



## Phase Two Environmental Site Assessment 112 Montreal Road, Ottawa, Ontario

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Phase Two Environmental Site Assessment

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## Legal Notification

This report was prepared by EXP Services Inc. for the account of **2705460 Ontario Inc.**

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.

## Executive Summary

EXP Services Inc. (EXP) was retained by 2705460 Ontario Inc. to conduct a Phase Two Environmental Site Assessment (ESA) for the property located at 112 Montreal Road in Ottawa, Ontario (hereinafter referred to as the 'Phase Two property'). At the time of the investigation, the Phase Two property was vacant.

The objective of the Phase Two ESA investigation was to assess the quality of the soil and groundwater conditions within the areas of potential environmental concern (APEC) identified in a Phase One ESA prepared by EXP. The most recent use of the property was as a motel, which is defined in O.Reg 153/04 as a commercial land use. It is proposed that residential buildings be constructed on the Phase Two property. As the proposed land use is more sensitive than the previous land use, a Record of Site Condition (RSC) is required.

The Phase Two property is located on the south side of Montreal Road, west of the Vanier Parkway. The Phase Two property is irregular in shape with an area of 0.96 hectares. The Phase Two property is legally described as Lot 5, Part Lot 6 and 7, Block 2, Plan 29; Part Lots 40, 41 and 88, Plan 49, Vanier/Gloucester. The property identification number (PIN) is 042370019.

At the time of this investigation, the Phase Two property was vacant. The east part of the Phase Two property had been excavated to the bedrock surface, and ponded water was present. The west part of the Phase Two property was paved. Historically, the site was operated as a motel and was occupied by seven buildings including a laundry building, restaurant, and what was formerly a detached residence. All of the site buildings were demolished and removed from the Phase Two property in 2019.

The Phase Two property topography is relatively flat. The regional topography slopes downwards to the west. The local groundwater flow direction is anticipated to be west/northwest towards the Rideau River.

Based on a review of the available records, the following PCAs resulting in APECs were identified:

- PCA #30 – Importation of fill material of unknown quality (impacted fill material identified in previous investigations)
- PCA #28 – Gasoline and associated products storage in fixed tanks (gas station at 120 Montreal Road)
- PCA #28 – Gasoline and associated products storage in fixed tanks (former gas station at 138 Montreal Road)
- PCA #28 – Gasoline and associated products storage in fixed tanks (former oil warehouse at 296 Kendall Avenue)
- PCA #37 – Operation of dry-cleaning equipment (where chemicals are used) (former dry cleaner at 94 Montreal Road)
- PCA #46 – Rail yards, tracks, and spurs (former CP rail line east of the site)

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

**Table EX-1: Areas of Potential Environmental Concern**

Area of Potential Environmental Concern (APEC)	Location of APEC on Phase One Property	Potentially Contaminating Activity (PCA)	Location of PCA (On-Site or Off-Site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, Soil and/or Sediment)
<b>1. Impacted fill material on the site</b>	Entire Phase One property	PCA #30 – Importation of fill material of unknown quality	On-site	Benzene, toluene, ethylbenzene, xylene (BTEX), and petroleum hydrocarbons (PHC), metals	Soil

Area of Potential Environmental Concern (APEC)	Location of APEC on Phase One Property	Potentially Contaminating Activity (PCA)	Location of PCA (On-Site or Off-Site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, Soil and/or Sediment)
<b>2. Gas station at 120 Montreal Road</b>	Northeast corner of Phase One property	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	Off-site	BTEX, PHC	Groundwater
<b>3. Former dry cleaner at 90 Montreal Road</b>	Northwest corner of Phase One property	PCA #37 – Operation of dry-cleaning equipment (where chemicals are used)	Off-site	Volatile organic compounds (VOC)	Groundwater
<b>4. Former oil warehouse at 296 Kendall Avenue</b>	Area along east property line	PCA #28 – Gasoline and associated products in fixed tanks	Off-site	BTEX, PHC	Groundwater
<b>5. Former gas station at 138 Montreal Road</b>	Area along east property line	PCA #28 – Gasoline and associated products storage in fixed tanks	Off-site	BTEX, PHC	Groundwater
<b>6. Former rail line east of the site</b>	East part of Phase One property	PCA #46 – Rail yards, tracks, and spurs	Off-site	PHC, polycyclic aromatic hydrocarbons (PAH), metals	Groundwater

In 2013 and 2014, EXP completed a preliminary geotechnical investigation and a Phase II Environmental Site Assessment at the Phase Two property. At that time, the Phase Two property was occupied by several low-rise buildings (which have since been demolished). The preliminary geotechnical investigation consisted of drilling nine boreholes across the Phase Two property and revealed that below 0.2 m to 2.7 m of fill, compact to very dense silty sand till was contacted and extended to depths of 2.1 m to 3.3 m depth. Limestone bedrock underlies the till and extends to the entire depth investigated, i.e., 2.3 and 3.3 m. The groundwater table at the Site was established at 2.4 m to 4.2 m depth. The results of the Phase II ESA showed that petroleum parameters were either non-detectable or below the Ministry of the Environment, Conservation and Parks (MECP) Table 3 Site Condition Standards (SCS) for residential/parkland/institutional property use, with the exception of some exceedances in some of the fill and till samples in some of the boreholes.

In 2022, an additional geotechnical investigation and a soil characterization program (for excess soil) was conducted in conjunction with the Phase Two investigation by EXP. Since the previous investigation was completed, all the structures had been demolished and removed. The west part of the Phase Two property was paved and in use for parking. The remainder of the Phase Two property was fenced and a soil berm has been constructed along the boundary between the parking area and the east part of the Phase Two property. The east part of the Phase Two property appears to have been excavated to the bedrock surface.

On August 31, 2022, nine (9) test pits (TP1 to TP9) were excavated at the Site using a rubber-tire excavator, under the full-time supervision of EXP staff. The test pits were excavated to a maximum depth of 2.2 metres below ground surface (m bgs) or refusal due to the presence of bedrock.

Between September 14 and 22, 2022, six boreholes (BH-1 to BH-6) and ten auger holes (AH1 to AH10) were advanced at the site by a licensed well driller, under the full-time supervision of EXP staff. The boreholes were drilled to a maximum depth of 4.4 m bgs or refusal due to the presence of bedrock. Bedrock was cored in all six boreholes to a maximum depth of 15.3 m bgs. The auger holes were drilled to a maximum depth of 2.9 m bgs.

On February 9 and 10, 2023, an additional five boreholes (MW23-1 to MW23-5) were advanced at the Phase Two property. Bedrock was air hammered in the five boreholes to a maximum depth of 7.3 m bgs. All five of the boreholes were completed as monitoring wells.

As part of the 2013 investigation, six soil samples and one duplicate sample were submitted for analysis of BTEX, PHC, and metals. As part of the current investigation, forty-nine soil samples and five duplicate samples were submitted for analysis of BTEX, PHC, and metals.

In 2013, three soil samples exceeded the Table 3 SCS for barium, lead, and/or zinc. One soil sample, and its duplicate exceeded the Table 3 SCS for PHC fraction F3.

In 2022, two soil samples exceeded the Table 3 SCS for copper, lead, and/or mercury, and five soil samples exceeded for conductivity, and five soil samples exceeded for PHC.

In 2023, eight groundwater samples and one duplicate sample were submitted for chemical analysis of PHC, PAH, VOC and metals parameters. There were no exceedances of the MECP 3 SCS for any of the parameters analyzed.

All of the exceedances in soil were limited to metals parameters and PHC fractions F2 and F3. There were no groundwater exceedances of the Table 3 SCS for any of the parameters analyzed. Since there are no volatile COCs on the Phase Two Property, soil vapour migration is not considered an issue. Chemical transformations of contaminants in soil are not a significant concern at the Phase Two property.

It is EXP's opinion that some of the PCA that were identified in the Phase One ESA have adversely affected the property. It is recommended that the impacted soil at the Phase Two be removed prior to re-development.

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

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

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## 1.0 Introduction

EXP Services Inc. (EXP) was retained by 2705460 Ontario Inc. to conduct a Phase Two Environmental Site Assessment (ESA) for the property located at 112 Montreal Road in Ottawa, Ontario (hereinafter referred to as the 'Phase Two property'). At the time of the investigation, the Phase Two property was vacant.

The objective of the Phase Two ESA investigation was to assess the quality of the soil and groundwater conditions within the areas of potential environmental concern (APEC) identified in a Phase One ESA prepared by EXP. The most recent use of the property was as a motel, which is defined in O.Reg 153/04 as a commercial land use. It is proposed that residential buildings be constructed on the Phase Two property. As the proposed land use is more sensitive than the previous land use, a Record of Site Condition (RSC) is required.

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

### 1.1 Site Description

The Phase Two property is located on the south side of Montreal Road, west of the Vanier Parkway, as shown on Figure 1 in Appendix A. The Phase Two property is irregular in shape with an area of 0.96 hectares. The Phase Two property is legally described as Lot 5, Part Lot 6 and 7, Block 2, Plan 29; Part Lots 40, 41 and 88, Plan 49, Vanier/Gloucester. The property identification number (PIN) is 042370019.

At the time of this investigation, the Phase Two property was vacant. The east part of the Phase Two property had been excavated to the bedrock surface and ponded water was present. The west part of the Phase Two property was paved. Historically, the site was operated as a motel and was occupied by seven buildings including a laundry building, restaurant, and what was formerly a detached residence. All of the site buildings were demolished and removed from the Phase Two property in 2019. The Phase Two property site location and site layout are shown on Figures 1 and 2 in Appendix A.

The Phase Two property topography is relatively flat. The regional topography slopes downwards to the west. The local groundwater flow direction is anticipated to be west/northwest towards the Rideau River.

Refer to Table 1.1 for the Site identification information.

**Table 1.1: Site Identification Details**

<b>Civic Address</b>	112 Montreal Road, Ottawa, Ontario
<b>Current Land Use</b>	Vacant
<b>Proposed Future Land Use</b>	Residential
<b>Property Identification Number</b>	042370019
<b>UTM Coordinates</b>	Zone 18, 447090 m E and 503121 m N
<b>Site Area</b>	0.96 hectares
<b>Property Owner</b>	2705460 Ontario Inc.

A survey plan of the Phase Two property was completed by Fairhall, Moffat & Woodland Ltd. in 2019. A copy of the survey plan is provided in Appendix B.

## 1.2 Property Ownership

The registered owner of the Phase Two property is 2705460 Ontario Inc. Authorization to proceed with this investigation was provided by Mr. Seth Richards on behalf of 2705460 Ontario Inc. Contact information for Mr. Richards is 231 Brittany Drive, Ottawa, Ontario K1K 0R8.

## 1.3 Current and Proposed Future Use

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

## 1.4 Applicable Site Condition Standards

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

Table 1 to 9 SCS are summarized as follows:

- Table 1 – applicable to sites where background concentrations must be met (full depth), such as sensitive sites where site-specific criteria have not been derived
- Table 2 – applicable to sites with potable groundwater and full depth restoration
- Table 3 – applicable to sites with non-potable groundwater and full depth restoration
- Table 4 – applicable to sites with potable groundwater and stratified restoration
- Table 5 – applicable to sites with non-potable groundwater and stratified restoration
- Table 6 – applicable to sites with potable groundwater and shallow soils (bedrock encountered at depths of 2 metres or less across one-third or more of the site)
- Table 7 – applicable to sites with non-potable groundwater and shallow soils (bedrock encountered at depths of 2 metres or less across one-third or more of the site)
- Table 8 – applicable to sites with potable groundwater and that are within 30 m of a water body
- Table 9 – applicable to sites with non-potable groundwater and that are within 30 m of a water body

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

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

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

- Bedrock is greater than 2 metres below grade across the subject property;
- The Phase Two property is not located within 30 metres of a waterbody;

- 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;
- The Phase Two property and study area is serviced with potable water 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 proposed buildings are 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.

## 2.0 Background Information

### 2.1 Physical Setting

The Phase Two property is located on the south side of Montreal Road, west of the Vanier Parkway, as shown on Figure 1 in Appendix A. The Phase Two property is irregular in shape with an area of 0.96 hectares. The Phase Two property is legally described as Lot 5, Part Lot 6 and 7, Block 2, Plan 29; Part Lots 40, 41 and 88, Plan 49, Vanier/Gloucester. The property identification number (PIN) is 042370019.

A site plan showing the Phase Two property is presented as Figure 2 in Appendix A.

The Phase Two property and study area is serviced with potable water by the City of Ottawa through its water distribution system. Thus, in accordance with Section 35 of Ontario Regulation 153/04, potable water standards do not apply to the Phase Two property.

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

The Phase Two property is not a shallow soil property as defined in Section 43.1 of the regulation. It does not include all or part of a water body or is adjacent to a water body or includes land that is within 30 metres of a water body.

Under any fill, the natural overburden deposits in the area is glacial till that would consist of clay, silt, sand, and gravel. Bedrock geology maps indicated limestone of the Eastview Formation. Based on previous investigations, bedrock is present between 2.3 and 3.3 metres below ground surface.

The Phase Two property topography is relatively flat. The regional topography slopes downwards to the west. The local groundwater flow direction is anticipated to be west/northwest towards the Rideau River.

### 2.2 Past Investigations

EXP prepared a report entitled *Phase One Environmental Site Assessment, 112 Montreal Road, Ottawa, Ontario*, dated April 5, 2023. The Phase One study area included the entire Phase Two property as well as properties within 250 m of the Phase Two property. Based on the results of the Phase One ESA, EXP identified six APECs on the Phase One property. A summary is provided in Table 2.1.

**Table 2.1: Findings of Phase One ESA**

Area of Potential Environmental Concern (APEC)	Location of APEC on Phase One Property	Potentially Contaminating Activity (PCA)	Location of PCA (On-Site or Off-Site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, Soil and/or Sediment)
<b>1. Impacted fill material on the site</b>	Entire Phase One property	PCA #30 – Importation of fill material of unknown quality	On-site	Benzene, toluene, ethylbenzene, xylene (BTEX), and petroleum hydrocarbons (PHC), metals	Soil
<b>2. Gas station at 120 Montreal Road</b>	Northeast corner of Phase One property	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	Off-site	BTEX, PHC	Groundwater

Area of Potential Environmental Concern (APEC)	Location of APEC on Phase One Property	Potentially Contaminating Activity (PCA)	Location of PCA (On-Site or Off-Site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, Soil and/or Sediment)
<b>3. Former dry cleaner at 90 Montreal Road</b>	Northwest corner of Phase One property	PCA #37 – Operation of dry-cleaning equipment (where chemicals are used)	Off-site	Volatile organic compounds (VOC)	Groundwater
<b>4. Former oil warehouse at 296 Kendall Avenue</b>	Area along east property line	PCA #28 – Gasoline and associated products in fixed tanks	Off-site	BTEX, PHC	Groundwater
<b>5. Former gas station at 138 Montreal Road</b>	Area along east property line	PCA #28 – Gasoline and associated products storage in fixed tanks	Off-site	BTEX, PHC	Groundwater
<b>6. Former rail line east of the site</b>	East part of Phase One property	PCA #46 – Rail yards, tracks, and spurs	Off-site	PHC, polycyclic aromatic hydrocarbons (PAH), metals	Groundwater

The locations of the APEC are shown on Figure 3 in Appendix A.

The Phase One ESA was conducted per the requirements of Ontario Regulation 153/04, as amended, and in accordance with generally accepted professional practices. A copy of the Phase One conceptual site model is provided as Figure 3 in Appendix A.

In 2013 and 2014, EXP completed a preliminary geotechnical investigation and a Phase II Environmental Site Assessment at the Phase Two property. At that time, the Phase Two property was occupied by several low-rise buildings (which have since been demolished). The preliminary geotechnical investigation consisted of drilling nine boreholes across the Phase Two property and revealed that below 0.2 m to 2.7 m of fill, compact to very dense silty sand till was contacted and extended to depths of 2.1 m to 3.3 m depth. Limestone bedrock underlies the till and extends to the entire depth investigated, i.e., to 2.3 and 3.3m. The groundwater table at the Phase Two property was established at 2.4 m to 4.2 m depth. The results of the Phase II ESA showed that petroleum parameters were either non-detectable or below the Ministry of the Environment, Conservation and Parks (MECP) Table 3 Site Condition Standards (SCS) for residential/parkland/institutional property use, with the exception of some exceedances in some of the fill and till samples in some of the boreholes.

In 2022, an additional geotechnical investigation and a soil characterization program (for excess soil) was conducted in conjunction with the Phase Two investigation by EXP. Since the previous investigation was completed, all the structures had been demolished and removed. The west part of the Phase Two property was paved and in use for parking. The remainder of the Phase Two property was fenced and a soil berm had been constructed along the boundary between the parking area and the east part of the site. The east part of the Phase Two property appears to have been excavated to the bedrock surface.

Boreholes from the 2013 and 2022 investigations are shown on Figure 2.

## 3.0 Scope of the Investigation

### 3.1 Overview of Site Investigation

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

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

### 3.2 Scope of Work

The Phase ESA was conducted in conjunction with a geotechnical investigation, hydrogeological investigation, and excess soil management plan. The scope of work for the Phase Two ESA was as follows:

- Drilling five boreholes (M23-1 to MW23-5) on the subject property and completing all of them as monitoring wells;
- Excavating nine test pits in the existing berm for soil characterization;
- Advancing ten auger holes across the Phase Two property for soil characterization;
- Drilling six boreholes (BH1 to BH6) on the subject property for geotechnical purposes;
- Submitting select soil samples for laboratory analysis of benzene, toluene, ethylbenzene, xylenes (BTEX), petroleum hydrocarbon (PHC) fractions F1 to F4, volatile organic compounds (VOC), polycyclic aromatic hydrocarbons (PAH), and/or metals;
- Collecting groundwater samples from the monitoring wells and submitting them for analysis of PHC, PAH, VOC and/or metals;
- Comparing the results of the soil and groundwater chemical analyses to applicable criteria, as set out by the Ontario Ministry of the Environment, Conservation and Parks (MECP);
- Conducting an elevation survey of the boreholes and test pits;
- Monitoring groundwater levels in the new monitors to determine groundwater elevations; and,
- Preparing a report summarizing the results of the assessment activities.

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

### 3.3 Media Investigated

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

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

## 3.4 Phase One Conceptual Site Model

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

### 3.4.1 Buildings and Structures

No buildings or structures were present on the Phase Two property.

### 3.4.2 Water Bodies and Groundwater Flow Direction

There are no water bodies on the Phase Two property. The closest body of water is the Rideau River, located approximately 300 metres west of the site. Previous investigations indicate that the groundwater flow direction at the Phase Two property is to the east/northeast towards the Ottawa River, although it is likely that regional groundwater flow is to the west/northwest towards the Rideau River.

### 3.4.3 Areas of Natural Significance

There are no ANSI within the Phase Two study area.

### 3.4.4 Water Wells

Twenty-eight well records were identified in the Phase Two study area. One of the well records was for water supply for air conditioning at the Eastview Theatre installed in 1950. This building is no longer present. The remainder of the records were for monitoring wells.

### 3.4.5 Potentially Contaminating Activity

The following PCAs were identified on the Phase One property:

- PCA #30 – Importation of fill material of unknown quality (impacted fill material identified in previous investigations)

By definition, a PCA present on the Phase One property result in an APEC.

The following PCAs were identified in the Phase One study area:

- PCA #10 – Commercial autobody shop (former repair garage located at 137 Montreal Road)
- PCA #10 – Commercial autobody shop (former repair garage located at 164 Montreal Road)
- PCA #10 – Commercial autobody shop (former repair garage located at 42 Montreal Road)
- PCA #10 – Commercial autobody shop (former repair garage at 41 Montreal Road)
- PCA #10 – Commercial autobody shop (former repair garage at 164 Jeanne Mance Street)
- PCA #10 – Commercial autobody shop (former repair garage at 299 Montgomery Street)
- PCA #10 – Commercial autobody shop (repair garage at 271 Durocher Street)
- PCA #10 – Commercial autobody shop (former repair garage at 258 Durocher Street)
- PCA #10 – Commercial autobody shop (former repair garage at 52 McArthur Avenue)
- PCA #10 – Commercial autobody shop (former repair garage at 373 Marguerite Avenue)

- PCA #12 – Concrete, cement and lime manufacturing (former concrete block manufacturer at 154-158 McArthur Road)
- PCA #12 – Concrete, cement and lime manufacturing (former concrete pipe manufacturer at 2 Mark Avenue)
- PCA #28 – Gasoline and associated products storage in fixed tanks (gas station at 120 Montreal Road)
- PCA #28 – Gasoline and associated products storage in fixed tanks (former oil warehouse at 296 Kendall Avenue)
- PCA #28 – Gasoline and associated products storage in fixed tanks (former gas station at 138 Montreal Road)
- PCA #28 – Gasoline and associated products storage in fixed tanks (gas station at 42 Montreal Road)
- PCA #28 – Gasoline and associated products storage in fixed tanks (UST formerly present at grocery warehouse at 1625 Vanier Parkway)
- PCA #28 – Gasoline and associated products storage in fixed tanks (former gas station at 164 Montreal Road)
- PCA #28 – Gasoline and associated products storage in fixed tanks (former gas station at 80-82 Montreal Road)
- PCA #28 – Gasoline and associated products storage in fixed tanks (former gas station at 287 Savard Street)
- PCA #28 – Gasoline and associated products storage in fixed tanks (former gas station at 4 Montreal Road)
- PCA #28 – Gasoline and associated products storage in fixed tanks (gas station at 5 Montreal Road)
- PCA #28 – Gasoline and associated products storage in fixed tanks (former bus depot with USTs at 150 Montreal Road)
- PCA #28 – Gasoline and associated products storage in fixed tanks (former gas station at 137 Montreal Road)
- PCA #28 – Gasoline and associated products storage in fixed tanks (former gas station at 350 Montgomery Street)
- PCA #28 – Gasoline and associated products storage in fixed tanks (former gas station at 201 Montreal Road)
- PCA #28 – Gasoline and associated products storage in fixed tanks (UST formerly present at transport company at 100 McArthur Avenue)
- PCA #28 – Gasoline and associated products storage in fixed tanks (former oil warehouse at 155 McArthur Road)
- PCA #34 – Metal fabrication (former brass foundry at 110-120 McArthur Road)
- PCA #37 – Operation of dry-cleaning equipment (where chemicals are used) (former dry cleaner at 90 Montreal Road)
- PCA #37 – Operation of dry-cleaning equipment (where chemicals are used) (former dry cleaner at 11 Montreal Road)
- PCA #37 – Operation of dry-cleaning equipment (where chemicals are used) (former dry cleaner at 21 Montreal Road)
- PCA #37 – Operation of dry-cleaning equipment (where chemicals are used) (former dry cleaner at 52 McArthur Avenue)
- PCA #37 – Operation of dry-cleaning equipment (where chemicals are used) (former dry cleaner at 196 Jean Mance Street)
- PCA #37 – Operation of dry-cleaning equipment (where chemicals are used) (former dry cleaner at 201 Montreal Road)



- PCA #46 – Rail yards, tracks, and spurs (former CP rail line east of the site)
- PCA #59 – Bulk storage of treated and preserved wood products (former lumber yard at 3 Selkirk Street)

Due to the distance and cross gradient location from the Phase One property, the majority of the off-site PCAs were determined not to result in APECs. The off-site PCAs that were determined to result in APECs on the Phase One property include PCA #28 (gas station at 120 Montreal Road, former gas station at 138 Montreal Road, former oil warehouse at 296 Kendall Avenue), PCA #37 (former dry cleaner at 90 Montreal Road), and PCA #46 (former CP rail line east of the Phase One property).

### 3.4.6 Areas of Potential Environmental Concern

The APEC identified are summarized in Table 3.1.

**Table 3.1: Areas of Potential Environmental Concern**

Area of Potential Environmental Concern (APEC)	Location of APEC on Phase One Property	Potentially Contaminating Activity (PCA)	Location of PCA (On-Site or Off-Site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, Soil and/or Sediment)
<b>1. Impacted fill material on the site</b>	Entire Phase One property	PCA #30 – Importation of fill material of unknown quality	On-site	Benzene, toluene, ethylbenzene, xylene (BTEX), and petroleum hydrocarbons (PHC), metals	Soil
<b>2. Gas station at 120 Montreal Road</b>	Northeast corner of Phase One property	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	Off-site	BTEX, PHC	Groundwater
<b>3. Former dry cleaner at 90 Montreal Road</b>	Northwest corner of Phase One property	PCA #37 – Operation of dry-cleaning equipment (where chemicals are used)	Off-site	Volatile organic compounds (VOC)	Groundwater
<b>4. Former oil warehouse at 296 Kendall Avenue</b>	Area along east property line	PCA #28 – Gasoline and associated products in fixed tanks	Off-site	BTEX, PHC	Groundwater
<b>5. Former gas station at 138 Montreal Road</b>	Area along east property line	PCA #28 – Gasoline and associated products storage in fixed tanks	Off-site	BTEX, PHC	Groundwater
<b>6. Former rail line east of the site</b>	East part of Phase One property	PCA #46 – Rail yards, tracks, and spurs	Off-site	PHC, polycyclic aromatic hydrocarbons (PAH), metals	Groundwater

### 3.4.7 Underground Utilities

The Phase Two property is currently vacant. The former buildings (and any future development) were serviced by municipal water and sewer, natural gas and underground hydro. Surrounding properties are supplied by municipal water provided by the City of Ottawa. The source of municipal water is the Ottawa River.

### 3.4.8 Subsurface Stratigraphy

A review of geological maps revealed that, under any fill, the natural overburden deposits in the area is glacial till that would consist of clay, silt, sand, and gravel. Bedrock geology maps indicated limestone of the Eastview Formation. The Phase One property topography is relatively flat. Based on previous investigations, bedrock is present between 2.3 and 3.3 metres below ground surface.

### 3.4.9 Uncertainty Analysis

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

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

## 3.5 Deviations from Sampling and Analysis Plan

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

No significant deviations from the SAAP, as provided in Appendix C, were reported that affected the sampling and data quality objectives for the Phase Two property. Two of the monitoring wells could not be sampled as they were frozen at the time of sampling.

## 3.6 Impediments

No impediments were encountered during this investigation.

## 4.0 Investigation Method

### 4.1 General

The current investigation was performed following the requirements given under Ontario Regulation 153/04 and in accordance with generally accepted professional practices.

The site investigative activities were conducted in conjunction with a geotechnical investigation and soil characterization investigation and consisted of the excavating of test pits and the drilling of boreholes to facilitate the collection of soil samples for visual inspection and chemical analyses. Select boreholes were instrumented with monitoring wells to facilitate the collection of groundwater samples.

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

### 4.2 Drilling and Test Pit Program

On August 31, 2022, nine (9) test pits (TP1 to TP9) were excavated at the Site using a rubber-tire excavator, under the full-time supervision of EXP staff. The test pits were excavated to a maximum depth of 2.2 metres below ground surface (m bgs) or refusal due to the presence of bedrock. The locations of the test pits are presented on Figure 2 in Appendix A.

Between September 14 and 22, 2022, six boreholes (BH-1 to BH-6) and ten auger holes (AH1 to AH10) were advanced at the site by a licensed well driller, under the full-time supervision of EXP staff. The boreholes were drilled to a maximum depth of 4.4 m bgs or refusal due to the presence of bedrock. Bedrock was cored in all six boreholes to a maximum depth of 15.3 m bgs. The auger holes were drilled to a maximum depth of 2.9 m bgs.

On February 9 and 10, 2023, an additional five boreholes (MW23-1 to MW23-5) were advanced at the Phase Two property. Bedrock was air hammered in the five boreholes to a maximum depth of 7.3 m bgs. Each of the boreholes were completed as monitoring wells. The boreholes were advanced using a truck and track-mounted drill rig. 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 and test pitting 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.

The locations and geodetic elevations of the boreholes were established by a survey crew from EXP and are shown in Figure 2 in Appendix A.

### 4.3 Soil Sampling

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

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

within 24 hours of collection to the laboratory following chain of custody protocols for chemical analysis. Soil samples were submitted for laboratory analysis of PHC, VOC, PAH, and/or metals. As part of the 2013 investigation, one soil sample was submitted for analysis of pH.

Soil samples for geologic characterization were collected on a continuous basis in the overburden materials using 5 cm diameter, 61 cm long, split spoon samplers advanced into the subsurface using the drill rig. A split spoon sample was collected approximately every 80 cm as drilling progressed. The split spoon samplers were decontaminated between sampling intervals by EXP staff using a potable water/phosphate-free detergent solution followed by rinses with potable water. EXP staff continuously monitored the drilling activities to log the stratigraphy observed from the recovered soil cores, to record the depth of soil sample collection, to record total depths of borings/excavation, and to record visual or olfactory observations of potential impacts. Field observations are summarized on the borehole logs provided in Appendix D.

#### 4.4 Field Screening Measurements

Soil samples were placed in a sealed Ziploc plastic bag and allowed to reach ambient temperature prior to field screening with a combustible and organic vapour meter calibrated to hexane gas prior to use. The field screening measurements were made by inserting the instrument's probe into the plastic bag while manipulating the sample to ensure volatilization of the soil gases. These 'headspace' readings provide a real-time indication of the relative concentration of combustible vapours encountered in the subsurface during drilling and are used to aid in the assessment of the vertical and horizontal extent of potential impacts and the selection of soil samples for analysis.

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

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

The field screening measurements, in parts per million by volume (ppmv), are presented in the test pit logs provided in Appendix D.

#### 4.5 Groundwater: Monitoring Well Installation

All of the boreholes installed in 2023 were completed as monitoring wells. The monitoring wells were installed in accordance with EXP standard practice, and the installation configuration is documented on the respective borehole log. All boreholes were backfilled upon completion of drilling and the installation of the standpipes and monitoring wells.

Monitoring wells were installed in general accordance with the Ontario Water Resources Act - R.R.O. 1990, Regulation 903 (as amended). The monitoring wells consisted of a 38 mm or 52 mm diameter Schedule 40 PVC screen that was no more than 3.0 m long and a 32 mm or 51 mm diameter Schedule 40 PVC riser pipe that was at least 0.8 m long. The annular space around the wells was backfilled with sand to an average height of 0.3 m above the top of the screen. A bentonite seal was added from the top of the sand pack to approximately 0.3 m below ground surface. Details of the monitoring well installations are shown on the borehole logs provided in Appendix D.

Measures taken to minimize the potential for cross contamination or the introduction of contaminants during well construction included:

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

#### 4.6 Groundwater: Field Measurement and Water Quality Parameters

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

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

#### 4.7 Groundwater: Sampling

All groundwater samples were collected via a low flow sampling technique using a Horiba U-52 multi probe water quality meter. The U-52 probe was calibrated using in-house reference standards. Prior to collecting the groundwater samples, water quality field parameters (turbidity, dissolved oxygen, conductivity, temperature, pH, and oxidation reduction potential) were monitored until stable readings were achieved to ensure that the samples collected were representative of actual groundwater conditions. These parameters are considered to be stable when three consecutive readings meet the following conditions:

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

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

The groundwater sampling during the completion of this Phase Two ESA was undertaken in general accordance with the SAAP presented in Appendix C. The groundwater samples were placed in clean coolers containing ice packs prior to and during transportation to the laboratory. The samples were transported to the laboratory within 24 hours of collection with a chain of custody.

On February 28, 2023, groundwater samples were collected from eight monitoring wells (MW23-1, MW23-1, MW23-4, MW23-5, BH-1, BH-2, BH-4 and MW13-2) using the low flow sampling method described above. Eight groundwater samples, and one field duplicate were submitted for chemical analysis of PHC, PAH, VOC and/or metals parameters.

## 4.8 Sediment: Sampling

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

## 4.9 Analytical Testing

The contracted laboratories selected to perform chemical analysis on all soil and groundwater samples were Paracel and Caduceon. Both laboratories are accredited laboratories under the Standards Council of Canada/Canadian Association for Laboratory Accreditation in accordance with ISO/IEC 17025:1999- General Requirements for the Competence of Testing and Calibration Laboratories.

## 4.10 Residue Management

The drill cuttings from drilling activities and purged water from groundwater development and sampling were disposed of on the Phase Two property. Fluids from cleaning drilling equipment were disposed of by the driller at their facility.

## 4.11 Elevation Surveying

An elevation survey was conducted by EXP. The top of casing and ground surface elevation of each monitoring well location was surveyed relative to a geodetic reference. The Universal Transverse Mercator (UTM) coordinates of each monitoring well were also recorded so that their locations could be plotted accurately.

## 4.12 Quality Assurance and Quality Control Measures

All soil and groundwater samples were placed in coolers containing ice packs prior to and during transportation to the contract laboratories.

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

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

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

## 5.0 Review and Evaluation

### 5.1 Geology

Fill was contacted at surface and underlying asphalt in AH-1 to AH-10 and BH-3, BH-4, and BH-6. The fill extends to depths of 0.3 m bgs to 2.2 m bgs. The fill generally consists of sand with gravel. In BH-3, BH-4 and BH-6 the fill contained construction debris such as concrete and metal fragments.

In AH-1 to AH-10 and BH-3 and BH-4 glacial till was contacted beneath the fill at depths of 0.3 m to 2.2 m. The glacial till contains varying amounts of gravel, sand, silt and clay within the soil matrix as well as cobbles and boulders

Refusal was met in AH-3 to AH-6 and BH-1 to BH-6 at depths ranging from surface to 4.4 m bgs. Washboring and rock coring were used in the 2022 boreholes to confirm bedrock presence. Air hammering was used to install monitoring wells within the bedrock. The bedrock encountered at the site was limestone with shaley partings along bedding planes.

A plan view showing cross-sections is provided as Figure 5 in Appendix A, while the Phase Two property geology is depicted in cross-sections on Figure 6 in Appendix A.

### 5.2 Groundwater: Elevations and Flow Direction

On February 27, 2023, the monitoring wells were inspected for general physical condition, groundwater depth, the presence of light non-aqueous phase liquid (LNAPL).

Overburden groundwater monitoring and elevation data are provided below.

**Table 5.1: Monitoring and Elevation Data**

Monitoring Well ID	Grade Elevation (masl)	Top of Casing Elevation (masl)	Screen Depth (mbgs)	Depth to LNAPL (mbgs)	February 27, 2023	
					Depth to Groundwater (mbTOC)	Groundwater Elevation (masl)
MW13-2	56.13	56.10	4.1 to 5.6	N/A	2.52	53.58
MW23-1	56.37	57.31	4.3 to 7.3	N/A	4.67	52.64
MW23-2	54.26	55.05	1.8 to 4.8	N/A	2.13	52.92
MW23-3	54.27	-	1.5 to 4.5	-	N/A*	-
MW23-4	56.30	57.30	1.5 to 4.5	N/A	3.17	54.13
MW23-5	56.96	57.65	3.9 to 6.9	N/A	3.60	54.05
BH-1	55.38	55.81	5.7 to 8.7	N/A	2.63	53.18
BH-2	54.08	54.40	7.2 to 10.2	N/A	1.21	53.19
BH-4	56.10	55.98	12.3 to 15.3	N/A	4.86	51.12
BH-6	55.84	56.64	9.2 to 12.2	-	N/A*	-

**Notes:** Elevations were measured to a geodetic datum

\*Water frozen at ground surface

mbgs – metres below ground surface

masl – metres above sea level

mbTOC – metres below top of monitor casing

N/A – not applicable

Based on the groundwater elevations, a groundwater contour plan was prepared. The bedrock groundwater flow direction was determined to be to the northwest. The groundwater contour plan is provided as Figure 4 in Appendix A.

### 5.3 Groundwater: Hydraulic Gradients

Horizontal hydraulic gradients were estimated for the groundwater flow components identified in the overburden aquifer based on the January 2023 groundwater elevations.

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

$$i = \Delta h / \Delta s$$

Where,

$i$  = horizontal hydraulic gradient;  
 $\Delta h$  (m) = groundwater elevation difference; and,  
 $\Delta s$  (m) = separation distance.

The horizontal hydraulic gradient was calculated to be 0.095 m/m.

On March 3, 2023 rising head tests were conducted on three of the monitoring wells installed in 2023. The rising head test requires that the static water level be measured in each monitoring well prior to the removal of groundwater. Groundwater is removed from the monitoring well using a bailer. After the water level has been sufficiently lowered, an interface probe is lowered into the monitor as quickly as possible to measure the new water level. The time at which the new water level is measured is noted as time equal zero. Water level readings are subsequently taken at frequent intervals. Both the water levels and the time they were taken are recorded.

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

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

**Table 5.2: Rising Head Tests**

Monitoring Well ID/ Installation ID	Horizon	Screen Depth (mbgs)	Initial Static Water Level (mbToC)	Water Level after Purging (mbToC)	Recovery to Static after Elapsed time (%)	Hydraulic Conductivity (cm/s)
MW23-2	Bedrock	1.8 to 4.8	2.37	5.16	77	$7.16 \times 10^{-7}$
MW23-4	Bedrock	1.5 to 4.5	3.20	5.25	96	$1.88 \times 10^{-6}$
MW23-5	Bedrock	3.9 to 6.9	3.91	6.94	58	$2.99 \times 10^{-7}$

Notes: mbTOC – metres below top of monitor casing

The data and the calculations for the hydraulic conductivity testing are provided in Appendix G.

### 5.4 Soil: Field Screening

The methodology for the collection of soil vapour concentration measurements is described in Section 4.4.



Petroleum vapours ranged from non-detectable to 20 ppm in samples collected from the test pits. Field screening data is presented in the test pit logs in Appendix D.

## 5.5 Soil: Quality

In accordance with the scope of work, chemical analyses were performed on selected soil samples recovered from the boreholes and from the north wall of the utility trench excavation. The selection of representative “worst case” soil samples from each borehole was based on field visual or olfactory evidence of impacts and/or presence of potential water bearing zones.

As part of the 2013 investigation, six soil samples and one duplicate sample were submitted for analysis of BTEX, PHC, and metals. As part of the current investigation, thirty soil samples and three duplicate samples were submitted for analysis of BTEX, PHC, and metals.

In 2013, three soil samples exceeded the Table 3 SCS for barium, lead, and/or zinc. One soil sample, and its duplicate exceeded the Table 3 SCS for PHC fraction F3.

In 2022, two of the auger hole samples (AH-1 and AH-2) exceeded the Table 3 SCS for copper, lead, and/or mercury; and one auger hole sample (plus its duplicate) exceeded for electrical conductivity. Two of the auger hole samples (AH-3 and AH-4) also exceeded the Table 3 SCS for PHC fraction F2.

Four of the samples collected from the test pits (TP-3, TP-4, TP-5) exceeded the Table 3 SCS for conductivity; and two soil samples and a duplicate sample (TP-4, TP-7 and duplicate) exceeded the Table 3 SCS for PHC fraction F3.

One sample collected from the boreholes (BH-6) exceeded the Table 3 SCS for conductivity; and one soil samples from BH1 exceeded the Table 3 SCS for PHC fraction F2 and F3.

The soil results are provided in Tables 1 and 2 in Appendix E. They are shown in plan view on Figures 7 and 8 and on cross-sections on Figures 9 and 10 in Appendix A.

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

## 5.6 Groundwater: Quality

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

Following their installation, the monitoring wells were developed by purging water with an inertial pump and foot valve until it became clear.

One of the monitoring wells installed in 2013 (MW13-2) and seven of the new monitoring wells (BH-1, BH-2, BH-4, MW23-1, MW23-2, MW23-4, and MW23-5) were sampled on February 27, 2023. Eight groundwater samples and one duplicate sample were submitted for chemical analysis of PHC, PAH, VOC and metals parameters. There were no exceedances of the MECP 3 SCS for any of the parameters analyzed.

The analytical results are included in Tables 3 to 5 in Appendix E and are shown in plan view on Figures 11 to 13 and on cross-sections on Figures 14 to 16 in Appendix A.

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

### 5.6.1 Chemical Transformation and Contaminant Sources

A variety of physical, chemical and biochemical mechanisms affect the fate and transport of the potential COC in soil and groundwater, the contribution of which is dependent on the soil and groundwater conditions at the Phase Two property, as

well as the chemical/physical properties of the COC. Relevant fate and transport mechanisms are natural attenuation mechanisms, including advection mixing, mechanical dispersion/molecular diffusion, phase partitions (i.e. sorption and volatilization), and possibly abiotic or biotic chemical reactions, which effectively reduce COC concentrations.

All of the exceedances in soil were limited to metals parameters and PHC fractions F2 and F3. There were no groundwater exceedances of the Table 3 SCS for any of the parameters analyzed.

Since there are no volatile COCs on the Phase Two Property, soil vapour migration is not considered an issue. Chemical transformations of contaminants in soil are not a significant concern at the Phase Two property.

Cross-sections that depict the geological, hydrogeological, and groundwater chemical data for the Phase Two property are provided as Figure 6 in Appendix A.

### 5.6.2 Evidence of Non-Aqueous Phase Liquid

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

### 5.6.3 Maximum Concentrations

Contaminants that exceeded the applicable Table 3 residential standards included:

**Soil:** PHC F2 and F3, copper, lead, mercury, and conductivity

**Groundwater:** none

Maximum soil and groundwater concentrations are provided in Tables 6 and 7 in Appendix E.

## 5.7 Sediment: Quality

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

## 5.8 Quality Assurance and Quality Control Results

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

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

The analytical laboratory's QA/QC program consisted of the preparation and analysis of laboratory duplicate samples to assess precision and sample homogeneity, method blanks to assess analytical bias, spiked blanks and QC standards to evaluate analyte recovery, matrix spikes to evaluate matrix interferences and surrogate compound recoveries to evaluate extraction efficiency. The laboratory QA/QC results are presented in the Quality Assurance Report provided in the Certificates

of Analysis prepared by Caduceon. The QA/QC results are reported as percent recoveries for matrix spikes, spiked blanks and QC standards, relative percent difference for laboratory duplicates and analyte concentrations for method blanks.

Review of the laboratory QA/QC results reported indicated that they were within acceptable control limits or below applicable alert criteria for the sampled media and analytical test groups. For QA/QC purposes, the analytical sample results are quantitatively evaluated by calculating the relative percent difference (RPD) between the samples and their duplicates. To accurately calculate a statistically valid RPD, the concentration of the analytes found in both the original and duplicate sample must be greater than five times the reporting detection limit (RDL).

The results of the RPD calculations are provided in Appendix E in Tables 8 to 12. All of the RPD for soil and groundwater were either not calculable or within the applicable alert limits.

## 5.9 Phase Two Conceptual Site Model

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

### 5.9.1 Introduction

EXP Services Inc. (EXP) was retained by 2705460 Ontario Inc. to conduct a Phase Two Environmental Site Assessment (ESA) for the property located at 112 Montreal Road in Ottawa, Ontario (hereinafter referred to as the 'Phase Two property'). At the time of the investigation, the Phase Two property was vacant.

The objective of the Phase Two ESA investigation was to assess the quality of the soil and groundwater conditions within the areas of potential environmental concern (APEC) identified in a Phase One ESA prepared by EXP. The most recent use of the property was as a motel, which is defined in O.Reg 153/04 as a commercial land use. It is proposed that residential buildings be constructed on the Phase Two property. As the proposed land use is more sensitive than the previous land use, a Record of Site Condition (RSC) is required.

### 5.9.2 Physical Site Description

The Phase Two property is located on the south side of Montreal Road, west of the Vanier Parkway, as shown on Figure 1 in Appendix A. The Phase Two property is irregular in shape with an area of 0.96 hectares. The Phase Two property is legally described as Lot 5, Part Lot 6 and 7, Block 2, Plan 29; Part Lots 40, 41 and 88, Plan 49, Vanier/Gloucester. The property identification number (PIN) is 042370019.

At the time of this investigation, the Phase Two property was vacant. The east part of the Phase Two property had been excavated to bedrock surface, and ponded water was present. The west part of the Phase Two property was paved. Historically, the site was operated as a motel and was occupied by seven buildings including a laundry building, restaurant, and what was formerly a detached residence. All of the site buildings were demolished and removed in 2019. The Phase Two property site location and site layout are shown on Figure 1 and 2 in Appendix A.

The Phase Two property topography is relatively flat. The regional topography slopes downwards to the west. The local groundwater flow direction is anticipated to be west/northwest towards the Rideau River.

Refer to Table 5.4 for the Site identification information.

**Table 5.3: Site Identification Details**

<b>Civic Address</b>	112 Montreal Road, Ottawa, Ontario
<b>Current Land Use</b>	Vacant
<b>Proposed Future Land Use</b>	Residential
<b>Property Identification Number</b>	042370019
<b>UTM Coordinates</b>	Zone 18, 447090 m E and 503121 m N
<b>Site Area</b>	0.96 hectares
<b>Property Owner</b>	2705460 Ontario Inc.

The Phase One Conceptual Site Model is provided as Figure 3.

The Phase Two property and study area is serviced with potable water by the City of Ottawa through its water distribution system. Thus, in accordance with Section 35 of Ontario Regulation 153/04, potable water standards do not apply to the Phase Two property.

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

The Phase Two property is not a shallow soil property as defined in Section 43.1 of the regulation. It does not include all or part of a water body or is adjacent to a water body or includes land that is within 30 metres of a water body.

### 5.9.3 Geological and Hydrogeological

Under any fill, the natural overburden deposits in the area is glacial till that would consist of clay, silt, sand, and gravel. Bedrock geology maps indicated limestone of the Eastview Formation. Based on previous investigations, bedrock is present between 2.3 and 3.3 metres below ground surface.

The Phase Two property topography is relatively flat. The regional topography slopes downwards to the west. The local

A plan view showing cross-sections is provided as Figure 5, while the Phase Two property geology is depicted in cross-sections on Figure 6.

A summary of factors that apply to the Phase Two property is provided in Table 5.5.

**Table 5.4: Site Characteristics**

<b>Characteristic</b>	<b>Description</b>
<b>Minimum Depth to Bedrock</b>	55.3 masl (0 m bgs)*
<b>Minimum Depth to Groundwater</b>	1.21 m bgs (February 27, 2023)
<b>Shallow Soil Property</b>	No, bedrock is greater than 2.0 mbgs*
<b>Proximity to water body or ANSI</b>	300 m west – Rideau River
<b>Soil pH</b>	7.22

<b>Soil Texture</b>	Coarse
<b>Current Property Use</b>	Vacant, formerly commercial (motel)
<b>Future Property Use</b>	Residential
<b>Proposed Future Building</b>	Residential/Commercial
<b>Areas Containing Suspected Fill</b>	Entire Phase Two property

\*The east part of the property was excavated to bedrock surface prior to the geotechnical investigation. The 2013 investigation identified minimum depth to bedrock was 2.1 metres below ground surface.

#### 5.9.4 Utilities and Impediments

The Phase Two property is currently vacant. The former buildings (and any future development) were serviced by municipal water and sewer, natural gas and underground hydro. Surrounding properties are supplied by municipal water provided by the City of Ottawa. The source of municipal water is the Ottawa River.

#### 5.9.5 Potentially Contaminating Activities

The following PCAs were identified on the Phase One property:

- PCA #30 – Importation of fill material of unknown quality (impacted fill material identified in previous investigations)

By definition, a PCA present on the Phase One property result in an APEC.

