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Retaining Wall Design
Noise and Vibration Studies

September 9, 2025
File: PE6934-LET.02

Ottawa Humane Society
245 West Hunt Club Road
Ottawa, Ontario
K2E 1A6

Attention: **Mr. Joshua Shaw**

patersongroup.ca

Subject: **Phase I Environmental Site Assessment Update**
258 Durocher Street
Ottawa, Ontario

Dear Sir,

Further to your request, Paterson Group (Paterson) carried out a Phase I Environmental Site Assessment (ESA) Update for the property addressed 258 Durocher Street, Ottawa Ontario. This report updates a previous Phase I ESA entitled "Phase I-Environmental Site Assessment, 258 Durocher Street, Ottawa, Ontario." prepared by Paterson Group, dated July 21, 2022, and a Phase II ESA entitled "Phase II-Environmental Site Assessment, 258 Durocher Street, Ottawa, Ontario" prepared by Paterson Group, dated August 31, 2022. This report is to be read in conjunction with these previous reports.

Background

The Phase I ESA Property is situated on the northwest corner of the Durocher Street and St. Paul Street Intersection, in the City of Ottawa, Ontario. Durocher Street is assumed to run north to south for the purpose of this Phase I ESA Update.

The Phase I ESA Update Property is occupied by a single-storey, currently vacant, institutional use building. The subject building is surrounded by asphalt parking areas and landscaped spaces. The Phase I Property is located in a municipally serviced area. Surrounding lands primarily consist of residential and commercial use. Site zoning is I1 – Minor Institutional Zone.





Previous Engineering Reports

The following reports were reviewed prior to conducting this assessment:

- ❑ “Phase I-Environmental Site Assessment, 258 Durocher Street, Ottawa, Ontario” prepared by Paterson Group, dated July 21, 2022.

The 2022 Phase I ESA indicated that the Phase I Property was first developed some time prior to 1909. The historical research identified multiple potentially contaminating activities (PACs) on the subject and neighbouring properties resulting in areas of potential environmental concern (APECs) on the Phase I Property. These included a former on-site aluminum sash manufacturer, fill material of unknown quality, the use of a transformer, a former automotive service garage, the application of road salt, the off-site presence of a former tannery and a former coal storage yard. No PCAs were identified with respect to the existing use of the Phase I Property or surrounding properties which were considered to result in APECs. The report concluded that a Phase II – Environmental Site Assessment was required to address the historical APECs.

- ❑ “Phase II-Environmental Site Assessment, 258 Durocher Street, Ottawa, Ontario” prepared by Paterson Group, dated August 31, 2022.

A Phase II ESA was carried out at 258 Durocher Street in August of 2022. The investigation involved advancing six boreholes across the Phase II Property to a maximum depth of 6.38m, all of which were completed with groundwater monitoring wells. A total of eleven soil samples and six groundwater samples were submitted for various laboratory analyses. PAH and PHC impacted soils were identified in the northern portion of the Phase II Property. No groundwater impacts were identified on the Phase II Property beneath asphalted areas. It was recommended that the impacted soil be removed from the site in conjunction with the future proposed redevelopment, although it was not considered to pose an environmental concern to the existing use of the Phase II Property.

- ❑ “Supplemental Phase II Environmental Site Assessment, 258 Durocher Street, Ottawa, Ontario” prepared by EXP Services Inc., dated October 4, 2022.

A Supplemental Phase II ESA was carried out at 258 Durocher Street to refine the extent of impacted soil identified by Paterson. The investigation involved advancing nine boreholes across the northern half of the Phase II Property to a maximum depth of 2.29m. A total of sixteen (16) soil samples were submitted for laboratory analysis of PHCs, BTEX, metals and/or PAH. Eight samples retrieved from seven boreholes exceeded the MECP Table 3 Site Condition Standards. A copy of the EXP Supplemental Phase II ESA has been attached to this report.



- ❑ “Human Health and Ecological Risk Assessment, 258 Durocher Street, Ottawa, Ontario” prepared by Paterson Group, dated August 6, 2025.

A Human Health and Ecological Risk Assessment (HHERA) was completed at 258 Durocher Street to evaluate potential risks to employees and volunteers, and to identify risk management measures to minimize exposure to contaminants previously identified in soil at the site. The proposed change in land use involves a commercial use for housing animals for adoption; since the current land use is institutional, the proposed use is not considered more sensitive, and a Record of Site Condition (RSC) is not required. However, a HHERA was undertaken as a due diligence measure. The HHERA determined that the contaminants are located beneath hard-capped surfaces (walkways and asphaltic concrete parking areas) and therefore do not pose a risk to the use of the site. While no exterior excavation is currently planned, should excavation be required in areas of impacted soil, a health and safety plan will need to be prepared and implemented for workers, and the hard-capped surfaces must be reinstated.

Phase I ESA Update, Historical and Records Review

Air Photo Research

The most recent aerial photograph reviewed as part of the 2022 Phase I ESA was taken in 2021. An Aerial photograph from 2024, accessed via Google Earth™, was reviewed as part of the current Phase I ESA Update.

The Phase I Property appears to remain unchanged since the 2021 photograph. The property west of the Phase I Property, addressed 263 Greensway Avenue, has been redeveloped with a residential apartment building. No other significant changes are apparent with respect to neighbouring properties in the Phase I Study Area.

No environmental concerns with respect to the Phase I Property were identified by the air photo review. A copy of the 2024 aerial photograph has been attached to this report.

Technical Standards and Safety Authority (TSSA)

The Technical Standards and Safety Authority (TSSA), Fuels Safety Branch in Toronto, was contacted by email on August 27, 2025, to inquire about current and former underground/aboveground storage tanks for the Phase I Property and neighbouring properties. The response from the TSSA indicated that there were no records for current and/or former underground/aboveground storage tanks for the Phase I Update or neighbouring properties.



A copy of the correspondence with the TSSA is appended to this report.

Ontario Ministry of Environment, Conservation and Parks (MECP)

A search of the MECP Access Environment – Environmental Approvals and Registry was conducted electronically through MECP's web application entitled 'Access Environment' on August 29, 2025, for the Phase I Property and neighbouring properties. No records were identified on the Phase I Property.

Two Records of Site Condition (RSCs) were identified for properties located in the Phase I Study Area. The first RSC was filed for the property addressed 263 Greensway Avenue in 2023 based on Phase I and II ESAs. This property is located approximately 40m west of the Phase I Property and groundwater on this site is understood to flow to the west. Based on this RSC filing, groundwater at 263 Greensway Avenue complies with the selected MECP standards for residential use. Fill material and upper native soils were identified as impacted on the RSC Property which was largely considered to be the result of deposition of poor-quality fill material in the early 1950's. This site was subsequently remediated during redevelopment. The information presented in this RSC filing is not considered to represent a risk to the Phase I Property.

The second RSC was filed for the property addressed 200 Baribeau Street in 2023 based on Phase I and II ESAs. This property is located approximately 210m north of the Phase I Property. Based on the RSC, there was no impacted groundwater encountered on this site. Impacted soil was encountered on this site, however, it was considered to be isolated to the fill material. Based on its distance and cross gradient nature from the Phase I Property, this site is not considered to pose a potential environmental concern to the Phase I Property.

Various Environmental Compliance Approvals (ECAs) were identified for surrounding properties. These records pertain to the construction of wastewater infrastructure, waste management systems and approvals for natural gas fired cremation units. These records are not considered to pose an environmental concern to the subject site.

Observations

The Phase I ESA Update site visit was conducted on August 28, 2025, by Paterson personnel from the environmental division. The site visit included a review of the current use of the Phase I Property and the adjacent lands.

The Phase I Property was observed to be developed with the previously identified single-storey institutional building that is currently vacant. Asphaltic parking areas and landscaped spaces were also observed.



The regional topography is generally flat, sloping slightly downward to the west in the direction of the Rideau River. The site topography is generally flat. Water drainage on-site occurs via surface infiltration in landscaped areas and sheet drainage on impermeable surfaces to catch basins located on the site and on neighbouring roadways. No ponded water, stressed vegetation, hazardous materials, unidentified substances, spills, abnormal odours, or any other indications of potential sub-surface contamination were observed on the subject site at the time of the site inspection.

One (1) pad mounted transformer was observed on the south side of the Phase I Property. No stains or signs of leakage were observed with respect to the pole mounted transformer.

No chemical products, aboveground storage tanks (ASTs), or signs of underground storage tanks (USTs) were observed on the Phase I Property at the time of the site inspection. No waste is currently being generated at the Phase I Property. No concerns with respect to chemical storage, fuels or waste generation were identified.

Neighbouring Properties

An inspection of the neighbouring properties was conducted from the site and publicly accessible roadways at the time of the site inspection. Land use adjacent to the subject site was as follows:

- ☐ North: Residential dwellings followed by commercial retail and Deschamps Avenue;
- ☐ East: Durocher Street followed by residential dwellings;
- ☐ West: Desrosiers Street followed by Vanier Parkway and residential dwellings;
- ☐ South: St. Paul Street followed by commercial retail and office buildings;

Based on field observations during the site visit, the surrounding properties are not considered to pose a risk to the Phase I Property.

Assessment

A Phase I Environmental Site Assessment Update was conducted for 258 Durocher Street, Ottawa, Ontario. A review of recent environmental data and a site inspection generally confirmed the information and findings contained in the previous Phase I & II ESA reports completed by Paterson Group. Based on the findings of our Phase I ESA Update, in our opinion, **a Phase II Environmental Site Assessment is not required for the subject site at this time.**



Statement of Limitations

This Phase I Environmental Site Assessment Update (Phase I ESA Update) report has been prepared in general accordance with O.Reg 153/04 and CSA Z768-01 (Reaffirmed 2022). The conclusions presented herein are based on information gathered from a limited historical review and field inspection program. The findings of the Phase I ESA Update are based on a review of readily available geological, historical, and regulatory information and a cursory review made at the time of the field assessment. The historical research relies on information supplied by others, such as, local, provincial and federal agencies and was limited within the scope-of-work, time and budget of the project herein.

Should any conditions be encountered at the Phase I Property and/or historical information that differ from our findings, we request that we be notified immediately in order to allow for a reassessment.

This report was prepared for the sole use of the Ottawa Humane Society. Permission and notification from the Ottawa Humane Society and Paterson Group will be required to release of this report to any other party.

We trust that this submission satisfies your current requirements. Should you have any questions please contact the undersigned.

Paterson Group Inc.

Mark Bujaki, B.Sc., MBA

Mark D'Arcy, P.Eng., QP_{ESA}



Report Distribution:

- ☐ Ottawa Humane Society
- ☐ Paterson Group

Appendix:

- ☐ EXP Supplemental Phase II ESA
- ☐ 2024 Aerial Photograph
- ☐ TSSA Correspondence





Supplemental Phase II Environmental Site Assessment 258 Durocher Street, Ottawa, Ontario

Client:

*Mr. Philip Stavrou
Watch Tower Bible & Tract Society of Canada*

Type of Document:

Final

Project Name:

Supplemental Phase II Environmental Site Assessment

Project Number:

OTT-22020118-A0

Prepared By:

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Date Submitted:

2022-10-04

*Watch Tower Bible & Tract Society of Canada
Supplemental Phase II Environmental Site Assessment
258 Durocher Street, Ottawa, Ontario
OTT-22020118-A0
October 4, 2022*

Legal Notification

This report was prepared by EXP Services Inc. for the account of **Watch Tower Bible & Tract Society of Canada**.

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. EXP Services Inc. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this project.

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Executive Summary

EXP Services Inc. (EXP) was retained by Watch Tower Bible & Tract Society of Canada to complete a Supplemental Phase II Environmental Site Assessment (ESA) of the property located at 258 Durocher Street in Ottawa, Ontario hereinafter referred to as the Site. The objective of the supplemental Phase II ESA investigation is to further refine the estimated remediation costs provided by Paterson Group in July 2022 by collecting and submitting additional soil samples for laboratory analyses.

As part of the purchaser's due diligence, Paterson Group completed a Phase I and Phase II ESA at the Site. The Phase I ESA identified various areas of potential environmental concern which triggered the Phase II ESA. The Phase II ESA included the drilling of six (6) boreholes (name them) and completing them as monitoring wells. Fill material was identified above silty sand glacial till, which extended to the shale bedrock surface at approximately 2 to 3 m below surface grade (bsg). Soil and groundwater samples were submitted for laboratory analysis of one or more of benzene, toluene, ethylbenzene, xylenes (BTEX), volatile organic compounds (VOC), polychlorinated biphenyls (PCB), petroleum hydrocarbons (PHC), polycyclic aromatic hydrocarbons (PAH), and metals. Based on the soil results, PHC and metals impacted soil was found at BH1-22 and PAH impacted soil was found at BH6-22. These boreholes are located in the north half of the Site. Groundwater impact was not identified at the Site.

Based on the results of the Phase II ESA, it was estimated that approximately 1,525 m³ of soil was impacted and would require disposal at a licensed landfill site. It was estimated that an additional 8,100 m³ of soil was potentially non-compliant with the excess soil standards and thus requiring disposal at a premium.

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

- Drilling nine (9) boreholes on the subject property;
- Submitting soil samples for laboratory analysis of BTEX, PHC, PAH, and metals;
- Comparing the results of the soil 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; and,
- Preparing a report summarizing the results of the assessment activities.

