6	Time: 8:40am

Page 1 of 1

N°: T-152288

Pink Copy - Client | Yellow Copy - AGAT | White Copy - AGAT

CADUCEON ENVIRONMENTAL LABORATORIES
Client committed. Quality assured.

CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G105027 **REPORT No. B22-25709**

Report To:

EXP Services Inc
2650 Queensview Drive, Suite 100
Ottawa ON K2B 8H6 Canada
Attention: Mark McCalla

Caduceon Environmental Laboratories
2378 Holly Lane
Ottawa Ontario K1V 7P1
Tel: 613-526-0123
Fax: 613-526-1244

DATE RECEIVED: 12-Aug-22
DATE REPORTED: 18-Aug-22
SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.:
P.O. NUMBER: OTT-22019409-AO
WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
Comment	5	Default Site	KPR	15-Aug-22	C-comment	-
Comment	5	Default Site	JE	17-Aug-22	C-comment purg RH	-
SVOC	5	Kingston	law	16-Aug-22	C-NAB-S-001 (k)	EPA 8270
SVOC	5	Kingston	law	16-Aug-22	C-NAB-W-001 (k)	EPA 8270
PHC(F2-F4)	5	Kingston	KPR	15-Aug-22	C-PHC-W-001 (k)	MOE E3421
VOC's	5	Richmond Hill	JE	16-Aug-22	C-VOC-02 (rh)	EPA 8260
PHC(F1)	5	Richmond Hill	JE	17-Aug-22	C-VPHW-01 (rh)	MOE E3421

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-napth 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. 1 - GW (µg/L) - Table 1 - Ground Water

Tahir Yapici Ph.D
Lab Manager - Ottawa District

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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SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.:
P.O. NUMBER: OTT-22019409-AO
WATERWORKS NO.

	Client I.D.		MW15-1	MW15-5	MW15-2	MW15-3	O. Reg. 153	
	Sample I.D.		B22-25709-1	B22-25709-2	B22-25709-3	B22-25709-4	Tbl. 1 - GW	
	Date Collected		11-Aug-22	11-Aug-22	11-Aug-22	11-Aug-22	(µg/L)	
Parameter	**Units**	**R.L.**						
PHC F1 (C6-C10)	µg/L	25	< 25	< 25	< 25	< 25	420	
Comment-purgeable	-		-	-	-	-		
PHC F2 (>C10-C16)	µg/L	50	< 50	< 50	< 50	< 50	150	
PHC F3 (>C16-C34)	µg/L	400	< 400	< 400	< 400	< 400	500	
PHC F4 (>C34-C50)	µg/L	400	< 400	< 400	< 400	< 400	500	
Comment-extractable	-		-	-	-	-		
Acetone	µg/L	30	< 30	< 30	< 30	< 30	2700	
Benzene	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.5	
Bromodichloromethane	µg/L	2	< 2	< 2	< 2	< 2	2	
Bromoform	µg/L	5	< 5	< 5	< 5	< 5	5	
Bromomethane	µg/L	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	
Monochlorobenzene (Chlorobenzene)	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.5	
Chloroform	µg/L	1	< 1	< 1	< 1	< 1	2	
Dibromochloromethane	µg/L	2	< 2	< 2	< 2	< 2	2	
Dichlorobenzene,1,2-	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.5	
Dichlorobenzene,1,3-	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.5	
Dichlorobenzene,1,4-	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.5	
Dichlorodifluoromethane	µg/L	2	< 2	< 2	< 2	< 2	590	
Dichloroethane,1,1-	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.5	
Dichloroethane,1,2-	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.5	
Dichloroethylene,1,1-	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.5	
Dichloroethene, cis-1,2-	µg/L	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	1.6	
Dichloropropane,1,2-	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.5	
Dichloropropene, cis-1,3-	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5		

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 1 - GW (µg/L) - Table 1 - Ground Water

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Tahir Yapici Ph.D
Lab Manager - Ottawa District

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CERTIFICATE OF ANALYSIS

Final Report

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Attention: Mark McCalla

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Ottawa Ontario K1V 7P1
Tel: 613-526-0123
Fax: 613-526-1244

DATE RECEIVED: 12-Aug-22
DATE REPORTED: 18-Aug-22
SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.:
P.O. NUMBER: OTT-22019409-AO
WATERWORKS NO.