The following PCAs were identified in the Phase One study area:

- PCA #10 – Commercial autobody shop (former repair garage located at 137 Montreal Road)
- PCA #10 – Commercial autobody shop (former repair garage located at 164 Montreal Road)
- PCA #10 – Commercial autobody shop (former repair garage located at 42 Montreal Road)
- PCA #10 – Commercial autobody shop (former repair garage at 41 Montreal Road)
- PCA #10 – Commercial autobody shop (former repair garage at 164 Jeanne Mance Street)
- PCA #10 – Commercial autobody shop (former repair garage at 299 Montgomery Street)
- PCA #10 – Commercial autobody shop (repair garage at 271 Durocher Street)
- PCA #10 – Commercial autobody shop (former repair garage at 258 Durocher Street)
- PCA #10 – Commercial autobody shop (former repair garage at 52 McArthur Avenue)
- PCA #10 – Commercial autobody shop (former repair garage at 373 Marguerite Avenue)
- PCA #12 – Concrete, cement and lime manufacturing (former concrete block manufacturer at 154-158 McArthur Road)
- PCA #12 – Concrete, cement and lime manufacturing (former concrete pipe manufacturer at 2 Mark Avenue)
- PCA #28 – Gasoline and associated products storage in fixed tanks (gas station at 120 Montreal Road)
- PCA #28 – Gasoline and associated products storage in fixed tanks (former oil warehouse at 296 Kendall Avenue)
- PCA #28 – Gasoline and associated products storage in fixed tanks (former gas station at 138 Montreal Road)

- PCA #28 – Gasoline and associated products storage in fixed tanks (gas station at 42 Montreal Road)
- PCA #28 – Gasoline and associated products storage in fixed tanks (UST formerly present at grocery warehouse at 1625 Vanier Parkway)
- PCA #28 – Gasoline and associated products storage in fixed tanks (former gas station at 164 Montreal Road)
- PCA #28 – Gasoline and associated products storage in fixed tanks (former gas station at 80-82 Montreal Road)
- PCA #28 – Gasoline and associated products storage in fixed tanks (former gas station at 287 Savard Street)
- PCA #28 – Gasoline and associated products storage in fixed tanks (former gas station at 4 Montreal Road)
- PCA #28 – Gasoline and associated products storage in fixed tanks (gas station at 5 Montreal Road)
- PCA #28 – Gasoline and associated products storage in fixed tanks (former bus depot with USTs at 150 Montreal Road)
- PCA #28 – Gasoline and associated products storage in fixed tanks (former gas station at 137 Montreal Road)
- PCA #28 – Gasoline and associated products storage in fixed tanks (former gas station at 350 Montgomery Street)
- PCA #28 – Gasoline and associated products storage in fixed tanks (former gas station at 201 Montreal Road)
- PCA #28 – Gasoline and associated products storage in fixed tanks (UST formerly present at transport company at 100 McArthur Avenue)
- PCA #28 – Gasoline and associated products storage in fixed tanks (former oil warehouse at 155 McArthur Road)
- PCA #34 – Metal fabrication (former brass foundry at 110-120 McArthur Road)
- PCA #37 – Operation of dry-cleaning equipment (where chemicals are used) (former dry cleaner at 90 Montreal Road)
- PCA #37 – Operation of dry-cleaning equipment (where chemicals are used) (former dry cleaner at 11 Montreal Road)
- PCA #37 – Operation of dry-cleaning equipment (where chemicals are used) (former dry cleaner at 21 Montreal Road)
- PCA #37 – Operation of dry-cleaning equipment (where chemicals are used) (former dry cleaner at 52 McArthur Avenue)
- PCA #37 – Operation of dry-cleaning equipment (where chemicals are used) (former dry cleaner at 196 Jean Mance Street)
- PCA #37 – Operation of dry-cleaning equipment (where chemicals are used) (former dry cleaner at 201 Montreal Road)
- PCA #46 – Rail yards, tracks, and spurs (former CP rail line east of the site)
- PCA #59 – Bulk storage of treated and preserved wood products (former lumber yard at 3 Selkirk Street)

Due to the distance and cross gradient location from the Phase One property, the majority of the off-site PCAs were determined not to result in APECs. The off-site PCAs that were determined to result in APECs on the Phase One property include PCA #28 (gas station at 120 Montreal Road, former gas station at 138 Montreal Road, former oil warehouse at 296 Kendall Avenue), PCA #37 (former dry cleaner at 90 Montreal Road), and PCA #46 (former CP rail line east of the Phase One property).

### 5.9.6 Areas of Potential Environmental Concern/Potential Contaminates of Concern

Ontario Regulation 153/04 defines an APEC as an area on a property where one or more contaminants are potentially present. The following APEC were identified on the Phase Two property, as shown on Figure 2 and Table 5.6 below:

**Table 5.5: Areas of Potential Environmental Concern**

Area of Potential Environmental Concern (APEC)	Location of APEC on Phase One Property	Potentially Contaminating Activity (PCA)	Location of PCA (On-Site or Off-Site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, Soil and/or Sediment)
<b>1. Impacted fill material on the site</b>	Entire Phase Two property	PCA #30 – Importation of fill material of unknown quality	On-site	Benzene, toluene, ethylbenzene, xylene (BTEX), and petroleum hydrocarbons (PHC), metals	Soil
<b>2. Gas station at 120 Montreal Road</b>	Northeast corner of Phase Two property	PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks	Off-site	BTEX, PHC	Groundwater
<b>3. Former dry cleaner at 90 Montreal Road</b>	Northwest corner of Phase Two property	PCA #37 – Operation of dry-cleaning equipment (where chemicals are used)	Off-site	Volatile organic compounds (VOC)	Groundwater
<b>4. Former oil warehouse at 296 Kendall Avenue</b>	Area along east property line	PCA #28 – Gasoline and associated products in fixed tanks	Off-site	BTEX, PHC	Groundwater
<b>5. Former gas station at 138 Montreal Road</b>	Area along east property line	PCA #28 – Gasoline and associated products storage in fixed tanks	Off-site	BTEX, PHC	Groundwater
<b>6. Former rail line east of the site</b>	East part of Phase Two property	PCA #46 – Rail yards, tracks, and spurs	Off-site	PHC, polycyclic aromatic hydrocarbons (PAH), metals	Groundwater

### 5.9.7 Investigation

The site investigative activities consisted of excavating test pits, advancing auger holes, and drilling boreholes to facilitate the collection of soil samples for visual inspection and chemical analysis. The boreholes were instrumented with monitoring wells to facilitate the collection of groundwater samples.

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

In 2013 and 2014, EXP completed a preliminary geotechnical investigation and a Phase II Environmental Site Assessment at the Phase Two property. At that time, the Phase Two property was occupied by several low-rise buildings (which have since been demolished). The preliminary geotechnical investigation consisted of drilling nine boreholes across the Phase Two property and revealed that below 0.2 m to 2.7 m of fill, compact to very dense silty sand till was contacted and extended to depths of 2.1 m to 3.3 m depth. Limestone bedrock underlies the till and extends to the entire depth investigated, i.e., to 2.3

and 3.3 m. The groundwater table at the Site was established at 2.4 m to 4.2 m depth. The results of the Phase II ESA showed that petroleum parameters were either non-detectable or below the Ministry of the Environment, Conservation and Parks (MECP) Table 3 Site Condition Standards (SCS) for residential/parkland/institutional property use, with the exception of some exceedances in some of the fill and till samples in some of the boreholes.

On August 31, 2022, nine (9) test pits (TP1 to TP9) were excavated at the Site using a rubber-tire excavator, under the full-time supervision of EXP staff. The test pits were excavated to a maximum depth of 2.2 metres below ground surface (m bgs) or refusal due to the presence of bedrock. The locations of the test pits are presented on Figure 2 in Appendix A.

Between September 14 and 22, 2022, six boreholes (BH-1 to BH-6) and ten auger holes (AH1 to AH10) were advanced at the site by a licensed well driller, under the full-time supervision of EXP staff. The boreholes were drilled to a maximum depth of 4.4 m bgs or refusal due to the presence of bedrock. Bedrock was cored in all six boreholes to a maximum depth of 15.3 m bgs. The auger holes were drilled to a maximum depth of 2.9 m bgs.

On February 9 and 10, 2023, an additional five boreholes (MW23-1 to MW23-5) were advanced at the Phase Two property. Bedrock was cored in all of the boreholes, to a maximum depth of 7.3 m bgs. All five of the boreholes were completed as monitoring wells.

### 5.9.8 Soil Sampling

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

As part of the 2013 investigation, six soil samples and one duplicate sample were submitted for analysis of BTEX, PHC, and metals. As part of the current investigation, forty-nine soil samples and five duplicate samples were submitted for analysis of BTEX, PHC, and metals.

In 2013, three soil samples exceeded the Table 3 SCS for barium, lead, and/or zinc. One soil sample, and its duplicate exceeded the Table 3 SCS for PHC fraction F3.

In 2022, two of the auger hole samples (AH-1 and AH-2) exceeded the Table 3 SCS for copper, lead, and/or mercury; and one auger hole samples (plus its duplicate) exceeded for conductivity. Two of the auger hole samples (AH-3 and AH-4) also exceeded the Table 3 SCS for PHC fraction F2.

Four of the samples collected from the test pits (TP-3, TP-4, TP-5) exceeded the Table 3 SCS for conductivity; and two soil samples and a duplicate sample (TP-4, TP-7 and duplicate) exceeded the Table 3 SCS for PHC fraction F3.

One sample collected from the boreholes (BH-6) exceeded the Table 3 SCS for conductivity; and one soil samples from BH1 exceeded the Table 3 SCS for PHC fraction F2 and F3.

The soil results are provided in Tables 1 and 2 in Appendix E. They are shown in plan view on Figures 7 and 8 and on cross-sections on Figures 9 and 10 in Appendix A.

### 5.9.9 Groundwater Sampling

All groundwater samples were collected via a low flow sampling technique using a multi probe water quality meter. The water quality meter was calibrated using in-house reference standards. Prior to collecting the groundwater samples, water quality field parameters (turbidity, dissolved oxygen, conductivity, temperature, pH, and oxidation reduction potential) were



monitored until stable readings were achieved to ensure that the samples collected were representative of actual groundwater conditions.

The groundwater samples were placed in clean coolers containing ice packs prior to and during transportation to the laboratory. The samples were transported to the laboratory within 24 hours of collection with a chain of custody.

One of the monitoring wells installed in 2013 (MW13-2), and seven of the new monitoring wells (BH-1, BH-2, BH-4, MW23-1, MW23-2, MW23-4, and MW23-5) were sampled on February 27, 2023. Eight groundwater samples and one duplicate sample were submitted for chemical analysis of PHC, PAH, VOC and metals parameters. There were no exceedances of the MECP 3 SCS for any of the parameters analyzed.

The analytical results are included in Tables 3 to 5 in Appendix E and are shown in plan view on Figures 11 to 13 and on cross-sections on Figures 14 to 16 in Appendix A.

#### 5.9.10 Contaminants of Concern

Contaminants that exceeded the applicable Table 3 residential standards included:

**Soil:** PHC F2 and F3, copper, lead, mercury, and conductivity

**Groundwater:** none

Maximum soil and groundwater concentrations are provided in Tables 6 and 7 in Appendix E.

#### 5.9.11 Contaminant Fate and Transport

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

All of the exceedances in soil were limited to metals parameters and PHC fractions F2 and F3. There were no groundwater exceedances of the Table 3 SCS for any of the parameters analyzed.

Since there are no volatile COCs on the Phase Two Property, soil vapour migration is not considered an issue. Chemical transformations of contaminants in soil are not a significant concern at the Phase Two property.

A plan view showing cross-sections is provided as Figure 5 in Appendix A, while the Phase Two property geology is depicted in cross-sections on Figure 6 in Appendix A.

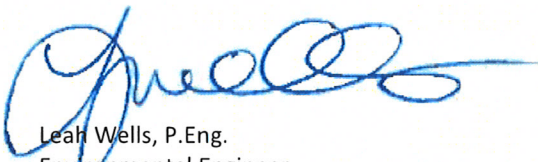
## 6.0 Conclusions

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

Soil samples exceeded the Table 3 SCS for barium, copper, lead, mercury, zinc, conductivity, and/or PHC. All of the exceedances in soil were limited to metals parameters and PHC fractions F2 and F3. There were no groundwater exceedances of the Table 3 SCS for any of the parameters analyzed. Since there are no volatile COCs on the Phase Two Property, soil vapour migration is not considered an issue. Chemical transformations of contaminants in soil are not a significant concern at the Phase Two property.

It is EXP's opinion that some of the PCA that were identified in the Phase One ESA have adversely affected the property. It is recommended that the impacted soil at the Phase Two be removed prior to re-development.

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



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



Mark McCalla, P.Geo.  
Team Lead/Senior Project Manager  
Earth and Environment



## 7.0 References

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

- EXP Services Inc., *Phase One Environmental Site Assessment, 112 Montreal Road, Ottawa, Ontario*, April 4, 2023.
- Ontario Ministry of the Environment, Conservation and Parks, *Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario*, December 1996.
- Ontario Ministry of the Environment, Conservation and Parks, *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*, April 15, 2011.
- Ontario Ministry of the Environment, Conservation and Parks, *Guide for Completing Phase Two Environmental Site Assessments under Ontario Regulation 153/04*, June 2011.
- Ontario Ministry of the Environment, Conservation and Parks, *Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act*, July 1, 2011.
- Ontario Ministry of the Environment, Conservation and Parks, *Management of Excess Soil – A Guide for Best Management Practices*, January 2014.
- Ontario Regulation 153/04, made under the *Environmental Protection Act*, as amended.
- Ontario R.R.O. 1990, Regulation 347, made under the *Environmental Protection Act*, as amended.
- Ontario R.R.O. 1990, Regulation 903, made under the *Water Resources Act*, as amended.

## 8.0 General Limitations

### Basis of Report

This report ("Report") is based on site conditions known or inferred by the investigation undertaken as of the date of the Report. Should changes occur which potentially impact the condition of the site the recommendations of EXP may require re-evaluation. Where special concerns exist, or 2705460 Ontario Inc. ("the Client") has special considerations or requirements, these should be disclosed to EXP to allow for additional or special investigations to be undertaken not otherwise within the scope of investigation conducted for the purpose of the Report.

### Reliance on Information Provided

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

### Standard of Care

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

### Complete Report

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

### Use of Report

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

### Report Format

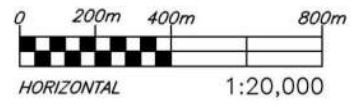
Where EXP has submitted both electronic file and a hard copy of the Report, or any document forming part of the Report, only the signed and sealed hard copy shall be the original documents for record and working purposes. In the event of a dispute or discrepancy, the hard copy shall govern. Electronic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

EXP Services Inc.  
2705460 Ontario Inc.  
Phase Two Environmental Site Assessment  
112 Montreal Road, Ottawa, Ontario  
OTT-00214936-C0  
April 13, 2023

## Appendix A: Figures

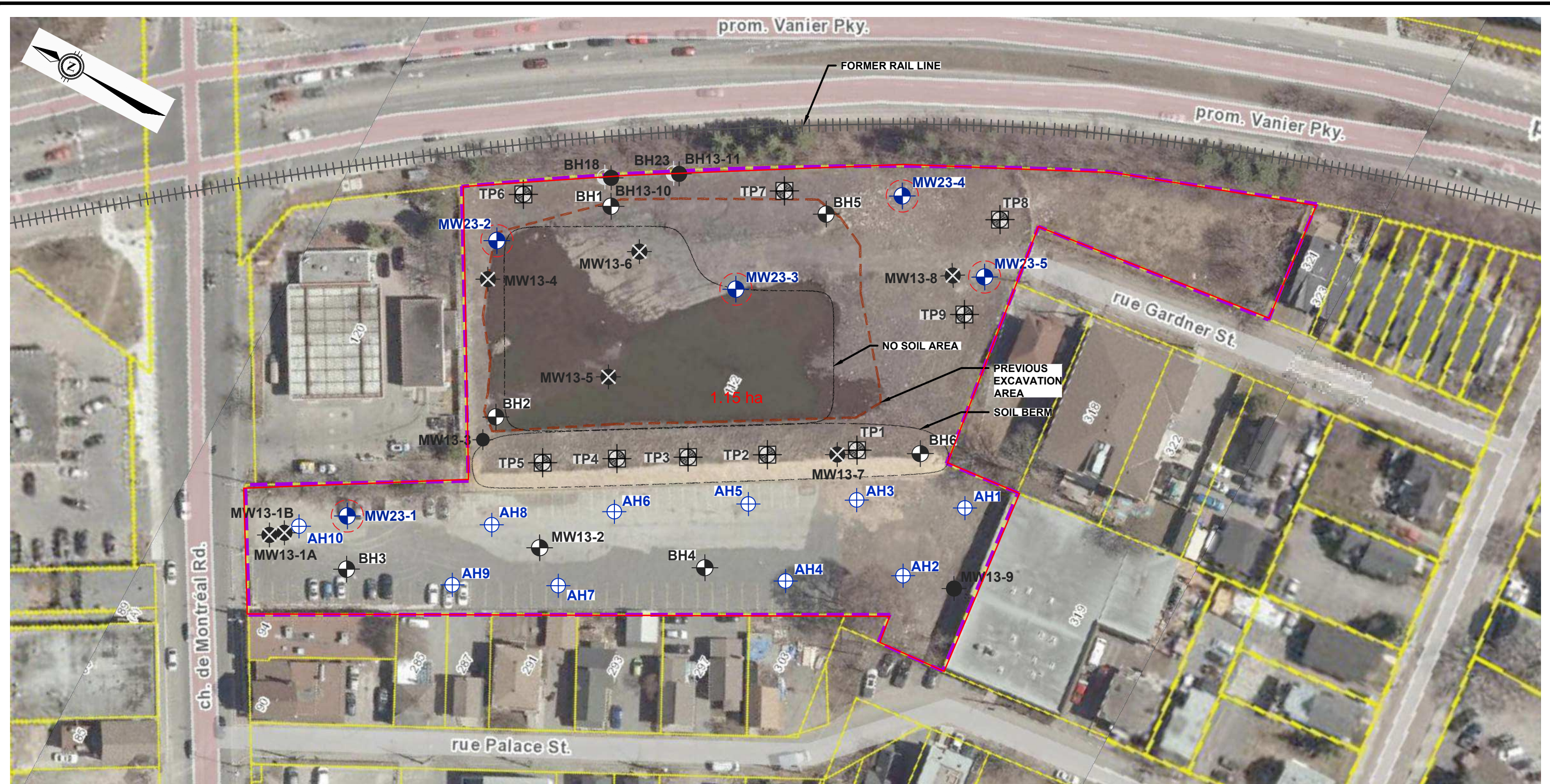


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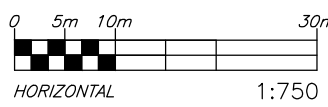
**exp Services Inc.** [www.exp.com](http://www.exp.com)  
 t: +1.613.688.1899 | f: +1.613.225.7337  
 2650 Queensview Drive, Suite 100  
 Ottawa, ON K2B 8H6, Canada

DATE APRIL 2023		CLIENT: <b>2705460 ONTARIO INCORPORATED</b> <b>PHASE TWO ENVIRONMENTAL SITE ASSESSMENT (ESA)</b>  <b>SITE LOCATION PLAN</b> 112 MONTREAL ROAD, OTTAWA, ONTARIO	project no. OTT-00214936-C0
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DRAWN BY AS			<b>FIG 1</b>
TITLE:			

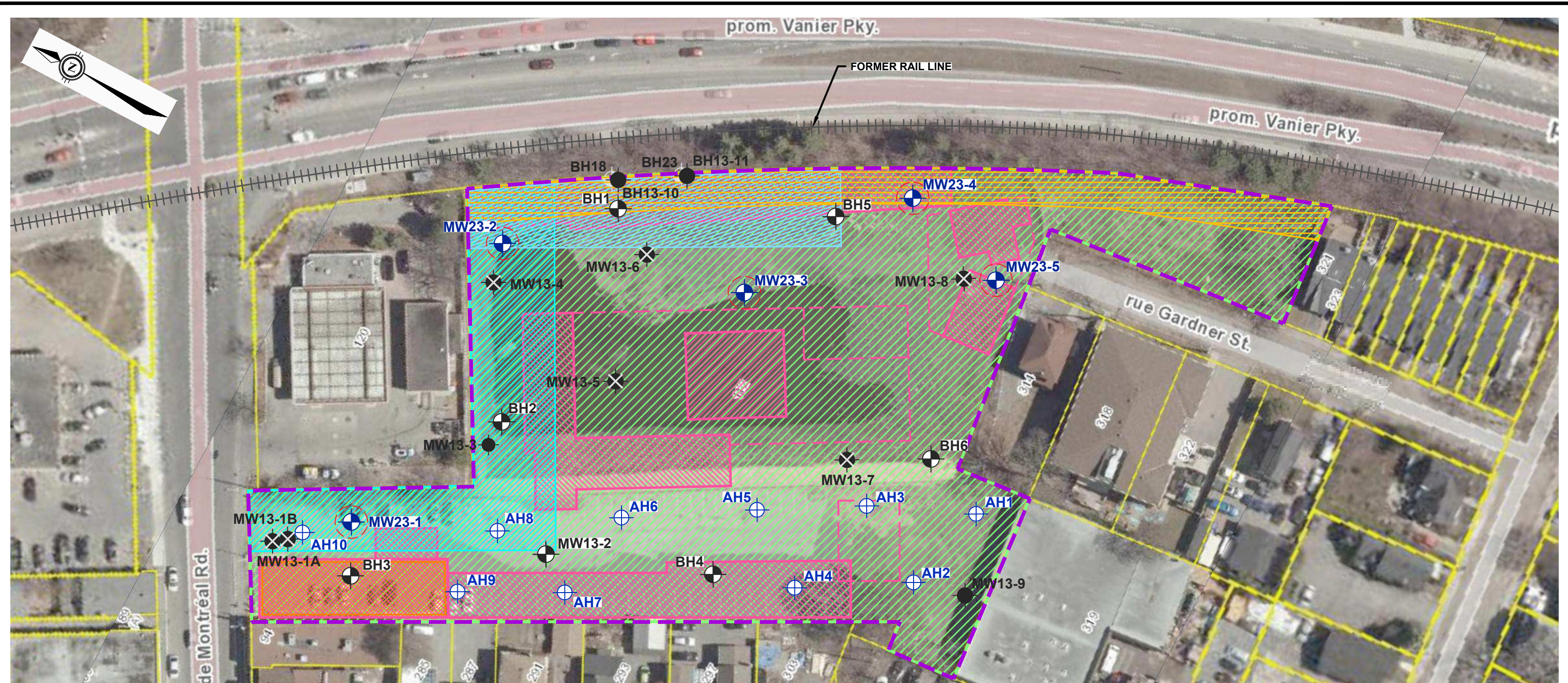


**LEGEND**









-  PROPERTY BOUNDARY
-  **BH1** BOREHOLE / MONITORING WELL NO. & LOCATION (EXP, 2022)
-  **TP4** TEST PIT NO. & LOCATION (EXP, 2022)
-  **MW23-1** BOREHOLE / MONITORING WELL NO. & LOCATION (EXP, 2023)
-  **MW13-3** MONITORING WELL NO. & LOCATION (EXP, 2013)
-  **MW13-1A** DECOMMISSIONED MONITORING WELL NO. & LOCATION (EXP, 2013)
-  **AH8** AUGER HOLE









		<b>exp Services Inc.</b> <a href="http://www.exp.com">www.exp.com</a> t: +1.613.688.1899   f: +1.613.225.7337 2650 Queensview Drive, Suite 100 Ottawa, ON K2B 8H6, Canada	
DATE	APRIL 2023	CLIENT:	2705460 ONTARIO INCORPORATED <b>PHASE TWO ENVIRONMENTAL SITE ASSESSMENT (ESA)</b>
DESIGN	CHECKED	<b>BOREHOLE/MONITORING WELL LOCATION PLAN</b> 112 MONTREAL ROAD, OTTAWA, ONTARIO	
LW	MM		
DRAWN BY	AS	TITLE:	project no. OTT-00214936-C0 scale 1:750 <b>FIG 2</b>

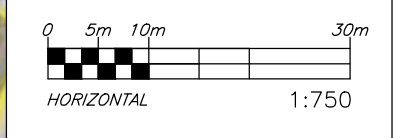


**LEGEND**

-  PROPERTY BOUNDARY
-  BOREHOLE / MONITORING WELL NO. & LOCATION (EXP, 2022)
-  BOREHOLE / MONITORING WELL NO. & LOCATION (EXP, 2023)
-  MONITORING WELL NO. & LOCATION (EXP, 2013)
-  DECOMMISSIONED MONITORING WELL NO. & LOCATION (EXP, 2013)
-  AUGER HOLE
-  FORMER BUILDINGS (Removed 2017-2018)
-  FORMER BUILDINGS (Removed ~70-90ties)

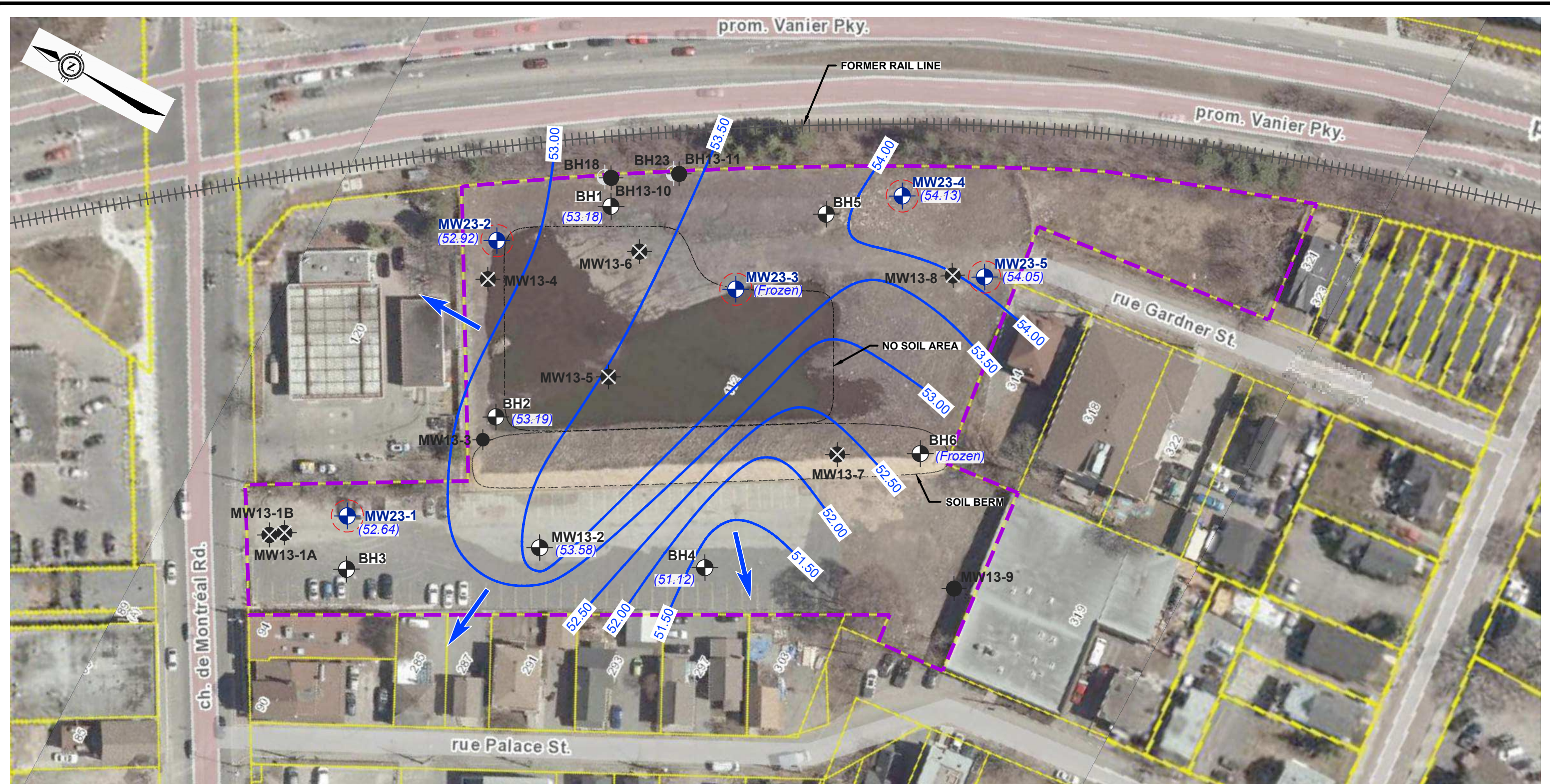
**AREAS OF POTENTIAL ENVIRONMENTAL CONCERN (APEC):**

-  APEC 1 - FILL OF UNKNOWN QUALITY (PCA #30)
-  APEC 2 - GAS STATION AT 120 MONTREAL ROAD (PCA #28)
-  APEC 3 - FORMER DRY CLEANER AT 90 MONTREAL ROAD (PCA #37)
-  APEC 4 - FORMER OIL WAREHOUSE AT 296 KENDALL AVE. (PCA #28)
-  APEC 5 - FORMER GAS STATION AT 138 MONTREAL RD. (PCA #28)
-  APEC 6 - FORMER RAIL LINE IN THE VANIER PARKWAY ROW (PCA #46)












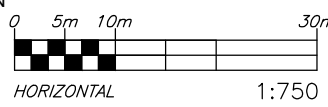
		<b>exp Services Inc. <a href="http://www.exp.com">www.exp.com</a></b> t: +1.613.688.1899   f: +1.613.225.7337 2650 Queensview Drive, Suite 100 Ottawa, ON K2B 8H6, Canada	
DATE	APRIL 2023	CLIENT:	<b>2705460 ONTARIO INCORPORATED</b> <b>PHASE TWO ENVIRONMENTAL SITE ASSESSMENT (ESA)</b>
DESIGN	CHECKED	<b>CONCEPTUAL SITE MODEL</b> 112 MONTREAL ROAD, OTTAWA, ONTARIO	
LW	MM		
DRAWN BY	AS	TITLE:	<b>FIG 3</b>
		project no.	OTT-00214936-C0
		scale	1:750



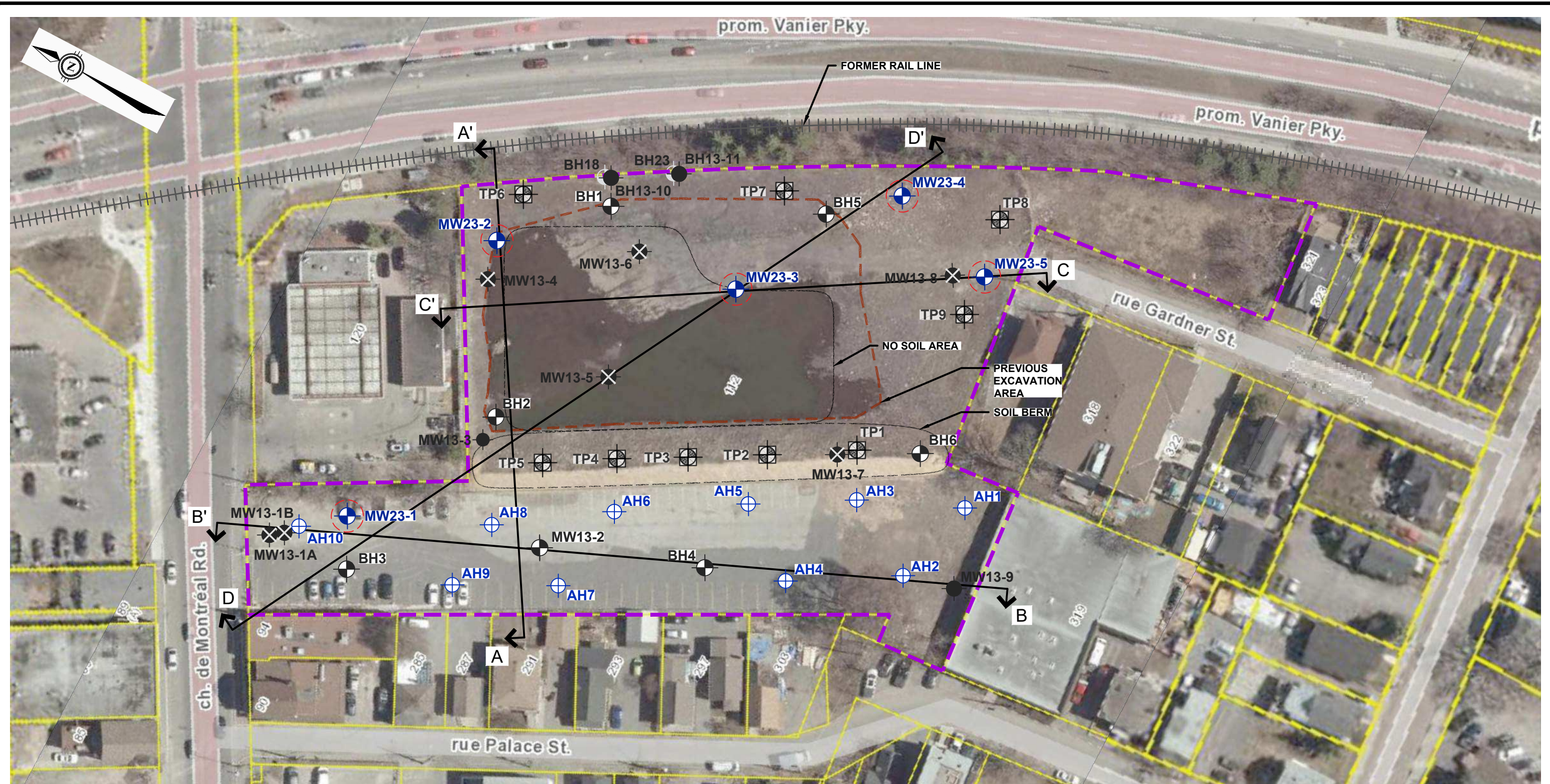


**LEGEND**

-  PROPERTY BOUNDARY
-  **BH1** BOREHOLE / MONITORING WELL NO. & LOCATION (EXP, 2022)
-  **TP4** TEST PIT NO. & LOCATION (EXP, 2022)
-  **MW23-1** BOREHOLE / MONITORING WELL NO. & LOCATION (EXP, 2023)
-  **MW13-3** MONITORING WELL NO. & LOCATION (EXP, 2013)
-  **MW13-1A** DECOMMISSIONED MONITORING WELL NO. & LOCATION (EXP, 2013)
-  (53.18) GROUNDWATER ELEVATION (m) TAKEN ON FEBRUARY 27, 2023
-  INFERRED GROUNDWATER FLOW DIRECTION
-  53.50 INFERRED GROUNDWATER CONTOUR (metres)

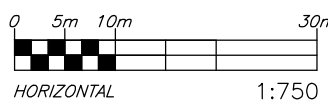


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DATE	APRIL 2023	CLIENT:	2705460 ONTARIO INCORPORATED PHASE TWO ENVIRONMENTAL SITE ASSESSMENT (ESA)
DESIGN	CHECKED	<b>GROUNDWATER CONTOUR PLAN</b> 112 MONTREAL ROAD, OTTAWA, ONTARIO	
LW	MM		
DRAWN BY	AS	TITLE:	project no. OTT-00214936-C0 scale 1:750 <b>FIG 4</b>

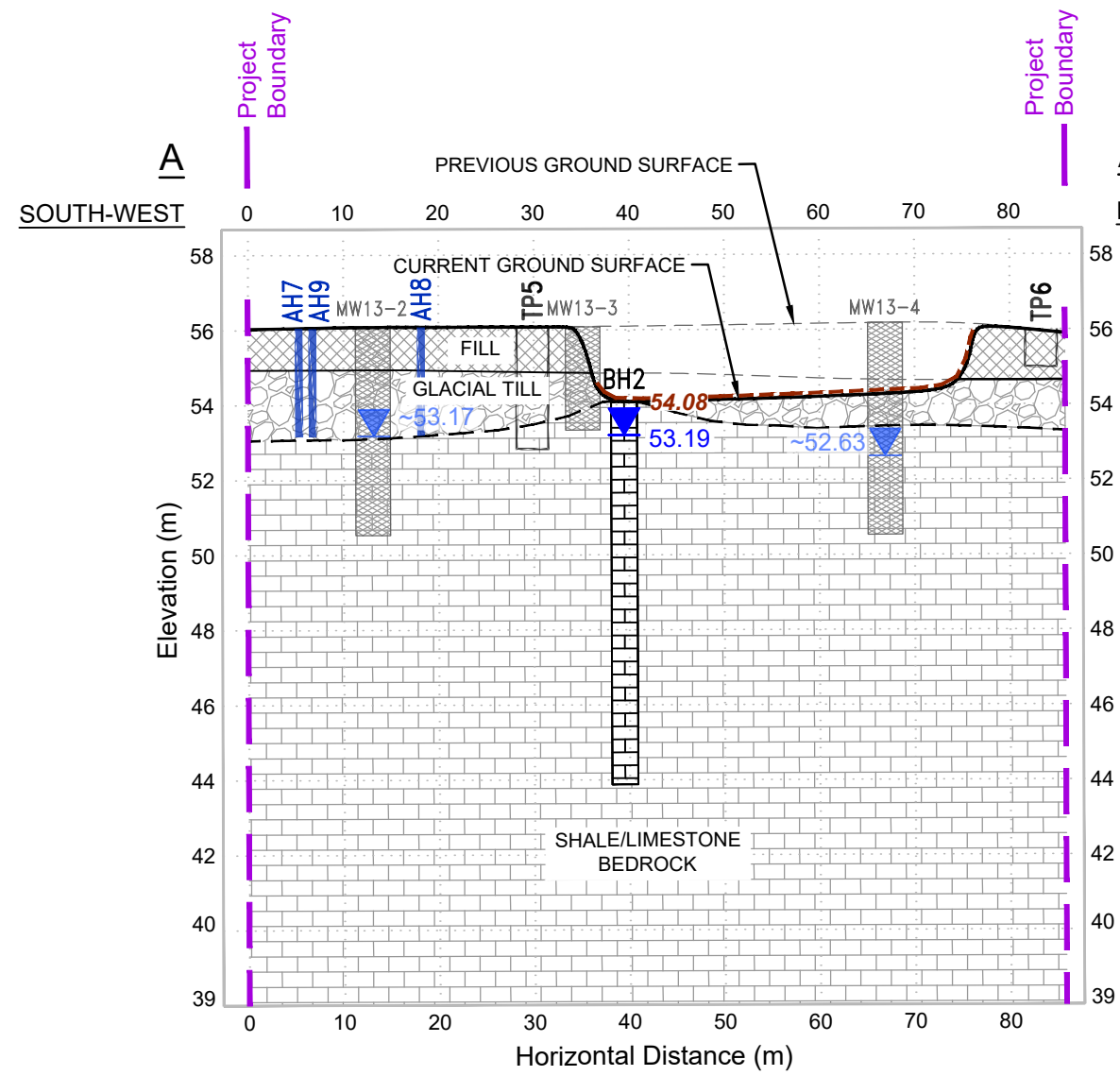


**LEGEND**

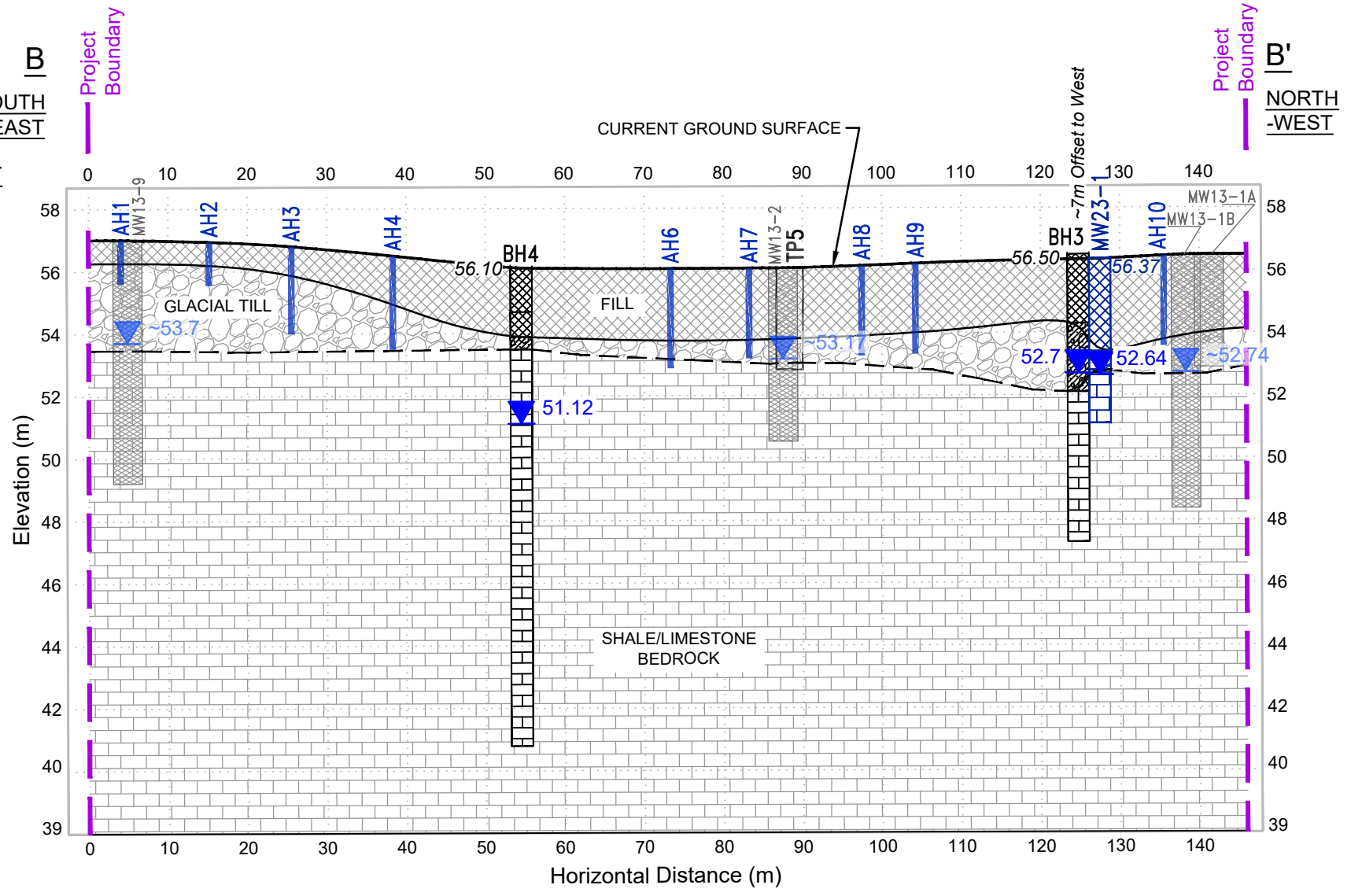
- PROPERTY BOUNDARY
- BOREHOLE / MONITORING WELL NO. & LOCATION (EXP, 2022)
- TEST PIT NO. & LOCATION (EXP, 2022)
- BOREHOLE / MONITORING WELL NO. & LOCATION (EXP, 2023)
- MONITORING WELL NO. & LOCATION (EXP, 2013)
- SECTION MARK
- DECOMMISSIONED MONITORING WELL NO. & LOCATION (EXP, 2013)
- AUGER HOLE



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DATE	APRIL 2023	CLIENT:	2705460 ONTARIO INCORPORATED PHASE TWO ENVIRONMENTAL SITE ASSESSMENT (ESA)
DESIGN	LW	CHECKED	MM
DRAWN BY	AS		TITLE: 112 MONTREAL ROAD, OTTAWA, ONTARIO
		project no.	OTT-00214936-C0
		scale	1:750
			<b>FIG 5</b>



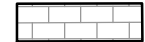





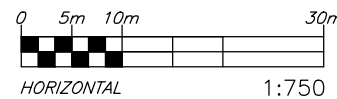
**CROSS-SECTION A-A'**



**CROSS-SECTION B-B'**

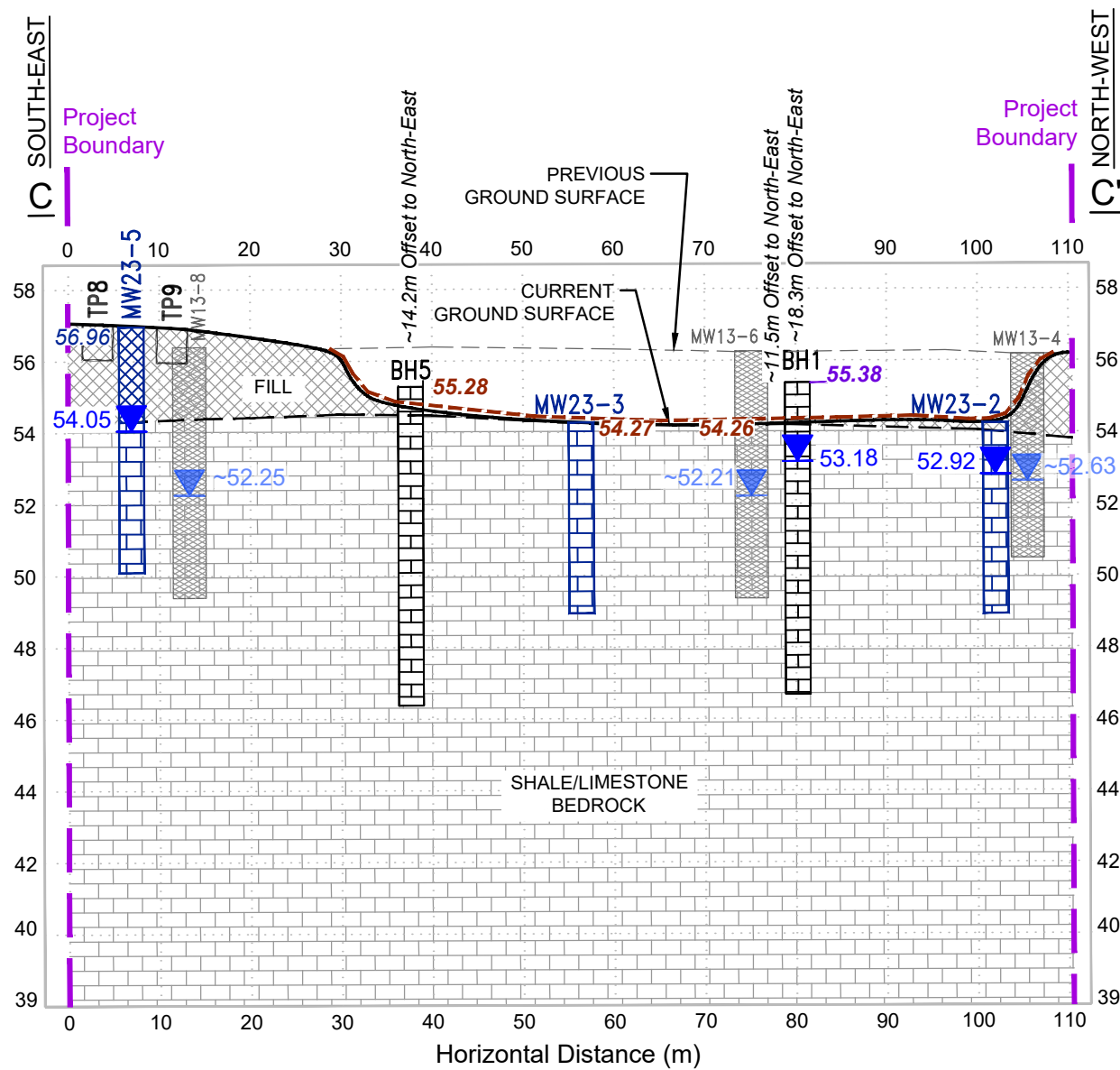
**LEGEND**

-  FILL
-  GLACIAL TILL
-  LIMESTONE BEDROCK
-  53.3 RECORDED GROUNDWATER LEVEL (FEB., 2023)
-  ~53.17 GROUNDWATER LEVEL (2013)
-  PROPERTY BOUNDARY