The results and findings of the supplemental Phase II ESA conducted by EXP at the Site are summarized as follows:

- The supplemental Phase II ESA consisted of advancing a total of nine (9) boreholes to delineate the quality of fill on the property which was identified by others in 2022. One or two soil samples from each borehole were submitted for laboratory analysis of petroleum hydrocarbons (PHC), benzene, toluene, ethylbenzene and xylenes (BTEX), metals, polycyclic aromatic hydrocarbons (PAH).
- The soil stratigraphy beneath the asphalt was 0.1 m to 0.2 m thick layer of crushed stone. Underlying the crushed stone there was sand with some gravel with some to a maximum depth of 1.4 m bsg. At BH3 and BH7, there was approximately 0.3 m of silty topsoil. Under the topsoil was 0.9 m of sand with some gravel fill material. No odours were observed in the fill material. Beneath the fill material was glacial till consisting of sand and gravel, with some silty and clay. No odours were observed in the native soil. Drilling refusal on inferred bedrock was found between 1.68 m and 2.29 m bsg. No groundwater was observed in the boreholes.
- The concentrations of BTEX, PHC, and PAH in the analyzed soil samples were less than the 2011 MECP Table 3 SCS. The concentrations of one or more of arsenic, cobalt, molybdenum, nickel, and thallium and SAR in eight soil samples exceeded the 2011 MECP Table 3 SCS.
- Based on the current laboratory results and the previous assessment at the Site, PAH, metals and PHC impacted soil is present at the Site. Using the clean hole approach, an estimated area of 2,245 m² and an estimated thickness of impact of 2 m, the resulting volume of MECP Table 3 impacted soil is approximately 4,490 m³.

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- It is assumed that the southern limit of the impacted soil area is the building, with impacted soil being present to the north of the building and extending on the east and west sides of the building to the clean hole locations. This indicates that the majority of the soil on the Site exceeds the MECP Table 3.1 and 2.1 SCS and if excess soil is generated from the areas shown, it will require disposal at a licensed landfill. Using the clean hole approach, an estimated area of 1,120 m² and an estimated thickness of impact of 2.0 m, the resulting volume of MECP Table 3.1 and 2.1 SCS impacted soil is approximately 2,240 m³.

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

1.0 Introduction

EXP Services Inc. (EXP) was retained by Watch Tower Bible & Tract Society of Canada to complete a Supplemental Phase II Environmental Site Assessment (ESA) of the property located at 258 Durocher Street in Ottawa, Ontario, hereinafter referred to as the Site. The objective of the Supplemental Phase II ESA investigation is to further refine the estimated remediation costs provided by Paterson Group in July 2022 by collecting and submitting additional soil samples for laboratory analyses.

The most recent use of the property was institutional, and the proposed future use is residential. Therefore, as per Ontario Regulation 153/04, a Record of Site Condition (RSC) is not required.

1.1 Site Description

The Phase Two property is located at 258 Durocher Street in Ottawa, Ontario. The Phase Two property is located within a residential area on the northwest corner of Durocher Street and St. Paul Street and has an area of approximately 0.39 hectares. The Site consists of a one-storey institutional building with a full basement. A paved parking area is present north of the building.

The Site has the property identification number (PIN) 042330249. The legal description of the Phase Two property is *LT 1, BLK C, PL 45, LT 2, BLK C, PL 45, LT 3, BLK C, PL 45, PT LT 4, BLK C, PL 45, PT LT 14, BLK C, PL 45, LT 15, BLK C, PL 45, LT 16, BLK C, PL 45, LT 17, BLK C, PL 45, (SOMETIMES KNOWN AS PLAN 113 GL) AS IN V28957, V28959 & V28960 ; VANIER/GLOUCESTER*. A Site Location Plan is provided as Figure 1 in Appendix A.

The approximate Universal Transverse Mercator (UTM) coordinates for the Phase One property centroid are Zone 18, 447907.3 m E and 5031544.4 m N. The UTM coordinates are based on measurements from Google Earth Pro, published by the Google Limited Liability Company (LLC). The accuracy of the centroid is estimated to be less than 10 m.

1.2 Background

As part of the purchaser's due diligence, Paterson Group completed a Phase I and Phase II ESA at the Site. The Phase I ESA identified various areas of potential environmental concern, which triggered the Phase II ESA. The Phase II ESA included the drilling of six boreholes (I would name them so that when you discuss later in the paragraph, it makes sense) and completing them as monitoring wells. Soil stratigraphy was identified as fill material above a silty sand glacial till, which extended to the shale bedrock surface at approximately 2 to 3 m below surface grade (bsg). Soil and groundwater samples were submitted for laboratory analysis of one or more of benzene, toluene, ethylbenzene, xylenes (BTEX), volatile organic compounds (VOC), polychlorinated biphenyls (PCB), petroleum hydrocarbons (PHC), polycyclic aromatic hydrocarbons (PAH), and metals. Based on the soil results, PHC and metals impacted soil was found at BH1-22 and PAH impacted soil was found at BH6-22. These boreholes are located in the north half of the Site. Groundwater impact was not identified at the Site.

Based on the results of the Phase II ESA, it was estimated that approximately 1,525 m³ of soil was impacted and would require disposal at a licensed landfill site. It was estimated that an additional 8,100 m³ of soil was potentially non-compliant with the excess soil standards and thus requiring disposal at a premium.

2.0 Scope of the Investigation

The scope of work associated with this supplemental Phase II ESA consisted of the following activities:

- Request public utility locating companies (cable, telephone, gas, hydro) to mark any underground utilities present at the Site;
- Retain a private utility locating company to mark all underground utilities present in the vicinity of the borehole locations and to clear the individual borehole locations;
- Advance nine (9) boreholes at the Site using a licensed driller;
- Collect representative soil samples for chemical analysis of one or more of the following: PHC, BTEX, metals, and PAH; and,
- Review the analytical data and prepare a report summarizing the findings.

3.0 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).

For assessment purposes, EXP selected the 2011 Table 3 SCS in a non-potable groundwater condition for a residential property use. The selection of this category was based on the following factors:

- Bedrock is greater than 2 metres below grade across the subject property;
- There are no surface water bodies within 30 metres of the subject property;
- The Phase Two property is not located within an area of natural significance, does not include nor is adjacent to an area of natural significance, and does not include land that is within 30 metres of an area of natural significance;
- Potable water for the Phase Two property is provided by the City of Ottawa through its water distribution system;
- The Phase Two property is not located in an area designated in a municipal official plan as a well-head protection area;
- The Phase Two property is planned for residential use; and
- It is the opinion of the Qualified Person who oversaw this work that the Phase Two property is not a sensitive site.

As development is planned for the Site, it is anticipated that excess soil will be generated. For soil that is not being disposed of at a landfill, the applicable SCS depend on the quantity of soil being disposed of and the applicable SCS to the receiving property. In accordance with Regulation 406/19, excess soil that meets the MECP Table 1 to Table 9 SCS may be disposed of at a property where less than 350 m³ of soil are required, while excess soil that meets the MECP Table 1 or Table 2.1 to 9.1 SCS may be disposed of at a property where more than 350 m³ of soil are required. Since it is likely that there will be more than 350 m³ of excess soil, soil results were also compared to the MECP 2.1 and 3.1 volume independent excess soil quality standards for potential off-site commercial re-use sites.

Comparison to Table 2.1 allows for an evaluation for disposal to any off-site properties that are serviced by private water wells, and Table 3.1 SCS allows for an evaluation to any off-site properties that are municipally serviced with drinking water. If Tables 4.1 to 9.1 are applicable to the receiving site, then the data should be compared to the receiving site applicable SCS, at the direction of the receiving site Qualified Person.

4.1 Deviations from Proposed Scope of Work

There were no deviations from the proposed scope of work.

4.0 Methodology

The following sections describe the methodology used by EXP during the field investigation.

4.1 Service Clearances

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

4.2 Drilling and Soil Sampling

On September 7, 2022, nine (9) boreholes (BH-1 to BH-9) were advanced at the Site by a licensed well contractor, under the full-time supervision of EXP staff. The boreholes were drilled to a maximum depth of 2.2 m bsg or refusal due to the presence of bedrock. The locations of the boreholes are presented on Figure 2 in Appendix A.

The boreholes were advanced using a track-mounted geoprobe drill. Representative soil samples were recovered from the boreholes continuously using split spoon sampling equipment. Nitrile gloves (i.e., one pair per sample) were used during sample handling. No petroleum-based greases or solvents were used during drilling activities.

EXP staff continuously monitored the drilling activities to log the stratigraphy observed from the recovered soil cores, to record the depth of soil sample collection, to record total depths of borings, and to record visual or olfactory observations of potential impacts. Field observations are summarized on the borehole logs provided in Appendix B.

Soil samples identified for possible laboratory analysis were collected from the lined tube samplers and 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 head-space and reduce the potential for induced volatilization during storage/transport prior to analysis.

Representative soil samples from the boreholes were submitted to a certified laboratory for analysis of BTEX, PHC, PAH and metals. The soil samples were placed in coolers with ice packs and transported to Caduceon Laboratories in Ottawa, under Chain of Custody protocol, within 24 hours of sample collection for chemical analysis.

4.3 Elevation Surveying

An elevation survey was conducted to obtain vertical control of the borehole locations. The ground surface elevation of each borehole location was surveyed using high precision laser level relative to previous elevations measured on the property.

4.4 Quality Assurance and Quality Control Measures

All soil samples were placed in coolers containing ice packs prior to and during transportation to the contract laboratory, Caduceon Laboratories of Ottawa. Caduceon 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 soil 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.

Caduceon'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 Findings

5.1 Subsurface Conditions

The detailed soil profiles encountered in the boreholes are provided on the borehole logs (Appendix B). Boundaries of soils indicated on the logs are intended to reflect transition zones for the purpose of environmental assessment and should not be interpreted as exact planes of geological change. A brief description of the soil stratigraphy at the Site as obtained from the boreholes, in order of depth, is summarized in the following sections.

5.1.1 Surficial Material

Beneath the asphalt there was 0.1 m to 0.2 m thick layer of crushed stone. Underlying the crushed stone there was sand with some gravel with some to a maximum depth of 1.4 m. At BH3 and BH7, there was approximately 0.3 m of silty topsoil. Under the topsoil was 0.9 m of sand with some gravel fill material. No odours were observed in the fill material.

5.1.2 Native Material

Beneath the fill material was glacial till consisting of sand and gravel, with some silty and clay. No odours were observed in the native soil.

5.1.3 Bedrock Material

Drilling refusal on inferred bedrock was found between 1.68 m and 2.29 m bsg. No groundwater was observed in the boreholes.

6.0 Analytical Results

6.1 Soil Quality

In accordance with the scope of work, chemical analyses were performed on selected soil samples recovered from the boreholes. Representative soil samples from each borehole submitted for laboratory analysis based on visual and/or olfactory evidence of impacts, where observed. Soil analytical results are summarized in Tables 1 to 3 in Appendix C and the Certificates of Analysis are enclosed in Appendix D.

6.1.1 Petroleum Hydrocarbons and BTEX

Fourteen (14) representative soil samples and two (2) duplicates were submitted for PHC and BTEX analyses. The concentrations of all PHC and BTEX parameters in the analyzed soil samples were less than the MECP (2011) Table 3 SCS.

The following samples exceeded the Table 3.1 and 2.1 SCS:

- BH2 S4, BH4-S4, BH7 S4 and BH8 S3 exceeded the SCS for PHC F2.

6.1.2 Metals

Fourteen (14) representative soil samples and two (2) duplicates were submitted for metals analysis. The concentrations of all metals parameters in the analyzed soil samples were less than the MECP (2011), with the exception of:

- BH1-S2 exceeded the SCS for cobalt and molybdenum;
- BH2 S4 exceeded the SCS for cobalt, molybdenum, and SAR;
- BH4-S4 exceeded the SCS for cobalt and molybdenum;
- BH5 S3 exceeded the SCS for arsenic, cobalt, molybdenum, nickel, and thallium;
- BH6 S2 exceeded the SCS for cobalt, molybdenum, and thallium;
- BH7 S4 exceeded the SCS for cobalt, molybdenum, nickel, and thallium
- BH8 S2 exceeded the SCS for cobalt, molybdenum, and SAR; and,
- BH8-S3 exceeded the SCS for cobalt, molybdenum, and thallium.

The concentrations of all metals parameters in the analyzed soil samples were less than the MECP Table 3.1 and 2.1 SCS, with the exception of arsenic in the sample from BH5 S3.

6.1.3 Polycyclic Aromatic Compounds

Fourteen (14) representative soil samples and two (2) duplicates were submitted for PAH analysis. The concentrations of all PAH parameters in the analyzed soil samples were less than the MECP Table 3, Table 3.1 and Table 2.1 SCS.

6.2 Quality Assurance and Quality Control

Details regarding quality assurance measures taken in the field, including instrument calibration, decontamination procedures, use of dedicated equipment, sample storage and Chain of Custody documentation were provided in Section 6, Methodology.

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

of all parameters for all samples in the scope of work for which SCS have been established under Ontario Regulation 153/04. The "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act" ("the Analytical Protocol"), prepared by the MECP, March 2004 amended as of July 1st, 2011, establishes criteria used in assessing the performance of analytical laboratories when the data are used in support of the filing of Records of Site Condition.