	Client I.D.		MW15-1	MW15-5	MW15-2	MW15-3	O. Reg. 153	
	Sample I.D.		B22-25709-1	B22-25709-2	B22-25709-3	B22-25709-4	Tbl. 1 - GW (µg/L)	
	Date Collected		11-Aug-22	11-Aug-22	11-Aug-22	11-Aug-22		
Parameter	**Units**	**R.L.**						
Dichloropropene, trans-1,3-	µg/L	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	
Ethylbenzene	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.5	
Dibromoethane,1,2-(Ethylene Dibromide)	µg/L	0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.2	
Hexane	µg/L	5	< 5	< 5	< 5	< 5	5	
Methyl Ethyl Ketone	µg/L	20	< 20	< 20	< 20	< 20	400	
Methyl Isobutyl Ketone	µg/L	20	< 20	< 20	< 20	< 20	640	
Methyl-t-butyl Ether	µg/L	2	< 2	< 2	3	< 2	15	
Dichloromethane (Methylene Chloride)	µg/L	5	< 5	< 5	< 5	< 5	5	
Styrene	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.5	
Tetrachloroethane,1,1,1,2-	µg/L	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	
Tetrachloroethylene	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.5	
Toluene	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.8	
Trichloroethane,1,1,1-	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.5	
Trichloroethane,1,1,2-	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.5	
Trichloroethylene	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.5	
Trichlorofluoromethane	µg/L	5	< 5	< 5	< 5	< 5	150	
Vinyl Chloride	µg/L	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		
Xylene, o-	µg/L	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	72	
Acenaphthene	µg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05	4.1	

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 1 - GW (µg/L) - Table 1 - Ground Water

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Lab Manager - Ottawa District

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DATE RECEIVED: 12-Aug-22
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SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.:
P.O. NUMBER: OTT-22019409-AO
WATERWORKS NO.

	Client I.D.		MW15-1	MW15-5	MW15-2	MW15-3	O. Reg. 153	
	Sample I.D.		B22-25709-1	B22-25709-2	B22-25709-3	B22-25709-4	Tbl. 1 - GW (µg/L)	
	Date Collected		11-Aug-22	11-Aug-22	11-Aug-22	11-Aug-22		
Parameter	**Units**	**R.L.**						
Acenaphthylene	µg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05	1	
Anthracene	µg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.1	
Benzo(a)anthracene	µg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.2	
Benzo(a)pyrene	µg/L	0.01	**0.012**	< 0.01	< 0.01	< 0.01	0.01	
Benzo(b)fluoranthene	µg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.1	
Benzo(b+k)fluoranthene	µg/L	0.1	< 0.1	< 0.1	< 0.1	< 0.1		
Benzo(g,h,i)perylene	µg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.2	
Benzo(k)fluoranthene	µg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.1	
Chrysene	µg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.1	
Dibenzo(a,h)anthracene	µg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.2	
Fluoranthene	µg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.4	
Fluorene	µg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05	120	
Indeno(1,2,3,-cd)pyrene	µg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.2	
Methylnaphthalene,1-	µg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05	2	
Methylnaphthalene,2-	µg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05	2	
Methylnaphthalene 2-(1-)	µg/L	1	< 1	< 1	< 1	< 1	2	
Naphthalene	µg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05	7	
Phenanthrene	µg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.1	
Pyrene	µg/L	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.2	
2-Fluorobiphenyl (SS)	% rec.	10	86.0	95.0	92.0	86.0		
Terphenyl-d14 (SS)	% rec.	10	99.0	108	105	104		

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 1 - GW (µg/L) - Table 1 - Ground Water

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SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.:
P.O. NUMBER: OTT-22019409-AO
WATERWORKS NO.

	Client I.D. / Sample I.D. / Date Collected		Dup 1 B22-25709-5 11-Aug-22				O. Reg. 153 Tbl. 1 - GW (µg/L)	
Parameter	**Units**	**R.L.**						
PHC F1 (C6-C10)	µg/L	25	< 25				420	
Comment-purgeable	-		-					
PHC F2 (>C10-C16)	µg/L	50	< 50				150	
PHC F3 (>C16-C34)	µg/L	400	< 400				500	
PHC F4 (>C34-C50)	µg/L	400	< 400				500	
Comment-extractable	-		-					
Acetone	µg/L	30	< 30				2700	
Benzene	µg/L	0.5	< 0.5				0.5	
Bromodichloromethane	µg/L	2	< 2				2	
Bromoform	µg/L	5	< 5				5	
Bromomethane	µg/L	0.5	< 0.5				0.89	
Carbon Tetrachloride	µg/L	0.2	< 0.2				0.2	
Monochlorobenzene (Chlorobenzene)	µg/L	0.5	< 0.5				0.5	
Chloroform	µg/L	1	< 1				2	
Dibromochloromethane	µg/L	2	< 2				2	
Dichlorobenzene,1,2-	µg/L	0.5	< 0.5				0.5	
Dichlorobenzene,1,3-	µg/L	0.5	< 0.5				0.5	
Dichlorobenzene,1,4-	µg/L	0.5	< 0.5				0.5	
Dichlorodifluoromethane	µg/L	2	< 2				590	
Dichloroethane,1,1-	µg/L	0.5	< 0.5				0.5	
Dichloroethane,1,2-	µg/L	0.5	< 0.5				0.5	
Dichloroethylene,1,1-	µg/L	0.5	< 0.5				0.5	
Dichloroethene, cis-1,2-	µg/L	0.5	< 0.5				1.6	
Dichloroethene, trans-1,2-	µg/L	0.5	< 0.5				1.6	
Dichloropropane,1,2-	µg/L	0.5	< 0.5				0.5	
Dichloropropene, cis-1,3-	µg/L	0.5	< 0.5					

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 1 - GW (µg/L) - Table 1 - Ground Water

Tahir Yapici Ph.D
Lab Manager - Ottawa District

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SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.:
P.O. NUMBER: OTT-22019409-AO
WATERWORKS NO.