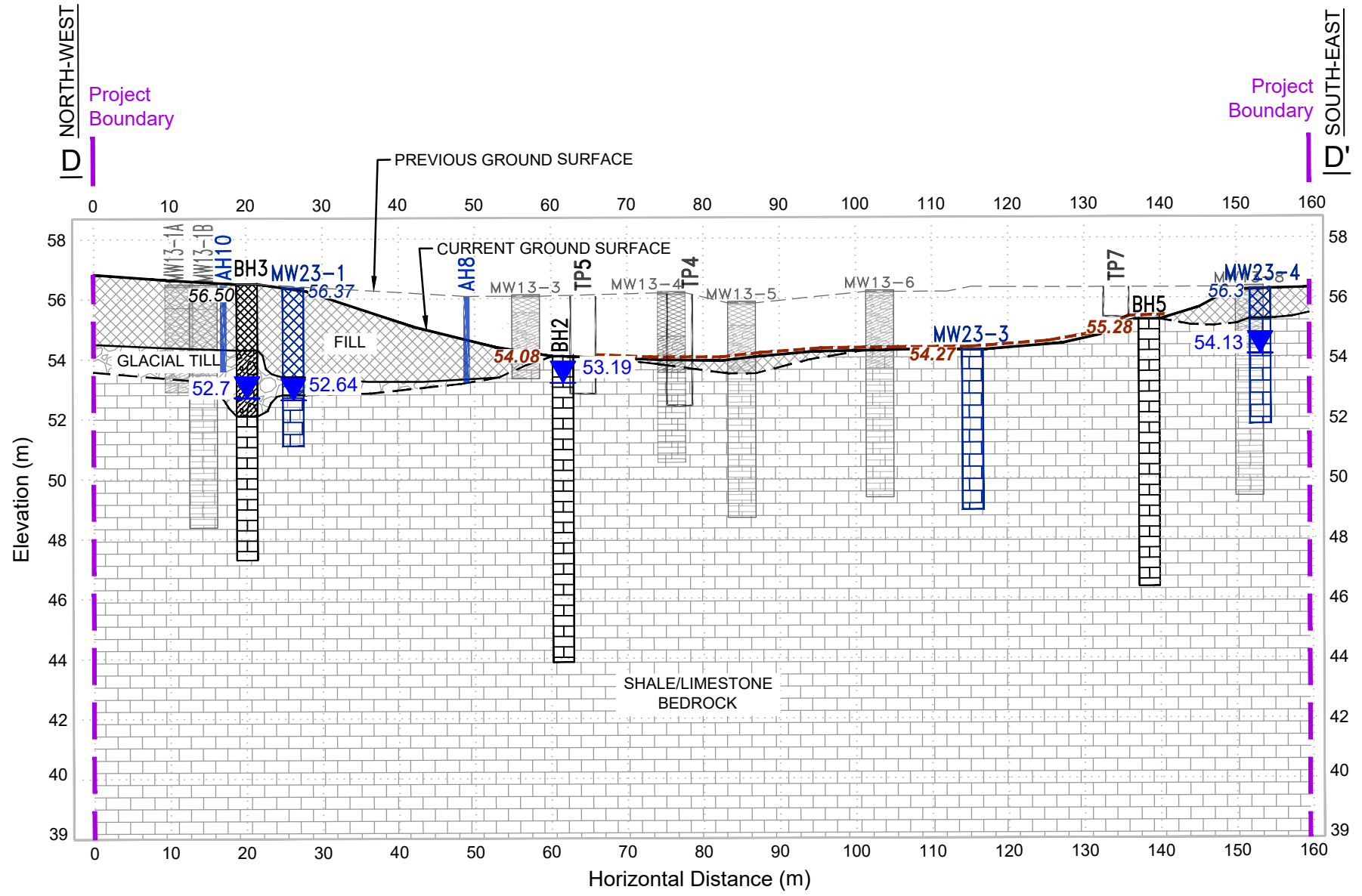


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 2650 Queensview Drive, Suite 100  
 Ottawa, ON K2B 8H6, Canada

DATE APRIL 2023	CLIENT: <b>2705460 ONTARIO INCORPORATED</b>	project no. OTT-00214936-C0
DESIGN LW	CHECKED MM	scale 1:750
DRAWN BY AS	TITLE: <b>PHASE TWO ENVIRONMENTAL SITE ASSESSMENT (ESA)</b> <b>CROSS-SECTIONS A-A', B-B'</b> 112 MONTREAL ROAD, OTTAWA, ONTARIO	<b>FIG 6A</b>




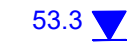




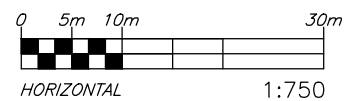
**CROSS-SECTION C-C'**



**CROSS-SECTION D-D'**

**LEGEND**

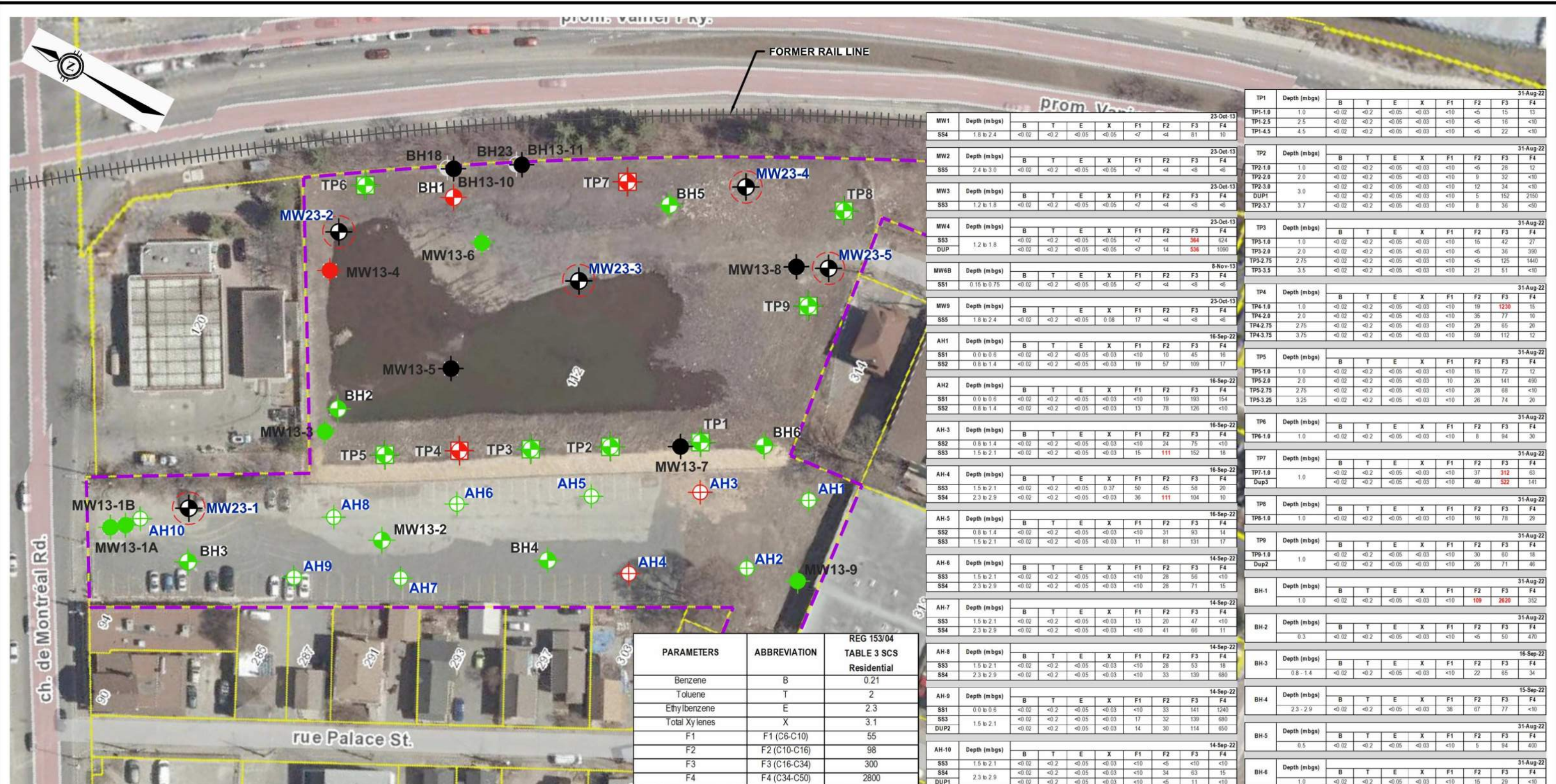
-  FILL
-  GLACIAL TILL
-  LIMESTONE BEDROCK
-  53.3 RECORDED GROUNDWATER LEVEL (FEB., 2023)
-  ~53.17 GROUNDWATER LEVEL (2013)
-  PROPERTY BOUNDARY



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DATE APRIL 2023	CLIENT: 2705460 ONTARIO INCORPORATED PHASE TWO ENVIRONMENTAL SITE ASSESSMENT (ESA)	project no. OTT-00214936-C0
DESIGN LW	CHECKED MM	scale 1:750
DRAWN BY AS	TITLE: CROSS-SECTIONS C-C', D-D' 112 MONTREAL ROAD, OTTAWA, ONTARIO	<b>FIG 6B</b>

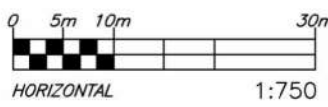
File name: \\POTTS\SC002\Data\Projects\210000\214936-CO 2023-Geo Investigation\112 Montreal Road, Ottawa, ON\K - DRAWINGS\OTT-00214936-CO\_Env-Ph2.dwg  
 Last Saved: Apr 13, 2023 10:58 AM Last Plotted: Apr 13, 2023 11:04 AM Plotted by: Severa



MW1	Depth (mbgs)	B	T	E	X	F1	F2	F3	F4	23-Oct-13
SS4	1.8 to 2.4	<0.02	<0.2	<0.05	<0.05	<7	<4	81	10	
MW2	Depth (mbgs)	B	T	E	X	F1	F2	F3	F4	23-Oct-13
SS5	2.4 to 3.0	<0.02	<0.2	<0.05	<0.05	<7	<4	<8	<6	
MW3	Depth (mbgs)	B	T	E	X	F1	F2	F3	F4	23-Oct-13
SS3	1.2 to 1.8	<0.02	<0.2	<0.05	<0.05	<7	<4	<8	<6	
MW4	Depth (mbgs)	B	T	E	X	F1	F2	F3	F4	23-Oct-13
SS3	1.2 to 1.8	<0.02	<0.2	<0.05	<0.05	<7	<4	364	924	
DUP		<0.02	<0.2	<0.05	<0.05	<7	14	558	1090	
MW5B	Depth (mbgs)	B	T	E	X	F1	F2	F3	F4	8-Nov-13
SS1	0.15 to 0.75	<0.02	<0.2	<0.05	<0.05	<7	<4	<8	<6	
MW9	Depth (mbgs)	B	T	E	X	F1	F2	F3	F4	23-Oct-13
SS5	1.8 to 2.4	<0.02	<0.2	<0.05	0.08	17	<4	<8	<6	
AH1	Depth (mbgs)	B	T	E	X	F1	F2	F3	F4	16-Sep-22
SS1	0.0 to 0.6	<0.02	<0.2	<0.05	<0.03	<10	10	45	16	
SS2	0.8 to 1.4	<0.02	<0.2	<0.05	<0.03	19	57	109	17	
AH2	Depth (mbgs)	B	T	E	X	F1	F2	F3	F4	16-Sep-22
SS1	0.0 to 0.6	<0.02	<0.2	<0.05	<0.03	<10	19	193	154	
SS2	0.8 to 1.4	<0.02	<0.2	<0.05	<0.03	13	78	126	<10	
AH-3	Depth (mbgs)	B	T	E	X	F1	F2	F3	F4	16-Sep-22
SS2	0.8 to 1.4	<0.02	<0.2	<0.05	<0.03	<10	24	75	<10	
SS3	1.5 to 2.1	<0.02	<0.2	<0.05	<0.03	15	111	152	18	
AH-4	Depth (mbgs)	B	T	E	X	F1	F2	F3	F4	16-Sep-22
SS3	1.5 to 2.1	<0.02	<0.2	<0.05	0.37	50	45	58	20	
SS4	2.3 to 2.9	<0.02	<0.2	<0.05	<0.03	36	111	104	10	
AH-5	Depth (mbgs)	B	T	E	X	F1	F2	F3	F4	16-Sep-22
SS2	0.8 to 1.4	<0.02	<0.2	<0.05	<0.03	<10	31	93	14	
SS3	1.5 to 2.1	<0.02	<0.2	<0.05	<0.03	11	81	131	17	
AH-6	Depth (mbgs)	B	T	E	X	F1	F2	F3	F4	14-Sep-22
SS3	1.5 to 2.1	<0.02	<0.2	<0.05	<0.03	<10	28	56	<10	
SS4	2.3 to 2.9	<0.02	<0.2	<0.05	<0.03	<10	28	71	15	
AH-7	Depth (mbgs)	B	T	E	X	F1	F2	F3	F4	14-Sep-22
SS3	1.5 to 2.1	<0.02	<0.2	<0.05	<0.03	13	20	47	<10	
SS4	2.3 to 2.9	<0.02	<0.2	<0.05	<0.03	<10	41	66	11	
AH-8	Depth (mbgs)	B	T	E	X	F1	F2	F3	F4	14-Sep-22
SS3	1.5 to 2.1	<0.02	<0.2	<0.05	<0.03	<10	28	53	18	
SS4	2.3 to 2.9	<0.02	<0.2	<0.05	<0.03	<10	33	139	680	
AH-9	Depth (mbgs)	B	T	E	X	F1	F2	F3	F4	14-Sep-22
SS1	0.0 to 0.6	<0.02	<0.2	<0.05	<0.03	<10	33	141	1240	
SS3	<0.02	<0.2	<0.05	<0.03	17	32	139	680		
DUP2	1.5 to 2.1	<0.02	<0.2	<0.05	<0.03	14	30	114	650	
AH-10	Depth (mbgs)	B	T	E	X	F1	F2	F3	F4	14-Sep-22
SS3	1.5 to 2.1	<0.02	<0.2	<0.05	<0.03	<10	<5	<10	<10	
SS4	2.3 to 2.9	<0.02	<0.2	<0.05	<0.03	<10	34	63	15	
DUP1		<0.02	<0.2	<0.05	<0.03	<10	<5	11	<10	

**LEGEND**

- PROPERTY BOUNDARY
- BH1 BOREHOLE / MONITORING WELL NO. & LOCATION (EXP, 2022)
- TP4 TEST PIT NO. & LOCATION (EXP, 2022)
- MW23-1 BOREHOLE / MONITORING WELL NO. & LOCATION (EXP, 2023)
- MW13-1A MONITORING WELL NO. & LOCATION (EXP, 2013)
- AH8 AUGER HOLE (TO 1.8m)
- SOIL QUALITY EXCEEDS MECP TABLE 3 SCS
- SOIL QUALITY SATISFIES MECP TABLE 3 SCS
- NO SAMPLE



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DATE: APRIL 2023  
 DESIGN: LW CHECKED: MM  
 DRAWN BY: AS

CLIENT: 2705460 ONTARIO INCORPORATED  
 PHASE TWO ENVIRONMENTAL SITE ASSESSMENT (ESA)  
 SOIL ANALYTICAL RESULTS – PHC & BTEX  
 112 MONTREAL ROAD, OTTAWA, ONTARIO

project no. OTT-00214936-C0  
 scale 1:750  
**FIG 7**

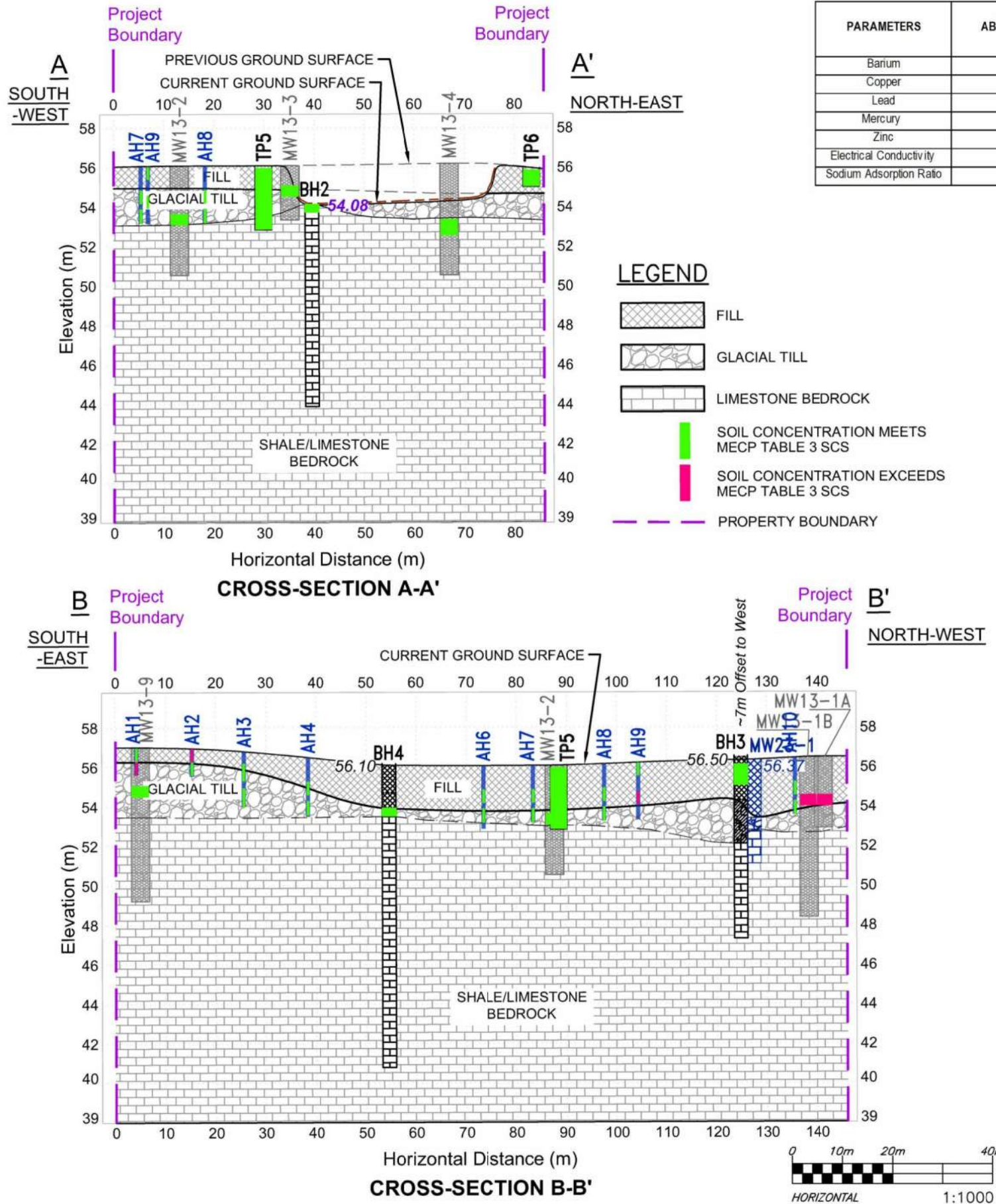








File name: \\POTTS002\Data\Projects\GeoTechnical\210000\214936-CO\_2023-Geo Investigation 112 Montreal Road, Ottawa, ON\K - DRAWINGS\OTT-00214936-CO\_Env-Ph2.dwg  
 Last Saved: Apr 13, 2023 10:55 AM Last Plotted: Apr 13, 2023 10:55 AM Plotted by: Severa



PARAMETERS	ABBREVIATION	REG 153/04 TABLE 3 SCS Residential
Barium	Ba	390
Copper	Cu	140
Lead	Pb	120
Mercury	Hg	0.27
Zinc	Zn	340
Electrical Conductivity	EC	0.7
Sodium Adsorption Ratio	SAR	5

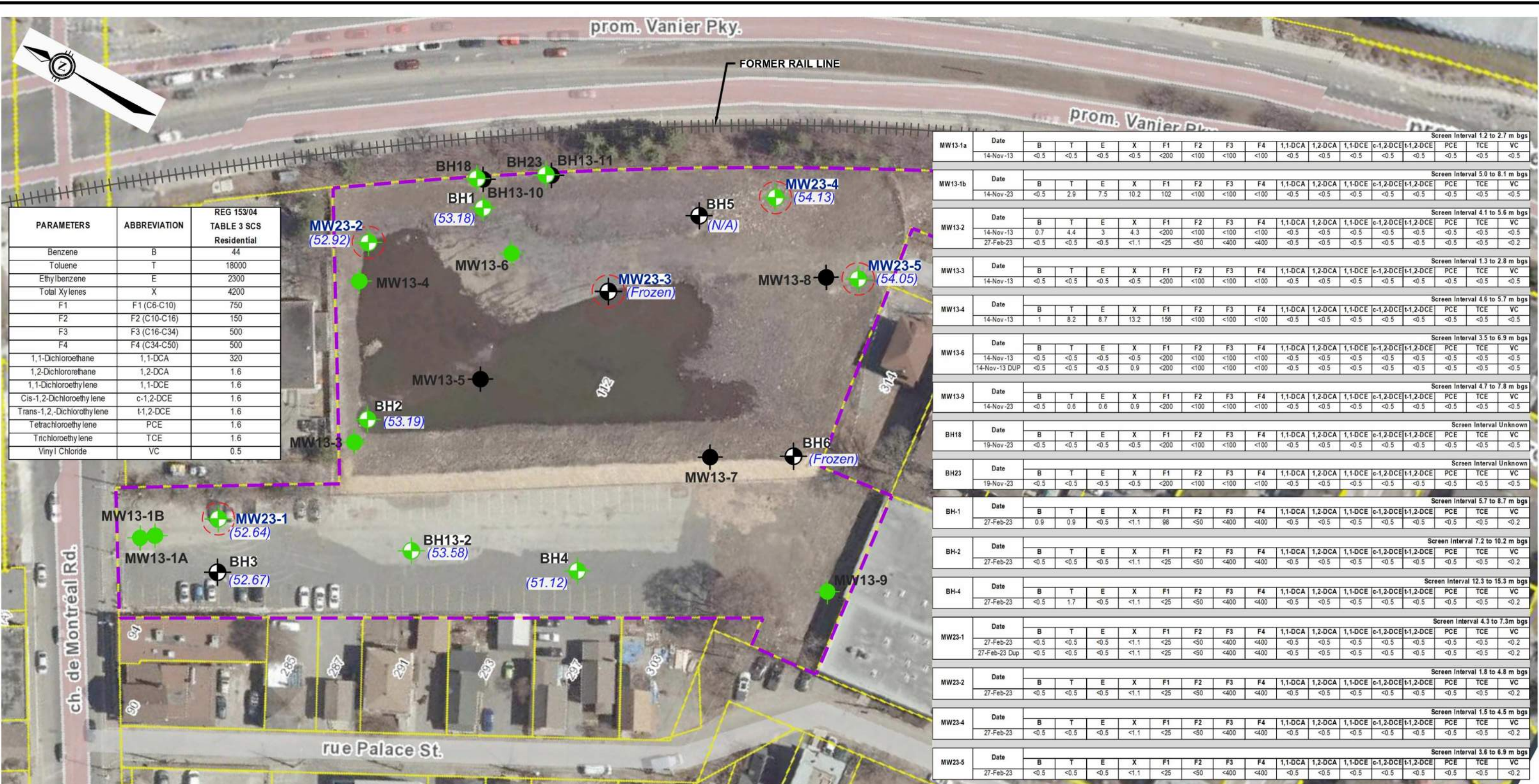
MW1	Depth (mbgs)	Ba	Cu	Pb	Hg	Zn	EC	SAR
SS4	1.8 to 2.4	253	39.8	325	-	177	-	-


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DATE	APRIL 2023	CLIENT:	2705460 ONTARIO INCORPORATED
DESIGN	CHECKED	<b>PHASE TWO ENVIRONMENTAL SITE ASSESSMENT (ESA)</b> SOIL CROSS-SECTIONS A-A', B-B' - METALS 112 MONTREAL ROAD, OTTAWA, ONTARIO	
LW	MM		
DRAWN BY	AS	TITLE:	project no. OTT-00214936-C0 scale 1:1000 <b>FIG 10A</b>



File name: \\POTTS\002\Data\Projects\GeoTechnical\210000\214936-CO\_2023-Geo Investigation 112 Montreal Road, Ottawa, ON\K - DRAWINGS\OTT-00214936-CO\_Env-Ph2.dwg  
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 Last Plotted: Apr 10, 2023 3:52 PM  
 Plotted by: Severa

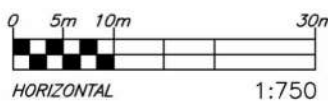


PARAMETERS	ABBREVIATION	REG 153/04 TABLE 3 SCS Residential
Benzene	B	44
Toluene	T	18000
Ethylbenzene	E	2300
Total Xylenes	X	4200
F1	F1 (C6-C10)	750
F2	F2 (C10-C16)	150
F3	F3 (C16-C34)	500
F4	F4 (C34-C50)	500
1,1-Dichloroethane	1,1-DCA	320
1,2-Dichloroethane	1,2-DCA	1.6
1,1-Dichloroethylene	1,1-DCE	1.6
Cis-1,2-Dichloroethylene	c-1,2-DCE	1.6
Trans-1,2-Dichloroethylene	t-1,2-DCE	1.6
Tetrachloroethylene	PCE	1.6
Trichloroethylene	TCE	1.6
Vinyl Chloride	VC	0.5

Well/Borehole	Date	Screen Interval 1.2 to 2.7 m bgs															
		B	T	E	X	F1	F2	F3	F4	1,1-DCA	1,2-DCA	1,1-DCE	c-1,2-DCE	t-1,2-DCE	PCE	TCE	VC
MW13-1a	14-Nov-13	<0.5	<0.5	<0.5	<0.5	<200	<100	<100	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW13-1b	14-Nov-23	<0.5	2.9	7.5	10.2	102	<100	<100	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW13-2	14-Nov-13	0.7	4.4	3	4.3	<200	<100	<100	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW13-2	27-Feb-23	<0.5	<0.5	<0.5	<1.1	<25	<50	<400	<400	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
MW13-3	14-Nov-13	<0.5	<0.5	<0.5	<0.5	<200	<100	<100	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW13-4	14-Nov-13	1	8.2	8.7	13.2	156	<100	<100	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW13-6	14-Nov-13	<0.5	<0.5	<0.5	<0.5	<200	<100	<100	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW13-6	14-Nov-13 DUP	<0.5	<0.5	<0.5	0.9	<200	<100	<100	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW13-9	14-Nov-23	<0.5	0.6	0.6	0.9	<200	<100	<100	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH18	19-Nov-23	<0.5	<0.5	<0.5	<0.5	<200	<100	<100	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH23	19-Nov-23	<0.5	<0.5	<0.5	<0.5	<200	<100	<100	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH-1	27-Feb-23	0.9	0.9	<0.5	<1.1	98	<50	<400	<400	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
BH-2	27-Feb-23	<0.5	<0.5	<0.5	<1.1	<25	<50	<400	<400	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
BH-4	27-Feb-23	<0.5	1.7	<0.5	<1.1	<25	<50	<400	<400	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
MW23-1	27-Feb-23	<0.5	<0.5	<0.5	<1.1	<25	<50	<400	<400	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
MW23-1	27-Feb-23 Dup	<0.5	<0.5	<0.5	<1.1	<25	<50	<400	<400	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
MW23-2	27-Feb-23	<0.5	<0.5	<0.5	<1.1	<25	<50	<400	<400	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
MW23-4	27-Feb-23	<0.5	<0.5	<0.5	<1.1	<25	<50	<400	<400	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
MW23-5	27-Feb-23	<0.5	<0.5	<0.5	<1.1	<25	<50	<400	<400	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2

**LEGEND**

- PROPERTY BOUNDARY
- BH1 BOREHOLE / MONITORING WELL NO. & LOCATION (EXP, 2022)
- TP4 TEST PIT NO. & LOCATION (EXP, 2022)
- MW23-1 BOREHOLE / MONITORING WELL NO. & LOCATION (EXP, 2023)
- MW13-1A MONITORING WELL NO. & LOCATION (EXP, 2013)
- SOIL QUALITY EXCEEDS MECP TABLE 3 SCS
- SOIL QUALITY SATISFIES MECP TABLE 3 SCS
- NO SAMPLE
- (53.18) GROUNDWATER ELEVATION (m) TAKEN ON FEBRUARY 27, 2023



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DATE: APRIL 2023

DESIGN: LW | CHECKED: MM

DRAWN BY: AS

CLIENT: 2705460 ONTARIO INCORPORATED

**PHASE TWO ENVIRONMENTAL SITE ASSESSMENT (ESA)**

GROUNDWATER ANALYTICAL RESULTS – PHC & BTEX

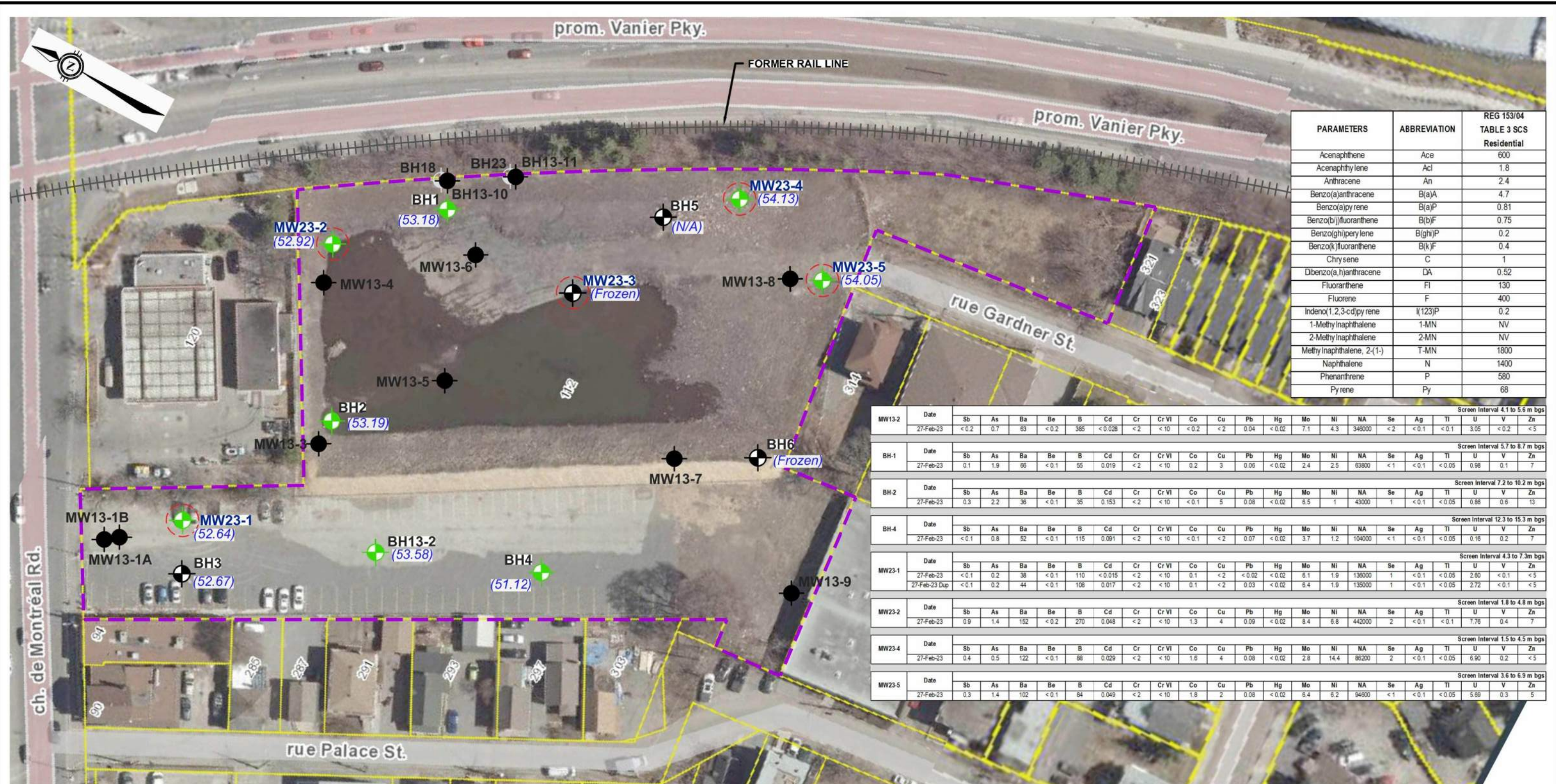
112 MONTREAL ROAD, OTTAWA, ONTARIO

project no. OTT-00214936-C0

scale: 1:750

**FIG 11**

File name: \\POTTS\G002\Data\Projects\GeoTechnical\210000\214936-CO 2023-Geo Investigation 112 Montreal Road, Ottawa, ON\K - DRAWINGS\OTT-00214936-CO\_Env-Ph2.dwg  
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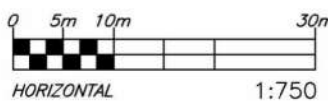


PARAMETERS	ABBREVIATION	REG 153/04 TABLE 3 SCS Residential
Acenaphthene	Ace	600
Acenaphthylene	AcI	1.8
Anthracene	An	2.4
Benzo(a)anthracene	B(a)A	4.7
Benzo(a)pyrene	B(a)P	0.81
Benzo(b)fluoranthene	B(b)F	0.75
Benzo(ghi)perylene	B(ghi)P	0.2
Benzo(k)fluoranthene	B(k)F	0.4
Chrysene	C	1
Dibenzo(a,h)anthracene	DA	0.52
Fluoranthene	Fl	130
Fluorene	F	400
Indeno(1,2,3-cd)pyrene	I(123)P	0.2
1-Methyl naphthalene	1-MN	NV
2-Methyl naphthalene	2-MN	NV
Methyl naphthalene, 2-(1-)	T-MN	1800
Naphthalene	N	1400
Phenanthrene	P	580
Pyrene	Py	68

Well/Borehole	Date	Screen Interval 4.1 to 5.6 m bgs																				
		Sb	As	Ba	Be	B	Cd	Cr	Cr VI	Co	Cu	Pb	Hg	Mo	Ni	NA	Se	Ag	TI	U	V	Zn
MW13-2	27-Feb-23	<0.2	0.7	63	<0.2	385	<0.028	<2	<10	<0.2	<2	0.04	<0.02	7.1	4.3	346000	<2	<0.1	<0.1	3.05	<0.2	<5
BH-1	27-Feb-23	0.1	1.9	66	<0.1	55	0.019	<2	<10	0.2	3	0.06	<0.02	2.4	2.5	63800	<1	<0.1	<0.05	0.98	0.1	7
BH-2	27-Feb-23	0.3	2.2	36	<0.1	35	0.153	<2	<10	<0.1	5	0.08	<0.02	6.5	1	43000	1	<0.1	<0.05	0.88	0.6	13
BH-4	27-Feb-23	<0.1	0.8	52	<0.1	115	0.091	<2	<10	<0.1	<2	0.07	<0.02	3.7	1.2	104000	<1	<0.1	<0.05	0.18	0.2	7
MW23-1	27-Feb-23	<0.1	0.2	38	<0.1	110	<0.015	<2	<10	0.1	<2	<0.02	<0.02	6.1	1.9	136000	1	<0.1	<0.05	2.60	<0.1	<5
MW23-1	27-Feb-23 Dup	<0.1	0.2	44	<0.1	108	0.017	<2	<10	0.1	<2	0.03	<0.02	6.4	1.9	135000	1	<0.1	<0.05	2.72	<0.1	<5
MW23-2	27-Feb-23	0.9	1.4	152	<0.2	270	0.048	<2	<10	1.3	4	0.09	<0.02	8.4	6.8	442000	2	<0.1	<0.1	7.76	0.4	7
MW23-4	27-Feb-23	0.4	0.5	122	<0.1	88	0.029	<2	<10	1.6	4	0.08	<0.02	2.8	14.4	86200	2	<0.1	<0.05	6.90	0.2	<5
MW23-5	27-Feb-23	0.3	1.4	102	<0.1	84	0.049	<2	<10	1.8	2	0.08	<0.02	6.4	6.2	94600	<1	<0.1	<0.05	5.69	0.3	5

**LEGEND**

- PROPERTY BOUNDARY
- BH1 BOREHOLE / MONITORING WELL NO. & LOCATION (EXP, 2022)
- TP4 TEST PIT NO. & LOCATION (EXP, 2022)
- MW23-1 BOREHOLE / MONITORING WELL NO. & LOCATION (EXP, 2023)
- MW13-1A MONITORING WELL NO. & LOCATION (EXP, 2013)
- SOIL QUALITY EXCEEDS MECP TABLE 3 SCS
- SOIL QUALITY SATISFIES MECP TABLE 3 SCS
- NO SAMPLE
- (53.18) GROUNDWATER ELEVATION (m) TAKEN ON FEBRUARY 27, 2023



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DATE: APRIL 2023

DESIGN: LW | CHECKED: MM

DRAWN BY: AS

CLIENT: 2705460 ONTARIO INCORPORATED

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT (ESA)

GROUNDWATER ANALYTICAL RESULTS – PAH

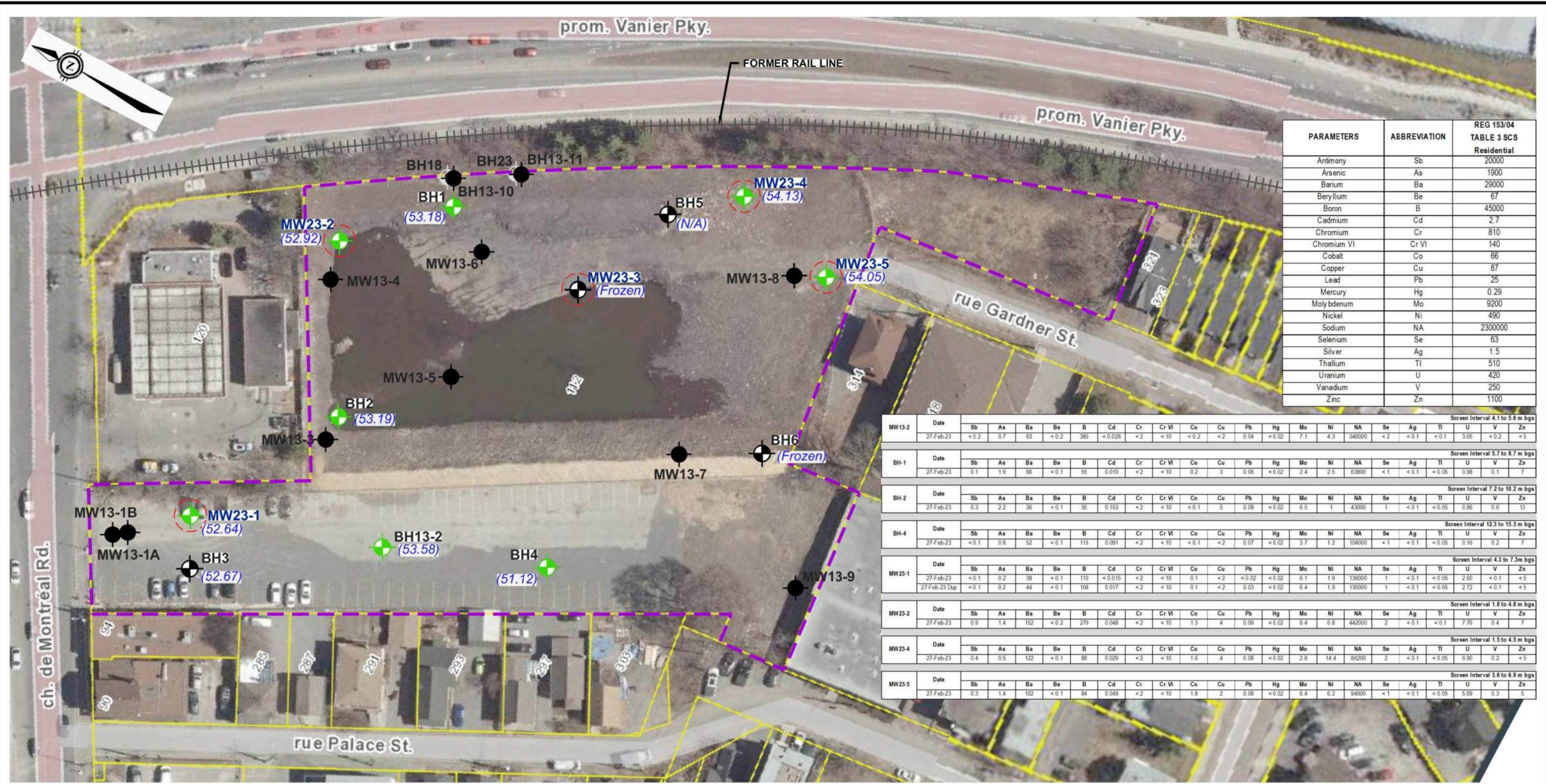
112 MONTREAL ROAD, OTTAWA, ONTARIO

project no. OTT-00214936-C0

scale: 1:750

**FIG 12**

File name: \\POTTS\G002\Data\Projects\GeoTechnical\210000\214936-CO 2023- Geo Investigation 112 Montreal Road, Ottawa, ON\K - DRAWINGS\OTT-00214936-CO\_Env-Ph2.dwg  
 Last Saved: Apr 10, 2023 3:41 PM Last Plotted: Apr 10, 2023 3:54 PM Plotted by: Severa

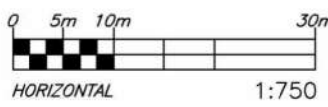


PARAMETERS	ABBREVIATION	REG 153/04 TABLE 3 SCS Residential
Antimony	Sb	20000
Arsenic	As	1900
Barium	Ba	29000
Beryllium	Be	67
Boron	B	45000
Cadmium	Cd	2.7
Chromium	Cr	810
Chromium VI	Cr VI	140
Cobalt	Co	66
Copper	Cu	87
Lead	Pb	25
Mercury	Hg	0.29
Molybdenum	Mo	9200
Nickel	Ni	490
Sodium	NA	2300000
Selenium	Se	63
Silver	Ag	1.5
Thallium	Tl	510
Uranium	U	420
Vanadium	V	250
Zinc	Zn	1100

Well ID	Date	Sb	As	Ba	Be	B	Cd	Cr	Cr VI	Co	Cu	Pb	Hg	Mo	Ni	NA	Se	Ag	Tl	U	V	Zn
MW13-2	27-Feb-23	<0.2	0.7	63	<0.2	365	<0.028	<2	<10	<0.2	<2	0.04	<0.02	7.1	4.3	345000	<2	<0.1	<0.1	3.05	<0.2	<5
BH-1	27-Feb-23	0.1	1.9	66	<0.1	55	0.019	<2	<10	0.2	3	0.06	<0.02	2.4	2.5	63800	<1	<0.1	<0.05	0.98	0.1	7
BH-2	27-Feb-23	0.3	2.2	36	<0.1	35	0.153	<2	<10	<0.1	5	0.08	<0.02	6.5	1	43000	1	<0.1	<0.05	0.86	0.6	13
BH-4	27-Feb-23	<0.1	0.8	52	<0.1	115	0.091	<2	<10	<0.1	<2	0.07	<0.02	3.7	1.2	104000	<1	<0.1	<0.05	0.16	0.2	7
MW23-1	27-Feb-23	<0.1	0.2	38	<0.1	110	<0.015	<2	<10	0.1	<2	<0.02	<0.02	6.1	1.9	136000	1	<0.1	<0.05	2.60	<0.1	<5
MW23-1	27-Feb-23 Dup	<0.1	0.2	44	<0.1	108	0.017	<2	<10	0.1	<2	0.03	<0.02	6.4	1.9	135000	1	<0.1	<0.05	2.72	<0.1	<5
MW23-2	27-Feb-23	0.9	1.4	152	<0.2	270	0.048	<2	<10	1.3	4	0.09	<0.02	6.4	6.8	442000	2	<0.1	<0.1	7.76	0.4	7
MW23-4	27-Feb-23	0.4	0.5	122	<0.1	88	0.029	<2	<10	1.6	4	0.08	<0.02	2.8	14.4	86200	2	<0.1	<0.05	6.90	0.2	<5
MW23-5	27-Feb-23	0.3	1.4	102	<0.1	84	0.049	<2	<10	1.8	2	0.08	<0.02	6.4	6.2	94600	<1	<0.1	<0.05	5.69	0.3	5

**LEGEND**

- PROPERTY BOUNDARY
- BH1 BOREHOLE / MONITORING WELL NO. & LOCATION (EXP, 2022)
- TP4 TEST PIT NO. & LOCATION (EXP, 2022)
- MW23-1 BOREHOLE / MONITORING WELL NO. & LOCATION (EXP, 2023)
- MW13-1A MONITORING WELL NO. & LOCATION (EXP, 2013)
- SOIL QUALITY EXCEEDS MECP TABLE 3 SCS
- SOIL QUALITY SATISFIES MECP TABLE 3 SCS
- NO SAMPLE
- (53.18) GROUNDWATER ELEVATION (m) TAKEN ON FEBRUARY 27, 2023