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

6.3 Contaminant Assessment

Based on the current laboratory results and the previous assessment at the Site, PAH, metals and PHC impacted soil is present at the Site.

The area of Table 3 SCS impacted soil is shown on Figure 3. Using the clean hole approach, an estimated area of 2,245 m² and an estimated thickness of impact of 2 m, the resulting volume of MECP Table 3 impacted soil is approximately 4,490 m³.

The area of impacted soil above MECP Table 3.1 and 2.1 SCS is shown on Figure 4. It is assumed that the southern limit of the impacted soil area is the building with a basement, with impacted soil being present to the north of the building and extending on the east and west sides of the building to the clean hole locations. This indicates that the majority of the soil on the Site exceeds the MECP Table 3.1 and 2.1 SCS and if excess soil is generated from the areas shown, it will require disposal at a licensed landfill. Using the clean hole approach, an estimated area of 1,120 m² and an estimated thickness of impact of 2.0 m, the resulting volume of MECP Table 3.1 and 2.1 SCS impacted soil is approximately 2,240 m³.

7.0 Conclusions

Based on the Phase Two ESA results, the following summary is provided:

- The supplemental Phase II ESA consisted of advancing a total of nine (9) boreholes to delineate the quality of fill on the property which was identified by others in 2022. One to two soil samples from each borehole were submitted for laboratory analysis of petroleum hydrocarbons (PHC), benzene, toluene, ethylbenzene and xylenes (BTEX), metals, polycyclic aromatic hydrocarbons (PAH).
- Beneath the asphalt, there was 0.1 m to 0.2 m thick layer of crushed stone. Underlying the crushed stone, there was sand with some gravel with some to a maximum depth of 1.4 m. At BH3 and BH7, there was approximately 0.3 m of silty topsoil. Under the topsoil was 0.9 m of sand with some gravel fill material. No odours were observed in the fill material. Beneath the fill material was glacial till consisting of sand and gravel, with some silty and clay. No odours were observed in the native soil. Drilling refusal on inferred bedrock was found between 1.68 m and 2.29 m bsg. No groundwater was observed in the boreholes.
- The concentrations of BTEX, PHC, and PAH in the analyzed soil samples were less than the 2011 MECP Table 3 SCS. The concentrations of one or more of arsenic, cobalt, molybdenum, nickel, and thallium and SAR in eight soil samples exceeded the 2011 MECP Table 3 SCS.
- Based on the current laboratory results and the previous assessment at the Site, PAH, metals and PHC impacted soil is present at the Site. Using the clean hole approach, an estimated area of 2,245 m² and an estimated thickness of impact of 2 m, the resulting volume of MECP Table 3 impacted soil is approximately 4,490 m³.
- It is assumed that the southern limit of the impacted soil area is the building, with impacted soil being present to the north of the building and extending on the east and west sides of the building to the clean hole locations. This indicates that the majority of the soil on the Site exceeds the MECP Table 3.1 and 2.1 SCS and if excess soil is generated from the areas shown, it will require disposal at a licensed landfill. Using the clean hole approach, an estimated area of 1,120 m² and an estimated thickness of impact of 2.0 m, the resulting volume of MECP Table 3.1 and 2.1 SCS impacted soil is approximately 2,240 m³.

8.0 General Limitations

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

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

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

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

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

We trust this report meets your current needs. If you have any questions pertaining to the investigation undertaken by EXP, please do not hesitate to contact the undersigned.



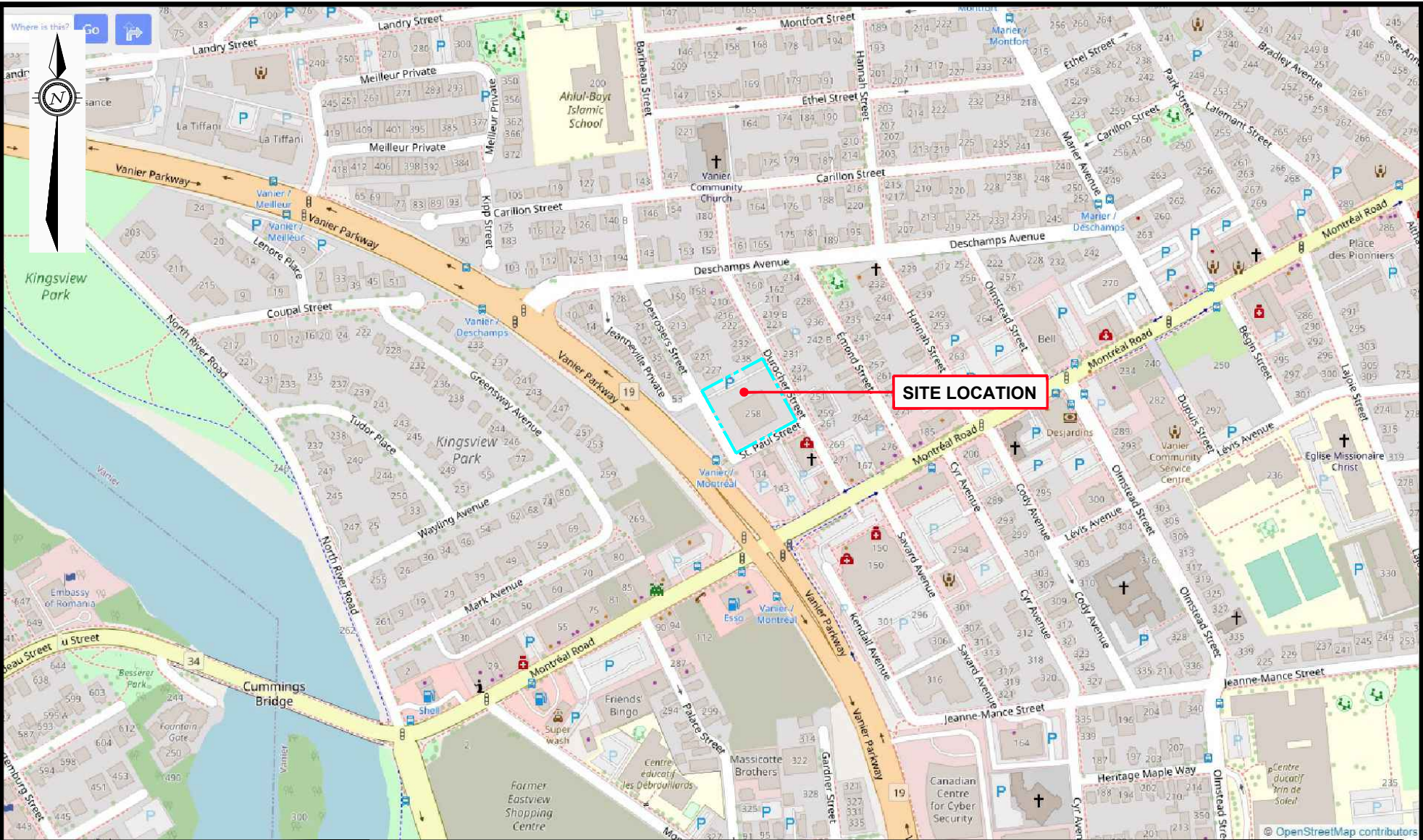
Mark McCalla, P. Geo.
Senior Geoscientist
Earth and Environment



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

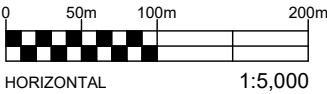
Appendix A: Figures

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Plotted by: Severa



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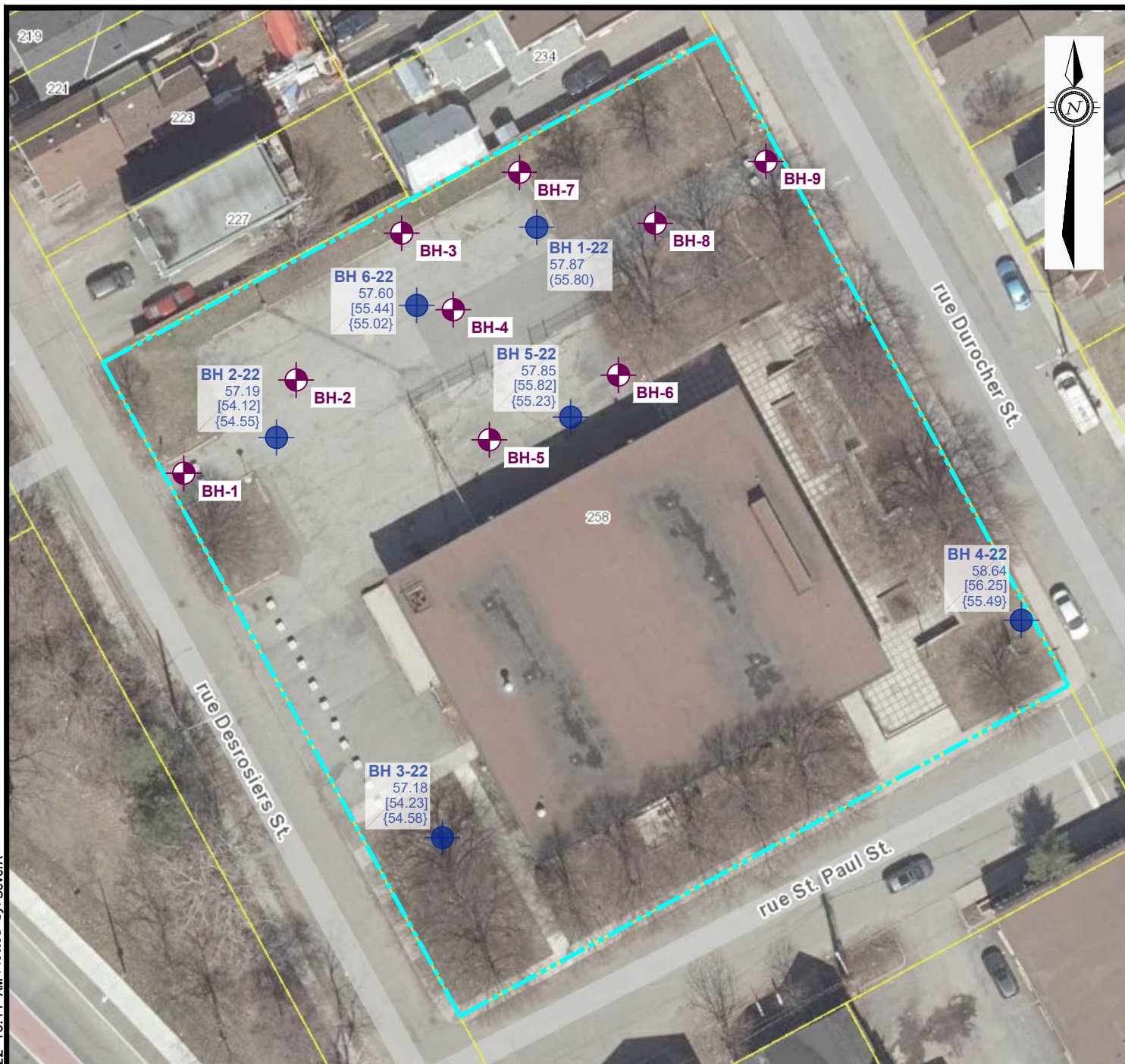
----- PROPERTY BOUNDARY



EXP Services Inc. www.exp.com
t: +1.613.688.1899 | f: +1.613.225.7337
2650 Queensview Drive, Suite 100
Ottawa, ON K2B 8H6, Canada

DATE SEPTEMBER 2022		PROJECT: SUPPLEMENTAL PHASE II ESA 258 DUROCHER STREET, OTTAWA, ONTARIO		project no. OTT-22020118-A0
DESIGN MM	CHECKED MM	TITLE: SITE LOCATION PLAN		scale 1:10,000
DRAWN BY AS				FIG 1

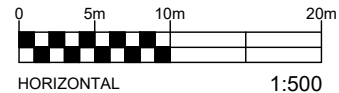
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Last Plotted: Sep 28, 2022 10:44 AM
Plotted by: SeverA



LEGEND

	PROPERTY BOUNDARY
	BOREHOLE WITH MONITORING WELL NAME AND LOCATION (PATERSON GROUP, 2022)
	BOREHOLE NAME AND LOCATION (EXP, 2022)
	GROUND SURFACE ELEVATION (m) (PATERSON GROUP, 2022)
	BEDROCK SURFACE ELEVATION (m) (PATERSON GROUP, 2022)
	GROUNDWATER SURFACE ELEVATION (m) (APRIL 2022)
	GROUNDWATER SURFACE ELEVATION (m) (JUNE 2022)

BH-1 BOREHOLE NAME AND LOCATION
(EXP, 2022)



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

DATE SEPTEMBER 2022	PROJECT: SUPPLEMENTAL PHASE II ESA 258 DUROCHER STREET, OTTAWA, ONTARIO	project no. OTT-22020118-A0
DESIGN MM	CHECKED MM	scale 1:500
DRAWN BY AS	TITLE: BOREHOLE LOCATION PLAN	FIG 2

Filename: E:\OTT-22020118-A0\60_Execution\65 Drawings\22020118-A0.dwg
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Last Plotted: Oct 3, 2022 11:37 AM
Plotted by: Severa



LEGEND



PROPERTY BOUNDARY

BOREHOLE WITH MONITORING WELL NAME AND LOCATION
(PATERSON GROUP, 2022)

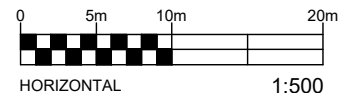
ESTIMATED AREA OF TABLE 3 IMPACTED SOIL



BOREHOLE NAME AND LOCATION
(EXP, 2022)



SOIL EXCEEDANCE OF TABLE 3



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Ottawa, ON K2B 8H6, Canada

DATE
OCTOBER 2022

DESIGN
MM

CHECKED
MM

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AS

PROJECT:

SUPPLEMENTAL PHASE II ESA
258 DUROCHER STREET, OTTAWA, ONTARIO

TITLE:

TABLE 3 IMPACTED SOIL

project no.