	Client I.D.		Dup 1				O. Reg. 153	
	Sample I.D.		B22-25709-5				Tbl. 1 - GW (µg/L)	
	Date Collected		11-Aug-22					
Parameter	**Units**	**R.L.**						
Dichloropropene, trans-1,3-	µg/L	0.5	< 0.5					
Dichloropropene 1,3-cis+trans	µg/L	0.5	< 0.5				0.5	
Ethylbenzene	µg/L	0.5	< 0.5				0.5	
Dibromoethane,1,2-(Ethylene Dibromide)	µg/L	0.2	< 0.2				0.2	
Hexane	µg/L	5	< 5				5	
Methyl Ethyl Ketone	µg/L	20	< 20				400	
Methyl Isobutyl Ketone	µg/L	20	< 20				640	
Methyl-t-butyl Ether	µg/L	2	< 2				15	
Dichloromethane (Methylene Chloride)	µg/L	5	< 5				5	
Styrene	µg/L	0.5	< 0.5				0.5	
Tetrachloroethane,1,1,1,2-	µg/L	0.5	< 0.5				1.1	
Tetrachloroethane,1,1,2,2-	µg/L	0.5	< 0.5				0.5	
Tetrachloroethylene	µg/L	0.5	< 0.5				0.5	
Toluene	µg/L	0.5	< 0.5				0.8	
Trichloroethane,1,1,1-	µg/L	0.5	< 0.5				0.5	
Trichloroethane,1,1,2-	µg/L	0.5	< 0.5				0.5	
Trichloroethylene	µg/L	0.5	< 0.5				0.5	
Trichlorofluoromethane	µg/L	5	< 5				150	
Vinyl Chloride	µg/L	0.2	< 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				72	
Acenaphthene	µg/L	0.05	< 0.05				4.1	

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 1 - GW (µg/L) - Table 1 - Ground Water

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Lab Manager - Ottawa District

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WATERWORKS NO.

	Client I.D.	Dup 1				O. Reg. 153	
	Sample I.D.	B22-25709-5				Tbl. 1 - GW (µg/L)	
	Date Collected	11-Aug-22					
Parameter	**Units**	**R.L.**					
Acenaphthylene	µg/L	0.05	< 0.05			1	
Anthracene	µg/L	0.05	< 0.05			0.1	
Benzo(a)anthracene	µg/L	0.05	< 0.05			0.2	
Benzo(a)pyrene	µg/L	0.01	< 0.01			0.01	
Benzo(b)fluoranthene	µg/L	0.05	< 0.05			0.1	
Benzo(b+k)fluoranthene	µg/L	0.1	< 0.1				
Benzo(g,h,i)perylene	µg/L	0.05	< 0.05			0.2	
Benzo(k)fluoranthene	µg/L	0.05	< 0.05			0.1	
Chrysene	µg/L	0.05	< 0.05			0.1	
Dibenzo(a,h)anthracene	µg/L	0.05	< 0.05			0.2	
Fluoranthene	µg/L	0.05	< 0.05			0.4	
Fluorene	µg/L	0.05	< 0.05			120	
Indeno(1,2,3,-cd)pyrene	µg/L	0.05	< 0.05			0.2	
Methylnaphthalene,1-	µg/L	0.05	< 0.05			2	
Methylnaphthalene,2-	µg/L	0.05	< 0.05			2	
Methylnaphthalene 2-(1-)	µg/L	1	< 1			2	
Naphthalene	µg/L	0.05	< 0.05			7	
Phenanthrene	µg/L	0.05	< 0.05			0.1	
Pyrene	µg/L	0.05	< 0.05			0.2	
2-Fluorobiphenyl (SS)	% rec.	10	100				
Terphenyl-d14 (SS)	% rec.	10	110				

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 1 - GW (µg/L) - Table 1 - Ground Water

Tahir Yapici Ph.D
Lab Manager - Ottawa District

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

CADUCEON ENVIRONMENTAL LABORATORIES
Client committed. Quality assured.

CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G105027 **REPORT No. B22-25709**

Report To:

EXP Services Inc
2650 Queensview Drive, Suite 100
Ottawa ON K2B 8H6 Canada
Attention: Mark McCalla

Caduceon Environmental Laboratories
2378 Holly Lane
Ottawa Ontario K1V 7P1
Tel: 613-526-0123
Fax: 613-526-1244

DATE RECEIVED: 12-Aug-22
DATE REPORTED: 18-Aug-22
SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.:
P.O. NUMBER: OTT-22019409-AO
WATERWORKS NO.

Summary of Exceedances

Table 1 - Ground Water

MW15-1	Found Value	Limit
Benzo(a)pyrene (µg/L)	0.012	0.01

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 1 - GW (µg/L) - Table 1 - Ground Water

Tahir Yapici Ph.D
Lab Manager - Ottawa District

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