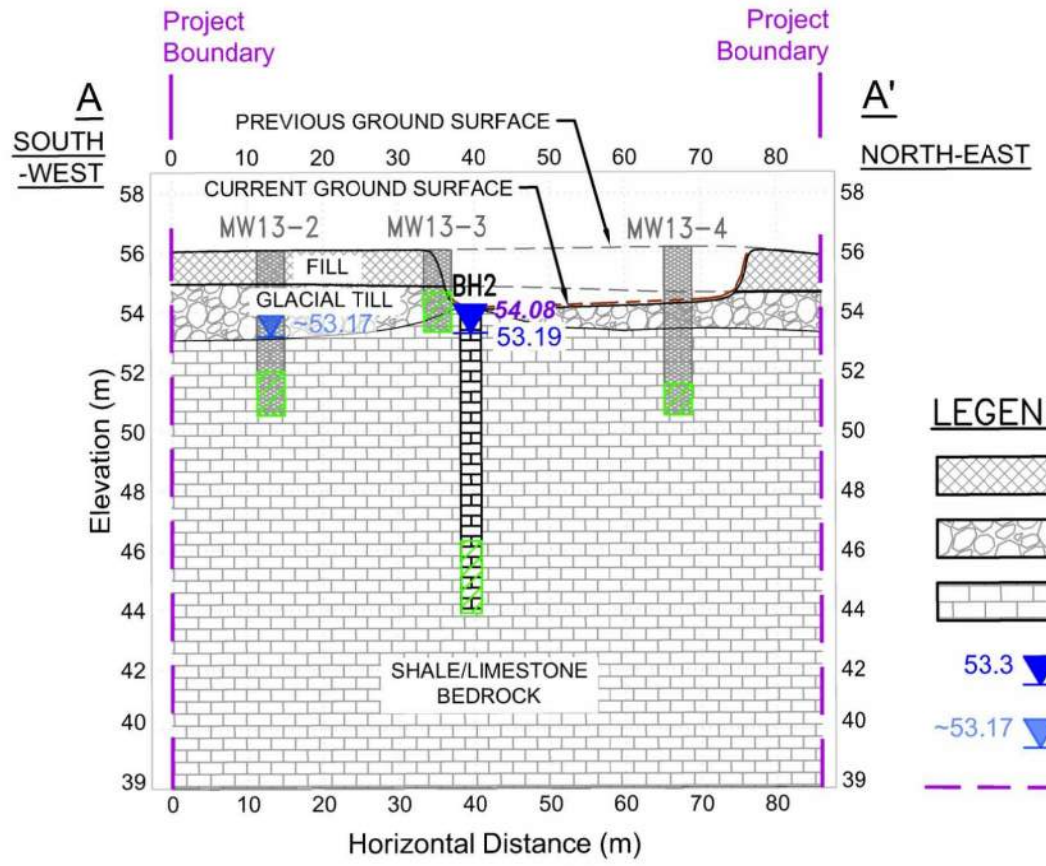
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**2705460 ONTARIO INCORPORATED**  
**PHASE TWO ENVIRONMENTAL SITE ASSESSMENT (ESA)**  
**GROUNDWATER ANALYTICAL RESULTS – METALS**  
 112 MONTREAL ROAD, OTTAWA, ONTARIO

project no. OTT-00214936-C0  
 scale 1:750  
**FIG 13**

DATE: APRIL 2023	CLIENT: 2705460 ONTARIO INCORPORATED	project no. OTT-00214936-C0
DESIGN: LW	CHECKED: MM	scale 1:750
DRAWN BY: AS	TITLE: GROUNDWATER ANALYTICAL RESULTS – METALS	<b>FIG 13</b>

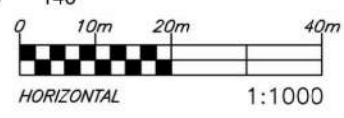
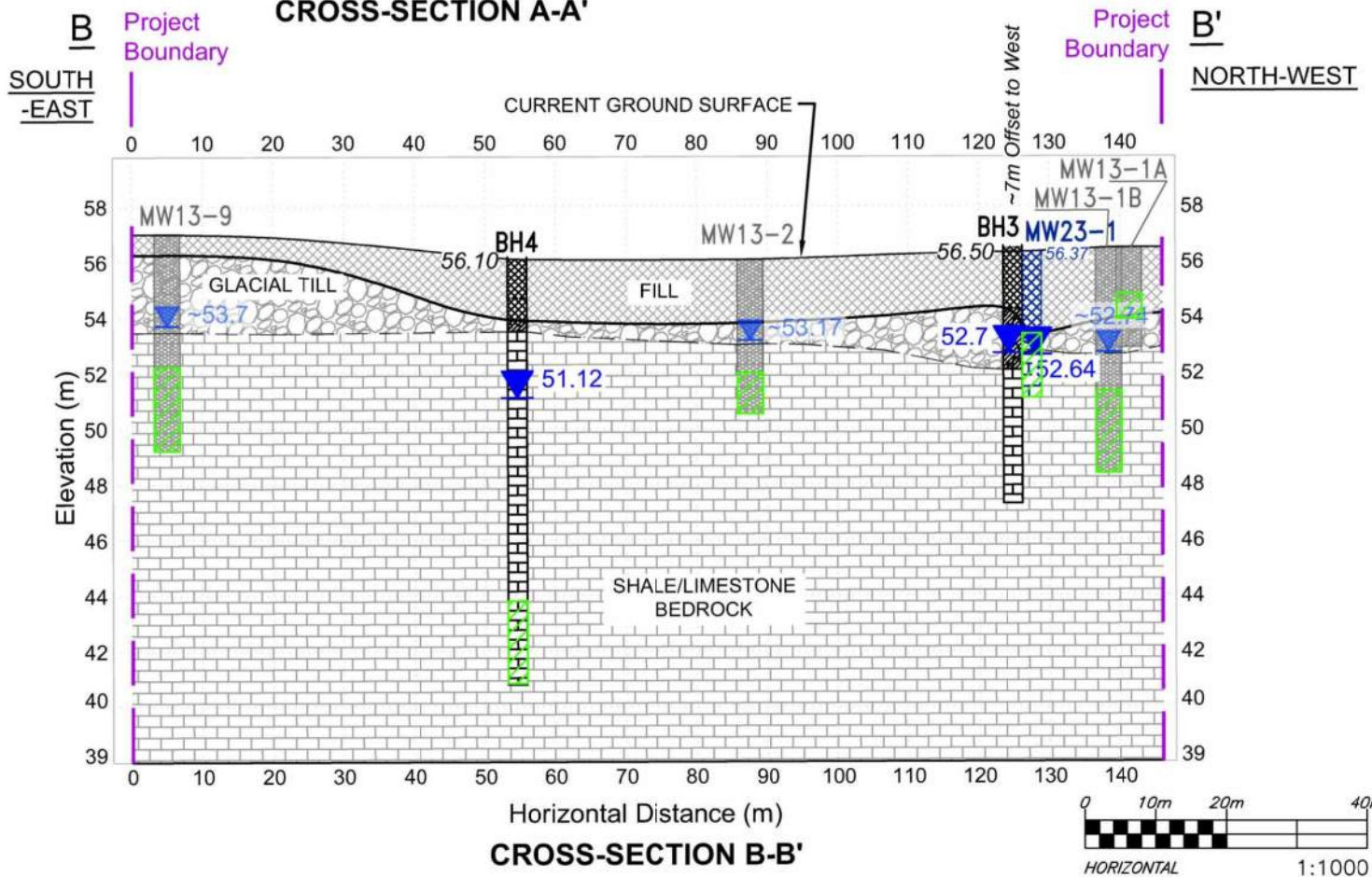
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 Last Saved: Apr 10, 2023 3:41 PM  
 Last Plotted: Apr 10, 2023 3:55 PM  
 Plotted by: Severa



PARAMETERS	ABBREVIATION	REG 153/04 TABLE 3 SCS Residential
Benzene	B	44
Toluene	T	18000
Ethylbenzene	E	2300
Total Xylenes	X	4200
F1	F1 (C6-C10)	750
F2	F2 (C10-C16)	150
F3	F3 (C16-C34)	500
F4	F4 (C34-C50)	500
1,1-Dichloroethane	1,1-DCA	320
1,2-Dichloroethane	1,2-DCA	1.6
1,1-Dichloroethylene	1,1-DCE	1.6
Cis-1,2-Dichloroethylene	c-1,2-DCE	1.6
Trans-1,2-Dichloroethylene	t-1,2-DCE	1.6
Tetrachloroethylene	PCE	1.6
Trichloroethylene	TCE	1.6
Vinyl Chloride	VC	0.5

**LEGEND**

- FILL
- GLACIAL TILL
- LIMESTONE BEDROCK
- SHALE/LIMESTONE BEDROCK
- RECORDED GROUNDWATER LEVEL (FEB., 2023)
- GROUNDWATER LEVEL (2013)
- PROPERTY BOUNDARY
- GROUNDWATER CONCENTRATION MEETS MECP TABLE 3 SCS
- GROUNDWATER CONCENTRATION EXCEEDS MECP TABLE 3 SCS

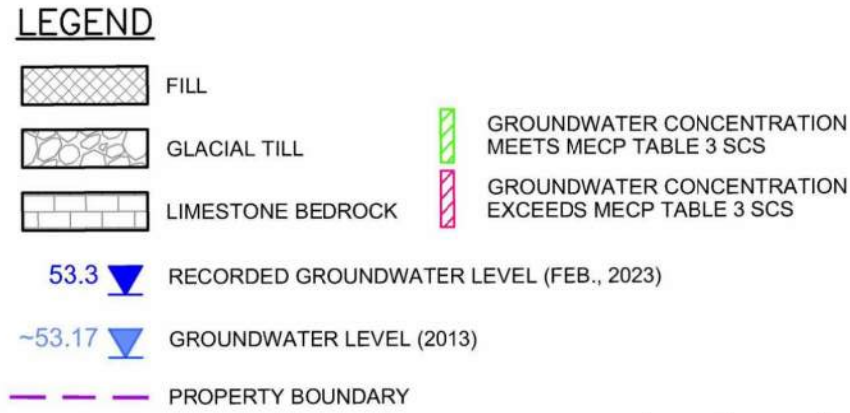
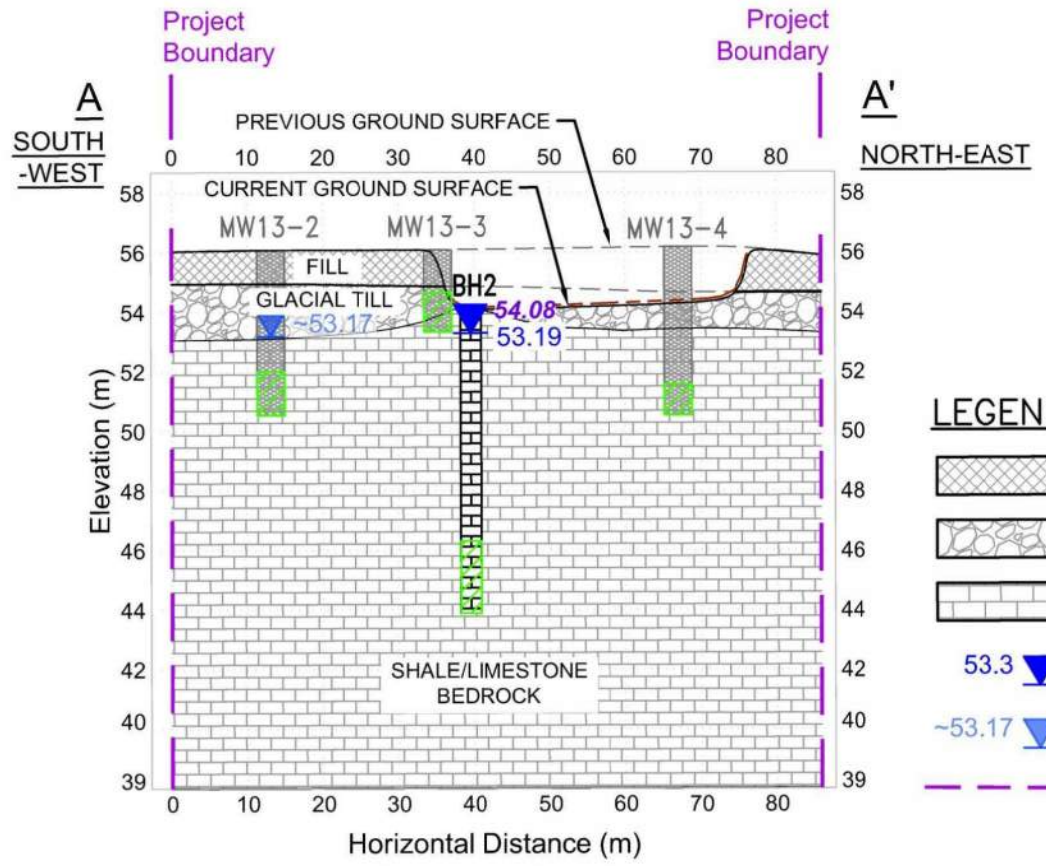


MW/BH	Date	B	T	E	X	F1	F2	F3	F4	1,1-DCA	1,2-DCA	1,1-DCE	c-1,2-DCE	t-1,2-DCE	PCE	TCE	VC
MW13-1a	14-Nov-13	<0.5	<0.5	<0.5	<0.5	<200	<100	<100	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Screen Interval 1.2 to 2.7 m bgs																
MW13-1b	14-Nov-23	<0.5	2.9	7.5	10.2	102	<100	<100	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Screen Interval 5.0 to 8.1 m bgs																
MW13-2	14-Nov-13	0.7	4.4	3	4.3	<200	<100	<100	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	27-Feb-23	<0.5	<0.5	<0.5	<1.1	<25	<50	<400	<400	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Screen Interval 4.1 to 5.6 m bgs																	
MW13-3	14-Nov-13	<0.5	<0.5	<0.5	<0.5	<200	<100	<100	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Screen Interval 1.3 to 2.8 m bgs																
MW13-4	14-Nov-13	1	8.2	8.7	13.2	156	<100	<100	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Screen Interval 4.6 to 5.7 m bgs																
MW13-6	14-Nov-13	<0.5	<0.5	<0.5	<0.5	<200	<100	<100	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	14-Nov-13 DUP	<0.5	<0.5	<0.5	0.9	<200	<100	<100	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Screen Interval 3.5 to 6.9 m bgs																	
MW13-9	14-Nov-23	<0.5	0.6	0.6	0.9	<200	<100	<100	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Screen Interval 4.7 to 7.8 m bgs																
BH18	19-Nov-23	<0.5	<0.5	<0.5	<0.5	<200	<100	<100	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Screen Interval Unknown																
BH23	19-Nov-23	<0.5	<0.5	<0.5	<0.5	<200	<100	<100	<100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Screen Interval Unknown																
BH-1	27-Feb-23	0.9	0.9	<0.5	<1.1	98	<50	<400	<400	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
	Screen Interval 5.7 to 8.7 m bgs																
BH-2	27-Feb-23	<0.5	<0.5	<0.5	<1.1	<25	<50	<400	<400	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
	Screen Interval 7.2 to 10.2 m bgs																
BH-4	27-Feb-23	<0.5	1.7	<0.5	<1.1	<25	<50	<400	<400	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
	Screen Interval 12.3 to 15.3 m bgs																
MW23-1	27-Feb-23	<0.5	<0.5	<0.5	<1.1	<25	<50	<400	<400	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
	27-Feb-23 Dup	<0.5	<0.5	<0.5	<1.1	<25	<50	<400	<400	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
Screen Interval 4.3 to 7.3 m bgs																	
MW23-2	27-Feb-23	<0.5	<0.5	<0.5	<1.1	<25	<50	<400	<400	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
	Screen Interval 1.8 to 4.8 m bgs																
MW23-4	27-Feb-23	<0.5	<0.5	<0.5	<1.1	<25	<50	<400	<400	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
	Screen Interval 1.5 to 4.5 m bgs																
MW23-5	27-Feb-23	<0.5	<0.5	<0.5	<1.1	<25	<50	<400	<400	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2
	Screen Interval 3.6 to 6.9 m bgs																

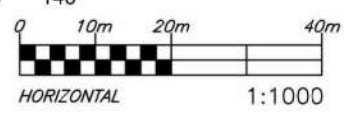
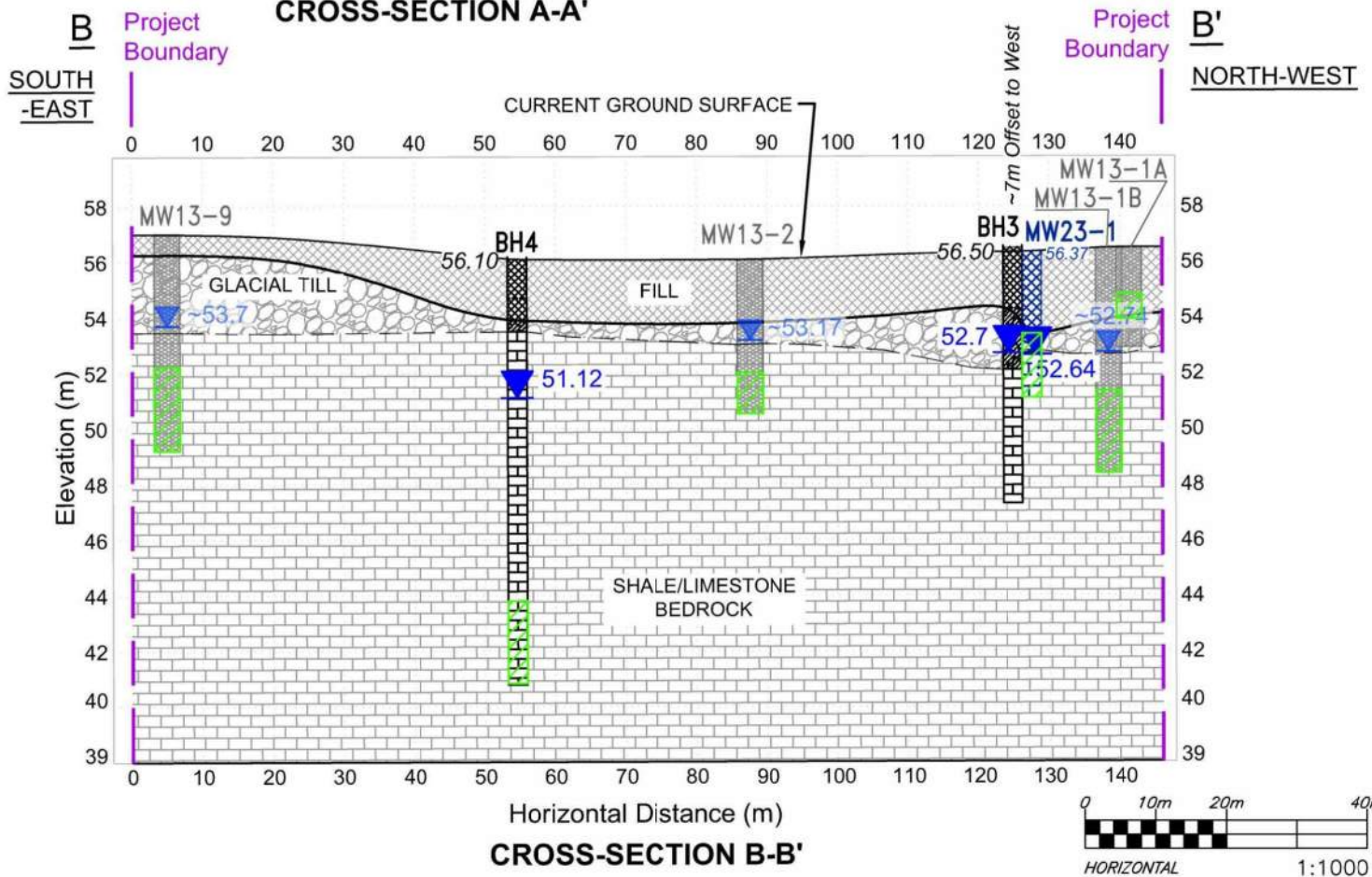
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DATE	APRIL 2023	CLIENT:	2705460 ONTARIO INCORPORATED	project no.	OTT-00214936-C0
DESIGN	LW	CHECKED	MM	scale	1:1000
DRAWN BY	AS	PHASE TWO ENVIRONMENTAL SITE ASSESSMENT (ESA)			FIG 14
TITLE:		GROUNDWATER CROSS-SECTIONS A-A', B-B' - PHC & BTEX			
		112 MONTREAL ROAD, OTTAWA, ONTARIO			

File name: \\POTTS\G002\Data\Projects\GeoTechnical\210000\214936-CO 2023- Geo Investigation 112 Montreal Road, Ottawa, ON\K - DRAWINGS\OTT-00214936-CO\_Env-Ph2.dwg  
 Last Saved: Apr 10, 2023 3:41 PM  
 Last Plotted: Apr 10, 2023 3:56 PM  
 Plotted by: Severa



PARAMETERS	ABBREVIATION	REG 153/04 TABLE 3 SCS Residential
Acenaphthene	Ace	600
Acenaphthylene	AcI	1.8
Anthracene	An	2.4
Benzo(a)anthracene	B(a)A	4.7
Benzo(a)pyrene	B(a)P	0.81
Benzo(b)fluoranthene	B(b)F	0.75
Benzo(ghi)perylene	B(ghi)P	0.2
Benzo(k)fluoranthene	B(k)F	0.4
Chrysene	C	1
Dibenzo(a,h)anthracene	DA	0.52
Fluoranthene	Fl	130
Fluorene	F	400
Indeno(1,2,3-cd)pyrene	I(123)P	0.2
1-Methylnaphthalene	1-MN	NV
2-Methylnaphthalene	2-MN	NV
Methylnaphthalene, 2-(1-)	T-MN	1800
Naphthalene	N	1400
Phenanthrene	P	580
Pyrene	Py	68

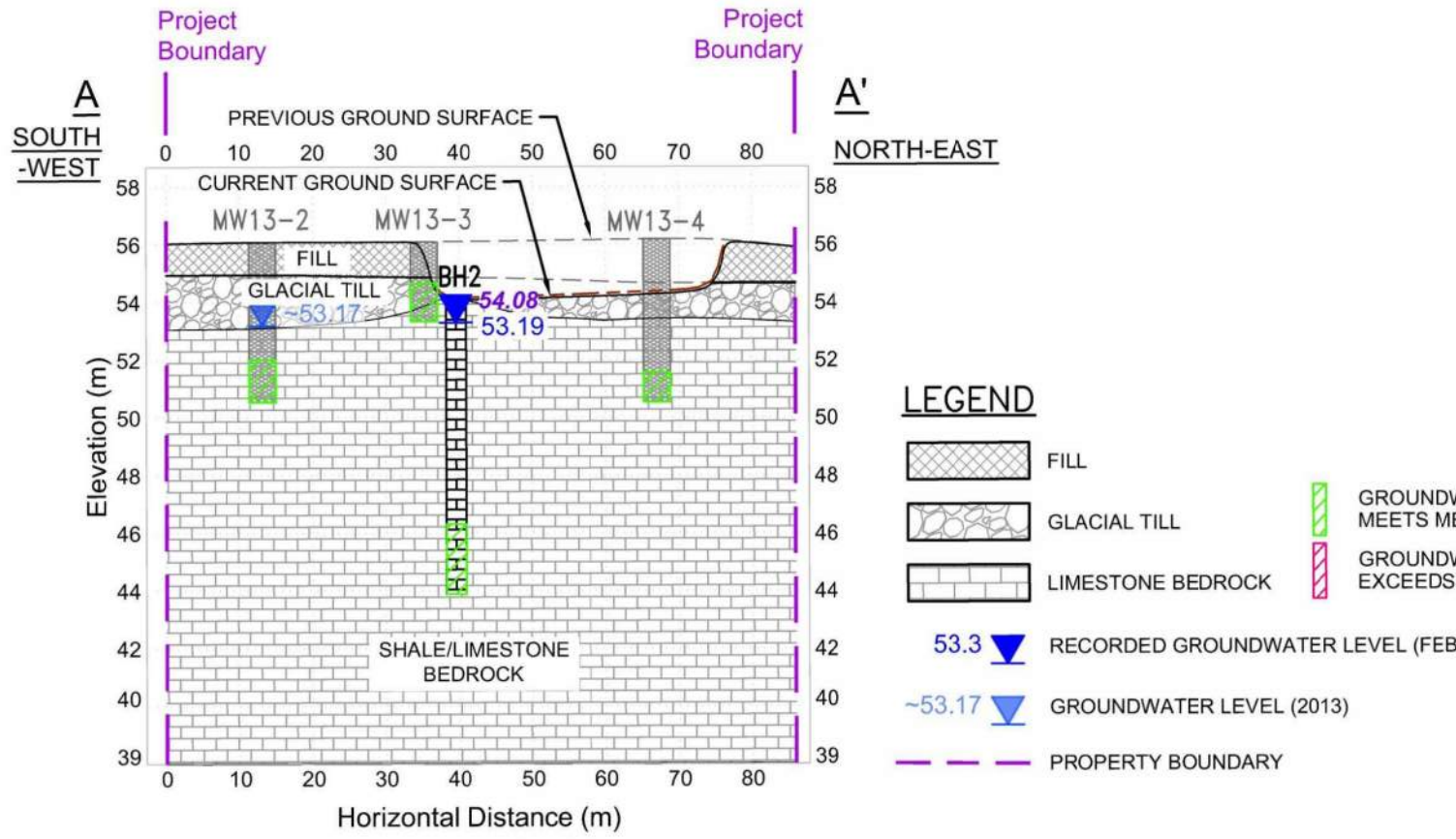


MW/BH	Date	Sb	As	Ba	Be	B	Cd	Cr	Cr VI	Co	Cu	Pb	Hg	Mo	Ni	NA	Se	Ag	Tl	U	V	Zn
MW13-2	27-Feb-23	<0.2	0.7	63	<0.2	385	<0.028	<2	<10	<0.2	<2	0.04	<0.02	7.1	4.3	349000	<2	<3.1	<0.1	3.05	<0.2	<5
BH-1	27-Feb-23	0.1	1.9	66	<0.1	55	0.019	<2	<10	0.2	3	0.06	<0.02	2.4	2.5	63800	<1	<3.1	<0.05	0.86	0.1	7
BH-2	27-Feb-23	0.3	2.2	36	<0.1	35	0.153	<2	<10	<0.1	5	0.08	<0.02	6.5	1	43000	1	<3.1	<0.05	0.86	0.6	13
BH-4	27-Feb-23	<0.1	0.8	52	<0.1	115	0.091	<2	<10	<0.1	<2	0.07	<0.02	3.7	1.2	104000	<1	<3.1	<0.05	0.16	0.2	7
MW23-1	27-Feb-23	<0.1	0.2	38	<0.1	110	<0.015	<2	<10	0.1	<2	<0.02	<0.02	6.1	1.9	139000	1	<3.1	<0.05	2.80	<0.1	<5
MW23-1	27-Feb-23 Dup	<0.1	0.2	44	<0.1	108	0.017	<2	<10	0.1	<2	0.03	<0.02	6.4	1.9	135000	1	<3.1	<0.05	2.72	<0.1	<5
MW23-2	27-Feb-23	0.9	1.4	152	<0.2	270	0.048	<2	<10	1.3	4	0.09	<0.02	8.4	6.8	442000	2	<3.1	<0.1	7.76	0.4	7
MW23-4	27-Feb-23	0.4	0.5	122	<0.1	88	0.029	<2	<10	1.6	4	0.08	<0.02	2.8	14.4	86200	2	<3.1	<0.05	6.90	0.2	<5
MW23-5	27-Feb-23	0.3	1.4	102	<0.1	84	0.049	<2	<10	1.8	2	0.08	<0.02	8.4	6.2	94600	<1	<3.1	<0.05	5.89	0.3	5

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DATE	APRIL 2023	CLIENT:	2705460 ONTARIO INCORPORATED PHASE TWO ENVIRONMENTAL SITE ASSESSMENT (ESA)	project no.	OTT-00214936-C0
DESIGN	LW	CHECKED	MM	scale	1:1000
DRAWN BY	AS	112 MONTREAL ROAD, OTTAWA, ONTARIO			FIG 15
TITLE:		GROUNDWATER CROSS-SECTIONS A-A', B-B' – PAH			

File name: \\POTTS002\Data\Projects\GeoTechnical\210000\214936-CO\_2023-Geo Investigation 112 Montreal Road, Ottawa, ON\K - DRAWINGS\OTT-00214936-CO\_Env-Ph2.dwg  
 Last Saved: Apr 10, 2023 3:56 PM  
 Plotted by: Severa

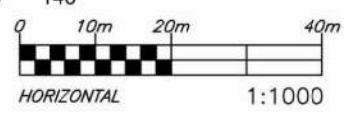
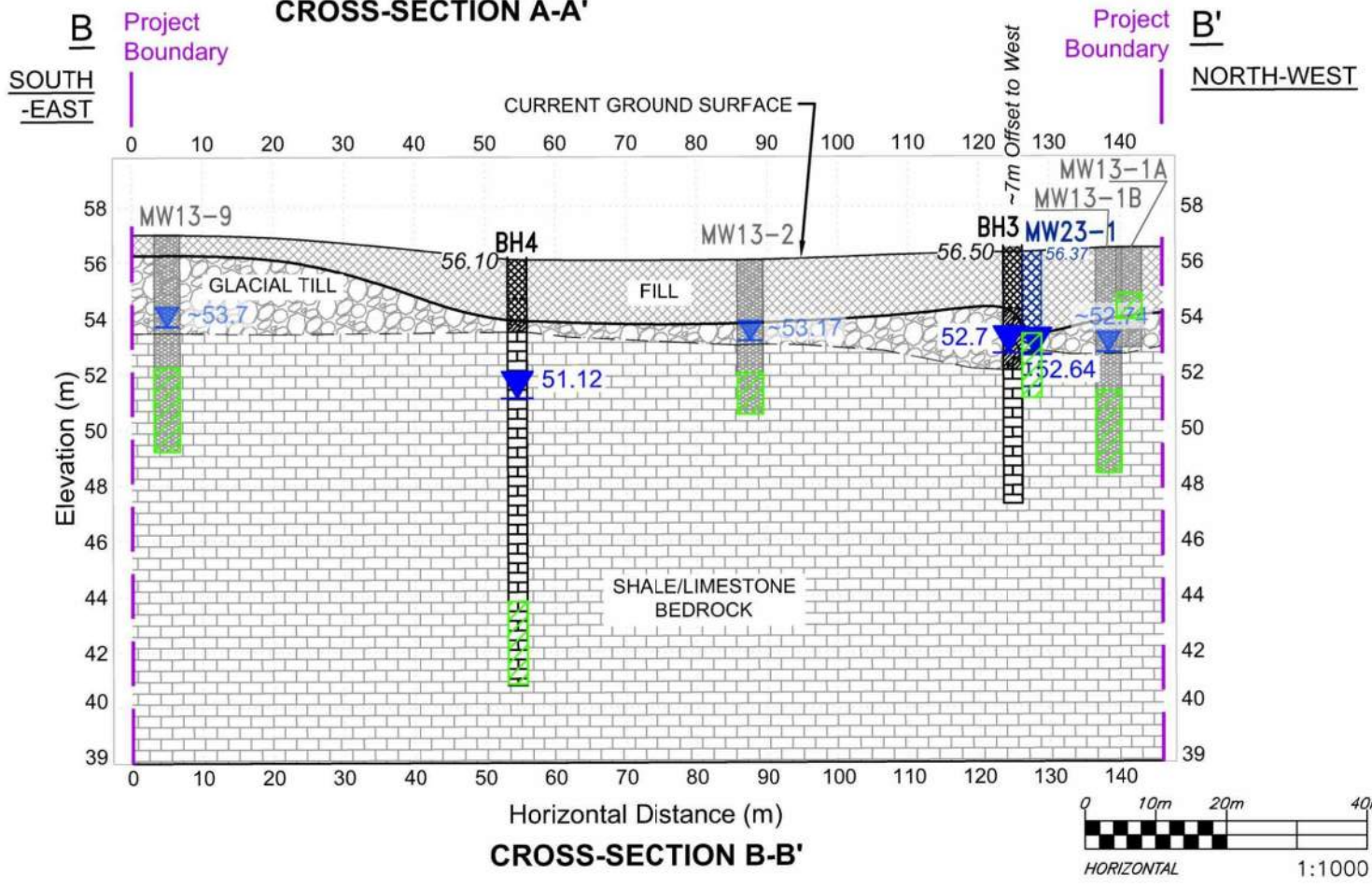


**LEGEND**

- FILL
- GLACIAL TILL
- LIMESTONE BEDROCK
- 53.3 RECORDED GROUNDWATER LEVEL (FEB., 2023)
- ~53.17 GROUNDWATER LEVEL (2013)
- PROPERTY BOUNDARY
- GROUNDWATER CONCENTRATION MEETS MECP TABLE 3 SCS
- GROUNDWATER CONCENTRATION EXCEEDS MECP TABLE 3 SCS

PARAMETERS	ABBREVIATION	REG 153/04 TABLE 3 SCS Residential
Antimony	Sb	20000
Arsenic	As	1900
Barium	Ba	29000
Beryllium	Be	67
Boron	B	45000
Cadmium	Cd	2.7
Chromium	Cr	810
Chromium VI	Cr VI	140
Cobalt	Co	66
Copper	Cu	87
Lead	Pb	25
Mercury	Hg	0.29
Molybdenum	Mo	9200
Nickel	Ni	490
Sodium	NA	2300000
Selenium	Se	63
Silver	Ag	1.5
Thallium	Tl	510
Uranium	U	420
Vanadium	V	250
Zinc	Zn	1100

Date	Sb	As	Ba	Be	B	Cd	Cr	Cr VI	Co	Cu	Pb	Hg	Mo	Ni	NA	Se	Ag	Tl	U	V	Zn
Screen Interval 4.1 to 5.6 m bgs																					
27-Feb-23	< 0.2	0.7	63	< 0.2	385	< 0.028	< 2	< 10	< 0.2	< 2	0.04	< 0.02	7.1	4.3	348000	< 2	< 0.1	< 0.1	3.05	< 0.2	< 5
Screen Interval 5.7 to 8.7 m bgs																					
27-Feb-23	0.1	1.9	66	< 0.1	55	0.019	< 2	< 10	0.2	3	0.06	< 0.02	2.4	2.5	63800	< 1	< 0.1	< 0.05	0.98	0.1	7
Screen Interval 7.2 to 10.2 m bgs																					
27-Feb-23	0.3	2.2	36	< 0.1	35	0.153	< 2	< 10	< 0.1	5	0.08	< 0.02	6.5	1	43000	1	< 0.1	< 0.05	0.86	0.6	13
Screen Interval 12.3 to 15.3 m bgs																					
27-Feb-23	< 0.1	0.8	52	< 0.1	115	0.091	< 2	< 10	< 0.1	< 2	0.07	< 0.02	3.7	1.2	104000	< 1	< 0.1	< 0.05	0.18	0.2	7
Screen Interval 4.3 to 7.3m bgs																					
27-Feb-23	< 0.1	0.2	38	< 0.1	110	< 0.015	< 2	< 10	0.1	< 2	< 0.02	< 0.02	6.1	1.9	138000	1	< 0.1	< 0.05	2.60	< 0.1	< 5
27-Feb-23 Dup	< 0.1	0.2	44	< 0.1	108	0.017	< 2	< 10	0.1	< 2	0.03	< 0.02	6.4	1.9	135000	1	< 0.1	< 0.05	2.72	< 0.1	< 5
Screen Interval 1.8 to 4.8 m bgs																					
27-Feb-23	0.9	1.4	152	< 0.2	270	0.048	< 2	< 10	1.3	4	0.09	< 0.02	8.4	6.8	442000	2	< 0.1	< 0.1	7.76	0.4	7
Screen Interval 1.5 to 4.5 m bgs																					
27-Feb-23	0.4	0.5	122	< 0.1	88	0.029	< 2	< 10	1.6	4	0.08	< 0.02	2.8	14.4	86200	2	< 0.1	< 0.05	6.90	0.2	< 5
Screen Interval 3.6 to 6.9 m bgs																					
27-Feb-23	0.3	1.4	102	< 0.1	84	0.049	< 2	< 10	1.8	2	0.08	< 0.02	6.4	6.2	94600	< 1	< 0.1	< 0.05	5.69	0.3	5



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

DATE	APRIL 2023	CLIENT:	2705460 ONTARIO INCORPORATED	project no.	OTT-00214936-C0
DESIGN	LW	CHECKED	MM	PHASE TWO ENVIRONMENTAL SITE ASSESSMENT (ESA)	
DRAWN BY			AS	1:1000	
TITLE:			GROUNDWATER CROSS-SECTIONS A-A', B-B' - METALS		
			112 MONTREAL ROAD, OTTAWA, ONTARIO		
			FIG 16		



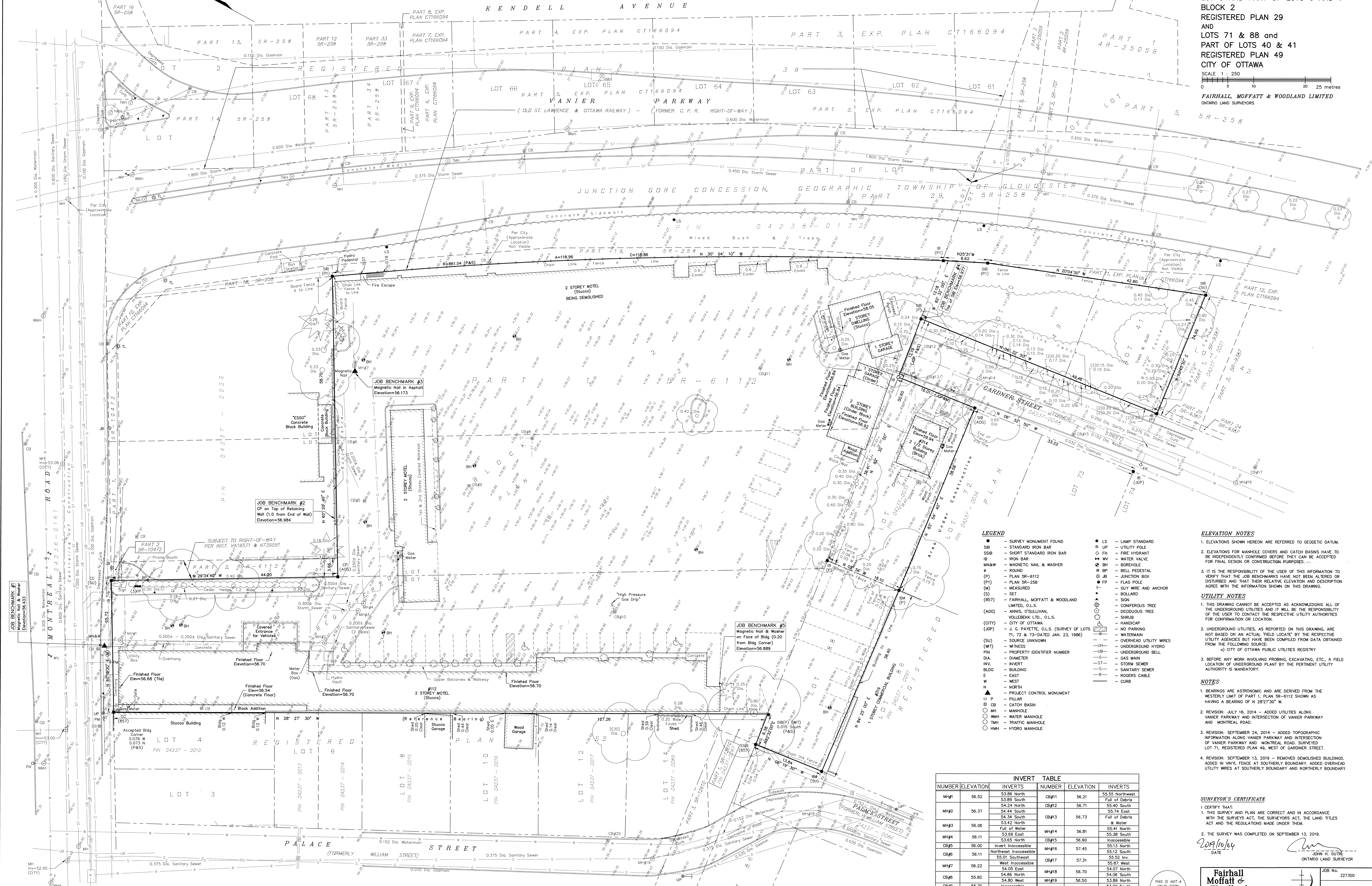
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2705460 Ontario Inc.  
Phase Two Environmental Site Assessment  
112 Montreal Road, Ottawa, Ontario  
OTT-00214936-C0  
April 13, 2023

## Appendix B: Survey Plan



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

TOPOGRAPHIC SURVEY OF  
LOT 5 AND PART OF LOTS 6 AND 7  
BLOCK 2  
REGISTERED PLAN 29  
AND  
LOTS 71 & 88 and  
PART OF LOTS 40 & 41  
REGISTERED PLAN 49  
CITY OF OTTAWA  
SCALE 1 : 250  
FAIRHALL, MOFFATT & WOODLAND LIMITED  
ONTARIO LAND SURVEYORS



**LEGEND**

- SURVEY MONUMENT FOUND
- STANDARD IRON BAR
- SHORT STANDARD IRON BAR
- IRON BAR
- MAGNETIC NAIL & WASHER
- ROUND
- CITY OF OTTAWA
- (P1) PLAN SR-258
- (M) MEASURED
- (S) SET
- (57) FAIRHALL, MOFFATT & WOODLAND LIMITED, O.L.S.
- (A00) ANNIS, O'SULLIVAN, VOLLEBEK LTD., O.L.S.
- (OT) CITY OF OTTAWA
- (JGP) J. G. PAYETTE, O.L.S. (SURVEY OF LOTS 71, 72 & 73-DATED JAN. 23, 1986)
- (SU) SOURCE UNKNOWN
- (WT) WITNESS
- PN PROPERTY IDENTIFIER NUMBER
- DIA. DIAMETER
- INV. INVERT
- BLDG. BUILDING
- E. EAST
- W. WEST
- N. NORTH
- ▲ PROJECT CONTROL MONUMENT
- PILLAR
- CB CATCH BASIN
- MH MANHOLE
- WH WATER MANHOLE
- TM TRAFFIC MANHOLE
- HM HYDRO MANHOLE
- LS LAMP STANDARD
- UP UTILITY POLE
- FH FIRE HYDRANT
- WV WATER VALVE
- BH BOREHOLE
- BP BELL PEDESTAL
- JB JUNCTION BOX
- FP FLAG POLE
- GW GUY WIRE AND ANCHOR
- BOLLARD
- SON
- CN CONIFEROUS TREE
- DD DEODIOUS TREE
- SHRUB
- HNDP HANDICAP
- NP NO PARKING
- WM WATERMAIN
- OW OVERHEAD UTILITY WIRES
- UH UNDERGROUND HYDRO
- UB UNDERGROUND BELL
- G GAS MAIN
- ST STORM SEWER
- S SANITARY SEWER
- RC ROGERS CABLE
- CURB

**ELEVATION NOTES**

- ELEVATIONS SHOWN HEREON ARE REFERRED TO GEODETIC DATUM.
- ELEVATIONS FOR MANHOLE COVERS AND CATCH BASINS HAVE TO BE INDEPENDENTLY CONFIRMED BEFORE THEY CAN BE ACCEPTED FOR FINAL DESIGN OR CONSTRUCTION PURPOSES.
- IT IS THE RESPONSIBILITY OF THE USER OF THIS INFORMATION TO VERIFY THAT THE JOB BENCHMARKS HAVE NOT BEEN ALTERED OR DISTURBED AND THAT THEIR RELATIVE ELEVATION AND DESCRIPTION AGREE WITH THE INFORMATION SHOWN ON THIS DRAWING.

**UTILITY NOTES**

- THIS DRAWING CANNOT BE ACCEPTED AS ACKNOWLEDGING ALL OF THE UNDERGROUND UTILITIES AND IT WILL BE THE RESPONSIBILITY OF THE USER TO CONTACT THE RESPECTIVE UTILITY AUTHORITIES FOR CONFIRMATION OR LOCATION.
- UNDERGROUND UTILITIES, AS REPORTED ON THIS DRAWING, ARE NOT BASED ON AN ACTUAL 'FIELD LOCATE' BY THE RESPECTIVE UTILITY AGENCIES BUT HAVE BEEN COMPILED FROM DATA OBTAINED FROM THE FOLLOWING SOURCE:
  - a) CITY OF OTTAWA PUBLIC UTILITIES REGISTRY
- BEFORE ANY WORK INVOLVING PROBING, EXCAVATING, ETC., A FIELD LOCATION OF UNDERGROUND PLANT BY THE PERTINENT UTILITY AUTHORITY IS MANDATORY.

**NOTES**

- BEARINGS ARE ASTROMERIC AND ARE DERIVED FROM THE WESTERLY LIMIT OF PART 1, PLAN SR-612 SHOWN AS HAVING A BEARING OF N 28°27'30" W.
- REVISION: JULY 16, 2014 - ADDED UTILITIES ALONG VANIER PARKWAY AND INTERSECTION OF VANIER PARKWAY AND MONTREAL ROAD.
- REVISION: SEPTEMBER 24, 2014 - ADDED TOPOGRAPHIC INFORMATION ALONG VANIER PARKWAY AND INTERSECTION OF VANIER PARKWAY AND MONTREAL ROAD, SURVEYED LOT 71, REGISTERED PLAN 49, WEST OF GARDNER STREET.
- REVISION: SEPTEMBER 13, 2019 - REMOVED DEMOLISHED BUILDINGS. ADDED IN VINYL FENCE AT SOUTHERLY BOUNDARY. ADDED OVERHEAD UTILITY WIRES AT SOUTHERLY BOUNDARY AND NORTHERLY BOUNDARY.

INVERT TABLE						
NUMBER	ELEVATION	INVERTS	NUMBER	ELEVATION	INVERTS	
MH#1	56.52	53.86 North	CB#11	56.21	55.55 Northwest	
		53.89 South			56.71	Full of Debris
		54.24 North			55.40 South	
MH#2	56.37	54.44 South	CB#12	56.73	55.74 East	
		54.34 South			56.73	Full of Debris & Water
MH#3	56.06	53.42 North	CB#15	56.81	55.41 North	
		Full of Water			56.90	Inaccessible
MH#4	56.11	53.69 East	MH#14	56.81	55.38 South	
		53.65 North			56.90	Inaccessible
CB#5	56.00	Invert Inaccessible	MH#16	57.45	55.13 North	
	CB#8	56.11		55.01 Northwest Inaccessible		55.12 South
		55.01 Southwest		55.52 Inv.		
MH#7	56.22	54.05 East	CB#17	57.31	55.87 West	
		54.06 North			56.07 North	
CB#8	55.80	54.80 West	MH#18	56.70	54.06 South	
		Inaccessible			53.89 North	
CB#9	55.79	Inaccessible	MH#19	56.50	53.90 South	
	CB#10	55.82		Inaccessible		56.33

**SURVEYOR'S CERTIFICATE**

I CERTIFY THAT:  
1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT, THE LAND TITLES ACT AND THE REGULATIONS MADE UNDER THEM.  
2. THE SURVEY WAS COMPLETED ON SEPTEMBER 13, 2019.  
DATE: 20/9/2019

JOHN H. GUTHRIE  
ONTARIO LAND SURVEYOR

**Fairhall Moffatt & Woodland**  
LIMITED  
100-600 TERRY FOX DRIVE, KANATA, ONTARIO K2K 4B6  
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www.fmw.ca

OT114  
227300  
E 370053, N 5032955  
REFERENCE No. 21(b)-49, 15(b)-29  
S:\085\277000\DWG 2019-09-16  
2273\_topo-rev.dwg

EXP Services Inc.  
2705460 Ontario Inc.  
*Phase Two Environmental Site Assessment*  
112 Montreal Road, Ottawa, Ontario  
OTT-00214936-C0  
April 13, 2023

## **Appendix C: Sampling and Analysis Plan**

## 1 Introduction

This appendix presents the Sampling and Analysis Plan (SAAP) that was developed in support of the Phase Two Environmental Site Assessment (ESA) for the property located at 112 Montreal Road in Ottawa, Ontario (hereinafter referred to as the 'site'). The SAAP presents the procedures and measures that will be undertaken during field investigative activities to characterize the site conditions and meet the data quality objectives of the Phase Two ESA.