OTT-22020118-A0

scale

1:500

FIG 3

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Last Plotted: Oct 3, 2022 11:38 AM
Plotted by: Severa



LEGEND

--- PROPERTY BOUNDARY

BH 5-22 BOREHOLE WITH MONITORING WELL NAME AND LOCATION (PATERSON GROUP, 2022)

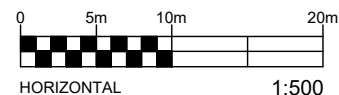
ESTIMATED AREA OF TABLE 2.1 & 3.1 IMPACTED SOIL



BH-1 BOREHOLE NAME AND LOCATION (EXP, 2022)



SOIL EXCEEDANCE OF TABLE 2.1 AND 3.1



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2650 Queensview Drive, Suite 100
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DATE
OCTOBER 2022

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AS

PROJECT:

SUPPLEMENTAL PHASE II ESA
258 DUROCHER STREET, OTTAWA, ONTARIO

TITLE:

TABLE 2.1 AND 3.1 IMPACTED SOIL

project no.

OTT-22020118-A0

scale

1:500

FIG 4

EXP Services Inc.

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Supplemental Phase II Environmental Site Assessment
258 Durocher Street, Ottawa, Ontario
OTT-22020118-A0
October 4, 2022

Appendix B: 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.

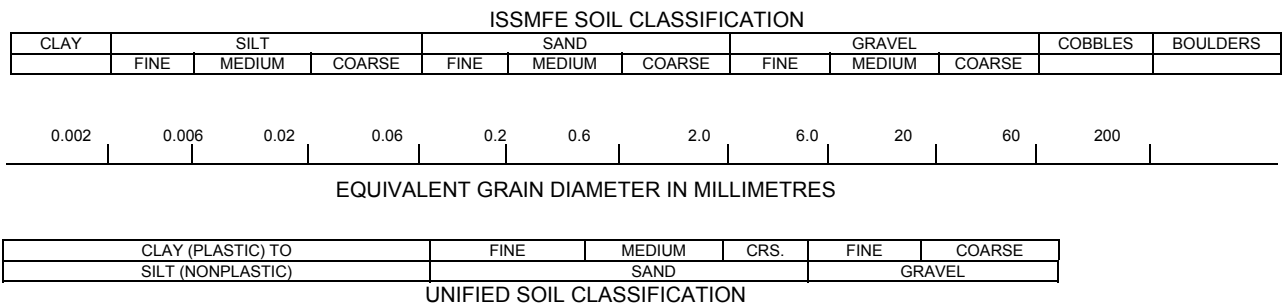
Seam: a thin, confined layer of soil having different particle size, texture, or color from materials above and below.

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:

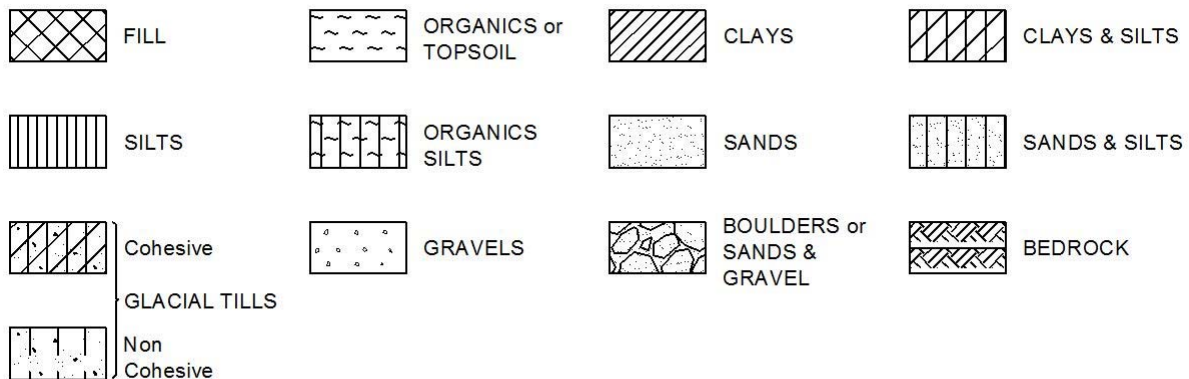
Table c: Consistency of Cohesive Soil

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



Open Borehole or Test Pit



Monitoring Well, Piezometer or Standpipe

Page. 1 of 1☐

X

①

▲

LOG OF BOREHOLE BH LOGS - OTT-22020118-A0 DUROCHER ST.GPJ TROW OTTAWA.GDT 9/13/22

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

▲

LOG OF BOREHOLE BH LOGS - OTT-22020118-A0 DUROCHER ST.GPJ TROW OTTAWA.GDT 9/13/22

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

Log of Borehole BH3



Project No: OTT-22020118-A0

Project: Supplemental Phase II Environmental Site Assessment

Location: 258 Durocher Street, Ottawa, Ontario

Figure No. 5

Page. 1 of 1

Date Drilled: September 7th, 2022

Drill Type: Geoprobe 54LT Dual Tube

Datum: Geodetic Elevation

Logged by: MAD Checked by: MGM

Split Spoon Sample ☒

Auger Sample ☐

SPT (N) Value ☐

Dynamic Cone Test ☐

Shelby Tube ☐

Shear Strength by
Vane Test ☐

Combustible Vapour Reading ☐

Natural Moisture Content ☒

Atterberg Limits ☐

Undrained Triaxial at
% Strain at Failure ☐

Shear Strength by
Penetrometer Test ☐

G W L	S Y M B O L	SOIL DESCRIPTION	Geodetic Elevation m	D e p t h m	Standard Penetration Test N Value				Combustible Vapour Reading (ppm)			S A M P L E S	Natural Unit Wt. kN/m³	
					20	40	60	80	250	500	750			
					Shear Strength kPa				Natural Moisture Content % Atterberg Limits (% Dry Weight)					
					50	100	150	200		20	40	60		
		TOPSOIL ~300mm Sandy loam, brown, moist, some organics (roots), no odours or stains.	57.785	0										
		FILL Sand becoming sand and gravel with some glass and orange brick debris present, brown and orange turning greyish brown, moist turning wet, no odours or stains.	57.5											S1
									0					
									0					
									10					S2
			56.6	1										
		GLACIAL TILL Sand and gravel with some silt, clay, boulder and cobbles, shale fragments throughout, brown turning dark grey, moist, no odours or stains.												
									0					S3
			56.0											
		Refusal at 1.83 m Depth, Borehole Terminated												

NOTES:

- Borehole data requires interpretation by EXP before use by others
- The borehole was backfilled with hole plug upon completion.
- Field work was supervised by an EXP representative.
- See Notes on Sample Descriptions
- Log to be read with EXP Report OTT-22020118-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 - OTT-22020118-A0 DUROCHER ST.GPJ TROW OTTAWA.GDT 9/13/22

▲

LOG OF BOREHOLE BH LOGS - OTT-22020118-A0 DUROCHER ST.GPJ TROW OTTAWA.GDT 9/13/22

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

▲

LOG OF BOREHOLE BH LOGS - OTT-22020118-A0 DUROCHER ST.GPJ TROW OTTAWA.GDT 9/13/22

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

▲

LOG OF BOREHOLE BH LOGS - OTT-22020118-A0 DUROCHER ST.GPJ TROW OTTAWA.GDT 9/13/22

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

Log of Borehole BH7



Project No: OTT-22020118-A0

Project: Supplemental Phase II Environmental Site Assessment

Location: 258 Durocher Street, Ottawa, Ontario

Figure No. 9

Page. 1 of 1

Date Drilled: September 7th, 2022

Drill Type: Geoprobe 54LT Dual Tube

Datum: Geodetic Elevation

Logged by: MAD Checked by: MGM

Split Spoon Sample ☒

Auger Sample ☐

SPT (N) Value ☐

Dynamic Cone Test ☐

Shelby Tube ☐

Shear Strength by
Vane Test ☐

Combustible Vapour Reading ☐

Natural Moisture Content ☒

Atterberg Limits ☐

Undrained Triaxial at
% Strain at Failure ☐

Shear Strength by
Penetrometer Test ☐

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic Elevation m	Depth m	Standard Penetration Test N Value				Combustible Vapour Reading (ppm)			SAMPLES	Natural Unit Wt. kN/m³
					20	40	60	80	250	500	750		
					Shear Strength				Natural Moisture Content % Atterberg Limits (% Dry Weight)				
					50	100	150	200	20	40	60		
		TOPSOIL ~300mm Sandy loam, brown, moist, some organics (roots), no odours or stains.	58.12	0									
		FILL Sand with some gravel, trace organics (roots), brown, moist, no odours or stains.	57.8										S1
													S2

NOTES:

- Borehole data requires interpretation by EXP before use by others
- The borehole was backfilled with hole plug upon completion.
- Field work was supervised by an EXP representative.
- See Notes on Sample Descriptions
- Log to be read with EXP Report OTT-22020118-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 - OTT-22020118-A0 DUROCHER ST.GPJ TROW OTTAWA.GDT 9/13/22

Log of Borehole BH8



Project No: OTT-22020118-A0

Project: Supplemental Phase II Environmental Site Assessment

Location: 258 Durocher Street, Ottawa, Ontario

Figure No. 10

Page. 1 of 1

Date Drilled: September 7th, 2022

Drill Type: Geoprobe 54LT Dual Tube

Datum: Geodetic Elevation

Logged by: MAD Checked by: MGM

Split Spoon Sample ☒

Auger Sample ☐

SPT (N) Value ☐

Dynamic Cone Test ☐

Shelby Tube ☐

Shear Strength by
Vane Test ☐

Combustible Vapour Reading ☐

Natural Moisture Content ☒

Atterberg Limits ☐

Undrained Triaxial at
% Strain at Failure ☐

Shear Strength by
Penetrometer Test ☐

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic Elevation m	Depth m	Standard Penetration Test N Value				Combustible Vapour Reading (ppm)			SAMPLES	Natural Unit Wt. kN/m³
									250	500	750		
					Shear Strength				Natural Moisture Content % Atterberg Limits (% Dry Weight)				
					20	40	60	80	20	40	60		
		ASPHALT ~60mm	58.075	0									
		FILL Crushed stone, sand and gravel, grey, moist, no odours or stains.	58.0										
		FILL Sand with some gravel and trace silt and clay, trace organics present, brown, moist turning wet, no odours or stains.	57.6										S1
		GLACIAL TILL Sand and gravel with some silt, clay, boulder and cobbles, shale fragments throughout, dark grey, moist, no odours or stains.	56.9	1									S2

NOTES:

- Borehole data requires interpretation by EXP before use by others
- The borehole was backfilled with hole plug upon completion.
- Field work was supervised by an EXP representative.
- See Notes on Sample Descriptions
- Log to be read with EXP Report OTT-22020118-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 - OTT-22020118-A0 DUROCHER ST.GPJ TROW OTTAWA.GDT 9/13/22

Log of Borehole BH9



Project No: OTT-22020118-A0

Project: Supplemental Phase II Environmental Site Assessment

Location: 258 Durocher Street, Ottawa, Ontario

Figure No. 11

Page. 1 of 1

Date Drilled: September 7th, 2022

Drill Type: Geoprobe 54LT Dual Tube

Datum: Geodetic Elevation

Logged by: MAD Checked by: MGM

Split Spoon Sample ☒

Auger Sample ☐

SPT (N) Value ☐

Dynamic Cone Test ☐

Shelby Tube ☐

Shear Strength by
Vane Test ☐

Combustible Vapour Reading ☐

Natural Moisture Content ☒

Atterberg Limits ☐

Undrained Triaxial at
% Strain at Failure ☐

Shear Strength by
Penetrometer Test ☐

GWL	SYMBOL	SOIL DESCRIPTION	Geodetic Elevation m	Depth m	Standard Penetration Test N Value				Combustible Vapour Reading (ppm)			SAMPLES	Natural Unit Wt. kN/m³
					20	40	60	80	250	500	750		
					Shear Strength				Natural Moisture Content % Atterberg Limits (% Dry Weight)				
					50	100	150	200	20	40	60		
		ASPHALT~75mm	58.33	0									
		FILL Crushed stone, sand and gravel, grey, moist, no odours or stains.	58.2										
		FILL Sand with some gravel and trace silt and clay, trace organics present, brown, moist turning wet, no odours or stains.	58.0						0				S1
									0				
				1					0				S2
									0				
			56.9										
		GLACIAL TILL Sand and gravel with some silt, clay, boulder and cobbles, shale fragments throughout, dark grey, moist, no odours or stains.	56.5						5				S3
		Refusal at 1.83 m Depth, Borehole Terminated											