The SAAP presents the sampling program proposed for the site, the recommended procedures and protocols for sampling and related field activities, the data quality objectives, and the quality assurance/ quality control measures that will be undertaken to provide for the collection of accurate, reproducible and representative data. These components are described in further detail below.

## 2 Field Sampling Program

The field sampling program was developed to provide for the collection of samples of the soil and groundwater for chemical analysis of petroleum hydrocarbons (PHC), benzene, toluene, ethylbenzene and xylenes (collectively known as 'BTEX'), polycyclic aromatic hydrocarbons (PAH), volatile organic compounds (VOC) and/or metals. The soil sampling media is to consist of the overburden materials. The soil sampling will be location-specific to assess for the potential contaminants of concern (PCOC) based on the identification of potential areas of potential environmental concern identified in a Phase One ESA completed by EXP.

Each of the groundwater samples will be submitted for analysis of PHC, PHA, VOC and metals. The monitoring well network is to comprise of five new monitoring wells and one existing monitoring well.

Vertical control of the boreholes and monitoring wells will be obtained through the completion of an elevation survey with reference to a geodetic benchmark. Groundwater flow and direction in the bedrock aquifer will also be determined through groundwater level measurements and the elevations established in the site elevation survey.

## 3 Field Methods

To meet the requirements of the field sampling program, the following field investigative methods will be undertaken:

- Borehole Drilling;
- Test Pit Excavation;
- Auger Hole Installation;
- Soil Sampling;
- Monitoring Well Installation;
- Groundwater Level Measurements;
- Elevation Survey; and,
- Groundwater Sampling.

Prior to any subsurface work, utility clearances will be obtained from public and private locators, as required. The borehole drilling program will be conducted by a licensed driller under the oversight of EXP field staff.

The field investigative methods will be performed following the procedures and protocols set out in EXP's standard operating procedures and are outlined below:

### **3.1 Borehole Drilling**

Boreholes will be advanced at the site in conjunction with a geotechnical investigation to facilitate the collection of soil samples for chemical analysis and geologic characterization; and, for the installation of groundwater monitoring wells. A total eleven (11) boreholes are proposed to be advanced at the site, to provide for the collection of samples of the surficial and overburden materials beneath the site. The borehole locations were selected to assess the areas of potential environmental concern and PCOC related impacts to the soils and the groundwater. Soil samples will be collected from six of the boreholes and submitted for analysis of BTEX, PHC, and metals.

### **3.2 Test Pit Excavation**

A total of nine test pits will be excavated into the on-site berm to facilitate the collection of soil samples for chemical analysis. The test pit locations were selected to assess the soil quality of the berm, which runs north-south through the centre of the site. One to two soil samples will be collected from each test pit location and submitted for analysis of BTEX, PHC, and metals.

### **3.3 Auger Hole Installation**

Auger holes will be installed on the site in conjunction with the geotechnical investigation. A total of ten auger holes is proposed to be advanced at the site, up to a maximum depth of approximately 3 m below grade, to provide for the collection of samples of the surficial and overburden materials beneath the site. The borehole locations were selected to assess the areas of potential environmental concern and PCOC related impacts to the on-site soil. Two soil samples will be collected from each auger hole location and submitted for analysis of BTEX, PHC, and metals.

### **3.4 Soil Sampling**

Soil samples will be collected for chemical analysis and geologic property characterization. The soil samples will be collected using 5 cm diameter, 60 cm long, stainless steel split-spoon sampling devices at continuous intervals. The split spoon sampling devices will be attached to drill rods and advanced into the soil by means of a standard penetrating hammer. Upon retrieval from the boreholes, the split-spoon samplers will be placed on a flat surface and disassembled by drilling personnel to provide access of the recovered cores. Geologic and sampling details of the recovered cores will be logged and the samples will be assessed for the potential presence of non-aqueous phase liquids. Samples for chemical analysis will be selected on the basis of visual and olfactory evidence of impacts and at specific intervals to define the lateral and vertical extent of known impacts.

Recommended volumes of soil samples selected for chemical analysis will be collected into pre-cleaned, laboratory supplied, analytical test group specific containers. The samples will be placed into clean insulated coolers chilled with ice for storage and transport. Samples intended for analysis of BTEX and PHC F1-F2 will be collected into 40 ml vials. The samples will be assigned unique identification numbers, and the date, time, location, and requested analyses for each sample will be documented in a bound field note book. The samples will be submitted to the

contract laboratory within analytical test group holding times under Chain of Custody (COC) protocols. New disposable chemical resistant gloves will be used for each soil core to prevent sample cross-contamination.

### **3.5 Monitoring Well Installation**

It is proposed that nine (9) of the boreholes will be instrumented as a groundwater monitoring well installed with slotted screens, installed in the bedrock. The monitoring wells will be constructed using 51 mm diameter, Schedule 40, PVC riser pipe and number 10 slot size (0.25 mm) well screens. The base of the well screens will be sealed with threaded flush PVC end caps. All well pipe connections will be factory machined threaded flush couplings. The annular space around the well screens will be backfilled with silica sand, to an average height of 0.3 m above the top of the screen. Granular bentonite will be placed in the borehole annulus from the top of the sand pack to approximately 0.3 m below grade. The monitoring wells will be completed with either a flush-mounted protective steel casing or above ground protective casings cemented into place.

### **3.6 Monitoring Well Development**

The newly installed monitoring wells will be developed to remove fine sediment particles potentially lodged in the sand pack and well screen to enhance hydraulic communication with the surrounding formation waters.

Standing water volumes will be determined by means of an electronic water level meter. Prior to collecting groundwater samples, the monitoring wells will be developed using low flow sampling techniques to reduce the amount of sediment in the samples. Well development details will be documented on a well development log sheet or in a bound hard cover notebook. All development waters will be collected and stored in labeled, sealed containers.

### **3.7 Groundwater Level Measurements**

Groundwater level measurements will be recorded for the monitoring wells to determine groundwater flow and direction in the water table aquifer beneath the site. Water levels will be measured with respect to the top of the casing by means of an electronic water level meter. The water levels will be recorded on water level log sheets. The water level meter probe will be decontaminated between monitoring well locations.

### **3.8 Elevation Survey**

An elevation survey will be conducted to obtain vertical control of all monitoring well locations. The top of casing and ground surface elevation of each monitoring well location will be surveyed against a known geodetic benchmark, or if unavailable, against a suitable arbitrary benchmark. Elevations measured against using a high precision GPS unit and a benchmark with an assigned elevation will be recorded as meters above mean sea level (m AMSL). The elevation survey will be accurate to within  $\pm 0.5$  cm.

### **3.9 Groundwater Sampling**

Groundwater samples will be collected from the newly installed monitoring wells and one existing monitoring wells and submitted for chemical analysis. The wells will be sampled using a "low flow" technique whereby the wells are continuously purged using an electric pump (equipped with dedicated tubing) and parameters within the purged water are monitored using a groundwater chemistry multi-meter at 3-minute intervals. These parameters include: pH, conductivity, temperature, and salinity. Once these parameters are found to deviate less than 10% over three testing events, equilibrium is deemed to have occurred and a sample of the groundwater will be

collected. The purge water will also be continuously monitored for visual and olfactory evidence of petroleum and solvent impact (sheen and odour).

Recommended groundwater sample volumes will be collected into pre-clean laboratory-supplied vials or bottles provided with analytical test group specific preservatives, as required. The samples will be placed in an insulated cooler chilled with ice for storage and transport. Each VOC vial will be inverted and inspected for gas bubbles prior to being placed in the cooler to ensure that no head-space is present. All groundwater samples will be assigned unique identification numbers, and the date, time, project number, company name, location and requested analyses for each sample will be documented in a bound hard cover notebook. The samples will be submitted to the contractual laboratory within analytical test group holding times under COC protocols. New disposable chemical resistant gloves will be used for each sampling location to prevent sample cross-contamination.

It is proposed that a total of ten (10) groundwater samples be submitted for analysis of PHC, VOC, PAH, and metals.

## 4 Field Quality Assurance/Quality Control Program

The objective of the field quality assurance/quality control (QA/QC) program is to obtain soil and groundwater samples and other field measurements that provide data of acceptable quality that meets the objectives of the Phase Two ESA. The objectives of the QA/QC program will be achieved through the implementation of procedures for the collection of unbiased (i.e. non-contaminated) samples, sample documentation and the collection of appropriate QC samples to provide a measure of sample reproducibility and accuracy. The field QA/QC measures will comprise:

- Decontamination Protocols;
- Equipment Calibration;
- Sample Preservation;
- Sample Documentation; and,
- Field Quality Control Samples.

Details on the field QA/QC measures are provided below.

### 4.1 Decontamination Protocols

Decontamination protocols will be followed during field sampling where non-dedicated sampling equipment is used to prevent sample cross contamination. The split spoon soil sampling device will be cleaned/decontaminated between sampling intervals in according with SOP requirements. For the monitoring well installation, well components are not to come into contact with the ground surface prior to insertion into boreholes. Electronic water level meters will be decontaminated between monitoring well locations during well development, and purging activities. For hydraulic conductivity tests, the electronic water level meters will be decontaminated between sampling locations. All decontamination fluids will be collected and stored in sealed, labeled containers.

### 4.2 Equipment Calibration

All equipment requiring calibration will be calibrated in the field according to manufacturer's requirements using analytical grade reagents, or by the supplier prior to conducting field activities, and subsequently checked in the

field. The calibration of all pre-calibrated instruments will be checked in the field using analytical grade reagents and re-calibrated as required. For multiple day sampling events, equipment calibration will be checked prior to the beginning of sampling activities. All calibration data will be documented in a bound hard cover notebook.

#### **4.3 Sample Preservation**

All samples will be preserved using appropriate analytical test group specific reagents, as required, and upon collection placed in pre-chilled insulated coolers packed with ice for storage and transport.

#### **4.4 Sample Documentation**

All samples will be assigned a unique identification number, which is to be recorded along with the date, time, project number, company name, location and requested analysis in a bound field notebook. All samples will be handled and transported following COC protocols.

#### **4.5 Field Quality Control**

Field quality controls samples will be collected to evaluate the accuracy and reproducibility of the field sampling procedures. For soil and groundwater sampling, one (1) field duplicate is to be collected for every ten (10) samples submitted for chemical analysis. The field duplicate samples will be assessed by calculating the relative percent difference and comparing to the analytical test group specific acceptance criteria.



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Phase Two Environmental Site Assessment  
112 Montreal Road, Ottawa, Ontario  
OTT-00214936-C0  
April 13, 2023

## Appendix D: Borehole Logs

# Log of Borehole 13-1A



Project No: OTT-00214936-A0

Figure No. 3

Project: Preliminary Geotechnical Investigation

Page. 1 of 1

Location: 112 Montreal Road, Ottawa Ontario

Date Drilled: October 23, 2013 / November 7, 2013

Split Spoon Sample

Combustible Vapour Reading

Drill Type: CME-75 (Truck Mount)

Auger Sample

Natural Moisture Content

SPT (N) Value

Atterberg Limits

Datum: Geodetic

Dynamic Cone Test

Undrained Triaxial at

Shelby Tube

% Strain at Failure

Logged by: MAD Checked by: MGM/SA

Shear Strength by

Shear Strength by

Vane Test

G W L	SOIL DESCRIPTION	Geodetic m	Depth m	Standard Penetration Test N Value				Combustible Vapour Reading (ppm)			Natural Unit Wt. kN/m <sup>3</sup>
				Shear Strength kPa				250	500	750	
				20	40	60	80	Natural Moisture Content % Atterberg Limits (% Dry Weight)			
	<b>ASPHALT</b> ~ 50 mm	56.5	0								
	<b>FILL</b> Crushed limestone, sand and gravel, grey, moist, (dense)	56.4	0								
	<b>FILL</b> Sand, silt and gravel with some brick debris, some boulders and cobbles, dark grey with black and lighter patches, moist (loose to very loose)	55.7	1								
		54.2	2								
	<b>GLACIAL TILL</b> Some silt with cobbles, trace clay, brown, wet (compact to very dense)	53.8	3								19.2
		52.9	3								21.6
	<b>Borehole Terminated at 3.6 m Depth</b>										

LOG OF BOREHOLE LOGS OF BOREHOLES\_GEO.GPJ TROW OTTAWA.GDT 11/22/22

- NOTES:
- Borehole data requires interpretation by EXP before use by others
  - A Monitoring Well with a 51mm diameter casing was installed in the borehole upon completion.
  - Field work was supervised by an exp representative.
  - See Notes on Sample Descriptions
  - Log to be read with EXP Report OTT-00214936-A0

WATER LEVEL RECORDS		
Date	Water Level (m)	Hole Open To (m)
Completion 7 Days	Dry 2.4	

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

# Log of Borehole 13-1B



Project No: OTT-00214936-A0  
 Project: Preliminary Geotechnical Investigation  
 Location: 112 Montreal Road, Ottawa Ontario  
 Date Drilled: October 23, 2013 / November 7, 2013  
 Drill Type: CME-75 (Truck Mount)  
 Datum: Geodetic  
 Logged by: MAD Checked by: MGM/SA

Figure No. 4  
 Page. 1 of 1

- 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	SOIL DESCRIPTION	Geodetic m	Depth	Standard Penetration Test N Value				Combustible Vapour Reading (ppm)			Natural Unit Wt. kN/m <sup>3</sup>
				Shear Strength kPa				250	500	750	
				20	40	60	80	Natural Moisture Content % Atterberg Limits (% Dry Weight)			
	<b>ASPHALT</b> ~ 50 mm	56.48	0								
	<b>FILL</b> Crushed limestone, sand and gravel, grey, moist, (dense)	56.4									
	<b>FILL</b> Sand, silt and gravel with some brick debris, some boulders and cobbles, dark grey with black and lighter patches, moist (loose to very loose)	55.7	1								
	<b>SAND AND GRAVEL TILL</b> Some silt, cobbles, trace clay, brown, wet (compact to very dense)	53.9	2								
	<b>LIMESTONE BEDROCK</b> Shaley partings along bedding planes, stratification flat to gently dipping, principal joints near vertical and moderately to widely spread, (poor to excellent quality)	53.5	3								Run 1
		52.58	4								Run 2
			5								Run 3
			6								Run 4
			7								Run 5
	<b>Borehole Terminated at 8.1 m</b>	48.4	8								

LOG OF BOREHOLE LOGS OF BOREHOLES\_GEO.GPJ TROW OTTAWA.GDT 11/22/22

- NOTES:
- Borehole data requires interpretation by EXP before use by others
  - A Monitoring Well with a 51mm diameter casing was installed in the borehole upon completion.
  - Field work was supervised by an exp representative.
  - See Notes on Sample Descriptions
  - Log to be read with EXP Report OTT-00214936-A0

WATER LEVEL RECORDS		
Date	Water Level (m)	Hole Open To (m)
12 Days	3.9	

CORE DRILLING RECORD			
Run No.	Depth (m)	% Rec.	RQD %
1	3 - 3.41	100	38
2	3.41 - 4.45	88	85
3	4.45 - 5.98	100	77
4	5.98 - 7.5	92	87
5	7.5 - 8.06	100	100

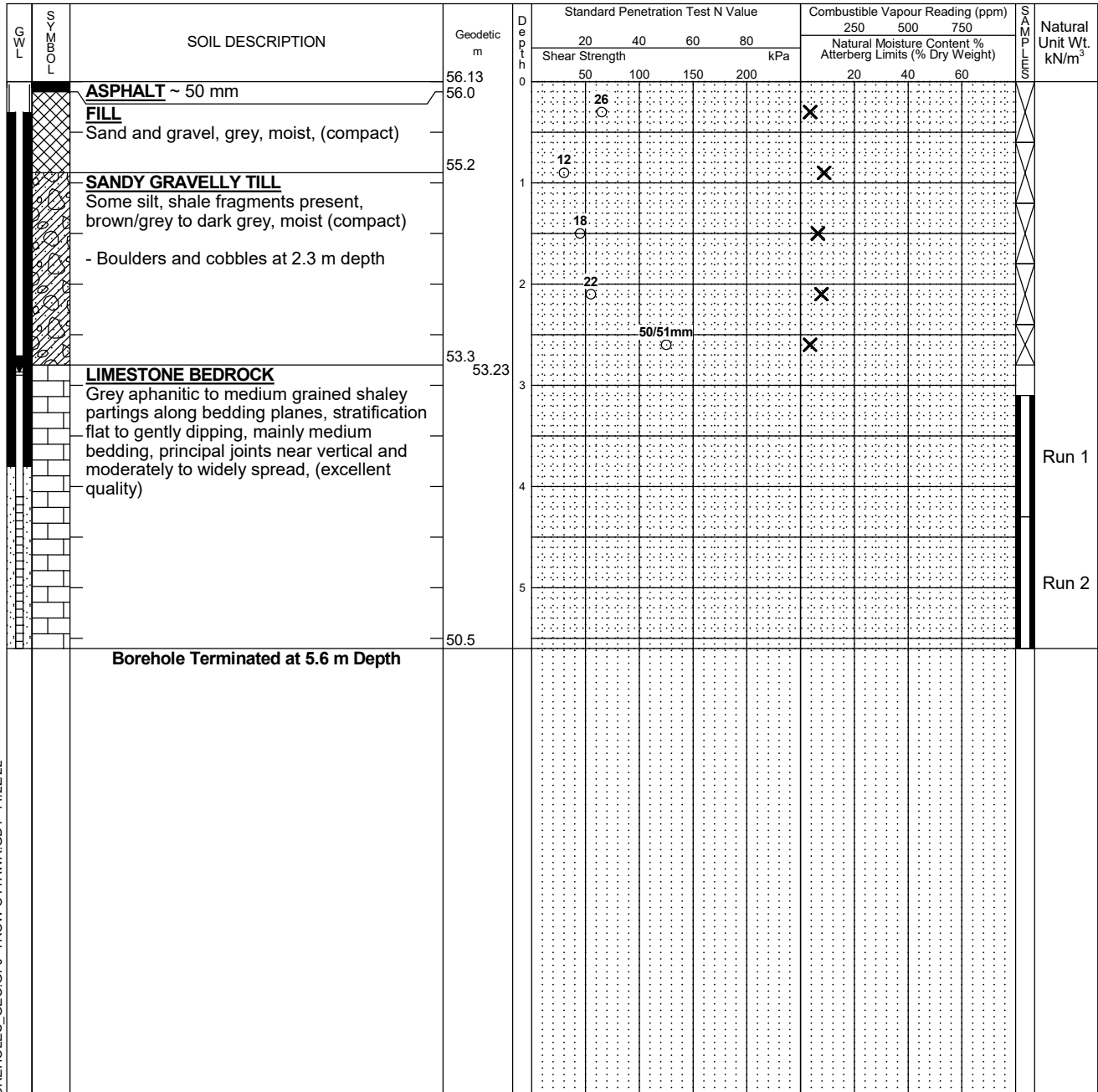
# Log of Borehole 13-2



Project No: OTT-00214936-A0  
 Project: Preliminary Geotechnical Investigation  
 Location: 112 Montreal Road, Ottawa Ontario  
 Date Drilled: October 24, 2013  
 Drill Type: CME-75 (Truck Mount)  
 Datum: Geodetic  
 Logged by: MAD Checked by: MGM/SA

Figure No. 5  
 Page. 1 of 1

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



LOG OF BOREHOLE LOGS OF BOREHOLES\_GEO.GPJ TROW OTTAWA.GDT 11/22/22

- NOTES:
- Borehole data requires interpretation by EXP before use by others
  - A Monitoring Well with a 51mm diameter casing was installed in the borehole upon completion.
  - Field work was supervised by an exp representative.
  - See Notes on Sample Descriptions
  - Log to be read with EXP Report OTT-00214936-A0

WATER LEVEL RECORDS		
Date	Water Level (m)	Hole Open To (m)
26 days	2.9	

CORE DRILLING RECORD			
Run No.	Depth (m)	% Rec.	RQD %
1	3.05 - 4.32	100	100
2	4.32 - 5.64	100	100

# Log of Borehole 13-3



Project No: OTT-00214936-A0  
 Project: Preliminary Geotechnical Investigation  
 Location: 112 Montreal Road, Ottawa Ontario  
 Date Drilled: October 23, 2013  
 Drill Type: CME-75 (Truck Mount)  
 Datum: Geodetic  
 Logged by: MAD Checked by: MGM/SA

Figure No. 6  
 Page. 1 of 1

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

GWL	SOIL LOG	SOIL DESCRIPTION	Geodetic m	Depth	Standard Penetration Test N Value				Combustible Vapour Reading (ppm)			Natural Unit Wt. kN/m <sup>3</sup>
					Shear Strength kPa				Natural Moisture Content % Atterberg Limits (% Dry Weight)			
					20	40	60	80	250	500	750	
		<b>ASPHALT</b> ~ 100 mm	56.13	0								
		<b>FILL</b> Sand, silt and gravel with some brick debris, brown grey and orange, moist (compact)	56.0									
		<b>SANDY GRAVELLY TILL</b> Some silt, shale fragments, brown/grey to dark grey, moist to wet, (loose to very dense)	55.5	1								
		- Boulders and cobbles at 1.8 m depth										
			53.73	2								
			53.3									
		<b>Auger Refusal at 2.8 m Depth, Borehole Terminated</b>										

LOG OF BOREHOLE LOGS OF BOREHOLES\_GEO.GPJ TROW OTTAWA.GDT 11/22/22

- NOTES:
- Borehole data requires interpretation by EXP before use by others
  - A Monitoring Well with a 51mm diameter casing was installed in the borehole upon completion.
  - Field work was supervised by an exp representative.
  - See Notes on Sample Descriptions
  - Log to be read with EXP Report OTT-00214936-A0

WATER LEVEL RECORDS		
Date	Water Level (m)	Hole Open To (m)
Completion	Dry	
1 Day	Dry	
27	2.4	

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

# Log of Borehole 13-4



Project No: OTT-00214936-A0  
 Project: Preliminary Geotechnical Investigation  
 Location: 112 Montreal Road, Ottawa Ontario  
 Date Drilled: October 24, 2013  
 Drill Type: CME-75 (Truck Mount)  
 Datum: Geodetic  
 Logged by: MAD Checked by: MGM/SA

Figure No. 7  
 Page. 1 of 1

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

G W L	S O I L D E S C R I P T I O N	Geodetic m	D e p t h m	Standard Penetration Test N Value				Combustible Vapour Reading (ppm)			S M I L T E R L I M I T S	Natural Unit Wt. kN/m <sup>3</sup>
				Shear Strength kPa				Natural Moisture Content % Atterberg Limits (% Dry Weight)				
				20	40	60	80	250	500	750		
	<b>ASPHALT ~ 19 mm</b>	56.23	0									
	<b>FILL</b> Sand, silt and gravel with trace organics, clay and wood debris, dark brownish grey and white, moist, (compact to loose)	56.1	0	31				X				
			1	5					X			
	<b>SANDY GRAVELLY TILL</b> Some silt, shale fragments, brown/grey to dark grey, moist (compact)  - Boulders and cobbles at 2.2 m depth	54.7	2	12					X			
			2	50/50mm					X			
	<b>LIMESTONE BEDROCK</b> Shaley partings along bedding planes, stratification flat to gently dipping, principal joints near vertical and moderately to widely spread, (excellent quality)	53.5	3									
		53.13	3									
			4									Run 1
			5									Run 2
	<b>Auger Refusal at 2.7 m Depth, Borehole Terminated at 5.7 m</b>	50.5										

LOG OF BOREHOLE LOGS OF BOREHOLES\_GEO.GPJ TROW OTTAWA.GDT 11/22/22

- NOTES:**
- Borehole data requires interpretation by EXP before use by others
  - A Monitoring Well with a 51mm diameter casing was installed in the borehole upon completion.
  - Field work was supervised by an exp representative.
  - See Notes on Sample Descriptions
  - Log to be read with EXP Report OTT-00214936-A0

WATER LEVEL RECORDS		
Date	Water Level (m)	Hole Open To (m)
26 Days	3.1	

CORE DRILLING RECORD			
Run No.	Depth (m)	% Rec.	RQD %
1	2.69 - 4.35	95	95
2	4.35 - 5.74	98	96

# Log of Borehole 13-5



Project No: OTT-00214936-A0  
 Project: Preliminary Geotechnical Investigation  
 Location: 112 Montreal Road, Ottawa Ontario  
 Date Drilled: November 7, 2013  
 Drill Type: CME-75 (Truck Mount)  
 Datum: Geodetic  
 Logged by: MAD Checked by: MGM/SA

Figure No. 8  
 Page. 1 of 1

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

G W L	L O M E S	SOIL DESCRIPTION	Geodetic m	D e p t h	Standard Penetration Test N Value				Combustible Vapour Reading (ppm)			Natural Unit Wt. kN/m <sup>3</sup>	
					Shear Strength				Natural Moisture Content %				
					20	40	60	80	250	500	750		
		<b>ASPHALT</b> ~ 50 mm	55.89	0									
		<b>FILL</b> Sand and gravel, dark brown, moist, (loose)	55.8	0	5					X			16.9
		<b>SANDY GRAVELLY TILL</b> Some silt, shale fragments, brown/grey to dark grey, moist (compact)	55.1	1		34				X			
		- Boulders and cobbles at 2.3 m depth								X			
			53.5	2		41				X			
		<b>LIMESTONE BEDROCK</b> Shaley partings along bedding planes, stratification flat to gently dipping, principal joints near vertical and moderately to widely spread, (fair to excellent quality)	52.39	3									Run 1
				4									Run 2
				5									Run 3
				6									Run 4
			48.7	7									
		<b>Auger Refusal at 2.4 m Depth, Borehole Terminated at 7.2 m</b>											

LOG OF BOREHOLE LOGS OF BOREHOLES\_GEO.GPJ TROW OTTAWA.GDT 11/22/22

- NOTES:
- Borehole data requires interpretation by EXP before use by others
  - A Piezometer with a 13mm diameter casing was installed in the borehole upon completion.
  - Field work was supervised by an exp representative.
  - See Notes on Sample Descriptions
  - Log to be read with EXP Report OTT-00214936-A0

WATER LEVEL RECORDS		
Date	Water Level (m)	Hole Open To (m)
7 Days	3.5	

CORE DRILLING RECORD			
Run No.	Depth (m)	% Rec.	RQD %
1	2.42 - 2.78	85	64
2	2.78 - 4.3	100	100
3	4.3 - 5.74	93	93
4	5.74 - 7.24	100	98

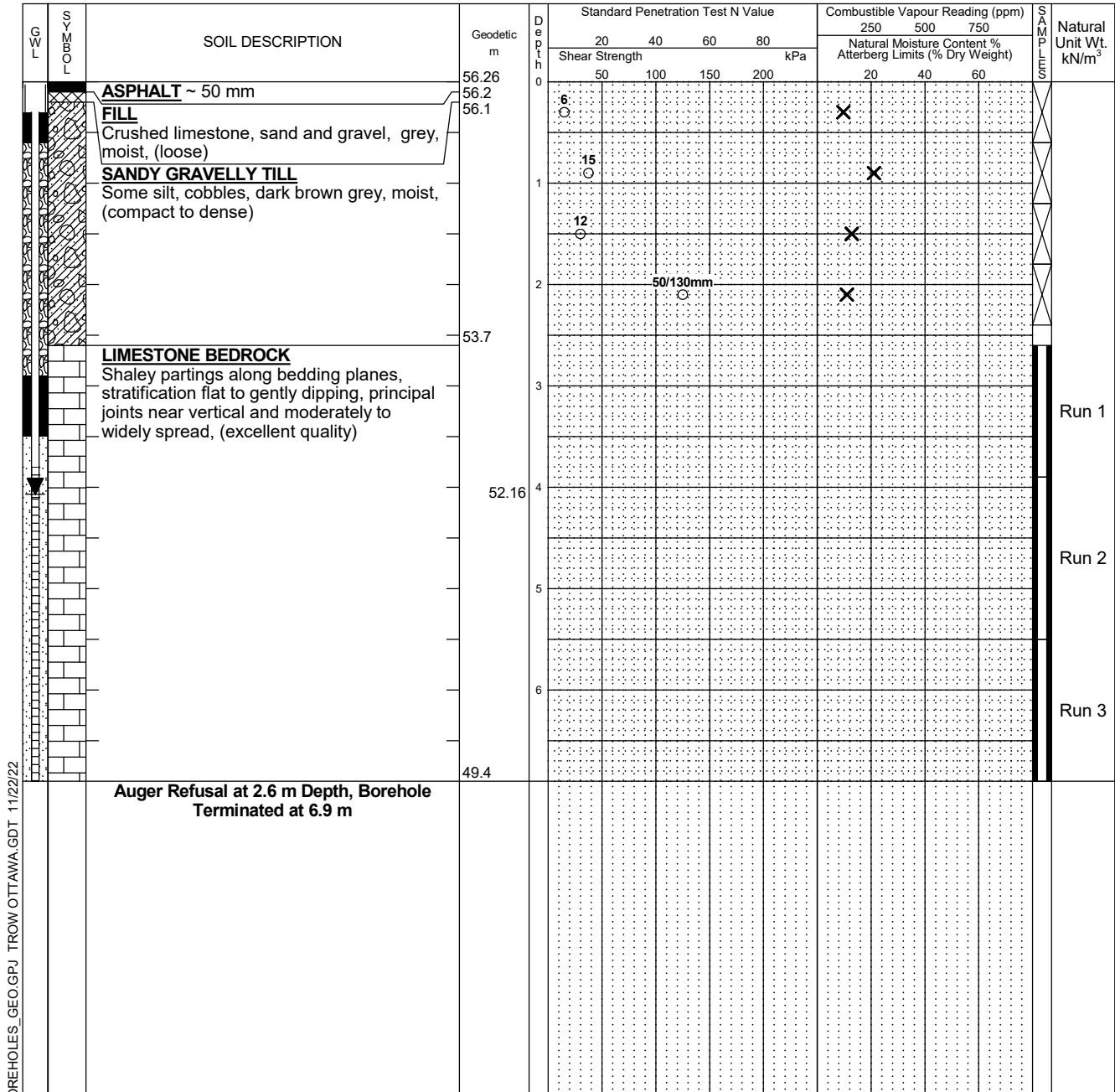
# Log of Borehole 13-6



Project No: OTT-00214936-A0  
 Project: Preliminary Geotechnical Investigation  
 Location: 112 Montreal Road, Ottawa Ontario  
 Date Drilled: October 24, 2013  
 Drill Type: CME-75 (Truck Mount)  
 Datum: Geodetic  
 Logged by: MAD Checked by: MGM/SA

Figure No. 9  
 Page. 1 of 1

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



**NOTES:**

- Borehole data requires interpretation by EXP before use by others
- A Monitoring Well with a 51mm diameter casing was installed in the borehole upon completion.
- Field work was supervised by an exp representative.
- See Notes on Sample Descriptions
- Log to be read with EXP Report OTT-00214936-A0

WATER LEVEL RECORDS		
Date	Water Level (m)	Hole Open To (m)
26 days	4.1	

CORE DRILLING RECORD			
Run No.	Depth (m)	% Rec.	RQD %
1	2.64 - 3.86	100	100
2	3.86 - 5.49	100	97
3	5.49 - 6.91	100	98

LOG OF BOREHOLE LOGS OF BOREHOLES\_GEO.GPJ TROW OTTAWA.GDT 11/22/22



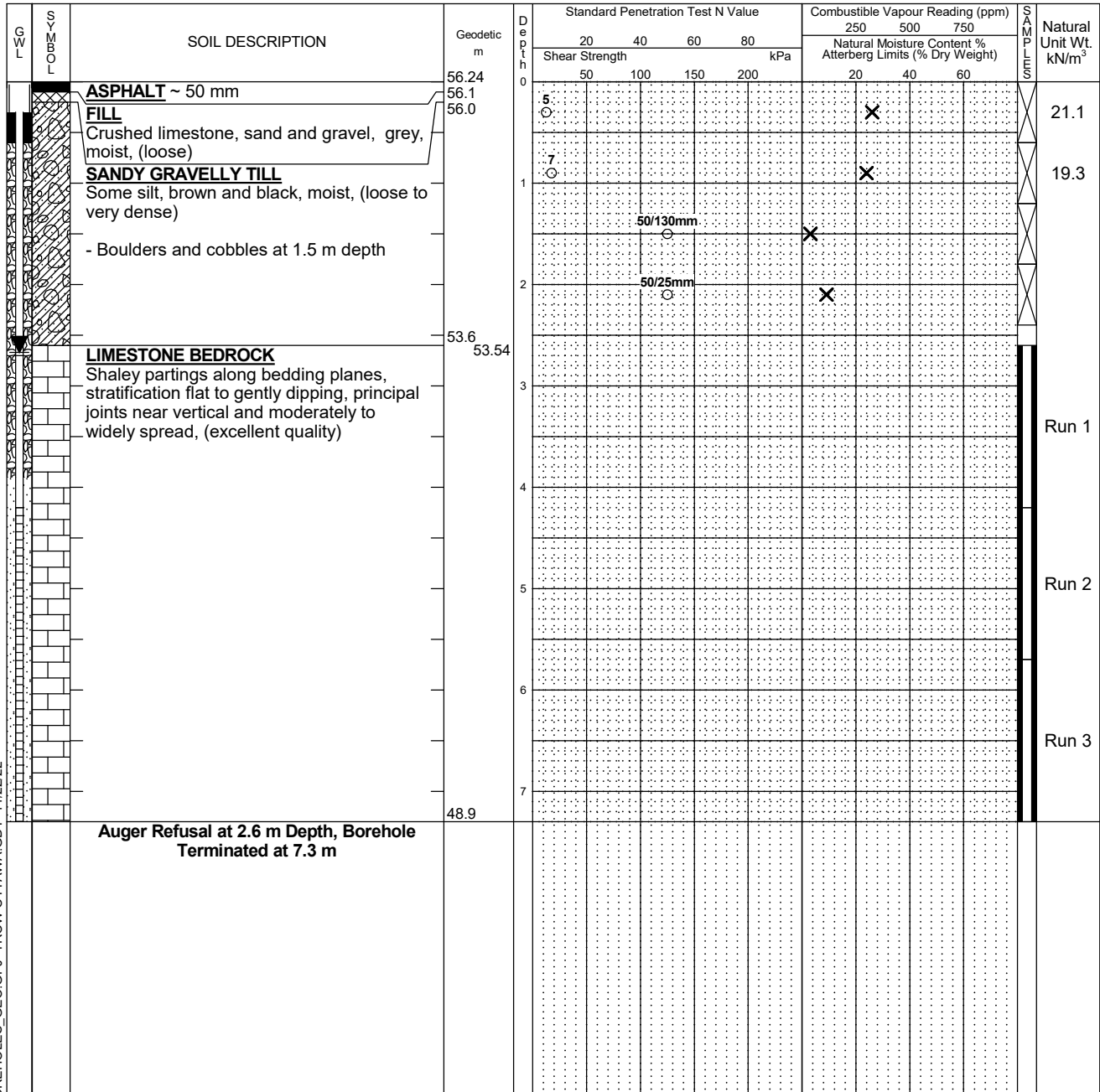
# Log of Borehole 13-7



Project No: OTT-00214936-A0  
 Project: Preliminary Geotechnical Investigation  
 Location: 112 Montreal Road, Ottawa Ontario  
 Date Drilled: November 7, 2013  
 Drill Type: CME-75 (Truck Mount)  
 Datum: Geodetic  
 Logged by: MAD Checked by: MGM/SA

Figure No. 10  
 Page. 1 of 1

- 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



LOG OF BOREHOLE LOGS OF BOREHOLES\_GEO.GPJ TROW OTTAWA.GDT 11/22/22

- NOTES:
- Borehole data requires interpretation by EXP before use by others
  - A Piezometer with a 13mm diameter casing was installed in the borehole upon completion.
  - Field work was supervised by an exp representative.
  - See Notes on Sample Descriptions
  - Log to be read with EXP Report OTT-00214936-A0

WATER LEVEL RECORDS		
Date	Water Level (m)	Hole Open To (m)
12 Days	2.7	

CORE DRILLING RECORD			
Run No.	Depth (m)	% Rec.	RQD %
1	2.64 - 4.22	98	98
2	4.22 - 5.74	93	93
3	5.74 - 7.27	100	100

# Log of Borehole 13-8



Project No: OTT-00214936-A0

Figure No. 11

Project: Preliminary Geotechnical Investigation

Page. 1 of 1

Location: 112 Montreal Road, Ottawa Ontario

Date Drilled: November 7, 2013

Split Spoon Sample

Combustible Vapour Reading

Drill Type: CME-75 (Truck Mount)

Auger Sample

Natural Moisture Content

SPT (N) Value

Atterberg Limits

Datum: Geodetic

Dynamic Cone Test

Undrained Triaxial at

Shelby Tube

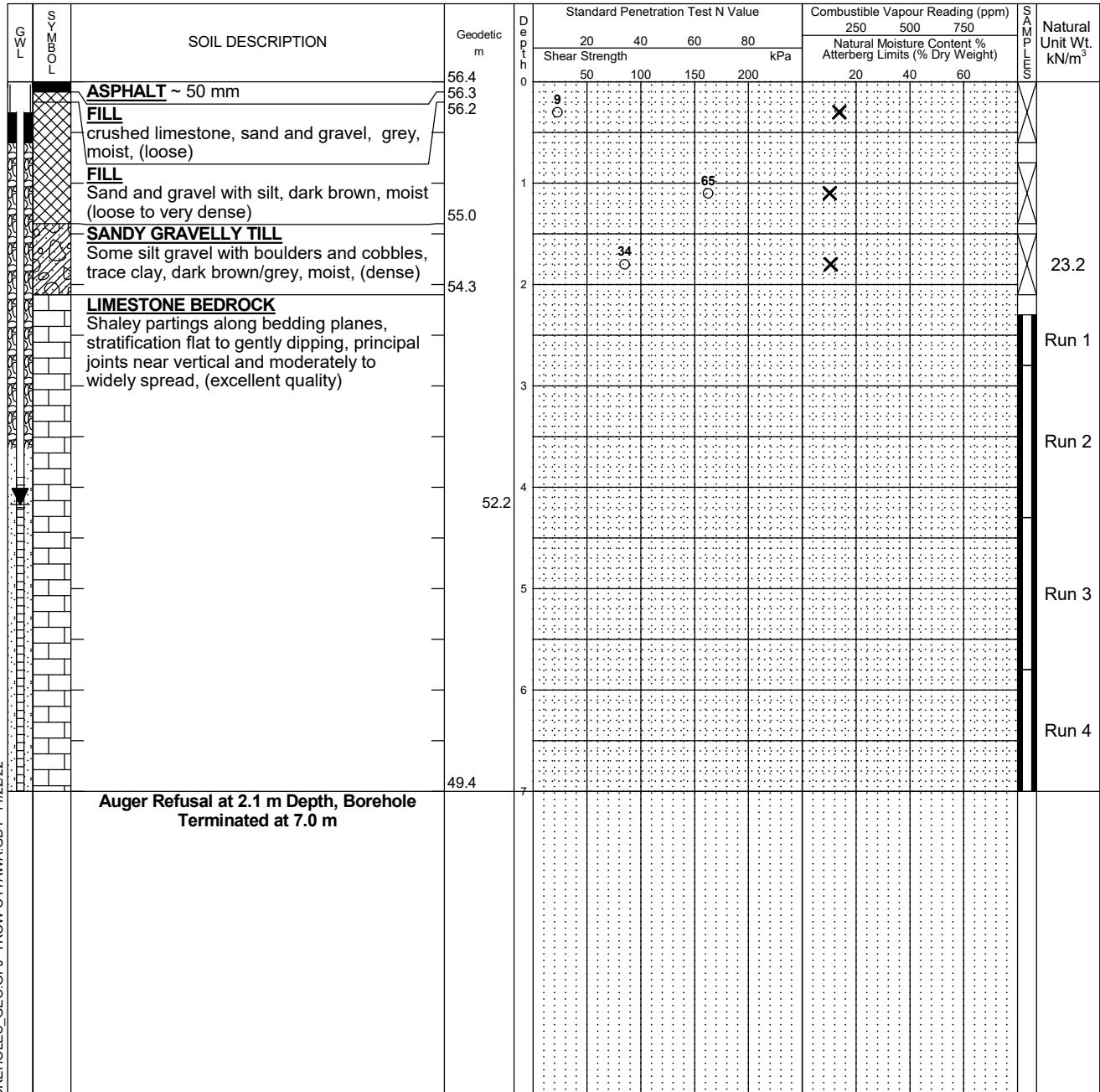
% Strain at Failure

Logged by: MAD Checked by: MGM/SA

Shear Strength by

Penetrometer Test

Vane Test



LOG OF BOREHOLE LOGS OF BOREHOLES\_GEO.GPJ TROW OTTAWA.GDT 11/22/22

- NOTES:
- Borehole data requires interpretation by EXP before use by others
  - A Piezometer with a 13mm diameter casing was installed in the borehole upon completion.
  - Field work was supervised by an exp representative.
  - See Notes on Sample Descriptions
  - Log to be read with EXP Report OTT-00214936-A0

WATER LEVEL RECORDS		
Date	Water Level (m)	Hole Open To (m)
12 Days	4.2	

CORE DRILLING RECORD			
Run No.	Depth (m)	% Rec.	RQD %
1	2.24 - 2.75	89	89
2	2.75 - 4.25	100	100
3	4.25 - 5.77	100	100
4	5.77 - 7.02	100	100

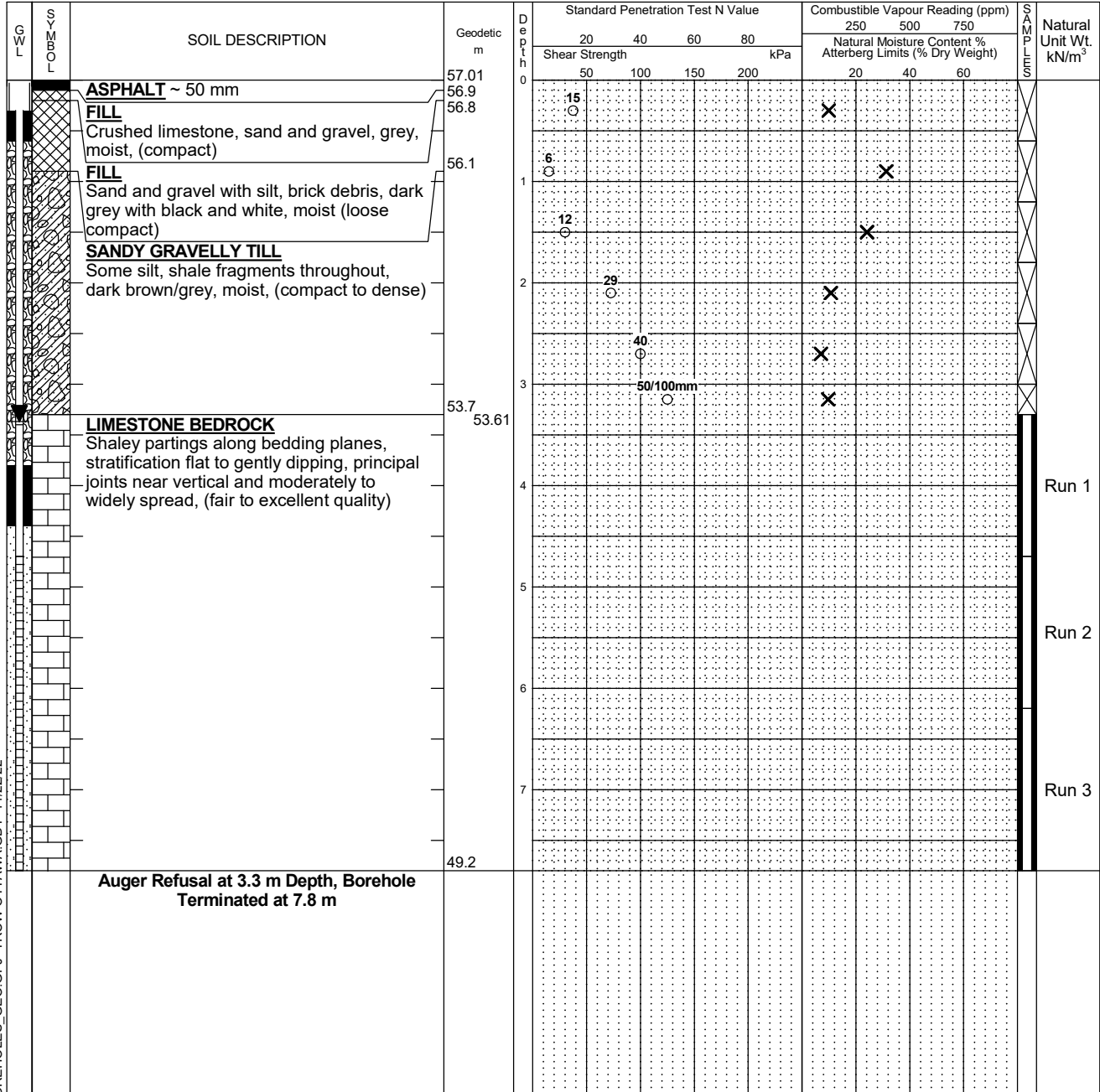
# Log of Borehole 13-9



Project No: OTT-00214936-A0  
 Project: Preliminary Geotechnical Investigation  
 Location: 112 Montreal Road, Ottawa Ontario  
 Date Drilled: October 23, 2013  
 Drill Type: CME-75 (Truck Mount)  
 Datum: Geodetic  
 Logged by: MAD Checked by: MGM/SA

Figure No. 12  
 Page. 1 of 1

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



LOG OF BOREHOLE LOGS OF BOREHOLES\_GEO.GPJ TROW OTTAWA.GDT 11/22/22

- NOTES:
- Borehole data requires interpretation by EXP before use by others
  - A Monitoring Well with a 51mm diameter casing was installed in the borehole upon completion.
  - Field work was supervised by an exp representative.
  - See Notes on Sample Descriptions
  - Log to be read with EXP Report OTT-00214936-A0

WATER LEVEL RECORDS		
Date	Water Level (m)	Hole Open To (m)
Completion	3.2	
1 Day	3.4	
27 Days	3.4	

CORE DRILLING RECORD			
Run No.	Depth (m)	% Rec.	RQD %
1	3.28 - 4.71	73	61
2	4.71 - 6.23	59	53
3	6.23 - 7.78	100	100

# Log of Borehole BH-01



Project No: OTT-00214936-C0

Project: Proposed Development

Location: 112 Montreal Road, Ottawa, ON

Date Drilled: September 15, 2022

Drill Type: CME-75 Track-Mounted Drill Rig

Datum: Geodetic Elevation

Logged by: J.E. Checked by: D.W.

Figure No. 4

Page. 1 of 1

- |                             |                                     |   |                                     |
|-----------------------------|-------------------------------------|---|-------------------------------------|
| Split Spoon Sample          | <input checked="" type="checkbox"/> | Combustible Vapour Reading                | <input type="checkbox"/>            |
| Auger Sample                | <input type="checkbox"/>            | Natural Moisture Content                  | <input checked="" type="checkbox"/> |
| SPT (N) Value               | <input type="checkbox"/>            | Atterberg Limits                          | <input type="checkbox"/>            |
| Dynamic Cone Test           | <input type="checkbox"/>            | Undrained Triaxial at % Strain at Failure | <input type="checkbox"/>            |
| Shelby Tube                 | <input type="checkbox"/>            | Shear Strength by Penetrometer Test       | <input type="checkbox"/>            |
| Shear Strength by Vane Test | <input type="checkbox"/>            |   |                                     |

G W L	S O B Y L	SOIL DESCRIPTION	Geodetic Elevation m	D e p t h	Standard Penetration Test N Value				Combustible Vapour Reading (ppm)			Natural Unit Wt. kN/m <sup>3</sup>	
					Shear Strength kPa				250	500	750		
					20	40	60	80	Natural Moisture Content % Atterberg Limits (% Dry Weight)				
		<b>LIMESTONE AND SHALE BEDROCK</b> Ranging from limestone with shaley partings along bedding planes to shale with limestone partings along the bedding planes, unweathered to slightly weathered, grey, (strong to very strong)	55.38	0									
			54.91	1									26.2 RUN1
				2									26.4 RUN2
				3									26.5 RUN3
				4									26.5 RUN4
				5									26.5 RUN4
				6									26.6 RUN5
				7									26.6 RUN5
				8									26.5 RUN6
		<b>Borehole Terminated at 8.7 m Depth</b>	46.7										

LOG OF BOREHOLE GINT NOV 30 2022 OTT-00214936-C0 112 MONTREAL ROAD.GPJ TROW OTTAWA.GDT 1/13/23

- NOTES:
- Borehole data requires interpretation by EXP before use by others
  - A 32 mm diameter well installed as shown.
  - Field work was supervised by an EXP representative.
  - See Notes on Sample Descriptions
  - Log to be read with EXP Report OTT-00214936-C0

WATER LEVEL RECORDS		
Date	Water Level (m)	Hole Open To (m)
'October 24, 2022	0.5	

CORE DRILLING RECORD			
Run No.	Depth (m)	% Rec.	RQD %
1	0 - 1.2	100	63
2	1.2 - 2.7	100	88
3	2.7 - 4.2	100	92
4	4.2 - 5.7	100	92
5	5.7 - 7.2	100	100
6	7.2 - 8.7	100	81

# Log of Borehole BH-02



Project No: OTT-00214936-C0

Project: Proposed Development

Location: 112 Montreal Road, Ottawa, ON

Date Drilled: September 15, 2022

Drill Type: CME-75 Track-Mounted Drill Rig

Datum: Geodetic Elevation

Logged by: J.E. Checked by: D.W.

Figure No. 5

Page. 1 of 2

- |                             |                                     |   |                                     |
|-----------------------------|-------------------------------------|---|-------------------------------------|
| Split Spoon Sample          | <input checked="" type="checkbox"/> | Combustible Vapour Reading                | <input type="checkbox"/>            |
| Auger Sample                | <input type="checkbox"/>            | Natural Moisture Content                  | <input checked="" type="checkbox"/> |
| SPT (N) Value               | <input type="checkbox"/>            | Atterberg Limits                          | <input type="checkbox"/>            |
| Dynamic Cone Test           | <input type="checkbox"/>            | Undrained Triaxial at % Strain at Failure | <input type="checkbox"/>            |
| Shelby Tube                 | <input type="checkbox"/>            | Shear Strength by Penetrometer Test       | <input type="checkbox"/>            |
| Shear Strength by Vane Test | <input type="checkbox"/>            |   |                                     |

G W L	S O B Y L	SOIL DESCRIPTION	Geodetic Elevation m	D e p t h	Standard Penetration Test N Value				Combustible Vapour Reading (ppm)			Natural Unit Wt. kN/m <sup>3</sup>	
					Shear Strength kPa				250	500	750		
					20	40	60	80	Natural Moisture Content % Atterberg Limits (% Dry Weight)				
		<b>LIMESTONE AND SHALE BEDROCK</b> Ranging from limestone with shaley partings along bedding planes to shale with limestone partings along the bedding planes, unweathered to slightly weathered, grey	54.08	0									
			53.3	1									RUN1
				2									RUN2
				3									RUN3
				4									RUN4
				5									RUN4
				6									RUN5
				7									RUN5
				8									RUN6
				9									RUN6
				10									RUN7

Continued Next Page

**NOTES:**

- Borehole data requires interpretation by EXP before use by others
- A 32 mm diameter well installed as shown.
- Field work was supervised by an EXP representative.
- See Notes on Sample Descriptions
- Log to be read with EXP Report OTT-00214936-C0

**WATER LEVEL RECORDS**

Date	Water Level (m)	Hole Open To (m)
'October 24, 2022	0.8	

**CORE DRILLING RECORD**

Run No.	Depth (m)	% Rec.	RQD %
1	0 - 1.2	92	64
2	1.2 - 2.7	104	99
3	2.7 - 4.2	100	97
4	4.2 - 5.7	99	97
5	5.7 - 7.3	98	91
6	7.3 - 8.7	104	89
7	8.7 - 10.2	100	96

LOG OF BOREHOLE GINT NOV 30 2022 OTT-00214936-C0 112 MONTREAL ROAD.GPJ TROW OTTAWA GDT 1/13/23

# Log of Borehole BH-02



Project No: OTT-00214936-C0

Figure No. 5

Project: Proposed Development

Page. 2 of 2

G W L	S O B Y L	SOIL DESCRIPTION	Geodetic Elevation m	D e p t h	Standard Penetration Test N Value				Combustible Vapour Reading (ppm)			S O I L T E S T S	Natural Unit Wt. kN/m <sup>3</sup>
					20	40	60	80	250	500	750		
					Shear Strength kPa				Natural Moisture Content % Atterberg Limits (% Dry Weight)				
			44.08 43.9	10									
		<b>Borehole Terminated at 10.2 m Depth</b>											

LOG OF BOREHOLE GINT NOV 30 2022 OTT-00214936-C0 112 MONTREAL ROAD.GPJ TROW OTTAWA.GDT 1/13/23

**NOTES:**

- Borehole data requires interpretation by EXP before use by others
- A 32 mm diameter well installed as shown.
- Field work was supervised by an EXP representative.
- See Notes on Sample Descriptions
- Log to be read with EXP Report OTT-00214936-C0

**WATER LEVEL RECORDS**

Date	Water Level (m)	Hole Open To (m)
October 24, 2022	0.8	

**CORE DRILLING RECORD**

Run No.	Depth (m)	% Rec.	RQD %
1	0 - 1.2	92	64
2	1.2 - 2.7	104	99
3	2.7 - 4.2	100	97
4	4.2 - 5.7	99	97
5	5.7 - 7.3	98	91
6	7.3 - 8.7	104	89
7	8.7 - 10.2	100	96

# Log of Borehole BH-03



Project No: OTT-00214936-C0

Figure No. 6

Project: Proposed Development

Page. 1 of 1

Location: 112 Montreal Road, Ottawa, ON

Date Drilled: September 15, 2022

Split Spoon Sample

Combustible Vapour Reading

Drill Type: CME-75 Track-Mounted Drill Rig

Auger Sample

Natural Moisture Content

SPT (N) Value

Atterberg Limits

Datum: Geodetic Elevation

Dynamic Cone Test

Undrained Triaxial at

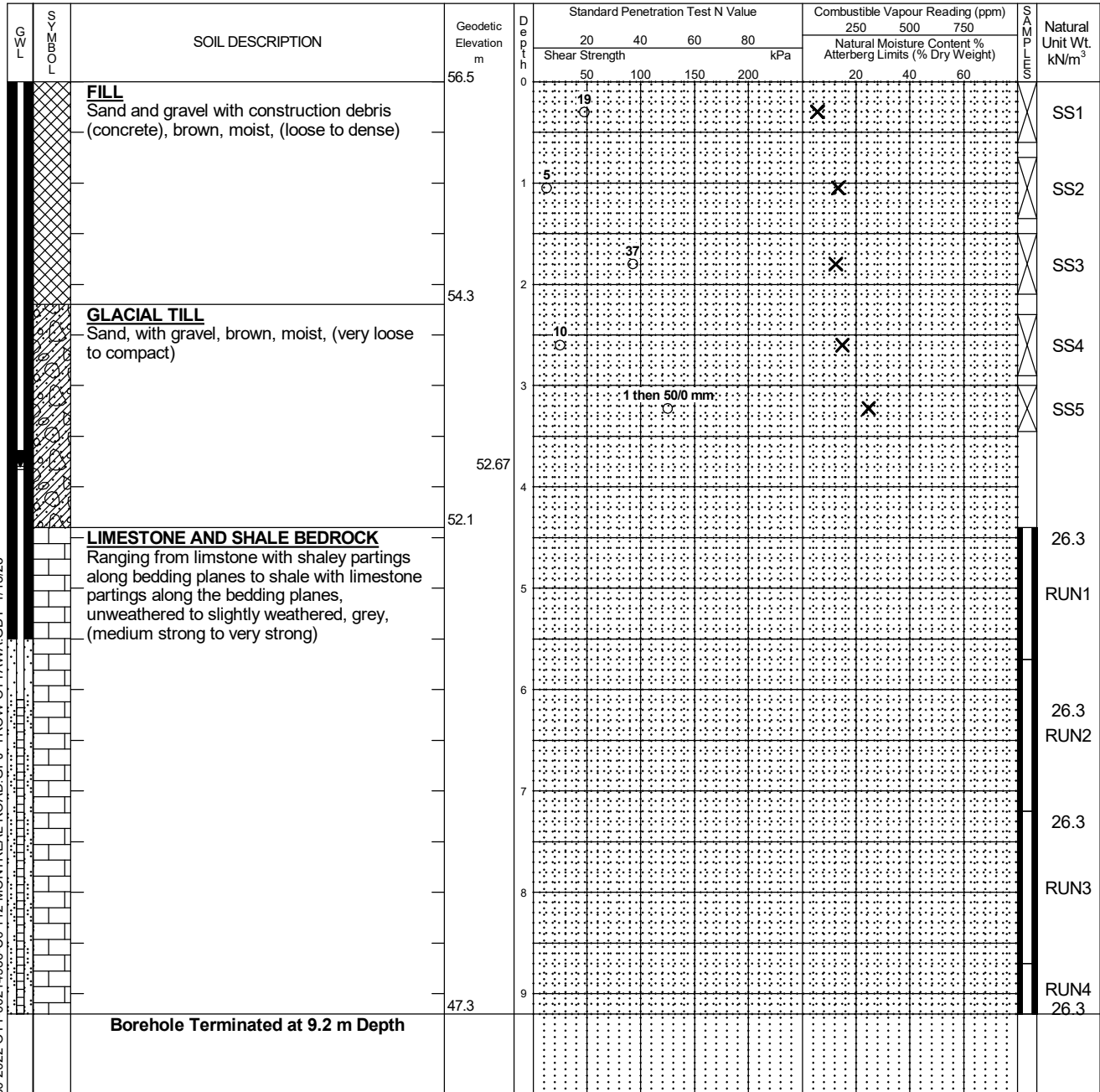
Shelby Tube

% Strain at Failure

Logged by: J.E. Checked by: D.W.

Shear Strength by Vane Test

Shear Strength by Penetrometer Test



LOG OF BOREHOLE GINT NOV 30 2022 OTT-00214936-C0 112 MONTREAL ROAD.GPJ TROW OTTAWA GDT 1/13/23

- NOTES:**
- Borehole data requires interpretation by EXP before use by others
  - A 32 mm diameter well installed as shown.
  - Field work was supervised by an EXP representative.
  - See Notes on Sample Descriptions
  - Log to be read with EXP Report OTT-00214936-C0

WATER LEVEL RECORDS		
Date	Water Level (m)	Hole Open To (m)
'October 24, 2022	3.8	

CORE DRILLING RECORD			
Run No.	Depth (m)	% Rec.	RQD %
1	4.4 - 5.7	100	59
2	5.7 - 7.2	98	73
3	7.2 - 8.7	99	90
4	8.7 - 9.2	100	98

# Log of Borehole BH-04



Project No: OTT-00214936-C0

Project: Proposed Development

Location: 112 Montreal Road, Ottawa, ON

Date Drilled: September 14, 2022

Drill Type: CME-75 Track-Mounted Drill Rig

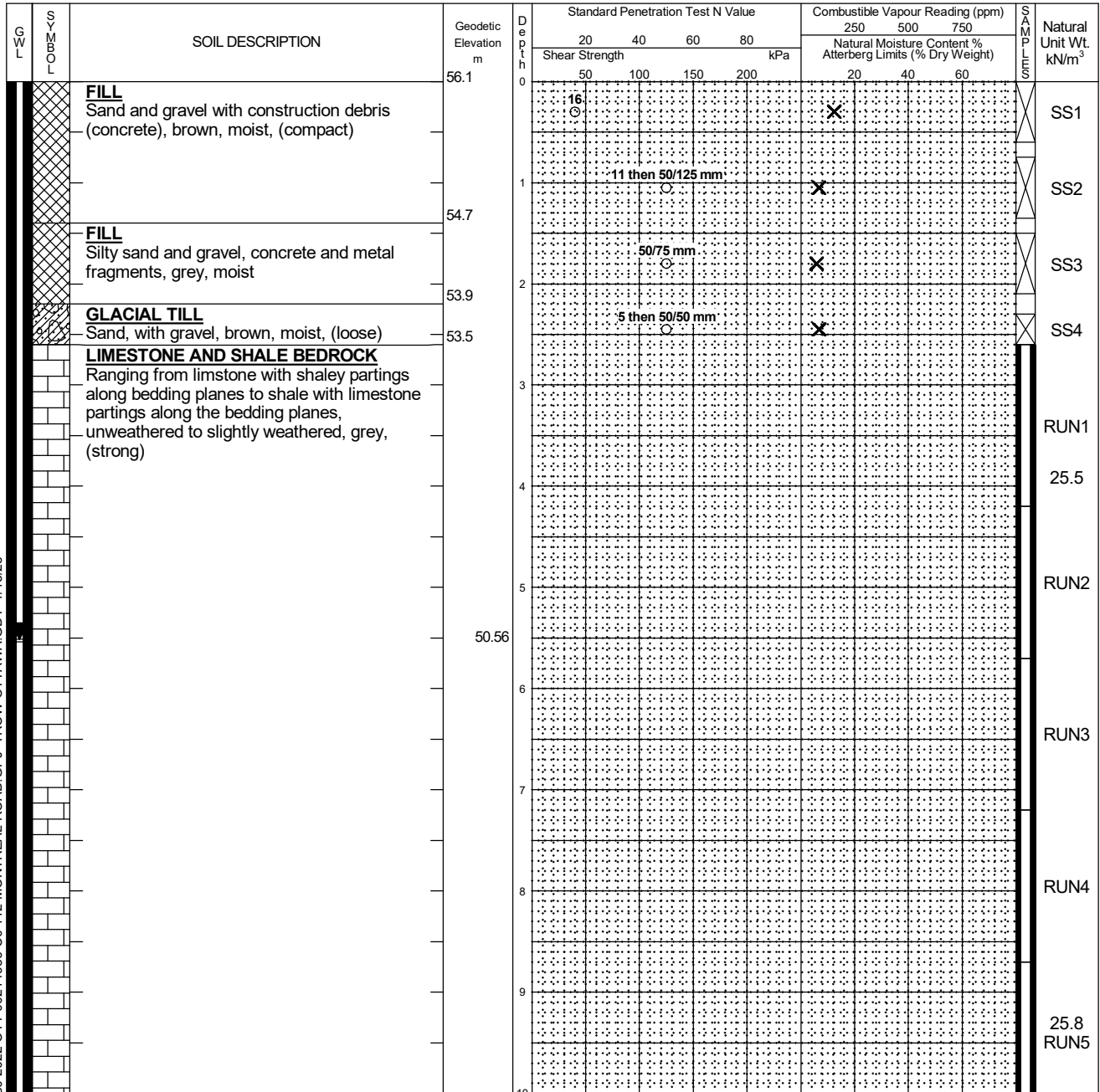
Datum: Geodetic Elevation

Logged by: J.E. Checked by: D.W.

Figure No. 7

Page. 1 of 2

- |                             |                                     |   |                                     |
|-----------------------------|-------------------------------------|---|-------------------------------------|
| Split Spoon Sample          | <input checked="" type="checkbox"/> | Combustible Vapour Reading                | <input type="checkbox"/>            |
| Auger Sample                | <input type="checkbox"/>            | Natural Moisture Content                  | <input checked="" type="checkbox"/> |
| SPT (N) Value               | <input type="checkbox"/>            | Atterberg Limits                          | <input type="checkbox"/>            |
| Dynamic Cone Test           | <input type="checkbox"/>            | Undrained Triaxial at % Strain at Failure | <input type="checkbox"/>            |
| Shelby Tube                 | <input type="checkbox"/>            | Shear Strength by Penetrometer Test       | <input type="checkbox"/>            |
| Shear Strength by Vane Test | <input type="checkbox"/>            |   |                                     |



Continued Next Page

**NOTES:**

- Borehole data requires interpretation by EXP before use by others
- A 32 mm diameter well installed as shown.
- Field work was supervised by an EXP representative.
- See Notes on Sample Descriptions
- Log to be read with EXP Report OTT-00214936-C0

**WATER LEVEL RECORDS**

Date	Water Level (m)	Hole Open To (m)
October 24, 2022	5.5	

**CORE DRILLING RECORD**

Run No.	Depth (m)	% Rec.	RQD %
1	2.6 - 4.2	95	67
2	4.2 - 5.7	97	97
3	5.7 - 7.2	100	88
4	7.2 - 8.7	100	78
5	8.7 - 10.2	100	88
6	10.2 - 11.7	100	91
7	11.7 - 13.3	100	90
8	13.3 - 14.8	100	95
9	14.8 - 15.3	100	91

LOG OF BOREHOLE GINT NOV 30 2022 OTT-00214936-C0 112 MONTREAL ROAD.GPJ TROW OTTAWA.GDT 1/13/23



# Log of Borehole BH-04



Project No: OTT-00214936-C0

Figure No. 7

Project: Proposed Development

Page. 2 of 2

L V G	S O I L C O M P O S I T I O N	SOIL DESCRIPTION	Geodetic Elevation m	Standard Penetration Test N Value				Combustible Vapour Reading (ppm)			Natural Unit Wt. kN/m <sup>3</sup>	
				20	40	60	80	250	500	750		
				Shear Strength kPa				Natural Moisture Content % Atterberg Limits (% Dry Weight)				
				50	100	150	200	20	40	60		
		<b>LIMESTONE AND SHALE BEDROCK</b> Ranging from limestone with shaley partings along bedding planes to shale with limestone partings along the bedding planes, unweathered to slightly weathered, grey, (strong) <i>(continued)</i>	46.1									
												RUN6
												RUN7
												RUN8
												RUN9
		<b>Borehole Terminated at 15.3 m Depth</b>	40.8									

LOG OF BOREHOLE GINT NOV 30 2022 OTT-00214936-C0 112 MONTREAL ROAD.GPJ TROW OTTAWA.GDT 1/13/23

- NOTES:
- Borehole data requires interpretation by EXP before use by others
  - A 32 mm diameter well installed as shown.
  - Field work was supervised by an EXP representative.
  - See Notes on Sample Descriptions
  - Log to be read with EXP Report OTT-00214936-C0

WATER LEVEL RECORDS		
Date	Water Level (m)	Hole Open To (m)
'October 24, 2022	5.5	

CORE DRILLING RECORD			
Run No.	Depth (m)	% Rec.	RQD %
1	2.6 - 4.2	95	67
2	4.2 - 5.7	97	97
3	5.7 - 7.2	100	88
4	7.2 - 8.7	100	78
5	8.7 - 10.2	100	88
6	10.2 - 11.7	100	91
7	11.7 - 13.3	100	90
8	13.3 - 14.8	100	95
9	14.8 - 15.3	100	91

# Log of Borehole BH-05



Project No: OTT-00214936-C0

Project: Proposed Development

Location: 112 Montreal Road, Ottawa, ON

Date Drilled: September 15, 2022

Drill Type: CME-75 Track-Mounted Drill Rig

Datum: Geodetic Elevation

Logged by: J.E. Checked by: D.W.

Figure No. 8

Page. 1 of 1

- 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 O I L	SOIL DESCRIPTION	Geodetic Elevation m	D e p t h	Standard Penetration Test N Value				Combustible Vapour Reading (ppm)			N a t u r a l U n i t W t. k N /m <sup>3</sup>	
					Shear Strength kPa				250	500	750		
					20	40	60	80	Natural Moisture Content % Atterberg Limits (% Dry Weight)				
50	100	150	200	20	40	60							
		<b>LIMESTONE AND SHALE BEDROCK</b> Ranging from limestone with shaley partings along bedding planes to shale with limestone partings along the bedding planes, unweathered to slightly weathered, grey, (strong to very strong)	55.28	0									RUN1
				1									25.8
				2									RUN2
				3									
				4									RUN3
				5									26.1
				6									RUN4
				7									25.3
				8									RUN5
													RUN6
		<b>Borehole Terminated at 8.9 m Depth</b>	46.4										

LOG OF BOREHOLE GINT NOV 30 2022 OTT-00214936-C0 112 MONTREAL ROAD.GPJ TROW OTTAWA.GDT 1/13/23

- NOTES:
- Borehole data requires interpretation by EXP before use by others
  - Borehole was backfilled with soil cuttings upon completion.
  - Field work was supervised by an EXP representative.
  - See Notes on Sample Descriptions
  - Log to be read with EXP Report OTT-00214936-C0

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

CORE DRILLING RECORD			
Run No.	Depth (m)	% Rec.	RQD %
1	0 - 1.4	91	57
2	1.4 - 2.9	100	88
3	2.9 - 4.4	97	71
4	4.4 - 5.9	98	66
5	5.9 - 7.4	87	87
6	7.4 - 8.9	97	90

# Log of Borehole BH-06



Project No: OTT-00214936-C0

Project: Proposed Development

Location: 112 Montreal Road, Ottawa, ON

Date Drilled: September 22, 2022

Drill Type: CME-75 Track-Mounted Drill Rig

Datum: Geodetic Elevation

Logged by: J.E. Checked by: D.W.

Figure No. 9

Page. 1 of 2

- 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 O B Y L	SOIL DESCRIPTION	Geodetic Elevation m	D e p t h	Standard Penetration Test N Value				Combustible Vapour Reading (ppm)			Natural Unit Wt. kN/m <sup>3</sup>
					Shear Strength kPa				250	500	750	
					20	40	60	80	Natural Moisture Content % Atterberg Limits (% Dry Weight)			
		<b>FILL</b> Sand and gravel with construction debris, grey, moist	55.84	0								SS1
		<b>LIMESTONE BEDROCK</b> Shaley partings along bedding planes, unweathered to slightly weathered, grey, (medium strong to strong)	55.1	1								26.1 RUN1
				2								RUN2 27.6
				3								25.5 RUN3
				4								25.5 RUN4
				5								25.2 RUN5
				6								26.3 RUN6
				7								26.4
				8								
				9								
				10								

Continued Next Page

**NOTES:**

- Borehole data requires interpretation by EXP before use by others
- A 32 mm diameter well installed as shown.
- Field work was supervised by an EXP representative.
- See Notes on Sample Descriptions
- Log to be read with EXP Report OTT-00214936-C0

**WATER LEVEL RECORDS**

Date	Water Level (m)	Hole Open To (m)
'October 24, 2022	0.6	

**CORE DRILLING RECORD**

Run No.	Depth (m)	% Rec.	RQD %
1	0.8 - 1.7	84	69
2	1.7 - 3.2	100	65
3	3.2 - 4.7	91	72
4	4.7 - 6.2	100	98
5	6.2 - 7.7	99	99
6	7.7 - 9.2	100	100
7	9.2 - 10.7	99	99
8	10.7 - 12.2	100	100

LOG OF BOREHOLE GINT NOV 30 2022 OTT-00214936-C0 112 MONTREAL ROAD.GPJ TROW OTTAWA GDT 1/13/23

# Log of Borehole BH-06



Project No: OTT-00214936-C0

Figure No. 9

Project: Proposed Development

Page. 2 of 2

L S L O B M Y S	SOIL DESCRIPTION	Geodetic Elevation m	Standard Penetration Test N Value				Combustible Vapour Reading (ppm)			Natural Unit Wt. kN/m <sup>3</sup>
			20	40	60	80	250	500	750	
			Shear Strength kPa				Natural Moisture Content % Atterberg Limits (% Dry Weight)			
	<b>LIMESTONE BEDROCK</b> Shaley partings along bedding planes, unweathered to slightly weathered, grey, (medium strong to strong) (continued)	45.84	10	100	150	200	20	40	60	RUN7
			11							26.3 RUN8
			12							
	<b>Borehole Terminated at 12.2 m Depth</b>	43.6								

LOG OF BOREHOLE GINT NOV 30 2022 OTT-00214936-C0 112 MONTREAL ROAD.GPJ TROW OTTAWA.GDT 1/13/23

- NOTES:**
- Borehole data requires interpretation by EXP before use by others
  - A 32 mm diameter well installed as shown.
  - Field work was supervised by an EXP representative.
  - See Notes on Sample Descriptions
  - Log to be read with EXP Report OTT-00214936-C0

WATER LEVEL RECORDS		
Date	Water Level (m)	Hole Open To (m)
'October 24, 2022	0.6	

CORE DRILLING RECORD			
Run No.	Depth (m)	% Rec.	RQD %
1	0.8 - 1.7	84	69
2	1.7 - 3.2	100	65
3	3.2 - 4.7	91	72
4	4.7 - 6.2	100	98
5	6.2 - 7.7	99	99
6	7.7 - 9.2	100	100
7	9.2 - 10.7	99	99
8	10.7 - 12.2	100	100

# Log of Borehole MW23-1



Project No: OTT-00214936

Figure No. \_\_\_\_\_

Project: Phase II ESA

Page. 1 of 1

Location: 112 Montreal Road, Ottawa

Date Drilled: February 10th, 2023

Split Spoon Sample

Combustible Vapour Reading

Drill Type: GEO GM 100

Auger Sample

Natural Moisture Content

SPT (N) Value

Atterberg Limits

Datum: Assumed

Dynamic Cone Test

Undrained Triaxial at % Strain at Failure

Shelby Tube

Shear Strength by Penetrometer Test

Logged by: MR Checked by: MM

Shear Strength by Vane Test

G W L	S O I L D E S C R I P T I O N	Assumed m	D e p t h m	Standard Penetration Test N Value				Combustible Vapour Reading (ppm)			N a t u r a l U n i t W t. k N/m <sup>3</sup>
				Shear Strength kPa				250	500	750	
				20	40	60	80	Natural Moisture Content % Atterberg Limits (% Dry Weight)			
	<b>ASPHALT FILL</b> Sand and gravel, brown, moist	56.37 56.3	0								
	<b>GLACIAL TILL</b> Sand with gravel, brown.	53.4	3								
	<b>BEDROCK</b> Fair to poor quality	52.8	4								
		49.1	7								
	<b>Borehole Terminated at 7.31 m Depth</b>										

LOG OF BOREHOLE BH LOGS 112 MONTREAL RD-MR-FEB 10 2023.GPJ TROW OTTAWA.GDT 4/5/23

- NOTES:
- Borehole data requires interpretation by EXP before use by others
  - A 50mm PVC monitoring well was installed upon completion.
  - Field work was supervised by an EXP representative.
  - See Notes on Sample Descriptions
  - Log to be read with EXP Report No. OTT-00214936

WATER LEVEL RECORDS		
Date	Water Level (m)	Hole Open To (m)
17 days	3.7	

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

# Log of Borehole MW23-2



Project No: OTT-00214936

Figure No. \_\_\_\_\_

Project: Phase II ESA

Page. 1 of 1

Location: 112 Montreal Road, Ottawa

Date Drilled: February 9th, 2023

Split Spoon Sample

Combustible Vapour Reading

Drill Type: GEO GM 100

Auger Sample

Natural Moisture Content

SPT (N) Value

Atterberg Limits

Datum: Assumed

Dynamic Cone Test

Undrained Triaxial at % Strain at Failure

Shelby Tube

Shear Strength by Penetrometer Test

Logged by: MR Checked by: MM

Shear Strength by Vane Test

G W L	S O B Y L	SOIL DESCRIPTION	Assumed m	D e p t h m	Standard Penetration Test N Value				Combustible Vapour Reading (ppm)			S O I L T E M P E R A T U R E ° C	Natural Unit Wt. kN/m <sup>3</sup>
					Shear Strength kPa				250	500	750		
					20	40	60	80	Natural Moisture Content % Atterberg Limits (% Dry Weight)				
50	100	150	200	20	40	60							
		<b>BEDROCK</b>	54.26	0									
				1									
				2									
				3									
				4									
		<b>Borehole Terminated at 4.83 m Depth</b>	49.5										

LOG OF BOREHOLE BH LOGS 112 MONTREAL RD-MR-FEB 10 2023.GPJ TROW OTTAWA.GDT 4/5/23

- NOTES:
- Borehole data requires interpretation by EXP before use by others
  - A 50mm PVC monitoring well was installed upon completion.
  - Field work was supervised by an EXP representative.
  - See Notes on Sample Descriptions
  - Log to be read with EXP Report No. OTT-00214936

WATER LEVEL RECORDS		
Date	Water Level (m)	Hole Open To (m)
17 days	1.3	

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

# Log of Borehole MW23-3



Project No: OTT-00214936

Figure No. \_\_\_\_\_

Project: Phase II ESA

Page. 1 of 1

Location: 112 Montreal Road, Ottawa

Date Drilled: February 9th, 2023

Split Spoon Sample

Combustible Vapour Reading

Drill Type: GEO GM 100

Auger Sample

Natural Moisture Content

SPT (N) Value

Atterberg Limits

Datum: Assumed

Dynamic Cone Test

Undrained Triaxial at % Strain at Failure

Shelby Tube

Shear Strength by Penetrometer Test

Logged by: MR Checked by: MM

Shear Strength by Vane Test

G W L	S O B Y L	SOIL DESCRIPTION	Assumed m	D e p t h m	Standard Penetration Test N Value				Combustible Vapour Reading (ppm)			N a t u r a l U n i t W t. k N/m <sup>3</sup>
					Shear Strength kPa				250	500	750	
					20	40	60	80	Natural Moisture Content % Atterberg Limits (% Dry Weight)			
50	100	150	200	20	40	60						
		<b>BEDROCK</b>	54.27	0								
				1								
				2								
				3								
				4								
		<b>Borehole Terminated at 4.76 m Depth</b>	49.8									

LOG OF BOREHOLE BH LOGS 112 MONTREAL RD-MR-FEB 10 2023.GPJ TROW OTTAWA.GDT 4/5/23

- NOTES:
- Borehole data requires interpretation by EXP before use by others
  - A 50mm PVC monitoring well was installed upon completion.
  - Field work was supervised by an EXP representative.
  - See Notes on Sample Descriptions
  - Log to be read with EXP Report No. OTT-00214936

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

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

# Log of Borehole MW23-4



Project No: OTT-00214936

Figure No. \_\_\_\_\_

Project: Phase II ESA

Page. 1 of 1

Location: 112 Montreal Road, Ottawa

Date Drilled: February 10th, 2023

Split Spoon Sample

Combustible Vapour Reading

Drill Type: GEO GM 100

Auger Sample

Natural Moisture Content

SPT (N) Value

Atterberg Limits

Datum: Assumed

Dynamic Cone Test

Undrained Triaxial at % Strain at Failure

Shelby Tube

Shear Strength by Penetrometer Test

Logged by: MR Checked by: MM

Shear Strength by Vane Test

G W L	S O B O L	SOIL DESCRIPTION	Assumed m	D e p t h	Standard Penetration Test N Value				Combustible Vapour Reading (ppm)			N a t u r a l U n i t W t. k N/m <sup>3</sup>	
					Shear Strength				Natural Moisture Content %				
					20	40	60	80	250	500	750		
		<b>TOPSOIL</b>	56.3	0									
		<b>FILL</b> Sand and gravel, brown, wet	56.2										
		<b>BEDROCK</b>	55.3	1									
				2									
				3									
				4									
			51.8										
		<b>Borehole Terminated at 4.57 m Depth</b>											

LOG OF BOREHOLE BH LOGS 112 MONTREAL RD-MR-FEB 10 2023.GPJ TROW OTTAWA.GDT 4/5/23

- NOTES:
- Borehole data requires interpretation by EXP before use by others
  - A 50mm PVC monitoring well was installed upon completion.
  - Field work was supervised by an EXP representative.
  - See Notes on Sample Descriptions
  - Log to be read with EXP Report No. OTT-00214936

WATER LEVEL RECORDS		
Date	Water Level (m)	Hole Open To (m)
17 days	2.2	

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



# Log of Borehole MW23-5



Project No: OTT-00214936

Figure No. \_\_\_\_\_

Project: Phase II ESA

Page. 1 of 1

Location: 112 Montreal Road, Ottawa

Date Drilled: February 9th, 2023

Split Spoon Sample

Combustible Vapour Reading

Drill Type: GEO GM 100

Auger Sample

Natural Moisture Content

SPT (N) Value

Atterberg Limits

Datum: Assumed

Dynamic Cone Test

Undrained Triaxial at % Strain at Failure

Shelby Tube

Shear Strength by Vane Test

Shear Strength by Penetrometer Test

Logged by: MR Checked by: MM

GWL	SOIL	SOIL DESCRIPTION	Assumed m	Depth	Standard Penetration Test N Value				Combustible Vapour Reading (ppm)			Natural Unit Wt. kN/m <sup>3</sup>	
					Shear Strength				Natural Moisture Content %				Atterberg Limits (% Dry Weight)
					20	40	60	80	250	500	750		
				kPa									
				0	50	100	150	200					
		<b>TOPSOIL</b>	56.96										
		<b>FILL</b> Sand and gravel, brown, wet	56.9										
				1									
				2									
				3									
		<b>BEDROCK</b>	54.3										
				4									
				5									
				6									
				6.94									
		<b>Borehole Terminated at 6.94 m Depth</b>	50.1										

LOG OF BOREHOLE BH LOGS 112 MONTREAL RD-MR-FEB 10 2023.GPJ TROW OTTAWA.GDT 4/5/23

- NOTES:**
- Borehole data requires interpretation by EXP before use by others
  - A 50mm PVC monitoring well was installed upon completion.
  - Field work was supervised by an EXP representative.
  - See Notes on Sample Descriptions
  - Log to be read with EXP Report No. OTT-00214936

WATER LEVEL RECORDS		
Date	Water Level (m)	Hole Open To (m)
17 days	2.9	

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

EXP Services Inc.  
2705460 Ontario Inc.  
Phase Two Environmental Site Assessment  
112 Montreal Road, Ottawa, Ontario  
OTT-00214936-C0  
April 13, 2023

## Appendix E: Analytical Summary Tables

**Table 1 - Analytical Results in Soil - PHC and BTEX**  
 112 Montreal Road, Ottawa, Ontario  
 OTT-00214936-C0

Sample ID	UNITS	Provincial MECP Table 3 Residential <sup>1</sup>	2013 Samples							2022 Samples											
			MW1 SS4	MW2 SS5	MW3 SS3	MW4 SS3	MW4 SS30 (Dup. MW4)	MW6B SS1	MW9 SS5	AH1-SS1	AH1-SS2	AH2-SS1	AH2-SS2	AH3-SS2	AH3-SS3	AH4-SS3	AH4-SS4	AH5-SS2	AH5-SS3	AH6-SS3	
Sampling Date			23-Oct-13	24-Oct-13	23-Oct-13	24-Oct-13	24-Oct-13	8-Nov-13	23-Oct-13	16-Sep-22	16-Sep-22	16-Sep-22	16-Sep-22	16-Sep-22	16-Sep-22	16-Sep-22	16-Sep-22	16-Sep-22	14-Sep-22	14-Sep-22	
Sample Depth (mbgs)			1.8 - 2.4	2.4 - 3.0	1.2 - 1.8	1.2 - 1.8	1.2 - 1.8	0.15 - 0.75	1.8 - 2.4	0.0 - 0.6	0.8 - 1.4	0.0 - 0.6	0.8 - 1.4	0.8 - 1.4	1.5 - 2.1	1.5 - 2.1	2.3 - 2.9	0.8 - 1.4	1.5 - 2.1	1.5 - 2.1	
<b>Petroleum Hydrocarbons</b>																					
F1 PHC (C6-C10)	µg/g	55	<7	<7	<7	<7	<7	<7	17	<10	19	<10	13	<10	15	50	36	<10	11	<10	
F2 PHC (C10-C16)	µg/g	98	<4	<4	<4	<4	14	<4	<4	10	57	19	78	24	111	45	111	31	81	28	
F3 PHC (C16-C34)	µg/g	300	81	<8	<8	364	536	<8	<8	45	109	193	126	75	152	58	104	93	131	56	
F4 PHC (C34-C50)	µg/g	2800	10	<6	<6	624	1090	<6	<6	16	17	154	<10	<10	18	20	10	14	17	<10	
F4 PHC (C34-C50) Gravimetric	µg/g	2800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Volatile Organic Compounds</b>																					
Benzene	µg/g	0.21	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Ethylbenzene	µg/g	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Toluene	µg/g	2.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Total Xylenes	µg/g	3.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.37	<0.03	<0.03	<0.03	<0.03	

**NOTES:**

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

1

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

<RDL

NV

No Value

-

Parameter not analyzed

Indicates soil exceedance of MECP Table 3 SCS

**Table 1 - Analytical Results in Soil - PHC and BTEX**  
**112 Montreal Road, Ottawa, Ontario**  
**OTT-00214936-C0**

Sample ID	UNITS	Provincial	2022 Samples																		
		MECP Table 3 Residential <sup>1</sup>	AH6-SS4	AH7-SS3	AH7-SS4	AH8-SS3	AH8-SS4	AH9-SS1	AH9-SS3	DUP2 (Dup. AH9-SS3)	AH10-SS3	AH10-SS4	DUP1 (Dup. AH10-SS4)	TP1-1.0	TP1-2.5	TP1-4.5	TP2-1.0	TP2-2.0	TP2-3.0	Dup1 (Dup TP2 3.0)	
Sampling Date			14-Sep-22	14-Sep-22	14-Sep-22	14-Sep-22	14-Sep-22	14-Sep-22	14-Sep-22	14-Sep-22	14-Sep-22	14-Sep-22	14-Sep-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	
Sample Depth (mbgs)			2.3 - 2.9	1.5 - 2.1	2.3 - 2.9	1.5 - 2.1	2.3 - 2.9	0.0 - 0.6	1.5 - 2.1	1.5 - 2.1	1.5 - 2.1	2.3 - 2.9	2.3 - 2.9	1.0	2.5	4.5	1.0	2.0	3.0	3.0	
<b>Petroleum Hydrocarbons</b>																					
F1 PHC (C6-C10)	µg/g	55	< 10	13	< 10	< 10	< 10	< 10	17	14	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	
F2 PHC (C10-C16)	µg/g	98	28	20	41	28	33	33	32	30	< 5	34	< 5	< 5	< 5	< 5	< 5	9	12	5	
F3 PHC (C16-C34)	µg/g	300	71	47	66	53	139	141	139	114	< 10	63	11	15	16	22	28	32	34	152	
F4 PHC (C34-C50)	µg/g	2800	15	< 10	11	18	198	270	153	132	< 10	15	< 10	13	< 10	< 10	12	< 10	< 10	431	
F4 PHC (C34-C50) Gravimetric	µg/g	2800	-	-	-	-	680	1240	680	650	-	-	-	-	-	-	-	-	-	2150	
<b>Volatile Organic Compounds</b>																					
Benzene	µg/g	0.21	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	
Ethylbenzene	µg/g	2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	
Toluene	µg/g	2.3	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Total Xylenes	µg/g	3.1	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	

**NOTES:**

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

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

NV No Value

- Parameter not analyzed

Indicates soil exceedance of MECP Table 3 SCS

**Table 1 - Analytical Results in Soil - PHC and BTEX**  
 112 Montreal Road, Ottawa, Ontario  
 OTT-00214936-C0

Sample ID	UNITS	Provincial	2022 Samples																	
		MECP Table 3 Residential <sup>1</sup>	TP2-3.7	TP3-1.0	TP3-2.0	TP3-2.75	TP3-3.50	TP4-1.0	TP4-2.0	TP4-2.75	TP4-3.75	TP5-1.0	TP5-2.0	TP5-2.75	TP5-3.25	TP6-1.0	TP7-1.0	Dup3 (Dup TP7-1.0)	TP8-1.0	TP9-1.0
Sampling Date			31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22
Sample Depth (mbgs)			3.7	1.0	2.0	2.75	3.5	1.0	2.0	2.75	3.75	1.0	2.0	2.75	3.25	1.0	1.0	1.0	1.0	
<b>Petroleum Hydrocarbons</b>																				
F1 PHC (C6-C10)	µg/g	55	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	10	< 10	< 10	< 10	< 10	< 10	< 10	
F2 PHC (C10-C16)	µg/g	98	8	15	< 5	< 5	21	19	35	29	59	15	26	28	26	8	37	49	16	30
F3 PHC (C16-C34)	µg/g	300	36	42	36	125	51	1230	77	65	112	72	141	68	74	94	312	522	78	60
F4 PHC (C34-C50)	µg/g	2800	32	27	67	299	< 10	15	10	20	12	12	182	< 10	20	30	63	141	29	18
F4 PHC (C34-C50) Gravimetric	µg/g	2800	< 50	-	390	1440	-	-	-	-	-	-	490	-	-	-	-	-	-	-
<b>Volatile Organic Compounds</b>																				
Benzene	µg/g	0.21	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Ethylbenzene	µg/g	2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Toluene	µg/g	2.3	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total Xylenes	µg/g	3.1	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03

**NOTES:**

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

1

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

<RDL

NV

No Value

-

Parameter not analyzed

Indicates soil exceedance of MECP Table 3 SCS

**Table 1 - Analytical Results in Soil - PHC and BTEX**  
**112 Montreal Road, Ottawa, Ontario**  
**OTT-00214936-C0**

Sample ID	UNITS	Provincial	2022 Samples						
		MECP Table 3 Residential <sup>1</sup>	Dup2 (Dup TP9-1.0)	BH1	BH2	BH3-SS2	BH4-SS4	BH5	BH6
Sampling Date			31-Aug-22	31-Aug-22	31-Aug-22	16-Sep-22	15-Sep-22	31-Aug-22	31-Aug-22
Sample Depth (mbgs)			1.0	1.0	0.3	0.8 - 1.4	2.3 - 2.9	0.5	1.0
<b>Petroleum Hydrocarbons</b>									
F1 PHC (C6-C10)	µg/g	55	< 10	< 10	< 10	< 10	38	< 10	< 10
F2 PHC (C10-C16)	µg/g	98	26	109	< 5	22	67	5	15
F3 PHC (C16-C34)	µg/g	300	71	2620	50	65	77	94	29
F4 PHC (C34-C50)	µg/g	2800	46	352	133	34	< 10	94	< 10
F4 PHC (C34-C50) Gravimetric	µg/g	2800	-	-	470	-	-	400	-
<b>Volatile Organic Compounds</b>									
Benzene	µg/g	0.21	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Ethylbenzene	µg/g	2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Toluene	µg/g	2.3	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total Xylenes	µg/g	3.1	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03

**NOTES:**

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

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

NV No Value

- Parameter not analyzed

Indicates soil exceedance of MECP Table 3 SCS

**Table 2 - Analytical Results in Soil - Inorganic Parameters**  
**112 Montreal Road, Ottawa, Ontario**  
**OTT-00241936-C0**

Sample ID	UNITS	Provincial	2013 Samples							2022 Samples											
		MECP Table 3 Residential <sup>1</sup>	MW1 SS4	MW3 SS3	MWBH4 SS3	MW4 SS30 (Dup. MW4)	MW6 SS1	BH10 S2	BH11 S1	AH1-SS1	AH1-SS2	AH2-SS1	AH2-SS2	AH3-SS2	AH3-SS3	AH4-SS3	AH4-SS4	AH5-SS2	AH5-SS3	AH6-SS3	
Sampling Date			23-Oct-13	23-Oct-13	24-Oct-13	24-Oct-13	8-Nov-13	31-Oct-13	31-Oct-13	16-Sep-22	16-Sep-22	16-Sep-22	16-Sep-22	16-Sep-22	16-Sep-22	16-Sep-22	16-Sep-22	14-Sep-22	14-Sep-22		
Sample Depth (mbgs)			1.8 - 2.4	1.2 - 1.8	1.2 - 1.8	1.2 - 1.8	0.15 - 0.75	0.6 - 0.9	0.0 - 0.4	0.0 - 0.6	0.8 - 1.4	0.0 - 0.6	0.8 - 1.4	0.8 - 1.4	1.5 - 2.1	1.5 - 2.1	2.3 - 2.9	0.8 - 1.4	1.5 - 2.1	1.5 - 2.1	
<b>Metals</b>																					
Antimony	µg/g	7.5	1.9	<1.0	<1.0	<1.0	3.8	<1.0	<1.0	<0.5	2	3.4	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Arsenic	µg/g	18	6.0	5.8	4.1	3.9	3.9	5.7	7.6	3.8	6.1	8.3	6.3	10.8	7	2.3	2.9	7.4	8	4.1	
Barium	µg/g	390	253	71.7	87.8	77	177	498	119	66	170	232	69	94	208	107	298	96	184	71	
Beryllium	µg/g	4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.3	0.5	0.6	0.6	0.9	0.6	0.4	0.5	0.8	0.7	0.4	
Boron (Total)	µg/g	120	7.2	6.7	7.6	7.8	6.1	6.7	4.8	5.5	7.5	9.6	8.3	7	10.2	11.2	13.9	7.2	10.3	5.9	
Boron (Hot Water Soluble)	µg/g	1.5	NA	NA	NA	NA	NA	NA	NA	0.07	0.12	0.13	0.04	0.02	<0.02	0.06	0.04	0.04	<0.02	<0.02	
Cadmium	µg/g	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	0.7	<0.5	<0.5	0.60	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Chromium (Total)	µg/g	160	20.4	11.9	15.8	14.3	21.9	26	23	11	19	24	18	22	21	17	17	22	21	13	
Chromium VI	µg/g	8	NA	NA	NA	NA	NA	NA	NA	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Cobalt	µg/g	22	8.3	6.9	6.4	5.8	10.8	5.3	6.1	6	9	12	13	15	12	6	9	13	12	10	
Copper	µg/g	140	39.8	20.1	24.7	21.3	55.6	44.8	61.6	21	102	147	47	59	37	9	17	59	44	21	
Lead	µg/g	120	325	12	14.7	11.1	19.8	560	218	34	210	396	14	18	12	<5	<5	23	13	9	
Mercury	µg/g	0.27	NA	NA	NA	NA	NA	NA	NA	0.061	0.233	0.315	0.049	0.098	0.038	0.017	0.021	0.094	0.051	0.027	
Molybdenum	µg/g	6.9	1.6	2.7	1.6	<1.0	1.1	1.6	1.3	1	3	3	3	4	4	1	2	3	4	3	
Nickel	µg/g	100	27.3	22.7	32.0	29.6	58.4	46.1	35.9	20	35	38	48	71	42	14	25	58	47	27	
Selenium	µg/g	2.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.7	0.9	1.1	1.5	1.4	1.6	0.6	0.7	1.3	1.2	0.8	
Silver	µg/g	20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	0.3	0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Thallium	µg/g	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.2	0.3	0.4	0.3	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	
Uranium	µg/g	23	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	1.5	1.6	1.7	2.4	2.1	1.5	2	1.9	2.7	1.1	
Vanadium	µg/g	86	22.3	20.4	18.6	16.8	24.3	28.3	32.1	17	28	30	25	33	26	16	21	32	25	21	
Zinc	µg/g	340	177	28.1	58.5	55.0	82.3	428	375	78	167	259	81	89	84	49	82	89	77	40	
<b>Inorganic Parameters</b>																					
Conductivity	µg/g	0.7	-	-	-	-	-	-	-	0.29	0.299	0.201	0.185	0.525	0.494	0.341	0.166	0.308	0.341	0.3	
Sodium Adsorption Ratio	µg/g	5	-	-	-	-	-	-	-	1.14	0.938	0.255	1.48	2.21	1.12	0.631	0.63	2.81	2.28	2.24	
Cyanide	µg/g	0.051	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

**NOTES:**

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

<sup>1</sup> <RDL Non-detectable results are shown as "< (RDL)" where RDL represents the reporting detection limit.