NOTES:

- Borehole data requires interpretation by EXP before use by others
- The borehole was backfilled with hole plug upon completion.
- Field work was supervised by an EXP representative.
- See Notes on Sample Descriptions
- Log to be read with EXP Report OTT-22020118-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 - OTT-22020118-A0 DUROCHER ST.GPJ TROW OTTAWA.GDT 9/13/22

Appendix C: Analytical Summary Tables

**TABLE 1 SOIL ANALYTICAL RESULTS ($\mu\text{g/g}$)
PETROLEUM HYDROCARBONS
258 Durocher Street, Ottawa, Ontario**

Parameter	MECP Table 3.1 Commercial 1	MECP Table 2.1 Commercial ²	MECP Table 3 ¹	BH1-S2	BH2-S1	BH2-S4	BH3-S2	BH4-S2	Dup2	BH4-S4	BH5-S1	BH5-S3
Sample Date (d/m/y)			Residential	09/07/22	09/07/22	09/07/22	09/07/22	09/07/22	Duplicate of	09/07/22	09/07/22	09/07/22
Sample Depth (mbsg)				0.6 - 1.2	0.0 - 0.6	1.8 - 2.3	0.6 - 1.2	0.6 - 1.2	BH4 S2	1.8 - 2.2	0.0 - 0.6	1.2 - 2.0
Benzene	0.034	0.02	0.21	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Toluene	1.9	0.2	2.3	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Ethylbenzene	7.8	0.05	2	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Xylenes	3	0.091	3.1	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
PHC F ₁ (>C ₆ -C ₁₀)	25	25	55	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
PHC F ₂ (>C ₁₀ -C ₁₆)	26	26	98	14	< 5	31	< 5	< 5	< 5	73	< 5	13
PHC F ₃ (>C ₁₆ -C ₃₄)	1700	240	300	23	< 10	42	< 10	21	19	64	16	31
PHC F ₄ (>C ₃₄ -C ₅₀)	3300	3300	2800	< 10	< 10	< 10	< 10	12	13	58	< 10	< 10

NOTES:

- 1 Ontario Ministry of Environment, Conservation and Parks (MECP), O.Reg 406/19 On-Site and Excess Soil Management, December 2019, Rules for Soil Management and Excess Soil Quality Standards, Table 3.1 Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition.
- 2 Ontario Ministry of Environment, Conservation and Parks (MECP), O.Reg 406/19 On-Site and Excess Soil Management, December 2019, Rules for Soil Management and Excess Soil Quality Standards, Table 2.1 Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition.
- 3 MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA, April 2011, Table 3 non-potable residential standards, coarse textured soil.
- m bsg Metres below surface grade
- Underline Indicates soil exceedance of MECP Table 3.1 SCS
- Bold** Indicates soil exceedance of MECP Table 2.1 SCS
- Shade** Indicates soil exceedance of MECP Table 3 SCS
- NA Not applicable

**TABLE 1 SOIL ANALYTICAL RESULTS ($\mu\text{g/g}$)
PETROLEUM HYDROCARBONS
258 Durocher Street, Ottawa, Ontario**

Parameter	MECP Table 3.1 Commercial 1	MECP Table 2.1 Commercial ²	MECP Table 3 ¹	BH6-S2	BH7-S2	BH7-S4	BH8-S2	BH8-S3	Dup1	BH9-S2
Sample Date (d/m/y)			Residential	09/07/22	09/07/22	09/07/22	09/07/22	09/07/22	Duplicate of	09/07/22
Sample Depth (mbsg)				0.6 - 1.2	0.6 - 1.2	1.8 - 2.1	0.6 - 1.2	1.2 - 1.8	BH8 S3	0.6 - 1.2
Benzene	0.034	0.02	0.21	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Toluene	1.9	0.2	2.3	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Ethylbenzene	7.8	0.05	2	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Xylenes	3	0.091	3.1	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
PHC F ₁ (>C ₆ -C ₁₀)	25	25	55	< 10	< 10	< 10	< 10	< 10	< 10	< 10
PHC F ₂ (>C ₁₀ -C ₁₆)	26	26	98	22	5	55	18	44	32	< 5
PHC F ₃ (>C ₁₆ -C ₃₄)	1700	240	300	39	15	56	27	63	47	< 10
PHC F ₄ (>C ₃₄ -C ₅₀)	3300	3300	2800	< 10	< 10	< 10	< 10	< 10	< 10	< 10

NOTES:

- 1 Ontario Ministry of Environment, Conservation and Parks (MECP), O.Reg 406/19 On-Site and Excess Soil Management, December 2019, Rules for Soil Management and Excess Soil Quality Standards, Table 3.1 Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition.
- 2 Ontario Ministry of Environment, Conservation and Parks (MECP), O.Reg 406/19 On-Site and Excess Soil Management, December 2019, Rules for Soil Management and Excess Soil Quality Standards, Table 2.1 Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition.
- 3 MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA, April 2011, Table 3 non-potable residential standards, coarse textured soil.
- m bsg Metres below surface grade
- Underline Indicates soil exceedance of MECP Table 3.1 SCS
- Bold** Indicates soil exceedance of MECP Table 2.1 SCS
- Shade** Indicates soil exceedance of MECP Table 3 SCS
- NA Not applicable

**TABLE 2 SOIL ANALYTICAL RESULTS ($\mu\text{g/g}$)
METALS
258 Durocher Street, Ottawa, Ontario**

Parameter	MECP Table 3.1 Commercial 1	MECP Table 2.1 Commercial ²	MECP Table 3 ¹	BH1-S2	BH2-S1	BH2-S4	BH3-S2	BH4-S2	Dup2	BH4-S4	BH5-S1	BH5-S3	BH6-S2
Sample Date (d/m/y)			Residential	09/07/22	09/07/22	09/07/22	09/07/22	09/07/22	Duplicate of	09/07/22	09/07/22	09/07/22	09/07/22
Sample Depth (mbgs)				0.6 - 1.2	0.0 - 0.6	1.8 - 2.3	0.6 - 1.2	0.6 - 1.2	BH4 S2	1.8 - 2.2	0.0 - 0.6	1.2 - 2.0	0.6 - 1.2
Antimony	40	40	7.5	1.1	< 0.5	0.7	< 0.5	< 0.5	< 0.5	0.9	< 0.5	1.6	0.8
Arsenic	18	18	18	13.3	4.4	9.8	6.2	6.5	5.3	14.1	6.5	27.3	11.7
Barium	670	670	390	88	47	74	103	52	46	137	61	75	77
Beryllium	8	8	4	1	0.3	1.2	0.6	0.4	0.4	1	0.7	1.1	1
Boron	120	120	120	5.8	3.8	7.3	5.4	4.7	5.7	7.5	6.1	7	8.2
Boron (HWS)	2	2	1.5	0.06	< 0.02	0.06	0.09	0.03	0.03	0.05	0.04	0.06	0.09
Cadmium	1.9	1.9	1.2	1	< 0.5	0.9	< 0.5	< 0.5	< 0.5	0.6	< 0.5	0.7	1.1
Chromium	160	160	160	26	17	26	22	18	15	24	19	24	25
Chromium VI	8	8	8	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Cobalt	80	80	22	25	7	25	12	9	9	29	12	43	29
Copper	230	230	140	57	20	62	25	23	24	66	33	80	78
Lead	120	120	120	115	21	19	38	33	32	23	93	40	23
Mercury	0.27	0.27	0.27	0.188	0.033	0.078	0.159	0.064	0.061	0.087	0.086	0.139	0.119
Molybdenum	40	40	6.9	12	3	10	5	3	3	11	3	16	12
Nickel	270	270	100	70	24	99	28	28	30	98	40	161	99
Selenium	5.5	5.5	2.4	1.6	0.7	1.4	0.7	0.7	0.7	1.3	0.9	1.8	1.4
Silver	40	40	20	< 0.2	< 0.2	< 0.2	0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Thallium	3.3	3.3	1	0.7	< 0.1	1	0.4	0.3	0.3	0.9	0.4	2.9	1.3
Uranium	33	33	23	6.6	1.2	2.8	1.1	1	1	3.1	1.5	4.3	4.4
Vanadium	86	86	86	42	23	49	28	26	25	38	31	40	43
Zinc	340	340	340	236	54	103	68	56	57	89	62	90	146
Sodium Absorption Ratio	12	12	5	2.93	4.33	5.36	0.401	3.37	3.98	4.24	3.41	1.25	2.09

NOTES:

1 Ontario Ministry of Environment, Conservation and Parks (MECP), O.Reg 406/19 On-Site and Excess Soil Management, December 2019, Rules for Soil Management and Excess Soil Quality Standards, Table 3.1 Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition.

2 Ontario Ministry of Environment, Conservation and Parks (MECP), O.Reg 406/19 On-Site and Excess Soil Management, December 2019, Rules for Soil Management and Excess Soil Quality Standards, Table 2.1 Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition.

3 MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA, April 2011, Table 3 non-potable residential standards, coarse textured soil.

m bsg Metres below surface grade

Underline Indicates soil exceedance of MECP Table 3.1 SCS

Bold Indicates soil exceedance of MECP Table 2.1 SCS

Shade Indicates soil exceedance of MECP Table 3 SCS

NA Not applicable

**TABLE 2 SOIL ANALYTICAL RESULTS ($\mu\text{g/g}$)
METALS
258 Durocher Street, Ottawa, Ontario**

Parameter	MECP Table 3.1 Commercial 1	MECP Table 2.1 Commercial 2	MECP Table 3 ¹	BH7-S2	BH7-S4	BH8-S2	BH8-S3	Dup1	BH9-S2
Sample Date (d/m/y)			Residential	09/07/22	09/07/22	09/07/22	09/07/22	Duplicate of	09/07/22
Sample Depth (mbgs)				0.6 - 1.2	1.8 - 2.1	0.6 - 1.2	1.2 - 1.8	BH8 S3	0.6 - 1.2
Antimony	40	40	7.5	< 0.5	0.8	0.7	0.8	0.7	< 0.5
Arsenic	18	18	18	6.1	10	10.3	12	12	7.6
Barium	670	670	390	59	84	68	68	68	112
Beryllium	8	8	4	0.5	1	0.8	1	1	0.7
Boron	120	120	120	5.7	6.7	6.4	7.4	8	8.4
Boron (HWS)	2	2	1.5	0.06	0.05	0.05	0.06	0.06	0.08
Cadmium	1.9	1.9	1.2	< 0.5	1.2	< 0.5	0.9	0.7	< 0.5
Chromium	160	160	160	18	23	23	24	24	29
Chromium VI	8	8	8	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Cobalt	80	80	22	10	34	23	31	27	16
Copper	230	230	140	24	73	52	67	67	38
Lead	120	120	120	27	20	34	20	21	19
Mercury	0.27	0.27	0.27	0.053	0.087	0.109	0.076	0.076	0.078
Molybdenum	40	40	6.9	3	13	8	10	10	5
Nickel	270	270	100	32	105	69	98	94	55
Selenium	5.5	5.5	2.4	0.7	1.5	1.1	1.1	1.2	1
Silver	40	40	20	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.2
Thallium	3.3	3.3	1	0.3	1.7	0.3	1.4	1.2	0.5
Uranium	33	33	23	1	2.7	2.5	2.6	2.6	1.5
Vanadium	86	86	86	26	41	35	38	39	37
Zinc	340	340	340	51	149	87	118	107	72
Sodium Absorption Ratio	12	12	5	1.02	0.975	5.11	2.64	3.58	2.86

NOTES:

- 1 Ontario Ministry of Environment, Conservation and Parks (MECP), O.Reg 406/19 On-Site and Excess Soil Management, December 2019, Rules for Soil Management and Excess Soil Quality Standards, Table 3.1 Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition.
- 2 Ontario Ministry of Environment, Conservation and Parks (MECP), O.Reg 406/19 On-Site and Excess Soil Management, December 2019, Rules for Soil Management and Excess Soil Quality Standards, Table 2.1 Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition.
- 3 MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA, April 2011, Table 3 non-potable residential standards, coarse textured soil.
- m bsg Metres below surface grade
- Underline Indicates soil exceedance of MECP Table 3.1 SCS
- Bold** Indicates soil exceedance of MECP Table 2.1 SCS
- Shade** Indicates soil exceedance of MECP Table 3 SCS
- NA Not applicable

TABLE 3 SOIL ANALYTICAL RESULTS ($\mu\text{g/g}$)
POLYCYCLIC AROMATIC HYDROCARBONS
258 Durocher Street, Ottawa, Ontario