NV No Value

- Parameter not analyzed

Indicates soil exceedance of MECP Table 3 SCS

**Table 2 - Analytical Results in Soil - Inorganic Parameters**  
**112 Montreal Road, Ottawa, Ontario**  
**OTT-00241936-C0**

Sample ID	UNITS	Provincial	2022 Samples																	
		MECP Table 3 Residential <sup>1</sup>	AH6-SS4	AH7-SS3	AH7-SS4	AH8-SS3	AH8-SS4	AH9-SS1	AH9-SS3	DUP2 (Dup. AH9-SS3)	AH10-SS3	AH10-SS4	DUP1 (Dup. AH10-SS4)	TP1-1.0	TP1-2.5	TP1-4.5	TP2-1.0	TP2-2.0	TP2-3.0	Dup1 (Dup TP2 3.0)
Sampling Date			14-Sep-22	14-Sep-22	14-Sep-22	14-Sep-22	14-Sep-22	14-Sep-22	14-Sep-22	14-Sep-22	14-Sep-22	14-Sep-22	14-Sep-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22
Sample Depth (mbgs)			2.3 - 2.9	1.5 - 2.1	2.3 - 2.9	1.5 - 2.1	2.3 - 2.9	0.0 - 0.6	1.5 - 2.1	1.5 - 2.1	1.5 - 2.1	2.3 - 2.9	2.3 - 2.9	1.0	2.5	4.5	1.0	2.0	3.0	3.0
<b>Metals</b>																				
Antimony	µg/g	7.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.7	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.6	< 0.5	< 0.5	< 0.5	0.6
Arsenic	µg/g	18	3.5	4.7	3.6	4	3.5	6.7	6.2	6.3	4.1	2.8	3.5	7.4	6.9	10.3	9.3	7.9	8.6	6.1
Barium	µg/g	390	84	151	70	48	67	133	131	136	114	88	96	96	99	121	107	176	110	155
Beryllium	µg/g	4	0.3	0.4	0.3	0.3	0.3	0.6	0.5	0.5	0.4	0.4	0.4	0.7	0.7	0.8	0.6	0.6	0.7	0.5
Boron (Total)	µg/g	120	6.8	6.5	7.1	6.1	6.9	8.9	9.7	10	6.7	6.1	6.6	7.4	6.9	6.8	6.4	6.9	6.9	7
Boron (Hot Water Soluble)	µg/g	1.5	< 0.02	0.02	0.02	< 0.02	< 0.02	0.06	0.07	0.09	0.05	< 0.02	0.02	0.07	0.07	0.08	0.1	0.04	0.06	0.07
Cadmium	µg/g	1.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chromium (Total)	µg/g	160	12	13	13	13	14	19	29	26	21	19	19	21	21	21	20	18	23	17
Chromium VI	µg/g	8	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Cobalt	µg/g	22	9	12	8	9	9	10	10	9	10	8	11	9	9	14	10	13	12	8
Copper	µg/g	140	17	26	17	20	20	33	31	48	22	19	21	34	36	46	38	39	41	28
Lead	µg/g	120	8	10	7	8	8	22	42	52	27	7	9	25	16	32	29	26	35	57
Mercury	µg/g	0.27	0.023	0.025	0.017	0.019	0.019	0.065	0.07	0.081	0.038	0.014	0.017	0.084	0.08	0.103	0.108	0.09	0.122	0.102
Molybdenum	µg/g	6.9	2	4	2	3	3	2	2	2	3	< 1	2	2	2	4	2	3	3	2
Nickel	µg/g	100	21	32	20	25	23	40	28	29	34	20	26	44	53	60	48	53	58	32
Selenium	µg/g	2.4	0.6	0.9	0.6	0.7	0.6	1	0.8	0.8	0.5	0.6	1	1.1	1	1.3	1.3	1.2	1.1	1
Silver	µg/g	20	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Thallium	µg/g	1	0.2	0.2	0.2	< 0.1	0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.4	0.5	0.6	0.5	0.6	0.8	0.4
Uranium	µg/g	23	1.3	1.5	1.3	1.5	1.3	1.8	1.4	2	1	1	1	2.2	2.2	2.7	2.2	2.3	2	1.2
Vanadium	µg/g	86	20	21	20	21	22	25	29	30	30	31	30	26	28	30	29	27	29	24
Zinc	µg/g	340	23	48	27	30	31	77	72	91	49	36	41	108	84	92	85	87	100	93
<b>Inorganic Parameters</b>																				
Conductivity	µg/g	0.7	0.25	0.211	0.195	0.28	0.278	0.553	0.892	1.23	0.569	0.497	0.511	0.302	0.612	0.479	0.247	0.389	0.395	0.398
Sodium Adsorption Ratio	µg/g	5	0.787	1.28	1.11	2.69	2.67	1.87	1.53	1.46	2.92	2.87	2.67	1.5	1.64	1.69	0.217	0.435	0.517	0.446
Cyanide	µg/g	0.051	-	-	-	-	-	-	-	-	-	-	-	< 0.05	< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05

**NOTES:**

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

<sup>1</sup> <RDL Non-detectable results are shown as "< (RDL)" where RDL represents the

NV No Value

- Parameter not analyzed

Indicates soil exceedance of MECP Table 3 SCS



**Table 2 - Analytical Results in Soil - Inorganic Parameters**  
**112 Montreal Road, Ottawa, Ontario**  
**OTT-00241936-C0**

Sample ID	UNITS	2022 Samples																		
		Provincial MECP Table 3 Residential <sup>1</sup>	TP2-3.7	TP3-1.0	TP3-2.0	TP3-2.75	TP3-3.50	TP4-1.0	TP4-2.0	TP4-2.75	TP4-3.75	TP5-1.0	TP5-2.0	TP5-2.75	TP5-3.25	TP6-1.0	TP7-1.0	Dup3 (Dup TP7-1.0)	TP8-1.0	TP9-1.0
Sampling Date			31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22
Sample Depth (mbgs)			3.7	1.0	2.0	2.75	3.5	1.0	2.0	2.75	3.75	1.0	2.0	2.75	3.25	1.0	1.0	1.0	1.0	1.0
<b>Metals</b>																				
Antimony	µg/g	7.5	< 0.5	< 0.5	< 0.5	2.1	< 0.5	< 0.5	< 0.5	< 0.5	0.6	< 0.5	< 0.5	0.7	0.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Arsenic	µg/g	18	7.2	5.7	3.7	5.7	4.9	5.7	4.6	5.6	7.5	5.8	7.1	7	8.7	6.8	7	7.6	5.9	6.3
Barium	µg/g	390	155	254	70	127	115	151	93	124	90	100	130	126	113	157	112	104	92	86
Beryllium	µg/g	4	0.6	0.5	0.4	0.6	0.5	0.6	0.4	0.5	0.5	0.5	0.6	0.5	0.6	0.8	0.6	0.6	0.5	0.5
Boron (Total)	µg/g	120	7.9	7.3	5.8	8.6	7.3	7.5	7.5	8.2	6.4	6.8	9	7.8	8.6	6.8	7.5	7.3	7.2	6.6
Boron (Hot Water Soluble)	µg/g	1.5	0.05	0.06	0.07	0.08	0.07	0.12	0.06	0.07	0.06	0.08	0.08	0.08	0.07	0.07	0.06	0.05	0.11	0.04
Cadmium	µg/g	1.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chromium (Total)	µg/g	160	18	16	15	17	16	17	17	20	29	18	19	17	18	21	18	18	17	14
Chromium VI	µg/g	8	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Cobalt	µg/g	22	11	10	7	9	10	10	9	10	12	10	12	11	12	9	10	10	8	10
Copper	µg/g	140	35	31	32	38	33	38	27	37	71	30	31	42	34	46	35	47	34	30
Lead	µg/g	120	25	26	26	23	15	22	13	17	14	51	30	62	43	22	26	23	36	18
Mercury	µg/g	0.27	0.097	0.073	0.115	0.064	0.051	0.085	0.036	0.06	0.054	0.109	0.083	0.166	0.158	0.1	0.076	0.075	0.096	0.099
Molybdenum	µg/g	6.9	3	2	1	3	2	3	2	3	5	2	2	2	3	2	3	3	3	4
Nickel	µg/g	100	44	35	22	33	37	37	26	34	50	33	40	36	40	52	47	45	43	39
Selenium	µg/g	2.4	0.9	1	0.7	1.3	0.9	1.2	0.8	1	1	0.9	1	1	1	1.1	1.2	1.3	0.9	1.7
Silver	µg/g	20	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Thallium	µg/g	1	0.5	0.4	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.3	0.4	0.4	0.5	0.4
Uranium	µg/g	23	1.8	1.9	1	1.8	1.4	1.9	1.4	1.8	1.6	1.4	1.8	1.5	1.6	1.4	2.1	2.2	1.8	2.1
Vanadium	µg/g	86	26	24	22	24	24	26	21	23	26	26	25	24	26	25	24	24	24	24
Zinc	µg/g	340	83	70	67	74	63	67	54	64	62	91	87	121	90	85	96	86	85	57
<b>Inorganic Parameters</b>																				
Conductivity	µg/g	0.7	0.387	0.319	0.393	0.814	0.434	0.261	0.504	0.819	0.502	0.209	0.283	0.703	1	0.176	0.361	0.38	0.22	0.264
Sodium Adsorption Ratio	µg/g	5	1.05	0.116	0.776	0.523	0.814	0.316	0.318	0.34	0.847	0.302	0.306	0.514	0.278	0.444	0.14	0.127	0.376	0.546
Cyanide	µg/g	0.051	< 0.5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

**NOTES:**

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

<sup>1</sup> <RDL Non-detectable results are shown as "< (RDL)" where RDL represents the

NV No Value

- Parameter not analyzed

Indicates soil exceedance of MECP Table 3 SCS

**Table 2 - Analytical Results in Soil - Inorganic Parameters**  
**112 Montreal Road, Ottawa, Ontario**  
**OTT-00241936-C0**

Sample ID	UNITS	Provincial	2022 Samples						
		MECP Table 3 Residential <sup>1</sup>	Dup2 (Dup TP9 1.0)	BH1	BH2	BH4-SS4	BH3-SS2	BH5	BH6
Sampling Date			31-Aug-22	31-Aug-22	31-Aug-22	15-Sep-22	16-Sep-22	31-Aug-22	31-Aug-22
Sample Depth (mbgs)			1.0	1.0	0.3	2.3 - 2.9	0.8 - 1.4	0.5	1.0
<b>Metals</b>									
Antimony	µg/g	7.5	< 0.5	0.5	< 0.5	< 0.5	< 0.5	0.7	< 0.5
Arsenic	µg/g	18	5.9	9.2	6.4	3.1	7	8.4	3.5
Barium	µg/g	390	84	131	90	181	118	97	47
Beryllium	µg/g	4	0.4	0.8	0.3	0.6	0.6	0.6	0.2
Boron (Total)	µg/g	120	5.6	9	6.1	13.8	7	6.5	4.6
Boron (Hot Water Soluble)	µg/g	1.5	0.04	0.05	0.05	0.06	0.04	0.1	0.02
Cadmium	µg/g	1.2	< 0.5	0.9	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chromium (Total)	µg/g	160	13	24	13	15	21	17	9
Chromium VI	µg/g	8	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Cobalt	µg/g	22	10	11	8	8	9	11	7
Copper	µg/g	140	29	73	18	13	38	30	16
Lead	µg/g	120	15	89	54	< 5	26	33	6
Mercury	µg/g	0.27	0.071	0.096	0.058	0.017	0.1	0.096	0.022
Molybdenum	µg/g	6.9	4	3	3	1	2	4	2
Nickel	µg/g	100	35	55	20	20	46	48	19
Selenium	µg/g	2.4	1.7	1.2	0.6	0.6	1	0.9	0.6
Silver	µg/g	20	< 0.2	0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Thallium	µg/g	1	0.3	0.4	0.3	< 0.1	0.3	0.5	0.2
Uranium	µg/g	23	2.1	1.8	0.9	1.7	2.2	2.2	1.8
Vanadium	µg/g	86	22	35	18	19	26	26	16
Zinc	µg/g	340	37	261	91	65	96	59	22
<b>Inorganic Parameters</b>									
Conductivity	µg/g	0.7	0.301	0.172	0.259	0.239	0.519	0.363	1
Sodium Adsorption Ratio	µg/g	5	0.538	0.523	0.44	1.22	0.885	0.517	0.132
Cyanide	µg/g	0.051	< 0.05	< 0.05	< 0.05	NA	NA	< 0.05	< 0.05

**NOTES:**

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

1

<RDL Non-detectable results are shown as "< (RDL)" where RDL represents the

NV No Value

- Parameter not analyzed

Indicates soil exceedance of MECP Table 3 SCS

**Table 3 - Analytical Results in Groundwater - PHC and VOC**  
 112 Montreal Road, Ottawa, Ontario  
 OTT-00241936-C0

Sample ID	UNITS	Provincial	2013 Samples									
		MECP Table 3 Residential <sup>1</sup>	MW13-1a	MW13-1b	MW13-2	MW13-3	MW13-4	MW13-6	MW13-60 (Dup MW16-6)	MW13-9	BH18	BH23
Sampling Date			14-Nov-2013	14-Nov-2013	14-Nov-2013	14-Nov-2013	14-Nov-2013	14-Nov-2013	14-Nov-2013	14-Nov-2013	19-Nov-2013	19-Nov-2013
Screen Depth			1.2 to 2.7	5.0 to 8.1	4.1 to 5.6	1.3 to 2.8	4.6 to 5.7	3.5 to 6.9	3.5 to 6.9	4.7 to 7.8	N/A	N/A
<b>Petroleum Hydrocarbons</b>												
F1 PHC (C6-C10)*	µg/L	750	<200	102	<200	<200	156	<200	<200	<200	<200	<200
F2 PHC (C10-C16)	µg/L	150	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
F3 PHC (C16-C34)	µg/L	500	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
F4 PHC (C34-C50)	µg/L	500	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
<b>Volatile Organic Compounds</b>												
Acetone (2-Propanone)	µg/L	130000	<5.0	159	142	<5.0	179	<5.0	<5.0	22.3	<5.0	<5.0
Benzene	µg/L	44	<0.5	<0.5	0.7	<0.5	1	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	µg/L	85000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	µg/L	380	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromomethane	µg/L	5.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	µg/L	0.79	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	µg/L	630	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	µg/L	2.4	<0.5	3.7	3.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	µg/L	82000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	µg/L	4600	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	µg/L	9600	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	µg/L	8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane (FREON 12)	µg/L	4400	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	µg/L	320	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	µg/L	1.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethylene	µg/L	1.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethylene	µg/L	1.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethylene	µg/L	1.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	µg/L	16	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	µg/L	NV	-	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	µg/L	NV	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropene (cis+trans)	µg/L	5.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	2300	<0.5	7.5	3	<0.5	8.7	<0.5	<0.5	0.6	<0.5	<0.5
Ethylene Dibromide	µg/L	0.25	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexane	µg/L	51	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methylene Chloride(Dichloromethane)	µg/L	610	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl Ethyl Ketone (2-Butanone)	µg/L	470000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl Isobutyl Ketone	µg/L	140000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl t-butyl ether (MTBE)	µg/L	190	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Styrene	µg/L	1300	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	µg/L	3.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	µg/L	3.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethylene	µg/L	1.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	18000	<0.5	2.9	4.4	<0.5	8.2	<0.5	<0.5	0.6	<0.5	<0.5
1,1,1-Trichloroethane	µg/L	640	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	µg/L	4.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethylene	µg/L	1.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane (FREON 11)	µg/L	2500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
p+m-Xylene	µg/L	NV	-	-	-	-	-	-	-	-	-	-
o-Xylene	µg/L	NV	-	-	-	-	-	-	-	-	-	-
Total Xylenes	µg/L	4200	<0.5	10.2	4.3	<0.5	13.2	<0.5	<0.5	0.9	<0.5	<0.5

**NOTES:**

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

\* F1 fraction does not include BTEX; however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result

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

NV No Value

- Parameter not analyzed

Indicates groundwater exceedance of MECP Table 3 SCS

**Table 3 - Analytical Results in Groundwater - PHC and VOC**  
 112 Montreal Road, Ottawa, Ontario  
 OTT-00241936-C0

Sample ID	UNITS	Provincial	2023 Samples								
		MECP Table 3 Residential <sup>1</sup>	MW13-2	BH-1	BH-2	BH-4	MW23-1	Dup1 (Dup MW23-1)	MW23-2	MW23-4	MW23-5
Sampling Date			27-Feb-23	28-Feb-23	28-Feb-23	27-Feb-23	27-Feb-23	27-Feb-23	28-Feb-23	28-Feb-23	28-Feb-23
Screen Depth			4.1 to 5.6	5.7 to 8.7	7.2 to 10.2	12.3 to 15.3	4.3 to 7.3	4.3 to 7.3	1.8 to 4.8	1.5 to 4.5	3.9 to 6.9
<b>Petroleum Hydrocarbons</b>											
F1 PHC (C6-C10)*	µg/L	750	< 25	98	< 25	< 25	< 25	< 25	< 25	< 25	< 25
F2 PHC (C10-C16)	µg/L	150	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
F3 PHC (C16-C34)	µg/L	500	< 400	< 400	< 400	< 400	< 400	< 400	< 400	< 400	< 400
F4 PHC (C34-C50)	µg/L	500	< 400	< 400	< 400	< 400	< 400	< 400	< 400	< 400	< 400
<b>Volatile Organic Compounds</b>											
Acetone (2-Propanone)	µg/L	130000	< 30	60	< 30	< 30	< 30	< 30	< 30	< 30	< 30
Benzene	µg/L	44	< 0.5	0.9	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	µg/L	85000	< 2	< 2	2	3	< 2	< 2	< 2	< 2	< 2
Bromoform	µg/L	380	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Bromomethane	µg/L	5.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Tetrachloride	µg/L	0.79	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene	µg/L	630	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	µg/L	2.4	< 1	20	20	21	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane	µg/L	82000	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,2-Dichlorobenzene	µg/L	4600	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,3-Dichlorobenzene	µg/L	9600	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4-Dichlorobenzene	µg/L	8	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane (FREON 12)	µg/L	4400	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,1-Dichloroethane	µg/L	320	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloroethane	µg/L	1.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethylene	µg/L	1.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,2-Dichloroethylene	µg/L	1.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,2-Dichloroethylene	µg/L	1.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloropropane	µg/L	16	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,3-Dichloropropene	µg/L	NV	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,3-Dichloropropene	µg/L	NV	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,3-Dichloropropene (cis+trans)	µg/L	5.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	µg/L	2300	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethylene Dibromide	µg/L	0.25	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Hexane	µg/L	51	< 5	10	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Methylene Chloride(Dichloromethane)	µg/L	610	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Methyl Ethyl Ketone (2-Butanone)	µg/L	470000	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl Isobutyl Ketone	µg/L	140000	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl t-butyl ether (MTBE)	µg/L	190	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Styrene	µg/L	1300	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,1,2-Tetrachloroethane	µg/L	3.3	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2,2-Tetrachloroethane	µg/L	3.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	µg/L	1.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	18000	< 0.5	0.9	< 0.5	1.7	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,1-Trichloroethane	µg/L	640	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	µg/L	4.7	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	µg/L	1.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane (FREON 11)	µg/L	2500	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Vinyl Chloride	µg/L	0.5	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
p+m-Xylene	µg/L	NV	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.1	< 1.0
o-Xylene	µg/L	NV	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total Xylenes	µg/L	4200	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	1.1	< 1.1

**NOTES:**

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

\* F1 fraction does not include BTEX; however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result

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

NV No Value

- Parameter not analyzed

Indicates groundwater exceedance of MECP Table 3 SCS

**Table 4 - Analytical Results in Groundwater - PAH**  
**112 Montreal Road, Ottawa, Ontario**  
**OTT-00241936-C0**

Sample ID	UNITS	Provincial	2023 Samples								
		MECP Table 3 Residential <sup>1</sup>	MW13-2	BH-1	BH-2	BH-4	MW23-1	Dup1 (Dup MW23-1)	MW23-2	MW23-4	MW23-5
Sampling Date			27-Feb-23	28-Feb-23	28-Feb-23	27-Feb-23	27-Feb-23	27-Feb-23	28-Feb-23	28-Feb-23	28-Feb-23
Screen Depth			4.1 to 5.6	5.7 to 8.7	7.2 to 10.2	12.3 to 15.3	4.3 to 7.3	4.3 to 7.3	1.8 to 4.8	1.5 to 4.5	3.9 to 6.9
<b>Polycyclic Aromatic Hydrocarbons</b>											
Acenaphthene	µg/L	600	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/L	1.8	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	µg/L	2.4	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/L	4.7	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	µg/L	0.81	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/L	0.75	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b+k)fluoranthene	µg/L	NV	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	µg/L	0.2	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	µg/L	0.4	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	µg/L	1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzo(a,h)anthracene	µg/L	0.52	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	µg/L	130	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/L	400	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	µg/L	0.2	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1-Methylnaphthalene	µg/L	NV	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/L	NV	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Methylnaphthalene, 2-(1-)	µg/L	1800	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Naphthalene	µg/L	1400	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/L	580	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	µg/L	68	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

**NOTES:**

- 1 Ontario Ministry of Environment, Conservation and Parks (MECP), Soil, Groundwater and Sediment Standards for use under Part XV.1 of the Environmental Protection Act, April 2011, Table 3 Full Depth Generic Site Condition Standards (SCS) in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional Use coarse textured soils
- <RDL Non-detectable results are shown as "< (RDL)" where RDL represents the reporting detection limit.
- NV No Value
- Parameter not analyzed
- Indicates groundwater exceedance of MECP Table 3 SCS

**Table 5 - Analytical Results in Groundwater - Inorganic Parameters**  
 112 Montreal Road, Ottawa, Ontario  
 OTT-00241936-C0

Sample ID	UNITS	Provincial	2023 Samples								
		MECP Table 3 Residential <sup>1</sup>	MW13-2	BH-1	BH-2	BH-4	MW23-1	Dup1 (Dup MW23-1)	MW23-2	MW23-4	MW23-5
Sampling Date			27-Feb-23	28-Feb-23	28-Feb-23	27-Feb-23	27-Feb-23	27-Feb-23	28-Feb-23	28-Feb-23	28-Feb-23
Screen Depth			4.1 to 5.6	5.7 to 8.7	7.2 to 10.2	12.3 to 15.3	4.3 to 7.3	4.3 to 7.3	1.8 to 4.8	1.5 to 4.5	3.9 to 6.9
<b>Metals</b>											
Antimony	µg/L	20000	< 0.2	0.1	0.3	< 0.1	< 0.1	< 0.1	0.9	0.4	0.3
Arsenic	µg/L	1900	0.7	1.9	2.2	0.8	0.2	0.2	1.4	0.5	1.4
Barium	µg/L	29000	63	66	36	52	38	44	152	122	102
Beryllium	µg/L	67	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1
Boron	µg/L	45000	385	55	35	115	110	108	270	88	84
Cadmium	µg/L	2.7	< 0.028	0.019	0.153	0.091	< 0.015	0.017	0.048	0.029	0.049
Chromium	µg/L	810	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Chromium VI	µg/L	140	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Cobalt	µg/L	66	< 0.2	0.2	< 0.1	< 0.1	0.1	0.1	1.3	1.6	1.8
Copper	µg/L	87	< 2	3	5	< 2	< 2	< 2	4	4	2
Lead	µg/L	25	0.04	0.06	0.08	0.07	< 0.02	0.03	0.09	0.08	0.08
Mercury	µg/L	0.29	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Molybdenum	µg/L	9200	7.1	2.4	6.5	3.7	6.1	6.4	8.4	2.8	6.4
Nickel	µg/L	490	4.3	2.5	1	1.2	1.9	1.9	6.8	14.4	6.2
Sodium	µg/L	2300000	346000	63800	43000	104000	136000	135000	442000	86200	94600
Selenium	µg/L	63	< 2	< 1	1	< 1	1	1	2	2	< 1
Silver	µg/L	1.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Thallium	µg/L	510	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.1	< 0.05	< 0.05
Uranium	µg/L	420	3.05	0.98	0.86	0.16	2.60	2.72	7.76	6.90	5.69
Vanadium	µg/L	250	< 0.2	0.1	0.6	0.2	< 0.1	< 0.1	0.4	0.2	0.3
Zinc	µg/L	1100	< 5	7	13	7	< 5	< 5	7	< 5	5

**NOTES:**

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

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

NV No Value

- Parameter not analyzed

Indicates groundwater exceedance of MECP Table 3 SCS

**Table 6 - Maximum Concentrations in Soil**  
 112 Montreal Road, Ottawa, Ontario  
 OTT-00241936-C0

Parameter	Sample Location	Sample Depth (m bgs)	Sampling Date	Maximum Concentration	MECP Table 3 Residential
<b>Petroleum Hydrocarbons</b>					
F1 PHC (C6-C10)	AH-4	1.5 to 2.1	16-Sep-22	50	55
F2 PHC (C10-C16)	AH3, AH-4	1.5 to 2.1	16-Sep-22	111	98
F3 PHC (C16-C34)	BH-1	1.0	31-Aug-22	2620	300
F4 PHC (C34-C50)	TP-2 (Dup 1)	3.0	31-Aug-22	2150	2800
<b>Volatile Organic Compounds</b>					
Benzene	All 2013 and 2022 Sample Locations	0.0 to 2.9	All 2013 and 2022 Dates	< 0.02	0.21
Ethylbenzene	All 2013 and 2022 Sample Locations	0.0 to 2.9	All 2013 and 2022 Dates	< 0.2	2
Toluene	All 2013 and 2022 Sample Locations	0.0 to 2.9	All 2013 and 2022 Dates	< 0.05	2.3
Total Xylenes	AH-4	1.5 to 2.1	16-Sep-22	0.37	3.1
<b>Metals</b>					
Antimony	MW6	0.15 to 0.75	8-Nov-13	3.8	7.5
Arsenic	AH-3	0.8 to 1.4	16-Sep-22	10.8	18
Barium	BH10	0.6 to 0.9	31-Oct-13	498	390
Beryllium	AH-3	0.8 to 1.4	16-Sep-22	0.9	4
Boron (Total)	AH-4	2.3 to 2.9	16-Sep-22	13.9	120
Boron (Hot Water Soluble)	AH-2	0.0 to 0.6	16-Sep-22	0.13	1.5
Cadmium	BH-1	1.0	31-Aug-22	0.9	1.2
Chromium (Total)	AH-9	1.5 to 2.1	14-Sep-22	29	160
Chromium VI	All 2022 Sample Locations	0.0 to 2.9	All 2022 Sample Dates	< 0.2	8
Cobalt	AH-3	0.8 to 1.4	16-Sep-22	15	22
Copper	AH-2	0.0 to 0.6	16-Sep-22	147	140
Lead	BH10	0.6 to 0.9	31-Oct-13	560	120
Mercury	AH-2	0.0 to 0.6	16-Sep-22	0.315	0.27
Molybdenum	TP-4	3.8	31-Aug-22	5	6.9
Nickel	AH-3	0.8 to 1.4	16-Sep-22	71	100
Selenium	TP-9 (and Dup)	1.0	31-Aug-22	1.7	2.4
Silver	AH-1, AH-2	0.0 to 1.4	16-Sep-22	0.3	20
Thallium	TP-2	3.0	31-Aug-22	0.8	1
Uranium	TP-1	4.5	31-Aug-22	2.7	23
Vanadium	BH-1	1.0	31-Aug-22	35	86
Zinc	BH10	0.6 to 0.9	31-Oct-13	428	340
<b>Inorganic Parameters</b>					
Conductivity	AH-9 (Dup)	1.5 to 2.1	14-Sep-22	1.23	0.70
Sodium Adsorption Ratio	AH-10	1.5 to 2.1	14-Sep-22	2.92	5
Cyanide	All 2022 Sample Locations	0.0 to 2.9	All 2022 Sample Dates	<0.05	0.051

**NOTES:**

- 1 Ontario Ministry of Environment, Conservation and Parks (MECP), Soil, Groundwater and Sediment Standards for use under Part XV.1 of the Environmental Protection Act, April 2011, Table 3 Full Depth Generic Site Condition Standards (SCS) in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional Property Use (coarse textured soils)
- NV No Value
- Parameter not analyzed
- m bgs Metres below ground surface

**Table 7 - Maximum Concentrations in Groundwater**  
 112 Montreal Road, Ottawa, Ontario  
 OTT-00241936-C0

Parameter	Sample Location	Sample Depth (m bgs)	Sampling Date	Maximum Concentration	MECP Table 3 Residential
<b>Petroleum Hydrocarbons</b>					
F1 PHC (C6-C10)	MW13-4	4.6 to 5.7	14-Nov-13	156	750
F2 PHC (C10-C16)	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	< 50	150
F3 PHC (C16-C34)	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<100	500
F4 PHC (C34-C50)	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<100	500
<b>Volatile Organic Compounds</b>					
Acetone (2-Propanone)	MW13-4	4.6 to 5.7	14-Nov-13	179	130000
Benzene	MW13-4	4.6 to 5.7	14-Nov-13	1	44,000
Bromodichloromethane	BH-4	1.2 to 15.3	14-Nov-13, 27-Feb-23	3	85000
Bromoform	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<5	380
Bromomethane	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<0.5	5.6
Carbon Tetrachloride	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<0.2	0.79
Chlorobenzene	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<0.5	630
Chloroform	BH-4	12.3 to 15.3	27-Feb-23	21	2.4
Dibromochloromethane	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<2	82000
1,2-Dichlorobenzene	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<0.5	4600
1,3-Dichlorobenzene	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<0.5	9600
1,4-Dichlorobenzene	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<0.5	8
Dichlorodifluoromethane (FREON 12)	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<2	4400
1,1-Dichloroethane	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<0.5	320
1,2-Dichloroethane	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<0.5	1.6
1,1-Dichloroethylene	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<0.5	1.6
cis-1,2-Dichloroethylene	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<0.5	1.6
trans-1,2-Dichloroethylene	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<0.5	1.6
1,2-Dichloropropane	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<0.5	16
cis-1,3-Dichloropropane	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<0.5	NV
trans-1,3-Dichloropropane	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<0.5	NV
1,3-Dichloropropane (cis+trans)	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<0.5	5.2
Ethylbenzene	MW13-4	4.6 to 5.7	14-Nov-13	8.7	2300
Ethylene Dibromide	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<0.2	0.25
Hexane	BH-1	5.7 to 8.7	27-Feb-23	10	51
Methylene Chloride(Dichloromethane)	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<5	610
Methyl Ethyl Ketone (2-Butanone)	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<20	470000
Methyl Isobutyl Ketone	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<20	140000
Methyl t-butyl ether (MTBE)	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<2	190
Styrene	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<0.5	1300
1,1,1-Tetrachloroethane	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<0.5	3.3
1,1,2-Tetrachloroethane	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<0.5	3.2
Tetrachloroethylene	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<0.5	1.6
Toluene	MW13-4	4.6 to 5.7	14-Nov-13	8.2	18000
1,1,1-Trichloroethane	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<0.5	640
1,1,2-Trichloroethane	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<0.5	4.7
Trichloroethylene	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<0.5	1.6
Trichlorofluoromethane (FREON 11)	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<5	2500
Vinyl Chloride	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<0.2	0.5
p+m-Xylene	MW23-4	1.5 to 4.5	27-Feb-23	1.1	NV
o-Xylene	All 2013 and 2023 Sampling Locations	1.2 to 15.3	14-Nov-13, 27-Feb-23	<0.5	NV
Total Xylenes	MW13-4	4.6 to 5.7	14-Nov-13	13.2	4200
<b>Polycyclic Aromatic Hydrocarbons</b>					
Acenaphthene	All 2023 Sampling Locations	1.8 to 15.3	27-Feb-23	<0.05	600
Acenaphthylene	All 2023 Sampling Locations	1.8 to 15.3	27-Feb-23	<0.05	1.8
Anthracene	All 2023 Sampling Locations	1.8 to 15.3	27-Feb-23	<0.05	2.4
Benzo(a)anthracene	All 2023 Sampling Locations	1.8 to 15.3	27-Feb-23	<0.05	4.7
Benzo(a)pyrene	All 2023 Sampling Locations	1.8 to 15.3	27-Feb-23	<0.01	0.81
Benzo(b)fluoranthene	All 2023 Sampling Locations	1.8 to 15.3	27-Feb-23	<0.05	0.75
Benzo(b+k)fluoranthene	All 2023 Sampling Locations	1.8 to 15.3	27-Feb-23	<0.1	NV
Benzo(ghi)perylene	All 2023 Sampling Locations	1.8 to 15.3	27-Feb-23	<0.05	0.2
Benzo(k)fluoranthene	All 2023 Sampling Locations	1.8 to 15.3	27-Feb-23	<0.05	0.4
Chrysene	All 2023 Sampling Locations	1.8 to 15.3	27-Feb-23	<0.05	1
Dibenzo(a,h)anthracene	All 2023 Sampling Locations	1.8 to 15.3	27-Feb-23	<0.05	0.52
Fluoranthene	All 2023 Sampling Locations	1.8 to 15.3	27-Feb-23	<0.05	130
Fluorene	All 2023 Sampling Locations	1.8 to 15.3	27-Feb-23	<0.05	400
Indeno(1,2,3-cd)pyrene	All 2023 Sampling Locations	1.8 to 15.3	27-Feb-23	<0.05	0.2
1-Methylnaphthalene	All 2023 Sampling Locations	1.8 to 15.3	27-Feb-23	<0.05	NV
2-Methylnaphthalene	All 2023 Sampling Locations	1.8 to 15.3	27-Feb-23	<0.05	NV
Methylnaphthalene, 2-(1-)	All 2023 Sampling Locations	1.8 to 15.3	27-Feb-23	<1	1800
Naphthalene	All 2023 Sampling Locations	1.8 to 15.3	27-Feb-23	<0.05	1400
Phenanthrene	All 2023 Sampling Locations	1.8 to 15.3	27-Feb-23	<0.05	580
Pyrene	All 2023 Sampling Locations	1.8 to 15.3	27-Feb-23	<0.05	68
<b>Metals</b>					
Antimony	MW23-2	1.8 to 4.8	27-Feb-23	0.9	20000
Arsenic	BH-2	7.2 to 10.2	27-Feb-23	2.2	1900
Barium	NW23-2	1.8 to 4.8	27-Feb-23	152	29000
Beryllium	All 2023 Sampling Locations	1.8 to 15.3	27-Feb-23	<0.1	67
Boron	MW13-2	4.1 to 5.6	27-Feb-23	385	45000
Cadmium	BH-2	7.2 to 10.2	27-Feb-23	0.153	2.7
Chromium	All 2023 Sampling Locations	1.8 to 15.3	27-Feb-23	<2	810
Chromium VI	All 2023 Sampling Locations	1.8 to 15.3	27-Feb-23	<10	140
Cobalt	MW23-5	3.9 to 6.9	27-Feb-23	1.8	66
Copper	BH-2	7.2 to 10.2	27-Feb-23	5	87
Lead	MW23-2	1.8 to 4.8	27-Feb-23	0.09	25
Mercury	All 2023 Sampling Locations	1.8 to 15.3	27-Feb-23	<0.02	0.29
Molybdenum	MW23-2	1.8 to 4.8	27-Feb-23	8.4	9200
Nickel	MW23-2	1.8 to 4.8	27-Feb-23	14.4	490
Sodium	MW23-2	1.8 to 4.8	27-Feb-23	442000	2300000
Selenium	MW23-2, MW23-4	1.8 to 4.8	27-Feb-23	2	63
Silver	All 2023 Sampling Locations	1.8 to 15.3	27-Feb-23	<0.1	1.5
Thallium	All 2023 Sampling Locations	1.8 to 15.3	27-Feb-23	<0.05	510
Uranium	MW23-2	1.8 to 4.8	27-Feb-23	7.76	420
Vanadium	BH-2	7.2 to 10.2	27-Feb-23	0.6	250
Zinc	BH-2	7.2 to 10.2	27-Feb-23	13	1100

**NOTES:**

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

NV No Value  
 - Parameter not analyzed  
 m bgs Metres below ground surface



**Table 8 - Relative Percent Differences - PHC and VOC in Soil**  
**112 Montreal Road, Ottawa, Ontario**  
**OTT-00241936-C0**

Parameter	Units	RDL	MW4 SS3	MW4 SS30	RPD (%)	Alert Limit (%)
			24-Oct-2013	24-Oct-2013		
<b>Petroleum Hydrocarbons</b>						
F1 PHC (C6 - C10) - BTEX	ug/g dry	10	<7	<7	nc	60
F2 PHC (C10-C16)	ug/g dry	10	<4	14	nc	60
F3 PHC (C16-C34)	ug/g dry	50	364	536	38	60
F4 PHC (C34-C50)	ug/g dry	50	624	1090	54	60
<b>BTEX</b>						
Benzene	ug/g dry	0.0060	< 0.02	< 0.02	nc	100
Ethylbenzene	ug/g dry	0.010	< 0.2	< 0.2	nc	100
Toluene	ug/g dry	0.020	< 0.05	< 0.05	nc	100
Xylenes, total	ug/g dry	0.020	< 0.05	< 0.05	nc	100

Parameter	Units	RDL	AH9-SS3	DUP 2	RPD (%)	Alert Limit (%)
			14-Sep-2022	14-Sep-2022		
<b>Petroleum Hydrocarbons</b>						
F1 PHC (C6 - C10) - BTEX	ug/g dry	10	17	14	nc	60
F2 PHC (C10-C16)	ug/g dry	10	32	30	nc	60
F3 PHC (C16-C34)	ug/g dry	50	139	114	nc	60
F4 PHC (C34-C50)	ug/g dry	50	153	132	nc	60
F4 PHC (C34-C50)	ug/g dry	50	680	650	5	60
<b>BTEX</b>						
Benzene	ug/g dry	0.0060	< 0.02	< 0.02	nc	100
Ethylbenzene	ug/g dry	0.010	< 0.2	< 0.2	nc	100
Toluene	ug/g dry	0.020	< 0.05	< 0.05	nc	100
Xylenes, total	ug/g dry	0.020	< 0.03	< 0.03	nc	100

Parameter	Units	RDL	AH10-SS4	DUP 1	RPD (%)	Alert Limit (%)
			14-Sep-2022	14-Sep-2022		
<b>Petroleum Hydrocarbons</b>						
F1 PHC (C6 - C10) - BTEX	ug/g dry	10	< 10	< 10	nc	60
F2 PHC (C10-C16)	ug/g dry	10	34	< 5	nc	60
F3 PHC (C16-C34)	ug/g dry	50	63	11	nc	60
F4 PHC (C34-C50)	ug/g dry	50	15	< 10	nc	60
<b>BTEX</b>						
Benzene	ug/g dry	0.0060	< 0.02	< 0.02	nc	100
Ethylbenzene	ug/g dry	0.010	< 0.2	< 0.2	nc	100
Toluene	ug/g dry	0.020	< 0.05	< 0.05	nc	100
Xylenes, total	ug/g dry	0.020	< 0.03	< 0.03	nc	100

Parameter	Units	RDL	TP2-3.0	DUP 1	RPD (%)	Alert Limit (%)
			31-Aug-2022	31-Aug-2022		
<b>Petroleum Hydrocarbons</b>						
F1 PHC (C6 - C10) - BTEX	ug/g dry	10	< 10	< 10	nc	60
F2 PHC (C10-C16)	ug/g dry	10	12	5	nc	60
F3 PHC (C16-C34)	ug/g dry	50	34	152	nc	60
F4 PHC (C34-C50)	ug/g dry	50	< 10	431	nc	60
F4 PHC (C34-C50)	ug/g dry	50	-	2150	nc	60
<b>BTEX</b>						
Benzene	ug/g dry	0.0060	< 0.02	< 0.02	nc	100
Ethylbenzene	ug/g dry	0.010	< 0.2	< 0.2	nc	100
Toluene	ug/g dry	0.020	< 0.05	< 0.05	nc	100
Xylenes, total	ug/g dry	0.020	< 0.03	< 0.03	nc	100

**NOTES:**

Analysis by Bureau Veritas Laboratories/Caduceon Environmental Laboratories

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

- means "not analysed"

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

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

**Table 8 - Relative Percent Differences - PHC and VOC in Soil**  
**112 Montreal Road, Ottawa, Ontario**  
**OTT-00241936-C0**

Parameter	Units	RDL	TP7-1.0	DUP 3	RPD (%)	Alert Limit (%)
			31-Aug-2022	31-Aug-2022		
<b>Petroleum Hydrocarbons</b>						
F1 PHC (C6 - C10) - BTEX	ug/g dry	10	< 10	< 10	nc	60
F2 PHC (C10-C16)	ug/g dry	10	37	49	nc	60
F3 PHC (C16-C34)	ug/g dry	50	312	522	50	60
F4 PHC (C34-C50)	ug/g dry	50	63	141	nc	60
<b>BTEX</b>						
Benzene	ug/g dry	0.0060	< 0.02	< 0.02	nc	100
Ethylbenzene	ug/g dry	0.010	< 0.2	< 0.2	nc	100
Toluene	ug/g dry	0.020	< 0.05	< 0.05	nc	100
Xylenes, total	ug/g dry	0.020	< 0.03	< 0.03	nc	100

Parameter	Units	RDL	TP9-1.0	DUP 2	RPD (%)	Alert Limit (%)
			31-Aug-2022	31-Aug-2022		
<b>Petroleum Hydrocarbons</b>						
F1 PHC (C6 - C10) - BTEX	ug/g dry	10	< 10	< 10	nc	60
F2 PHC (C10-C16)	ug/g dry	10	30	26	nc	60
F3 PHC (C16-C34)	ug/g dry	50	60	71	nc	60
F4 PHC (C34-C50)	ug/g dry	50	18	46	nc	60
<b>BTEX</b>						
Benzene	ug/g dry	0.0060	< 0.02	< 0.02	nc	100
Ethylbenzene	ug/g dry	0.010	< 0.2	< 0.2	nc	100
Toluene	ug/g dry	0.020	< 0.05	< 0.05	nc	100
Xylenes, total	ug/g dry	0.020	< 0.03	< 0.03	nc	100

**NOTES:**

Analysis by Bureau Veritas Laboratories/Caduceon Environmental Laboratories

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

- means "not analysed"

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

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

**Table 9 - Relative Percent Differences - Inorganics in Soil**  
**112 Montreal Road, Ottawa, Ontario**  
**OTT-00241936-C0**

Parameter	Units	RDL	MW4 SS3	MW4 SS30	RPD (%)	Alert Limit (%)
			24-Oct-2013	24-Oct-2013		
<i>Inorganic Parameters</i>						
Antimony	ug/g dry	0.20	<1.0	<1.0	nc	60
Arsenic	ug/g dry	1.0	4.1	3.9	nc	60
Barium	ug/g dry	0.50	87.8	77	13	60
Beryllium	ug/g dry	0.20	<1.0	<1.0	nc	60
Boron (Total)	ug/g dry	5.0	7.6	7.8	nc	60
Born (Hot Water Soluble)	ug/g dry	0.0	NA	NA	-	60
Cadmium	ug/g dry	0.10	<0.5	<0.5	nc	60
Chromium	ug/g dry	1.0	15.8	14.3	10	60
Chromium VI	ug/g dry	0.2	NA	NA	-	60
Cobalt	ug/g dry	0.10	6.4	5.8	10	60
Copper	ug/g dry	0.50	24.7	21.3	15	60
Lead	ug/g dry	1.0	14.7	11.1	28	60
Mercury	ug/g dry	0.005	NA	NA	-	60
Molybdenum	ug/g dry	0.50	1.6	<1.0	nc	60
Nickel	ug/g dry	0.50	32	29.6	8	60
Selenium	ug/g dry	0.50	<1.0	<1.0	nc	60
Silver	ug/g dry	0.20	<0.5	<0.5	nc	60
Thallium	ug/g dry	0.050	<1.0	<1.0	nc	60
Uranium	ug/g dry	0.050	<1.0	<1.0	nc	60
Vanadium	ug/g dry	5.0	18.6	16.8	nc	60
Zinc	ug/g dry	5.0	58.5	55	6	60

Parameter	Units	RDL	AH9-SS3	DUP 2	RPD (%)	Alert Limit (%)
			14-Sep-2022	14-Sep-2022		
<i>Inorganic Parameters</i>						
Antimony	ug/g dry	0.20	< 0.5	0.7	nc	60
Arsenic	ug/g dry	1.0	6.2	6.3	2	60
Barium	ug/g dry	0.50	131	136	4	60
Beryllium	ug/g dry	0.20	0.5	0.5	nc	60
Boron (Total)	ug/g dry	5.0	9.7	10	nc	60
Born (Hot Water Soluble)	ug/g dry	0.0	0.07	0.09	nc	60
Cadmium	ug/g dry	0.10	< 0.5	< 0.5	nc	60
Chromium	ug/g dry	1.0	29	26	11	60
Chromium VI	ug/g dry	0.2	< 0.2	< 0.2	nc	60
Cobalt	ug/g dry	0.10	10	9	11	60
Copper	ug/g dry	0.50	31	48	43	60
Lead	ug/g dry	1.0	42	52	21	60
Mercury	ug/g dry	0.0	0.07	0.081	15	60
Molybdenum	ug/g dry	0.50	2	2	nc	60
Nickel	ug/g dry	0.50	28	29	4	60
Selenium	ug/g dry	0.50	0.8	0.8	nc	60
Silver	ug/g dry	0.20	< 0.2	< 0.2	nc	60
Thallium	ug/g dry	0.050	0.2	0.2	nc	60
Uranium	ug/g dry	0.050	1.4	2	35	60
Vanadium	ug/g dry	5.0	29	30	3	60
Zinc	ug/g dry	5.0	72	91	23	60

**NOTES:**

Analysis by Caduceon Environmental Laboratories/Bureau Veritas Laboratories

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

- means "not analysed"

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

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

Table 9 - Relative Percent Differences - Inorganics in Soil  
112 Montreal Road, Ottawa, Ontario  
OTT-00241936-C0