Parameter	MECP Table 3.1 Commercial 1	MECP Table 2.1 Commercial ²	MECP Table 3 ¹	BH1-S2	BH2-S1	BH2-S4	BH3-S2	BH4-S2	Dup2	BH4-S4	BH5-S1	BH5-S3	BH6-S2
Sample Date (d/m/y)				09/07/22	09/07/22	09/07/22	09/07/22	09/07/22	Duplicate of	09/07/22	09/07/22	09/07/22	09/07/22
Sample Depth (mbsg)	Commercial	Commercial	Residential	0.6 - 1.2	0.0 - 0.6	1.8 - 2.3	0.6 - 1.2	0.6 - 1.2	BH4 S2	1.8 - 2.2	0.0 - 0.6	1.2 - 2.0	0.6 - 1.2
Acenaphthene	15	2.5	7.9	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	0.093	0.093	0.15	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	0.16	0.16	0.67	< 0.05	< 0.05	< 0.05	< 0.05	0.06	< 0.05	< 0.05	0.05	< 0.05	< 0.05
Benzo[a]anthracene	1	0.92	0.5	< 0.05	0.06	< 0.05	< 0.05	0.24	0.1	< 0.05	0.15	< 0.05	< 0.05
Benzo[a]pyrene	0.7	0.31	0.3	< 0.05	< 0.05	< 0.05	< 0.05	0.22	0.08	< 0.05	0.13	< 0.05	< 0.05
Benzo[b]fluoranthene	7	3.2	0.78	< 0.05	0.06	< 0.05	< 0.05	0.29	0.11	< 0.05	0.18	< 0.05	< 0.05
Benzo[g,h,i]perylene	13	13	6.6	< 0.05	< 0.05	< 0.05	< 0.05	0.13	< 0.05	< 0.05	0.09	< 0.05	< 0.05
Benzo[k]fluoranthene	7	3.1	0.78	< 0.05	< 0.05	< 0.05	< 0.05	0.11	< 0.05	< 0.05	0.06	< 0.05	< 0.05
Chrysene	14	9.4	7	< 0.05	0.05	< 0.05	< 0.05	0.25	0.09	< 0.05	0.16	< 0.05	< 0.05
Dibenz[a,h]anthracene	0.7	0.7	0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	70	2.8	0.69	< 0.05	0.09	< 0.05	< 0.05	0.53	0.21	< 0.05	0.32	< 0.05	< 0.05
Fluorene	6.8	6.8	62	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno[1,2,3-cd]pyrene	0.76	0.76	0.38	< 0.05	< 0.05	< 0.05	< 0.05	0.16	0.06	< 0.05	0.1	< 0.05	< 0.05
Methylnaphthalene, 2-(1-)	8.7	0.59	0.99	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	1.8	0.2	0.6	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	12	12	6.2	< 0.05	< 0.05	< 0.05	< 0.05	0.31	0.15	< 0.05	0.24	< 0.05	< 0.05
Pyrene	70	28	78	< 0.05	0.08	< 0.05	< 0.05	0.44	0.17	< 0.05	0.27	< 0.05	< 0.05

NOTES:

- 1 Ontario Ministry of Environment, Conservation and Parks (MECP), O.Reg 406/19 On-Site and Excess Soil Management, December 2019, Rules for Soil Management and Excess Soil Quality Standards, Table 3.1 Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition.
- 2 Ontario Ministry of Environment, Conservation and Parks (MECP), O.Reg 406/19 On-Site and Excess Soil Management, December 2019, Rules for Soil Management and Excess Soil Quality Standards, Table 2.1 Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition.
- 3 MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA, April 2011, Table 3 non-potable residential standards, coarse textured soil.
- m bsg Metres below surface grade
- Underline Indicates soil exceedance of MECP Table 3.1 SCS
- Bold** Indicates soil exceedance of MECP Table 2.1 SCS
- Shade** Indicates soil exceedance of MECP Table 3 SCS
- NA Not applicable

**TABLE 3 SOIL ANALYTICAL RESULTS ($\mu\text{g/g}$)
POLYCYCLIC AROMATIC HYDROCARBONS
258 Durocher Street, Ottawa, Ontario**

Parameter	MECP Table 3.1 Commercial 1	MECP Table 2.1 Commercial 2	MECP Table 3 ¹	BH7-S2	BH7-S4	BH8-S2	BH8-S3	Dup1	BH9-S2
Sample Date (d/m/y)				09/07/22	09/07/22	09/07/22	09/07/22	Duplicate of	09/07/22
Sample Depth (mbsg)	Commercial	Commercial	Residential	0.6 - 1.2	1.8 - 2.1	0.6 - 1.2	1.2 - 1.8	BH8 S3	0.6 - 1.2
Acenaphthene	15	2.5	7.9	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	0.093	0.093	0.15	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	0.16	0.16	0.67	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo[a]anthracene	1	0.92	0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo[a]pyrene	0.7	0.31	0.3	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo[b]fluoranthene	7	3.2	0.78	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo[g,h,i]perylene	13	13	6.6	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo[k]fluoranthene	7	3.1	0.78	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	14	9.4	7	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz[a,h]anthracene	0.7	0.7	0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	70	2.8	0.69	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	6.8	6.8	62	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno[1,2,3-cd]pyrene	0.76	0.76	0.38	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Methylnaphthalene, 2-(1-)	8.7	0.59	0.99	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	1.8	0.2	0.6	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	12	12	6.2	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	70	28	78	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

NOTES:

- 1 Ontario Ministry of Environment, Conservation and Parks (MECP), O.Reg 406/19 On-Site and Excess Soil Management, December 2019, Rules for Soil Management and Excess Soil Quality Standards, Table 3.1 Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition.
- 2 Ontario Ministry of Environment, Conservation and Parks (MECP), O.Reg 406/19 On-Site and Excess Soil Management, December 2019, Rules for Soil Management and Excess Soil Quality Standards, Table 2.1 Full Depth Excess Soil Quality Standards in a Potable Ground Water Condition.
- 3 MECP Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA, April 2011, Table 3 non-potable residential standards, coarse textured soil.
- m bsg Metres below surface grade
- Underline Indicates soil exceedance of MECP Table 3.1 SCS
- Bold** Indicates soil exceedance of MECP Table 2.1 SCS
- Shade** Indicates soil exceedance of MECP Table 3 SCS
- NA Not applicable

Appendix D: Laboratory Certificates of Analysis

C.O.C.: G105090

REPORT No. B22-28819 (i)

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: 08-Sep-22

JOB/PROJECT NO.: Durocher

DATE REPORTED: 19-Sep-22

SAMPLE MATRIX: Soil

P.O. NUMBER: OTT-22020118-A

WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
SVOC	16	Kingston	law	12-Sep-22	C-NAB-S-001 (k)	EPA 8270

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

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

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

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

F4 C34-C50 hydrocarbons in µg/g

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

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

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

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

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

Linearity is within 15%:

All results expressed on a dry weight basis.

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

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

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

QC will be made available upon request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 3 - ICC Soil - Table 3 - Ind./Commercial/Community Soil Std



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

Tahir Yapici Ph.D

Lab Manager - Ottawa District

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DATE RECEIVED: 08-Sep-22

JOB/PROJECT NO.: Durocher

DATE REPORTED: 19-Sep-22

P.O. NUMBER: OTT-22020118-A

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Client I.D. Sample I.D. Date Collected		BH1-S2 B22-28819-1 07-Sep-22	BH2-S1 B22-28819-2 07-Sep-22	BH2-S4 B22-28819-3 07-Sep-22	BH3-S2 B22-28819-4 07-Sep-22	O. Reg. 153 Tbl. 3 - ICC Soil	
	Units	R.L.						
Acenaphthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	96	
Acenaphthylene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.15	
Anthracene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.67	
Benzo(a)anthracene	µg/g	0.05	< 0.05	0.06	< 0.05	< 0.05	0.96	
Benzo(a)pyrene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.3	
Benzo(b)fluoranthene	µg/g	0.05	< 0.05	0.06	< 0.05	< 0.05	0.96	
Benzo(b+k)fluoranthene	µg/g	0.05	< 0.05	0.08	< 0.05	< 0.05		
Benzo(g,h,i)perylene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	9.6	
Benzo(k)fluoranthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.96	
Chrysene	µg/g	0.05	< 0.05	0.05	< 0.05	< 0.05	9.6	
Dibenzo(a,h)anthracene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.1	
Fluoranthene	µg/g	0.05	< 0.05	0.09	< 0.05	< 0.05	9.6	
Fluorene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	62	
Indeno(1,2,3,-cd)pyrene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.76	
Methylnaphthalene,1-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	76	
Methylnaphthalene,2-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	76	
Methylnaphthalene 2-(1-)	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	76	
Naphthalene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	9.6	
Phenanthrene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	12	
Pyrene	µg/g	0.05	< 0.05	0.08	< 0.05	< 0.05	96	
2-Fluorobiphenyl (SS)	% rec.	10	66.0	73.0	54.0	69.0		
Terphenyl-d14 (SS)	% rec.	10	77.0	85.0	74.0	80.0		

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 3 - ICC Soil - Table 3 - Ind./Commercial/Community Soil Std



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

Tahir Yapici Ph.D
Lab Manager - Ottawa District

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Tel: 613-526-0123
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DATE RECEIVED: 08-Sep-22

JOB/PROJECT NO.: Durocher

DATE REPORTED: 19-Sep-22

P.O. NUMBER: OTT-22020118-A

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Client I.D. Sample I.D. Date Collected		BH4-S2 B22-28819-5 07-Sep-22	BH4-S4 B22-28819-6 07-Sep-22	BH5-S1 B22-28819-7 07-Sep-22	BH5-S3 B22-28819-8 07-Sep-22	O. Reg. 153 Tbl. 3 - ICC Soil	
	Units	R.L.						
Acenaphthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	96	
Acenaphthylene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.15	
Anthracene	µg/g	0.05	0.06	< 0.05	0.05	< 0.05	0.67	
Benzo(a)anthracene	µg/g	0.05	0.24	< 0.05	0.15	< 0.05	0.96	
Benzo(a)pyrene	µg/g	0.05	0.22	< 0.05	0.13	< 0.05	0.3	
Benzo(b)fluoranthene	µg/g	0.05	0.29	< 0.05	0.18	< 0.05	0.96	
Benzo(b+k)fluoranthene	µg/g	0.05	0.40	< 0.05	0.24	< 0.05		
Benzo(g,h,i)perylene	µg/g	0.05	0.13	< 0.05	0.09	< 0.05	9.6	
Benzo(k)fluoranthene	µg/g	0.05	0.11	< 0.05	0.06	< 0.05	0.96	
Chrysene	µg/g	0.05	0.25	< 0.05	0.16	< 0.05	9.6	
Dibenzo(a,h)anthracene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.1	
Fluoranthene	µg/g	0.05	0.53	< 0.05	0.32	< 0.05	9.6	
Fluorene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	62	
Indeno(1,2,3,-cd)pyrene	µg/g	0.05	0.16	< 0.05	0.10	< 0.05	0.76	
Methylnaphthalene,1-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	76	
Methylnaphthalene,2-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	76	
Methylnaphthalene 2-(1-)	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	76	
Naphthalene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	9.6	
Phenanthrene	µg/g	0.05	0.31	< 0.05	0.24	< 0.05	12	
Pyrene	µg/g	0.05	0.44	< 0.05	0.27	< 0.05	96	
2-Fluorobiphenyl (SS)	% rec.	10	81.0	75.0	68	70.0		
Terphenyl-d14 (SS)	% rec.	10	94.0	88.0	77	80.0		

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 3 - ICC Soil - Table 3 - Ind./Commercial/Community Soil Std



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Tahir Yapici Ph.D
Lab Manager - Ottawa District

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Fax: 613-526-1244

DATE RECEIVED: 08-Sep-22

JOB/PROJECT NO.: Durocher

DATE REPORTED: 19-Sep-22

P.O. NUMBER: OTT-22020118-A

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Client I.D. Sample I.D. Date Collected		BH6-S2 B22-28819-9 07-Sep-22	BH7-S2 B22-28819-10 07-Sep-22	BH7-S4 B22-28819-11 07-Sep-22	BH8-S2 B22-28819-12 07-Sep-22	O. Reg. 153 Tbl. 3 - ICC Soil	
	Units	R.L.						
Acenaphthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	96	
Acenaphthylene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.15	
Anthracene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.67	
Benzo(a)anthracene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.96	
Benzo(a)pyrene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.3	
Benzo(b)fluoranthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.96	
Benzo(b+k)fluoranthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05		
Benzo(g,h,i)perylene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	9.6	
Benzo(k)fluoranthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.96	
Chrysene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	9.6	
Dibenzo(a,h)anthracene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.1	
Fluoranthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	9.6	
Fluorene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	62	
Indeno(1,2,3,-cd)pyrene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.76	
Methylnaphthalene,1-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	76	
Methylnaphthalene,2-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	76	
Methylnaphthalene 2-(1-)	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	76	
Naphthalene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	9.6	
Phenanthrene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	12	
Pyrene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	96	
2-Fluorobiphenyl (SS)	% rec.	10	82.0	75	84.0	74.0		
Terphenyl-d14 (SS)	% rec.	10	89.0	83	83.0	82.0		

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DATE RECEIVED: 08-Sep-22

JOB/PROJECT NO.: Durocher

DATE REPORTED: 19-Sep-22

P.O. NUMBER: OTT-22020118-A

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D. Sample I.D. Date Collected			BH8-S3 B22-28819-13 07-Sep-22	BH9-S2 B22-28819-14 07-Sep-22	Dup1 B22-28819-15 07-Sep-22	Dup2 B22-28819-16 07-Sep-22	O. Reg. 153 Tbl. 3 - ICC Soil	
Parameter	Units	R.L.						
Acenaphthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	96	
Acenaphthylene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.15	
Anthracene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.67	
Benzo(a)anthracene	µg/g	0.05	< 0.05	< 0.05	< 0.05	0.10	0.96	
Benzo(a)pyrene	µg/g	0.05	< 0.05	< 0.05	< 0.05	0.08	0.3	
Benzo(b)fluoranthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	0.11	0.96	
Benzo(b+k)fluoranthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	0.15		
Benzo(g,h,i)perylene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	9.6	
Benzo(k)fluoranthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.96	
Chrysene	µg/g	0.05	< 0.05	< 0.05	< 0.05	0.09	9.6	
Dibenzo(a,h)anthracene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.1	
Fluoranthene	µg/g	0.05	< 0.05	< 0.05	< 0.05	0.21	9.6	
Fluorene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	62	
Indeno(1,2,3,-cd)pyrene	µg/g	0.05	< 0.05	< 0.05	< 0.05	0.06	0.76	
Methylnaphthalene,1-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	76	
Methylnaphthalene,2-	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	76	
Methylnaphthalene 2-(1-)	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	76	
Naphthalene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	9.6	
Phenanthrene	µg/g	0.05	< 0.05	< 0.05	< 0.05	0.15	12	
Pyrene	µg/g	0.05	< 0.05	< 0.05	< 0.05	0.17	96	
2-Fluorobiphenyl (SS)	% rec.	10	61.0	71	71.0	68.0		
Terphenyl-d14 (SS)	% rec.	10	81.0	77	81.0	89.0		

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Tahir Yapici Ph.D
Lab Manager - Ottawa District

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DATE RECEIVED: 08-Sep-22

JOB/PROJECT NO.: Durocher

DATE REPORTED: 19-Sep-22

P.O. NUMBER: OTT-22020118-A

SAMPLE MATRIX: Soil

WATERWORKS NO.

Summary of Exceedances

O. Reg. 153 - Soil, Ground Water and Sediment Standards
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REPORT No. B22-28819 (ii)

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DATE RECEIVED: 08-Sep-22

JOB/PROJECT NO.: Durocher

DATE REPORTED: 19-Sep-22

P.O. NUMBER: OTT-22020118-A

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
% Moisture	16	Richmond Hill	FAL	12-Sep-22	A-% moisture RH	
PHC(F2-F4)	1	Kingston	aso	13-Sep-22	C-PHC-S-001 (k)	CWS Tier 1
PHC(F2-F4)	16	Kingston	KPR	09-Sep-22	C-PHC-S-001 (k)	CWS Tier 1
VOC's	6	Richmond Hill	FAL	09-Sep-22	C-VOC-02 (rh)	EPA 8260
PHC(F1)	16	Richmond Hill	FAL	09-Sep-22	C-VPHS-01 (rh)	CWS Tier 1

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

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

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

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

F4 C34-C50 hydrocarbons in µg/g

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

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

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

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

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

Linearity is within 15%:

All results expressed on a dry weight basis.

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

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

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 3 - ICC Soil - Table 3 - Ind./Commercial/Community Soil Std



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P.O. NUMBER: OTT-22020118-A

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Client I.D. Sample I.D. Date Collected		BH1-S2 B22-28819-1 07-Sep-22	BH2-S1 B22-28819-2 07-Sep-22	BH2-S4 B22-28819-3 07-Sep-22	BH3-S2 B22-28819-4 07-Sep-22	O. Reg. 153 Tbl. 3 - ICC Soil	
	Units	R.L.						
Benzene	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.32	
Toluene	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	68	
Ethylbenzene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	9.5	
Xylene, m,p-	µg/g	0.03	< 0.03	< 0.03	< 0.03	< 0.03		
Xylene, o-	µg/g	0.03	< 0.03	< 0.03	< 0.03	< 0.03		
Xylene, m,p,o-	µg/g	0.03	< 0.03	< 0.03	< 0.03	< 0.03	26	
PHC F1 (C6-C10)	µg/g	10	< 10	< 10	< 10	< 10	55	
PHC F2 (>C10-C16)	µg/g	5	14	< 5	31	< 5	230	
PHC F3 (>C16-C34)	µg/g	10	23	< 10	42	< 10	1700	
PHC F4 (>C34-C50)	µg/g	10	< 10	< 10	< 10	< 10	3300	
% moisture	%		10.7	10.1	12.9	12.9		
Dibromofluoromethane (SS)	% rec.			86.6				
Toluene-d8 (SS)	% rec.			98.5				
Bromofluorobenzene,4(SS)	% rec.			95.2				
PHC F4 (Gravimetric)	µg/g	50					3300	

1. Note : Sample Silica Cleaned

2. Note: Chromat did not return to baseline F4G requ

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Tbl. 3 - ICC Soil - Table 3 - Ind./Commercial/Community Soil Std



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Tahir Yapici Ph.D
Lab Manager - Ottawa District

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C.O.C.: G105090

REPORT No. B22-28819 (ii)

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: 08-Sep-22

JOB/PROJECT NO.: Durocher

DATE REPORTED: 19-Sep-22

P.O. NUMBER: OTT-22020118-A

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Client I.D. Sample I.D. Date Collected		BH4-S2 B22-28819-5 07-Sep-22	BH4-S4 B22-28819-6 07-Sep-22	BH5-S1 B22-28819-7 07-Sep-22	BH5-S3 B22-28819-8 07-Sep-22	O. Reg. 153 Tbl. 3 - ICC Soil	
	Units	R.L.						
Benzene	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.32	
Toluene	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	68	
Ethylbenzene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	9.5	
Xylene, m,p-	µg/g	0.03	< 0.03	< 0.03	< 0.03	< 0.03		
Xylene, o-	µg/g	0.03	< 0.03	< 0.03	< 0.03	< 0.03		
Xylene, m,p,o-	µg/g	0.03	< 0.03	< 0.03	< 0.03	< 0.03	26	
PHC F1 (C6-C10)	µg/g	10	< 10	< 10	< 10	< 10	55	
PHC F2 (>C10-C16)	µg/g	5	< 5	73	< 5	13	230	
PHC F3 (>C16-C34)	µg/g	10	21	64	16	31	1700	
PHC F4 (>C34-C50)	µg/g	10	12	58	< 10	< 10	3300	
% moisture	%		10.8	8.3	12.9	15.0		
Dibromofluoromethane (SS)	% rec.		85.5		84.9			
Toluene-d8 (SS)	% rec.		98.6		98.1			
Bromofluorobenzene,4(SS)	% rec.		94.6		94.5			
PHC F4 (Gravimetric)	µg/g	50		360			3300	

1. Note : Sample Silica Cleaned

2. Note: Chromat did not return to baseline F4G requ

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 3 - ICC Soil - Table 3 - Ind./Commercial/Community Soil Std



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P.O. NUMBER: OTT-22020118-A

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Client I.D. Sample I.D. Date Collected		BH6-S2 B22-28819-9 07-Sep-22	BH7-S2 B22-28819-10 07-Sep-22	BH7-S4 B22-28819-11 07-Sep-22	BH8-S2 B22-28819-12 07-Sep-22	O. Reg. 153 Tbl. 3 - ICC Soil	
	Units	R.L.						
Benzene	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.32	
Toluene	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	68	
Ethylbenzene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	9.5	
Xylene, m,p-	µg/g	0.03	< 0.03	< 0.03	< 0.03	< 0.03		
Xylene, o-	µg/g	0.03	< 0.03	< 0.03	< 0.03	< 0.03		
Xylene, m,p,o-	µg/g	0.03	< 0.03	< 0.03	< 0.03	< 0.03	26	
PHC F1 (C6-C10)	µg/g	10	< 10	< 10	< 10	< 10	55	
PHC F2 (>C10-C16)	µg/g	5	22	5	55	18	230	
PHC F3 (>C16-C34)	µg/g	10	39	15	56	27	1700	
PHC F4 (>C34-C50)	µg/g	10	< 10	< 10	< 10	< 10	3300	
% moisture	%		9.9	9.1	11.1	10.1		
Dibromofluoromethane (SS)	% rec.			85.8		86.2		
Toluene-d8 (SS)	% rec.			98.8		99.5		
Bromofluorobenzene,4(SS)	% rec.			96.5		94.5		
PHC F4 (Gravimetric)	µg/g	50					3300	

1. Note : Sample Silica Cleaned

2. Note: Chromat did not return to baseline F4G requ

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 3 - ICC Soil - Table 3 - Ind./Commercial/Community Soil Std



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DATE REPORTED: 19-Sep-22

P.O. NUMBER: OTT-22020118-A

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Client I.D. Sample I.D. Date Collected		BH8-S3 B22-28819-13 07-Sep-22	BH9-S2 B22-28819-14 07-Sep-22	Dup1 B22-28819-15 07-Sep-22	Dup2 B22-28819-16 07-Sep-22	O. Reg. 153 Tbl. 3 - ICC Soil	
	Units	R.L.						
Benzene	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.32	
Toluene	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	68	
Ethylbenzene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	9.5	
Xylene, m,p-	µg/g	0.03	< 0.03	< 0.03	< 0.03	< 0.03		
Xylene, o-	µg/g	0.03	< 0.03	< 0.03	< 0.03	< 0.03		
Xylene, m,p,o-	µg/g	0.03	< 0.03	< 0.03	< 0.03	< 0.03	26	
PHC F1 (C6-C10)	µg/g	10	< 10	< 10	< 10	< 10	55	
PHC F2 (>C10-C16)	µg/g	5	44	< 5	32	< 5	230	
PHC F3 (>C16-C34)	µg/g	10	63	< 10	47	19	1700	
PHC F4 (>C34-C50)	µg/g	10	< 10	< 10	< 10	13	3300	
% moisture	%		10.0	15.6	12.5	10.7		
Dibromofluoromethane (SS)	% rec.					85.6		
Toluene-d8 (SS)	% rec.					98.5		
Bromofluorobenzene,4(SS)	% rec.					94.2		
PHC F4 (Gravimetric)	µg/g	50					3300	

1. Note : Sample Silica Cleaned

2. Note: Chromat did not return to baseline F4G requ

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 3 - ICC Soil - Table 3 - Ind./Commercial/Community Soil Std



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Lab Manager - Ottawa District

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SAMPLE MATRIX: Soil

WATERWORKS NO.

Summary of Exceedances

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 3 - ICC Soil - Table 3 - Ind./Commercial/Community Soil Std



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SAMPLE MATRIX: Soil

P.O. NUMBER: OTT-22020118-A

WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
Chromium (VI)	16	Holly Lane	LMG	13-Sep-22	D-CRVI-02 (o)	EPA7196A
Mercury	16	Holly Lane	PBK	15-Sep-22	D-HG-01 (o)	EPA 7471A
Boron - HWS	16	Holly Lane	hmc	15-Sep-22	D-HWE s	MOE3470
Sodium Adsorption Ratio	16	Holly Lane	hmc	16-Sep-22	D-ICP-01 SAR (o)	SM 3120
Metals - ICP-OES	16	Holly Lane	hmc	15-Sep-22	D-ICP-02 (o)	EPA 6010
Metals - ICP-MS	16	Holly Lane	TPR	15-Sep-22	D-ICPMS-01 (o)	EPA 6020

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

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

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

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

F4 C34-C50 hydrocarbons in µg/g

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

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

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

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

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

Linearity is within 15%:

All results expressed on a dry weight basis.

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

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

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 3 - ICC Soil - Table 3 - Ind./Commercial/Community Soil Std



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P.O. NUMBER: OTT-22020118-A

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Client I.D. Sample I.D. Date Collected		BH1-S2 B22-28819-1 07-Sep-22	BH2-S1 B22-28819-2 07-Sep-22	BH2-S4 B22-28819-3 07-Sep-22	BH3-S2 B22-28819-4 07-Sep-22	O. Reg. 153 Tbl. 3 - ICC Soil	
	Units	R.L.						
Antimony	µg/g	0.5	1.1	< 0.5	0.7	< 0.5	40	
Arsenic	µg/g	0.5	13.3	4.4	9.8	6.2	18	
Barium	µg/g	1	88	47	74	103	670	
Beryllium	µg/g	0.2	1.0	0.3	1.2	0.6	8	
Boron	µg/g	0.5	5.8	3.8	7.3	5.4	120	
Boron (HWS)	µg/g	0.02	0.06	< 0.02	0.06	0.09	2	
Cadmium	µg/g	0.5	1.0	< 0.5	0.9	< 0.5	1.9	
Chromium	µg/g	1	26	17	26	22	160	
Chromium (VI)	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	8	
Cobalt	µg/g	1	25	7	25	12	80	
Copper	µg/g	1	57	20	62	25	230	
Lead	µg/g	5	115	21	19	38	120	
Mercury	µg/g	0.005	0.188	0.033	0.078	0.159	3.9	
Molybdenum	µg/g	1	12	3	10	5	40	
Nickel	µg/g	1	70	24	99	28	270	
Selenium	µg/g	0.5	1.6	0.7	1.4	0.7	5.5	
Silver	µg/g	0.2	< 0.2	< 0.2	< 0.2	0.2	40	
Thallium	µg/g	0.1	0.7	< 0.1	1.0	0.4	3.3	
Uranium	µg/g	0.1	6.6	1.2	2.8	1.1	33	
Vanadium	µg/g	1	42	23	49	28	86	
Zinc	µg/g	3	236	54	103	68	340	
Sodium Adsorption Ratio	units		2.93	4.33	5.36	0.401	12	

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SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Client I.D. Sample I.D. Date Collected		BH4-S2 B22-28819-5 07-Sep-22	BH4-S4 B22-28819-6 07-Sep-22	BH5-S1 B22-28819-7 07-Sep-22	BH5-S3 B22-28819-8 07-Sep-22	O. Reg. 153 Tbl. 3 - ICC Soil	
	Units	R.L.						
Antimony	µg/g	0.5	< 0.5	0.9	< 0.5	1.6	40	
Arsenic	µg/g	0.5	6.5	14.1	6.5	27.3	18	
Barium	µg/g	1	52	137	61	75	670	
Beryllium	µg/g	0.2	0.4	1.0	0.7	1.1	8	
Boron	µg/g	0.5	4.7	7.5	6.1	7.0	120	
Boron (HWS)	µg/g	0.02	0.03	0.05	0.04	0.06	2	
Cadmium	µg/g	0.5	< 0.5	0.6	< 0.5	0.7	1.9	
Chromium	µg/g	1	18	24	19	24	160	
Chromium (VI)	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	8	
Cobalt	µg/g	1	9	29	12	43	80	
Copper	µg/g	1	23	66	33	80	230	
Lead	µg/g	5	33	23	93	40	120	
Mercury	µg/g	0.005	0.064	0.087	0.086	0.139	3.9	
Molybdenum	µg/g	1	3	11	3	16	40	
Nickel	µg/g	1	28	98	40	161	270	
Selenium	µg/g	0.5	0.7	1.3	0.9	1.8	5.5	
Silver	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	40	
Thallium	µg/g	0.1	0.3	0.9	0.4	2.9	3.3	
Uranium	µg/g	0.1	1.0	3.1	1.5	4.3	33	
Vanadium	µg/g	1	26	38	31	40	86	
Zinc	µg/g	3	56	89	62	90	340	
Sodium Adsorption Ratio	units		3.37	4.24	3.41	1.25	12	

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SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Client I.D. Sample I.D. Date Collected		BH6-S2 B22-28819-9 07-Sep-22	BH7-S2 B22-28819-10 07-Sep-22	BH7-S4 B22-28819-11 07-Sep-22	BH8-S2 B22-28819-12 07-Sep-22	O. Reg. 153 Tbl. 3 - ICC Soil	
	Units	R.L.						
Antimony	µg/g	0.5	0.8	< 0.5	0.8	0.7	40	
Arsenic	µg/g	0.5	11.7	6.1	10.0	10.3	18	
Barium	µg/g	1	77	59	84	68	670	
Beryllium	µg/g	0.2	1.0	0.5	1.0	0.8	8	
Boron	µg/g	0.5	8.2	5.7	6.7	6.4	120	
Boron (HWS)	µg/g	0.02	0.09	0.06	0.05	0.05	2	
Cadmium	µg/g	0.5	1.1	< 0.5	1.2	< 0.5	1.9	
Chromium	µg/g	1	25	18	23	23	160	
Chromium (VI)	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	8	
Cobalt	µg/g	1	29	10	34	23	80	
Copper	µg/g	1	78	24	73	52	230	
Lead	µg/g	5	23	27	20	34	120	
Mercury	µg/g	0.005	0.119	0.053	0.087	0.109	3.9	
Molybdenum	µg/g	1	12	3	13	8	40	
Nickel	µg/g	1	99	32	105	69	270	
Selenium	µg/g	0.5	1.4	0.7	1.5	1.1	5.5	
Silver	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	40	
Thallium	µg/g	0.1	1.3	0.3	1.7	0.3	3.3	
Uranium	µg/g	0.1	4.4	1.0	2.7	2.5	33	
Vanadium	µg/g	1	43	26	41	35	86	
Zinc	µg/g	3	146	51	149	87	340	
Sodium Adsorption Ratio	units		2.09	1.02	0.975	5.11	12	

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SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Client I.D. Sample I.D. Date Collected		BH8-S3 B22-28819-13 07-Sep-22	BH9-S2 B22-28819-14 07-Sep-22	Dup1 B22-28819-15 07-Sep-22	Dup2 B22-28819-16 07-Sep-22	O. Reg. 153 Tbl. 3 - ICC Soil	
	Units	R.L.						
Antimony	µg/g	0.5	0.8	< 0.5	0.7	< 0.5	40	
Arsenic	µg/g	0.5	12.0	7.6	12.0	5.3	18	
Barium	µg/g	1	68	112	68	46	670	
Beryllium	µg/g	0.2	1.0	0.7	1.0	0.4	8	
Boron	µg/g	0.5	7.4	8.4	8.0	5.7	120	
Boron (HWS)	µg/g	0.02	0.06	0.08	0.06	0.03	2	
Cadmium	µg/g	0.5	0.9	< 0.5	0.7	< 0.5	1.9	
Chromium	µg/g	1	24	29	24	15	160	
Chromium (VI)	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	8	
Cobalt	µg/g	1	31	16	27	9	80	
Copper	µg/g	1	67	38	67	24	230	
Lead	µg/g	5	20	19	21	32	120	
Mercury	µg/g	0.005	0.076	0.078	0.076	0.061	3.9	
Molybdenum	µg/g	1	10	5	10	3	40	
Nickel	µg/g	1	98	55	94	30	270	
Selenium	µg/g	0.5	1.1	1.0	1.2	0.7	5.5	
Silver	µg/g	0.2	< 0.2	0.2	< 0.2	< 0.2	40	
Thallium	µg/g	0.1	1.4	0.5	1.2	0.3	3.3	
Uranium	µg/g	0.1	2.6	1.5	2.6	1.0	33	
Vanadium	µg/g	1	38	37	39	25	86	
Zinc	µg/g	3	118	72	107	57	340	
Sodium Adsorption Ratio	units		2.64	2.86	3.58	3.98	12	

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 3 - ICC Soil - Table 3 - Ind./Commercial/Community Soil Std



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

Tahir Yapici Ph.D
Lab Manager - Ottawa District

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

C.O.C.: G105090

REPORT No. B22-28819 (iii)

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: 08-Sep-22

JOB/PROJECT NO.: Durocher

DATE REPORTED: 19-Sep-22

P.O. NUMBER: OTT-22020118-A

SAMPLE MATRIX: Soil

WATERWORKS NO.

Summary of Exceedances

Table 3 - Ind./Commercial/Community Soil Std

	Found Value	Limit
BH5-S3		
Arsenic (µg/g)	27.3	18

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 3 - ICC Soil - Table 3 - Ind./Commercial/Community Soil Std



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

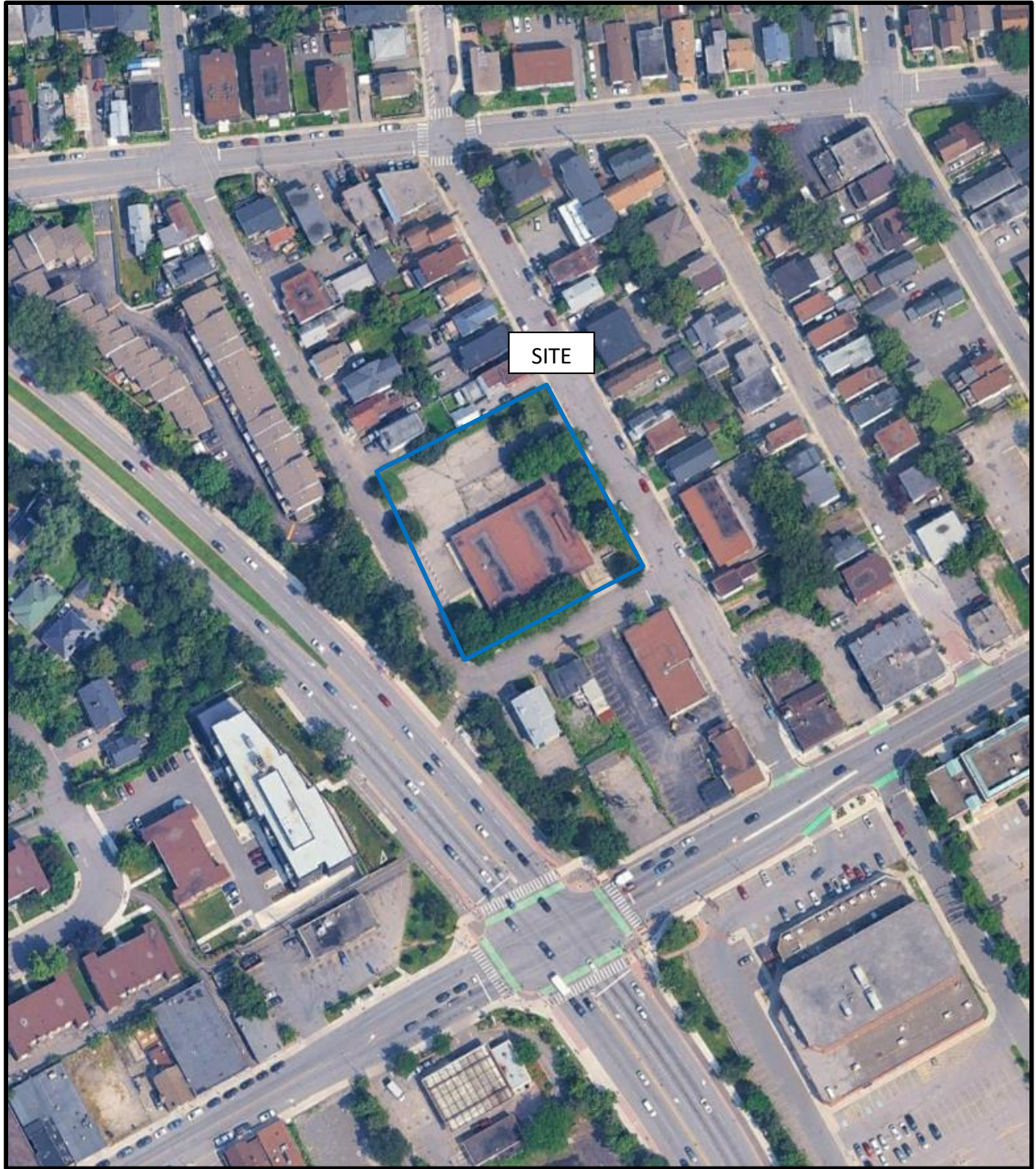
Tahir Yapici Ph.D

Lab Manager - Ottawa District

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

EXP Services Inc.

Watch Tower Bible & Tract Society of Canada
Supplemental Phase II Environmental Site Assessment
258 Durocher Street, Ottawa, Ontario
OTT-22020118-A0
October 4, 2022



AERIAL PHOTOGRAPH
2024

Mark Bujaki

From: Public Information Services <publicinformationservices@tssa.org>
Sent: August 28, 2025 10:21 AM
To: Mark Bujaki
Subject: RE: PE6934 - Records Search Request

External Email: Do not click on links or open attachments unless you trust the sender.

Hello ,

NO RECORD FOUND IN CURRENT DATABASE:

- We confirm that there are NO **fuels records** in our database at the subject address(es).

For a further search in our archives, please go to the [TSSA Client Portal](#) to complete an Application for Release of Public Information. Please refer to [Training \(tssa.org\)](#) for instructions on how to use the portal. Please refer to [How to Submit a Public Information Request \(tssa.org\)](#) for instructions.

The associated fee must be paid via credit card (Visa or MasterCard).

Once all steps have been successfully completed you will receive your payment receipt via email.

TSSA does not make any representations or warranties with respect to the accuracy or completeness of any records released. The requestor assumes all risk in using or relying on the information provided.

If you have any questions or concerns, please do not hesitate to contact our Public Information Release team at publicinformationservices@tssa.org.

Kind regards,



Aleena Tahir | Public Information & Records Agent
Public Information
345 Carlingview Drive
Toronto, Ontario M9W 6N9
Tel: +1 416-734-3546 | E-Mail: ATahir@tssa.org
www.tssa.org





Winner of 2024 5-Star Safety Cultures Award

From: Mark Bujaki <mbujaki@Patersongroup.ca>
Sent: Wednesday, August 27, 2025 3:40 PM
To: Public Information Services <publicinformationservices@tssa.org>
Subject: PE6934 - Records Search Request

[CAUTION]: This email originated outside the organisation.
Please do not click links or open attachments unless you recognise the source of this email and know the content is safe.

Hello,

Please complete a search of your records for underground/aboveground storage tanks for the following addresses located in Ottawa, Ontario.

Thank you,

234 Durocher Street
239 Durocher Street
245 Durocher Street
251 Durocher Street
258 Durocher Street
268 Durocher Street

134 St. Paul Street
140 St. Paul Street

2 Jeanneville Private

227 Desrosiers Street



Mark Bujaki, B.Sc., MBA
Junior Environmental Scientist
Environmental Division
TEL: (613) 226-7381 ext. 335
DIRECT: (613) 299-4209
9 AURIGA DRIVE
OTTAWA ON K2E 7T9
patersongroup.ca

TEMPORARY SHORING DESIGN SERVICES ARE NOW AVAILABLE, PLEASE CONTACT US TO SEE HOW WE CAN HELP!
NEW OFFICE OPEN IN THE GREATER TORONTO AREA WITH OUR EXPANSIVE LIST OF SERVICES NOW AVAILABLE!

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