Parameter	Units	RDL	AH10-SS4	DUP 1	RPD (%)	Alert Limit (%)
			14-Sep-2022	14-Sep-2022		
<i>Inorganic Parameters</i>						
Antimony	ug/g dry	0.20	< 0.5	< 0.5	nc	60
Arsenic	ug/g dry	1.0	2.8	3.5	nc	60
Barium	ug/g dry	0.50	88	96	9	60
Beryllium	ug/g dry	0.20	0.4	0.4	nc	60
Boron (Total)	ug/g dry	5.0	6.1	6.6	nc	60
Born (Hot Water Soluble)	ug/g dry	0.0	< 0.02	0.02	nc	60
Cadmium	ug/g dry	0.10	< 0.5	< 0.5	nc	60
Chromium	ug/g dry	1.0	19	19	0	60
Chromium VI	ug/g dry	0.2	< 0.2	< 0.2	nc	60
Cobalt	ug/g dry	0.10	8	11	32	60
Copper	ug/g dry	0.50	19	21	10	60
Lead	ug/g dry	1.0	7	9	25	60
Mercury	ug/g dry	0.005	0.014	0.017	nc	60
Molybdenum	ug/g dry	0.50	< 1	2	nc	60
Nickel	ug/g dry	0.50	20	26	26	60
Selenium	ug/g dry	0.50	0.6	1	nc	60
Silver	ug/g dry	0.20	< 0.2	< 0.2	nc	60
Thallium	ug/g dry	0.050	0.2	0.2	nc	60
Uranium	ug/g dry	0.050	1	1	0	60
Vanadium	ug/g dry	5.0	31	30	3	60
Zinc	ug/g dry	5.0	36	41	13	60

Parameter	Units	RDL	TP2-3.0	DUP 1	RPD (%)	Alert Limit (%)
			31-Aug-2022	31-Aug-2022		
<i>Inorganic Parameters</i>						
Antimony	ug/g dry	0.20	< 0.5	0.6	nc	60
Arsenic	ug/g dry	1.0	8.6	6.1	34	60
Barium	ug/g dry	0.50	110	155	34	60
Beryllium	ug/g dry	0.20	0.7	0.5	nc	60
Boron (Total)	ug/g dry	5.0	6.9	7	nc	60
Born (Hot Water Soluble)	ug/g dry	0.0	0.06	0.07	nc	60
Cadmium	ug/g dry	0.10	< 0.5	< 0.5	nc	60
Chromium	ug/g dry	1.0	23	17	30	60
Chromium VI	ug/g dry	0.2	< 0.2	< 0.2	nc	60
Cobalt	ug/g dry	0.10	12	8	40	60
Copper	ug/g dry	0.50	41	28	38	60
Lead	ug/g dry	1.0	35	57	48	60
Mercury	ug/g dry	0.0	0.122	0.102	18	60
Molybdenum	ug/g dry	0.50	3	2	nc	60
Nickel	ug/g dry	0.50	58	32	58	60
Selenium	ug/g dry	0.50	1.1	1	nc	60
Silver	ug/g dry	0.20	< 0.2	< 0.2	nc	60
Thallium	ug/g dry	0.050	0.8	0.4	67	60
Uranium	ug/g dry	0.050	2	1.2	50	60
Vanadium	ug/g dry	5.0	29	24	nc	60
Zinc	ug/g dry	5.0	100	93	7	60

**NOTES:**

Analysis by Caduceon Environmental Laboratories/Bureau Veritas Laboratories

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

- means "not analysed"

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

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

Table 9 - Relative Percent Differences - Inorganics in Soil  
112 Montreal Road, Ottawa, Ontario  
OTT-00241936-C0

Parameter	Units	RDL	TP7-1.0	DUP 3	RPD (%)	Alert Limit (%)
			31-Aug-2022	31-Aug-2022		
<i>Inorganic Parameters</i>						
Antimony	ug/g dry	0.20	< 0.5	< 0.5	nc	60
Arsenic	ug/g dry	1.0	7	7.6	8	60
Barium	ug/g dry	0.50	112	104	7	60
Beryllium	ug/g dry	0.20	0.6	0.6	nc	60
Boron (Total)	ug/g dry	5.0	7.5	7.3	nc	60
Born (Hot Water Soluble)	ug/g dry	0.0	0.06	0.05	nc	60
Cadmium	ug/g dry	0.10	< 0.5	< 0.5	nc	60
Chromium	ug/g dry	1.0	18	18	0	60
Chromium VI	ug/g dry	0.2	< 0.2	< 0.2	nc	60
Cobalt	ug/g dry	0.10	10	10	0	60
Copper	ug/g dry	0.50	35	47	29	60
Lead	ug/g dry	1.0	26	23	12	60
Mercury	ug/g dry	0.005	0.076	0.075	1	60
Molybdenum	ug/g dry	0.50	3	3	0	60
Nickel	ug/g dry	0.50	47	45	4	60
Selenium	ug/g dry	0.50	1.2	1.3	nc	60
Silver	ug/g dry	0.20	< 0.2	< 0.2	nc	60
Thallium	ug/g dry	0.050	0.4	0.4	0	60
Uranium	ug/g dry	0.050	2.1	2.2	5	60
Vanadium	ug/g dry	5.0	24	24	nc	60
Zinc	ug/g dry	5.0	96	86	11	60

Parameter	Units	RDL	TP9-1.0	DUP 2	RPD (%)	Alert Limit (%)
			31-Aug-2022	31-Aug-2022		
<i>Inorganic Parameters</i>						
Antimony	ug/g dry	0.20	< 0.5	< 0.5	nc	60
Arsenic	ug/g dry	1.0	6.3	5.9	7	60
Barium	ug/g dry	0.50	86	84	2	60
Beryllium	ug/g dry	0.20	0.5	0.4	nc	60
Boron (Total)	ug/g dry	5.0	6.6	5.6	nc	60
Born (Hot Water Soluble)	ug/g dry	0.0	0.04	0.04	nc	60
Cadmium	ug/g dry	0.10	< 0.5	< 0.5	nc	60
Chromium	ug/g dry	1.0	14	13	7	60
Chromium VI	ug/g dry	0.2	< 0.2	< 0.2	nc	60
Cobalt	ug/g dry	0.10	10	10	0	60
Copper	ug/g dry	0.50	30	29	3	60
Lead	ug/g dry	1.0	18	15	18	60
Mercury	ug/g dry	0.0	0.099	0.071	33	60
Molybdenum	ug/g dry	0.50	4	4	0	60
Nickel	ug/g dry	0.50	39	35	11	60
Selenium	ug/g dry	0.50	1.7	1.7	nc	60
Silver	ug/g dry	0.20	< 0.2	< 0.2	nc	60
Thallium	ug/g dry	0.050	0.4	0.3	29	60
Uranium	ug/g dry	0.050	2.1	2.1	0	60
Vanadium	ug/g dry	5.0	24	22	nc	60
Zinc	ug/g dry	5.0	57	37	43	60

**NOTES:**

Analysis by Caduceon Environmental Laboratories/Bureau Veritas Laboratories

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

- means "not analysed"

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

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

**Table 10 - Relative Percent Differences - PHC and VOC in Groundwater**  
**112 Montreal Road, Ottawa, Ontario**  
**OTT-00241936-C0**

Parameter	Units	RDL	MW13-6	MW13-60	RPD (%)	Alert Limit (%)
			14-Nov-2013	14-Nov-2016		
<b>Petroleum Hydrocarbons</b>						
F1 PHC (C6 - C10) - BTEX	ug/L	25	<200	<200	nc	60
F2 PHC (C10-C16)	ug/L	100	<100	<100	nc	60
F3 PHC (C16-C34)	ug/L	100	<100	<100	nc	60
F4 PHC (C34-C50)	ug/L	100	<100	<100	nc	60
<b>Volatiles</b>						
Acetone	ug/L	5.0	<5.0	<5.0	nc	60
Benzene	ug/L	0.5	<0.5	<0.5	nc	60
Bromodichloromethane	ug/L	0.5	<0.5	<0.5	nc	60
Bromoform	ug/L	0.5	<0.5	<0.5	nc	60
Bromomethane	ug/L	0.5	<0.5	<0.5	nc	60
Carbon Tetrachloride	ug/L	0.2	<0.2	<0.2	nc	60
Chlorobenzene	ug/L	0.5	<0.5	<0.5	nc	60
Chloroform	ug/L	0.5	<0.5	<0.5	nc	60
Dibromochloromethane	ug/L	0.5	<0.5	<0.5	nc	60
Dichlorodifluoromethane	ug/L	1.0	<0.5	<0.5	nc	60
1,2-Dichlorobenzene	ug/L	0.5	<0.5	<0.5	nc	60
1,3-Dichlorobenzene	ug/L	0.5	<0.5	<0.5	nc	60
1,4-Dichlorobenzene	ug/L	0.5	<1.0	<1.0	nc	60
1,1-Dichloroethane	ug/L	0.5	<0.5	<0.5	nc	60
1,2-Dichloroethane	ug/L	0.5	<0.5	<0.5	nc	60
1,1-Dichloroethylene	ug/L	0.5	<0.5	<0.5	nc	60
cis-1,2-Dichloroethylene	ug/L	0.5	<0.5	<0.5	nc	60
trans-1,2-Dichloroethylene	ug/L	0.5	<0.5	<0.5	nc	60
1,2-Dichloropropane	ug/L	0.5	<0.5	<0.5	nc	60
cis-1,3-Dichloropropylene	ug/L	0.5	-	-	nc	60
trans-1,3-Dichloropropylene	ug/L	0.5	-	-	nc	60
1,3-Dichloropropene, total	ug/L	0.5	<0.5	<0.5	nc	60
Ethylbenzene	ug/L	0.5	<0.5	<0.5	nc	60
Ethylene dibromide (dibromoethane, 1,2-)	ug/L	0.2	<0.5	<0.5	nc	60
Hexane	ug/L	1.0	<1.0	<1.0	nc	60
Methyl Ethyl Ketone (2-Butanone)	ug/L	5.0	<5.0	<5.0	nc	60
Methyl Isobutyl Ketone	ug/L	5.0	<5.0	<5.0	nc	60
Methyl tert-butyl ether	ug/L	2.0	<5.0	<5.0	nc	60
Methylene Chloride	ug/L	5.0	<2.0	<2.0	nc	60
Styrene	ug/L	0.5	<0.5	<0.5	nc	60
1,1,1,2-Tetrachloroethane	ug/L	0.5	<0.5	<0.5	nc	60
1,1,1,2,2-Tetrachloroethane	ug/L	0.5	<0.5	<0.5	nc	60
Tetrachloroethylene	ug/L	0.5	<0.5	<0.5	nc	60
Toluene	ug/L	0.5	<0.5	<0.5	nc	60
1,1,1-Trichloroethane	ug/L	0.5	<0.5	<0.5	nc	60
1,1,2-Trichloroethane	ug/L	0.5	<0.5	<0.5	nc	60
Trichloroethylene	ug/L	0.5	<0.5	<0.5	nc	60
Trichlorofluoromethane	ug/L	1.0	<1.0	<1.0	nc	60
Vinyl Chloride	ug/L	0.5	<0.5	<0.5	nc	60
m/p-Xylene	ug/L	0.5	-	-	nc	60
o-Xylene	ug/L	0.5	-	-	nc	60
Xylenes, total	ug/L	0.5	<0.5	<0.5	nc	60

**NOTES:**

Analysis by Caduceon Environmental Laboratories/Bureau Veritas Laboratories  
 Non-detectable results are shown as "< (RDL)" where RDL represents the reporting detection limit.  
 - means "not analysed"  
 nc means "not calculable" - one (or both) of the results are <5x RDL  
 Exceedances of alert limits are shown in **bold**

**Table 10 - Relative Percent Differences - PHC and VOC in Groundwater**  
**112 Montreal Road, Ottawa, Ontario**  
**OTT-00241936-C0**

Parameter	Units	RDL	MW23-1	DUP 1	RPD (%)	Alert Limit (%)
			27-Feb-2023	27-Feb-2023		
<b>Petroleum Hydrocarbons</b>						
F1 PHC (C6 - C10) - BTEX	ug/L	25	< 25	< 25	nc	60
F2 PHC (C10-C16)	ug/L	100	< 50	< 50	nc	60
F3 PHC (C16-C34)	ug/L	100	< 400	< 400	nc	60
F4 PHC (C34-C50)	ug/L	100	< 400	< 400	nc	60
<b>Volatiles</b>						
Acetone	ug/L	5.0	< 30	< 30	nc	60
Benzene	ug/L	0.5	< 0.5	< 0.5	nc	60
Bromodichloromethane	ug/L	0.5	< 2	< 2	nc	60
Bromoform	ug/L	0.5	< 5	< 5	nc	60
Bromomethane	ug/L	0.5	< 0.5	< 0.5	nc	60
Carbon Tetrachloride	ug/L	0.2	< 0.2	< 0.2	nc	60
Chlorobenzene	ug/L	0.5	< 0.5	< 0.5	nc	60
Chloroform	ug/L	0.5	< 1	< 1	nc	60
Dibromochloromethane	ug/L	0.5	< 2	< 2	nc	60
Dichlorodifluoromethane	ug/L	1.0	< 0.5	< 0.5	nc	60
1,2-Dichlorobenzene	ug/L	0.5	< 0.5	< 0.5	nc	60
1,3-Dichlorobenzene	ug/L	0.5	< 0.5	< 0.5	nc	60
1,4-Dichlorobenzene	ug/L	0.5	< 2	< 2	nc	60
1,1-Dichloroethane	ug/L	0.5	< 0.5	< 0.5	nc	60
1,2-Dichloroethane	ug/L	0.5	< 0.5	< 0.5	nc	60
1,1-Dichloroethylene	ug/L	0.5	< 0.5	< 0.5	nc	60
cis-1,2-Dichloroethylene	ug/L	0.5	< 0.5	< 0.5	nc	60
trans-1,2-Dichloroethylene	ug/L	0.5	< 0.5	< 0.5	nc	60
1,2-Dichloropropane	ug/L	0.5	< 0.5	< 0.5	nc	60
cis-1,3-Dichloropropylene	ug/L	0.5	< 0.5	< 0.5	nc	60
trans-1,3-Dichloropropylene	ug/L	0.5	< 0.5	< 0.5	nc	60
1,3-Dichloropropene, total	ug/L	0.5	< 0.5	< 0.5	nc	60
Ethylbenzene	ug/L	0.5	< 0.5	< 0.5	nc	60
Ethylene dibromide (dibromoethane, 1,2-)	ug/L	0.2	< 0.2	< 0.2	nc	60
Hexane	ug/L	1.0	< 5	< 5	nc	60
Methyl Ethyl Ketone (2-Butanone)	ug/L	5.0	< 5	< 5	nc	60
Methyl Isobutyl Ketone	ug/L	5.0	< 20	< 20	nc	60
Methyl tert-butyl ether	ug/L	2.0	< 20	< 20	nc	60
Methylene Chloride	ug/L	5.0	< 2	< 2	nc	60
Styrene	ug/L	0.5	< 0.5	< 0.5	nc	60
1,1,1,2-Tetrachloroethane	ug/L	0.5	< 0.5	< 0.5	nc	60
1,1,2,2-Tetrachloroethane	ug/L	0.5	< 0.5	< 0.5	nc	60
Tetrachloroethylene	ug/L	0.5	< 0.5	< 0.5	nc	60
Toluene	ug/L	0.5	< 0.5	< 0.5	nc	60
1,1,1-Trichloroethane	ug/L	0.5	< 0.5	< 0.5	nc	60
1,1,2-Trichloroethane	ug/L	0.5	< 0.5	< 0.5	nc	60
Trichloroethylene	ug/L	0.5	< 0.5	< 0.5	nc	60
Trichlorofluoromethane	ug/L	1.0	< 5	< 5	nc	60
Vinyl Chloride	ug/L	0.5	< 0.2	< 0.2	nc	60
m/p-Xylene	ug/L	0.5	< 1.0	< 1.0	nc	60
o-Xylene	ug/L	0.5	< 0.5	< 0.5	nc	60
Xylenes, total	ug/L	0.5	< 1.1	< 1.1	nc	60

**NOTES:**

Analysis by Caduceon Environmental Laboratories/Bureau Veritas Laboratories  
 Non-detectable results are shown as "< (RDL)" where RDL represents the reporting detection limit.  
 - means "not analysed"  
 nc means "not calculable" - one (or both) of the results are <5x RDL  
 Exceedances of alert limits are shown in **bold**

Table 11 - Relative Percent Differences - PAH in Groundwater  
 112 Montreal Road, Ottawa, Ontario  
 OTT-00241936-C0

Parameter	Units	RDL	MW23-1	DUP 1	RPD (%)	Alert Limit (%)
			27-Feb-2023	27-Feb-2023		
<b>Polycyclic Aromatic Hydrocarbons</b>						
Acenaphthene	ug/L	0.050	< 0.05	< 0.05	nc	60
Acenaphthylene	ug/L	0.050	< 0.05	< 0.05	nc	60
Anthracene	ug/L	0.050	< 0.05	< 0.05	nc	60
Benzo(a)anthracene	ug/L	0.050	< 0.05	< 0.05	nc	60
Benzo(a)pyrene	ug/L	0.050	< 0.01	< 0.01	nc	60
Benzo(b)fluoranthene	ug/L	0.050	< 0.05	< 0.05	nc	60
Benzo(b+k)fluoranthene	ug/L	0.050	< 0.1	< 0.1	nc	60
Benzo(ghi)perylene	ug/L	0.050	< 0.05	< 0.05	nc	60
Benzo(k)fluoranthene	ug/L	0.050	< 0.05	< 0.05	nc	60
Chrysene	ug/L	0.050	< 0.05	< 0.05	nc	60
Dibenzo(a,h)anthracene	ug/L	0.050	< 0.05	< 0.05	nc	60
Fluoranthene	ug/L	0.050	< 0.05	< 0.05	nc	60
Fluorene	ug/L	0.050	< 0.05	< 0.05	nc	60
Indeno(1,2,3-cd)pyrene	ug/L	0.050	< 0.05	< 0.05	nc	60
1-Methylnaphthalene	ug/L	0.050	< 0.05	< 0.05	nc	60
2-Methylnaphthalene	ug/L	0.050	< 0.05	< 0.05	nc	60
Methylnaphthalene, 2-(1-)	ug/L	0.050	< 1	< 1	nc	60
Naphthalene	ug/L	0.050	< 0.05	< 0.05	nc	60
Phenanthrene	ug/L	0.050	< 0.05	< 0.05	nc	60
Pyrene	ug/L	0.050	< 0.05	< 0.05	nc	60

**NOTES:**

Analysis by Caduceon Environmental Laboratories

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

- means "not analysed"

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

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



Table 12 - Relative Percent Differences - Metals in Groundwater  
 112 Montreal Road, Ottawa, Ontario  
 OTT-00241936-C0

Parameter	Units	RDL	MW23-1	DUP 1	RPD (%)	Alert Limit (%)
			27-Feb-2023	27-Feb-2023		
<i>Inorganics</i>						
Antimony	ug/L	0.50	< 0.1	< 0.1	nc	40
Arsenic	ug/L	0.10	0.2	0.2	nc	40
Barium	ug/L	1.0	38	44	15	40
Beryllium	ug/L	0.10	< 0.1	< 0.1	nc	40
Boron	ug/L	50	110	108	nc	40
Cadmium	ug/L	0.010	< 0.015	0.017	nc	40
Chromium	ug/L	1.0	< 2	< 2	nc	40
Chromium VI	ug/L	10.0	< 10	< 10	nc	40
Cobalt	ug/L	0.20	0.1	0.1	nc	40
Copper	ug/L	0.20	< 2	< 2	nc	40
Lead	ug/L	0.1	< 0.02	0.03	nc	40
Mercury	ug/L	0.02	< 0.02	< 0.02	nc	40
Molybdenum	ug/L	1.0	6.1	6.4	5	40
Nickel	ug/L	1.0	1.9	1.9	nc	40
Sodium	ug/L	100.0	136000	135000	1	40
Selenium	ug/L	0.10	1	1	0	40
Silver	ug/L	0.020	< 0.1	< 0.1	nc	40
Thallium	ug/L	0.010	< 0.05	< 0.05	nc	40
Uranium	ug/L	0.10	2.6	2.72	5	40
Vanadium	ug/L	5.0	< 0.1	< 0.1	nc	40
Zinc	ug/L	5.0	< 5	< 5	nc	40

**NOTES:**

Analysis by Bureau Veritas Laboratories

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

- means "not analysed"

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

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

EXP Services Inc.  
2705460 Ontario Inc.  
*Phase Two Environmental Site Assessment*  
112 Montreal Road, Ottawa, Ontario  
OTT-00214936-C0  
April 13, 2023

## **Appendix F: Laboratory Certificates of Analysis**

## *Certificate of Analysis*

**exp Services Inc. (Ottawa)**

100-2650 Queensview Dr.  
Ottawa, ON K2B 8K2  
Attn: Mark McCalla

Phone: (613) 688-1899  
Fax: (613) 225-7337

Client PO:  
Project: OTT00214936A  
Custody: 11230

Report Date: 14-Nov-2013  
Order Date: 11-Nov-2013

**Order #: 1346015**

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

<b>Paracel ID</b>	<b>Client ID</b>
1346015-01	BH6B-SS1

Approved By:



Mark Foto, M.Sc. For Dale Robertson, BSc  
Laboratory Director

**Certificate of Analysis**

Report Date: 14-Nov-2013

Client: **exp Services Inc. (Ottawa)**

Order Date: 11-Nov-2013

Client PO:

Project Description: OTT00214936A

**Analysis Summary Table**

Analysis	Method Reference/Description	Extraction Date	Analysis Date
BTEX by P&T GC-MS	EPA 8260 - P&T GC-MS	12-Nov-13	14-Nov-13
MOE Metals by ICP-OES, soil Reg 153	based on MOE E3470, ICP-OES	13-Nov-13	13-Nov-13
PHC F1	CWS Tier 1 - P&T GC-FID	12-Nov-13	14-Nov-13
PHC F2 - F4	CWS Tier 1 - GC-FID, extraction	12-Nov-13	14-Nov-13
Solids, %	Gravimetric, calculation	11-Nov-13	11-Nov-13

**P:** 1-800-749-1947  
**E:** PARACEL@PARACELLABS.COM

WWW.PARACELLABS.COM

**OTTAWA**  
300-2319 St. Laurent Blvd.  
Ottawa, ON K1G 4J8

**MISSISSAUGA**  
6845 Kitimat Rd. Unit #27  
Mississauga, ON L5N 6J3

**NIAGARA FALLS**  
5415 Morning Glory Crt.  
Niagara Falls, ON L2J 0A3

**SARNIA**  
123 Christina St. N.  
Sarnia, ON N7T 5T7

**Certificate of Analysis**

Report Date: 14-Nov-2013

Order Date: 11-Nov-2013

 Client: **exp Services Inc. (Ottawa)**

Project Description: OTT00214936A

Client PO:

<b>Client ID:</b>	BH6B-SS1	-	-	-
<b>Sample Date:</b>	08-Nov-13	-	-	-
<b>Sample ID:</b>	1346015-01	-	-	-
<b>MDL/Units</b>	Soil	-	-	-

**Physical Characteristics**

% Solids	0.1 % by Wt.	87.3	-	-	-
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**Metals**

Antimony	1.0 ug/g dry	<1.0	-	-	-
Arsenic	1.0 ug/g dry	3.8	-	-	-
Barium	1.0 ug/g dry	177	-	-	-
Beryllium	1.0 ug/g dry	<1.0	-	-	-
Boron	1.0 ug/g dry	6.1	-	-	-
Cadmium	0.5 ug/g dry	<0.5	-	-	-
Chromium	1.0 ug/g dry	21.9	-	-	-
Cobalt	1.0 ug/g dry	10.8	-	-	-
Copper	1.0 ug/g dry	55.6	-	-	-
Lead	1.0 ug/g dry	19.8	-	-	-
Molybdenum	1.0 ug/g dry	1.1	-	-	-
Nickel	1.0 ug/g dry	58.4	-	-	-
Selenium	1.0 ug/g dry	<1.0	-	-	-
Silver	0.5 ug/g dry	<0.5	-	-	-
Thallium	1.0 ug/g dry	<1.0	-	-	-
Uranium	1.0 ug/g dry	<1.0	-	-	-
Vanadium	1.0 ug/g dry	24.3	-	-	-
Zinc	1.0 ug/g dry	82.3	-	-	-

**Volatiles**

Benzene	0.02 ug/g dry	<0.02	-	-	-
Ethylbenzene	0.05 ug/g dry	<0.05	-	-	-
Toluene	0.05 ug/g dry	<0.05	-	-	-
m,p-Xylenes	0.05 ug/g dry	<0.05	-	-	-
o-Xylene	0.05 ug/g dry	<0.05	-	-	-
Xylenes, total	0.05 ug/g dry	<0.05	-	-	-
Toluene-d8	Surrogate	85.4%	-	-	-

**Hydrocarbons**

F1 PHCs (C6-C10)	7 ug/g dry	<7	-	-	-
F2 PHCs (C10-C16)	4 ug/g dry	<4	-	-	-
F3 PHCs (C16-C34)	8 ug/g dry	<8	-	-	-
F4 PHCs (C34-C50)	6 ug/g dry	<6	-	-	-

 P: 1-800-749-1947  
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**OTTAWA**  
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 5415 Morning Glory Cr.  
 Niagara Falls, ON L2J 0A3

**SARNIA**  
 123 Christina St. N.  
 Sarnia, ON N7T 5T7

**Certificate of Analysis**

Report Date: 14-Nov-2013

Client: **exp Services Inc. (Ottawa)**

Order Date: 11-Nov-2013

Client PO:

Project Description: OTT00214936A

**Method Quality Control: Blank**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>Hydrocarbons</b>									
F1 PHCs (C6-C10)	ND	7	ug/g						
F2 PHCs (C10-C16)	ND	4	ug/g						
F3 PHCs (C16-C34)	ND	8	ug/g						
F4 PHCs (C34-C50)	ND	6	ug/g						
<b>Metals</b>									
Antimony	ND	1.0	ug/g						
Arsenic	ND	1.0	ug/g						
Barium	ND	1.0	ug/g						
Beryllium	ND	1.0	ug/g						
Boron	ND	1.0	ug/g						
Cadmium	ND	0.5	ug/g						
Chromium	ND	1.0	ug/g						
Cobalt	ND	1.0	ug/g						
Copper	ND	1.0	ug/g						
Lead	ND	1.0	ug/g						
Molybdenum	ND	1.0	ug/g						
Nickel	ND	1.0	ug/g						
Selenium	ND	1.0	ug/g						
Silver	ND	0.5	ug/g						
Thallium	ND	1.0	ug/g						
Uranium	ND	1.0	ug/g						
Vanadium	ND	1.0	ug/g						
Zinc	ND	1.0	ug/g						
<b>Volatiles</b>									
Benzene	ND	0.02	ug/g						
Ethylbenzene	ND	0.05	ug/g						
Toluene	ND	0.05	ug/g						
m,p-Xylenes	ND	0.05	ug/g						
o-Xylene	ND	0.05	ug/g						
Xylenes, total	ND	0.05	ug/g						
Surrogate: Toluene-d8	2.65		ug/g		82.9	50-140			

**Certificate of Analysis**

Report Date: 14-Nov-2013

Order Date: 11-Nov-2013

Client: **exp Services Inc. (Ottawa)**

Client PO:

Project Description: OTT00214936A

**Method Quality Control: Duplicate**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>Hydrocarbons</b>									
F1 PHCs (C6-C10)	12	7	ug/g dry	12			0.1	40	
F2 PHCs (C10-C16)	311	4	ug/g dry	99			103.0	30	QR-04
F3 PHCs (C16-C34)	1310	8	ug/g dry	1050			22.5	30	
F4 PHCs (C34-C50)	789	6	ug/g dry	838			6.1	30	
<b>Metals</b>									
Antimony	ND	1.0	ug/g dry	ND			0.0	30	
Arsenic	1.93	1.0	ug/g dry	2.07			6.9	30	
Barium	50.2	1.0	ug/g dry	49.5			1.4	30	
Beryllium	ND	1.0	ug/g dry	ND			0.0	30	
Boron	3.34	1.0	ug/g dry	3.44			2.9	30	
Cadmium	ND	0.5	ug/g dry	ND			0.0	30	
Chromium	13.4	1.0	ug/g dry	13.8			3.3	30	
Cobalt	3.19	1.0	ug/g dry	3.27			2.5	30	
Copper	25.3	1.0	ug/g dry	25.6			1.3	30	
Lead	58.7	1.0	ug/g dry	57.7			1.8	30	
Molybdenum	ND	1.0	ug/g dry	ND			0.0	30	
Nickel	6.55	1.0	ug/g dry	6.46			1.3	30	
Selenium	ND	1.0	ug/g dry	ND			0.0	30	
Silver	ND	0.5	ug/g dry	ND			0.0	30	
Thallium	ND	1.0	ug/g dry	ND			0.0	30	
Uranium	1.15	1.0	ug/g dry	ND			0.0	30	
Vanadium	17.6	1.0	ug/g dry	18.2			3.4	30	
Zinc	99.1	1.0	ug/g dry	99.4			0.2	30	
<b>Physical Characteristics</b>									
% Solids	84.9	0.1	% by Wt.	69.5			20.0	25	
<b>Volatiles</b>									
Benzene	ND	0.02	ug/g dry	ND				50	
Ethylbenzene	ND	0.05	ug/g dry	ND			0.0	50	
Toluene	ND	0.05	ug/g dry	ND			0.0	50	
m,p-Xylenes	0.065	0.05	ug/g dry	0.072			9.4	50	
o-Xylene	ND	0.05	ug/g dry	ND			0.0	50	
Surrogate: Toluene-d8	3.25		ug/g dry	ND	86.1	50-140			

**Certificate of Analysis**

Report Date: 14-Nov-2013

Order Date: 11-Nov-2013

Client: **exp Services Inc. (Ottawa)**

Project Description: OTT00214936A

Client PO:

**Method Quality Control: Spike**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>Hydrocarbons</b>									
F1 PHCs (C6-C10)	207	7	ug/g	ND	103	80-120			
F2 PHCs (C10-C16)	82	4	ug/g	ND	90.9	80-120			
F3 PHCs (C16-C34)	1220	8	ug/g	1050	78.1	60-140			
F4 PHCs (C34-C50)	867	6	ug/g	838	19.4	60-140			QM-06
<b>Metals</b>									
Antimony	212		ug/L	18.7	77.2	70-130			
Arsenic	265		ug/L	41.4	89.6	70-130			
Barium	1180		ug/L	990	76.0	70-130			
Beryllium	204		ug/L	0.18	81.6	70-130			
Boron	269		ug/L	68.7	80.1	70-130			
Cadmium	204		ug/L	ND	81.8	70-130			
Chromium	465		ug/L	277	75.3	70-130			
Cobalt	256		ug/L	65.4	76.2	70-130			
Copper	704		ug/L	512	77.0	70-130			
Lead	1330		ug/L	1150	72.0	70-130			
Molybdenum	199		ug/L	7.56	76.5	70-130			
Nickel	309		ug/L	129	71.9	70-130			
Selenium	191		ug/L	ND	76.5	70-130			
Silver	197		ug/L	ND	79.0	70-130			
Thallium	183		ug/L	ND	73.2	70-130			
Uranium	226		ug/L	ND	90.3	70-130			
Vanadium	551		ug/L	364	75.0	70-130			
Zinc	228		ug/L	ND	91.2	70-130			
<b>Volatiles</b>									
Benzene	2.44	0.02	ug/g	ND	61.0	60-130			
Ethylbenzene	3.53	0.05	ug/g	ND	88.3	60-130			
Toluene	3.93	0.05	ug/g	ND	98.1	60-130			
m,p-Xylenes	8.10	0.05	ug/g	ND	101	60-130			
o-Xylene	4.03	0.05	ug/g	ND	101	60-130			
Surrogate: Toluene-d8	2.68		ug/g		83.7	50-140			



**Certificate of Analysis**

Report Date: 14-Nov-2013

Client: **exp Services Inc. (Ottawa)**

Order Date: 11-Nov-2013

Client PO:

Project Description: OTT00214936A

**Qualifier Notes:**

**QC Qualifiers :**

QM-06 : Due to noted non-homogeneity of the QC sample matrix, the spike recoveries were out side the accepted range. Batch data accepted based on other QC.

QR-04 : Duplicate results exceeds RPD limits due to non-homogeneous matrix.

**Sample Data Revisions**

None

**Work Order Revisions / Comments:**

None

**Other Report Notes:**

- n/a: not applicable
- ND: Not Detected
- MDL: Method Detection Limit
- Source Result: Data used as source for matrix and duplicate samples
- %REC: Percent recovery.
- RPD: Relative percent difference.

Soil results are reported on a dry weight basis when the units are denoted with 'dry'.  
Where %Solids is reported, moisture loss includes the loss of volatile hydrocarbons.

**CCME PHC additional information:**

- The method for the analysis of PHCs complies with the Reference Method for the CWS PHC and is validated for use in the laboratory. All prescribed quality criteria identified in the method has been met.
- F1 range corrected for BTEX.
- F2 to F3 ranges corrected for appropriate PAHs where available.
- The gravimetric heavy hydrocarbons (F4G) are not to be added to C6 to C50 hydrocarbons.
- In the case where F4 and F4G are both reported, the greater of the two results is to be used for comparison to CWS PHC criteria.

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Page 1 of 1

Client Name: <b>EXP</b>	Project Reference: <b>ott-20214936-A</b>	TAT: <input checked="" type="checkbox"/> Regular <input type="checkbox"/> 3 Day <input type="checkbox"/> 2 Day <input type="checkbox"/> 1 Day Date Required: _____
Contact Name: <b>mark.mccall@exp.com / mark Deuling</b>	Quote #	
Address: <b>100-2650 Queensview Dr, Ottawa</b>	PO #	
Telephone: <b>613 688 1829</b>	Email Address: <b>mark.mccall@exp.com Daniel Deuling@exp.com</b>	

Criteria:  O. Reg. 153/04 (As Amended) Table 3  RSC Filing  O. Reg. 558/00  PWQO  CCME  SUB (Storm)  SUB (Sanitary) Municipality: \_\_\_\_\_  Other: \_\_\_\_\_

Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other)

Required Analyses

Parcel Order Number: <b>1346015</b>		Matrix	Air Volume	# of Containers	Sample Taken		PHC	BTEX	Metals, ICP	Required Analyses											
Sample ID/Location Name					Date	Time															
1	BH 68-551	S		2	Nov 8/13	7:45am	X	X	X											- 850ml + 1 vial ✓	
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Comments: \_\_\_\_\_ Method of Delivery: **Parcel Courier**

Relinquished By (Sign):	Received by Driver/Depot: <b>A. JOUSE</b>	Received at Lab: <b>SUNEE PERN</b>	Verified By:
Relinquished By (Print): <b>Daniel Clark</b>	Date/Time: <b>11/11/13 9:10 AM</b>	Date/Time: <b>NOV 11 2013 09:45</b>	Date/Time: <b>NOV 11 2013 9:58</b>
Date/Time: <b>NOV 11/13 9:30 AM</b>	Temperature: _____ °C	Temperature: <b>3.2</b> °C	pH Verified [ ] By: _____

## *Certificate of Analysis*

### **exp Services Inc. (Ottawa)**

100-2650 Queensview Dr.  
Ottawa, ON K2B 8K2  
Attn: Mark McCalla

Phone: (613) 688-1899  
Fax: (613) 225-7337

Client PO:  
Project: OTT00214936A  
Custody: 13610

Report Date: 6-Nov-2013  
Order Date: 31-Oct-2013

**Order #: 1344316**

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

<b>Paracel ID</b>	<b>Client ID</b>
1344316-01	BH10-S2
1344316-02	BH11-S1

Approved By:



Mark Foto, M.Sc. For Dale Robertson, BSc  
Laboratory Director

**Certificate of Analysis**

Report Date: 06-Nov-2013  
Order Date: 31-Oct-2013

Client: **exp Services Inc. (Ottawa)**  
Client PO:

Project Description: OTT00214936A

**Analysis Summary Table**

Analysis	Method Reference/Description	Extraction Date	Analysis Date
MOE Metals by ICP-OES, soil Reg 153	based on MOE E3470, ICP-OES	5-Nov-13	5-Nov-13
pH	EPA 150.1 - pH probe @ 25 °C, CaCl buffered ext.	31-Oct-13	1-Nov-13
Solids, %	Gravimetric, calculation	1-Nov-13	1-Nov-13

**P:** 1-800-749-1947  
**E:** PARACEL@PARACELLABS.COM

WWW.PARACELLABS.COM

**OTTAWA**  
300-2319 St. Laurent Blvd.  
Ottawa, ON K1G 4J8

**MISSISSAUGA**  
6845 Kitimat Rd. Unit #27  
Mississauga, ON L5N 6J3

**NIAGARA FALLS**  
5415 Morning Glory Cr.  
Niagara Falls, ON L2J 0A3

**SARNIA**  
123 Christina St. N.  
Sarnia, ON N7T 5T7

**Certificate of Analysis**

Report Date: 06-Nov-2013

 Client: **exp Services Inc. (Ottawa)**

Order Date: 31-Oct-2013

Client PO:

Project Description: OTT00214936A

<b>Client ID:</b>	BH10-S2	BH11-S1	-	-
<b>Sample Date:</b>	31-Oct-13	31-Oct-13	-	-
<b>Sample ID:</b>	1344316-01	1344316-02	-	-
<b>MDL/Units</b>	Soil	Soil	-	-

**Physical Characteristics**

% Solids	0.1 % by Wt.	83.5	78.0	-	-
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**General Inorganics**

pH	0.05 pH Units	7.22	-	-	-
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**Metals**

Antimony	1.0 ug/g dry	<1.0	<1.0	-	-
Arsenic	1.0 ug/g dry	5.7	7.6	-	-
Barium	1.0 ug/g dry	498	119	-	-
Beryllium	1.0 ug/g dry	<1.0	<1.0	-	-
Boron	1.0 ug/g dry	6.7	4.8	-	-
Cadmium	0.5 ug/g dry	0.5	0.7	-	-
Chromium	1.0 ug/g dry	26.0	23.0	-	-
Cobalt	1.0 ug/g dry	5.3	6.1	-	-
Copper	1.0 ug/g dry	44.8	61.6	-	-
Lead	1.0 ug/g dry	560	218	-	-
Molybdenum	1.0 ug/g dry	1.6	1.3	-	-
Nickel	1.0 ug/g dry	46.1	35.9	-	-
Selenium	1.0 ug/g dry	<1.0	<1.0	-	-
Silver	0.5 ug/g dry	<0.5	<0.5	-	-
Thallium	1.0 ug/g dry	<1.0	<1.0	-	-
Uranium	1.0 ug/g dry	<1.0	<1.0	-	-
Vanadium	1.0 ug/g dry	28.3	32.1	-	-
Zinc	1.0 ug/g dry	428	375	-	-

**Certificate of Analysis**

Report Date: 06-Nov-2013

Order Date: 31-Oct-2013

Client: **exp Services Inc. (Ottawa)**

Project Description: OTT00214936A

Client PO:

**Method Quality Control: Blank**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>Metals</b>									
Antimony	ND	1.0	ug/g						
Arsenic	ND	1.0	ug/g						
Barium	ND	1.0	ug/g						
Beryllium	ND	1.0	ug/g						
Boron	ND	1.0	ug/g						
Cadmium	ND	0.5	ug/g						
Chromium	ND	1.0	ug/g						
Cobalt	ND	1.0	ug/g						
Copper	ND	1.0	ug/g						
Lead	ND	1.0	ug/g						
Molybdenum	ND	1.0	ug/g						
Nickel	ND	1.0	ug/g						
Selenium	ND	1.0	ug/g						
Silver	ND	0.5	ug/g						
Thallium	ND	1.0	ug/g						
Uranium	ND	1.0	ug/g						
Vanadium	ND	1.0	ug/g						
Zinc	ND	1.0	ug/g						

**Certificate of Analysis**

Report Date: 06-Nov-2013

Client: **exp Services Inc. (Ottawa)**

Order Date: 31-Oct-2013

Client PO:

Project Description: OTT00214936A

**Method Quality Control: Duplicate**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>General Inorganics</b>									
pH	8.08	0.05	pH Units	8.07			0.1	10	
<b>Metals</b>									
Antimony	ND	1.0	ug/g dry	ND			0.0	30	
Arsenic	5.13	1.0	ug/g dry	5.65			9.8	30	
Barium	519	10.0	ug/g dry	498			4.1	30	
Beryllium	ND	1.0	ug/g dry	ND			0.0	30	
Boron	6.70	1.0	ug/g dry	6.72			0.4	30	
Cadmium	0.54	0.5	ug/g dry	0.51			6.6	30	
Chromium	26.2	10.0	ug/g dry	26.0			1.1	30	
Cobalt	5.27	1.0	ug/g dry	5.34			1.3	30	
Copper	46.9	10.0	ug/g dry	44.8			4.5	30	
Lead	581	10.0	ug/g dry	560			3.7	30	
Molybdenum	1.64	1.0	ug/g dry	1.61			1.5	30	
Nickel	48.6	10.0	ug/g dry	46.1			5.4	30	
Selenium	ND	1.0	ug/g dry	ND				30	
Silver	ND	0.5	ug/g dry	ND			0.0	30	
Thallium	ND	1.0	ug/g dry	ND				30	
Uranium	ND	1.0	ug/g dry	ND				30	
Vanadium	29.5	10.0	ug/g dry	28.3			4.1	30	
Zinc	447	10.0	ug/g dry	428			4.3	30	
<b>Physical Characteristics</b>									
% Solids	84.5	0.1	% by Wt.	84.1			0.4	25	

**Certificate of Analysis**

Report Date: 06-Nov-2013

Client: **exp Services Inc. (Ottawa)**

Order Date: 31-Oct-2013

Client PO:

Project Description: OTT00214936A

**Method Quality Control: Spike**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>Metals</b>									
Antimony	226		ug/L	ND	90.6	70-130			
Arsenic	229		ug/L	ND	91.6	70-130			
Barium	246		ug/L	ND	98.3	70-130			
Beryllium	232		ug/L	ND	92.6	70-130			
Boron	230		ug/L	ND	92.2	70-130			
Cadmium	234		ug/L	ND	93.8	70-130			
Chromium	239		ug/L	ND	95.5	70-130			
Cobalt	238		ug/L	ND	95.2	70-130			
Copper	241		ug/L	ND	96.4	70-130			
Lead	232		ug/L	ND	92.7	70-130			
Molybdenum	243		ug/L	ND	97.1	70-130			
Nickel	230		ug/L	ND	92.0	70-130			
Selenium	229		ug/L	ND	91.8	70-130			
Silver	228		ug/L	ND	91.2	70-130			
Thallium	244		ug/L	ND	97.5	70-130			
Uranium	247		ug/L	ND	99.0	70-130			
Vanadium	236		ug/L	ND	94.2	70-130			
Zinc	230		ug/L	ND	91.9	70-130			



**Certificate of Analysis**

Client: **exp Services Inc. (Ottawa)**

Client PO:

Project Description: OTT00214936A

Report Date: 06-Nov-2013

Order Date: 31-Oct-2013

**Qualifier Notes:**

None

**Sample Data Revisions**

None

**Work Order Revisions / Comments:**

None

**Other Report Notes:**

n/a: not applicable

ND: Not Detected

MDL: Method Detection Limit

Source Result: Data used as source for matrix and duplicate samples

%REC: Percent recovery.

RPD: Relative percent difference.

Soil results are reported on a dry weight basis when the units are denoted with 'dry'.  
Where %Solids is reported, moisture loss includes the loss of volatile hydrocarbons.

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Page 1 of 1

Client Name: <i>exp Services Inc.</i>	Project Reference: <i>OTT-00214936-A</i>	TAT: <input checked="" type="checkbox"/> Regular <input type="checkbox"/> 3 Day
Contact Name: <i>Mark McCalla / Mark Devlin</i>	Quote #	<input type="checkbox"/> 2 Day <input type="checkbox"/> 1 Day
Address: <i>100-2650 Queensview Dr. Ottawa</i>	PO #	Date Required: _____
Telephone: <i>(613) 793 3319</i>	Email Address:	

Criteria:  O. Reg. 153/04 (As Amended) Table 3  RSC Filing  O. Reg. 558/00  PWQO  CCME  SUB (Storm)  SUB (Sanitary) Municipality: \_\_\_\_\_  Other: \_\_\_\_\_

Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other)

Required Analyses

Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken		metals (ICP)	PH	Required Analyses															
				Date	Time			1	2	3	4	5	6	7	8	9	10						
1 <i>BH10-S2</i>	<i>S</i>		<i>3</i>	<i>Oct 31, 2013</i>	<i>10:00 am</i>	<i>X</i>	<i>X</i>															<i>- 9.50ml + 9vid -</i>	
2 <i>BH11-S1</i>	<i>S</i>		<i>3</i>	<i>Oct 31, 2013</i>	<i>10:00 am</i>	<i>X</i>																<i>↓</i>	
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							

Comments: *meth. vial wasn't needed and can be thrown out.*

Method of Delivery: *Walkin*

Relinquished By (Sign): <i>Mark Devlin</i>	Received by Driver/Depot:	Received at Lab: <i>BLD</i>	Verified By: <i>MC</i>
Relinquished By (Print): <i>Mark Devlin</i>	Date/Time: _____	Date/Time: <i>Oct 31, 2013 11:00</i>	Date/Time: <i>Oct 31, 2013 12:23</i>
Date/Time: <i>Oct 31, 2013 / 11:00 am</i>	Temperature: _____ °C	Temperature: <i>6.8</i> °C	pH Verified: <input type="checkbox"/> By: <i>N/A</i>

## *Certificate of Analysis*

**exp Services Inc. (Ottawa)**

100-2650 Queensview Dr.  
Ottawa, ON K2B 8K2  
Attn: Mark McCalla

Phone: (613) 688-1899  
Fax: (613) 225-7337

Client PO:  
Project: OTT00214936A0  
Custody: 10001

Report Date: 31-Oct-2013  
Order Date: 25-Oct-2013

**Order #: 1343373**

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

<b>Paracel ID</b>	<b>Client ID</b>
1343373-01	BH1 SS4
1343373-02	BH2 SS5
1343373-03	BH3 SS3
1343373-04	BH4 SS3
1343373-05	BH4 SS30
1343373-06	BH9 SS5

Approved By:



Mark Foto, M.Sc. For Dale Robertson, BSc  
Laboratory Director

**Certificate of Analysis**

Report Date: 31-Oct-2013

Client: **exp Services Inc. (Ottawa)**

Order Date: 25-Oct-2013

Client PO:

Project Description: OTT00214936A0

**Analysis Summary Table**

Analysis	Method Reference/Description	Extraction Date	Analysis Date
BTEX by P&T GC-MS	EPA 8260 - P&T GC-MS	25-Oct-13	30-Oct-13
MOE Metals by ICP-OES, soil Reg 153	based on MOE E3470, ICP-OES	29-Oct-13	29-Oct-13
PHC F1	CWS Tier 1 - P&T GC-FID	25-Oct-13	30-Oct-13
PHC F2 - F4	CWS Tier 1 - GC-FID, extraction	28-Oct-13	28-Oct-13
Solids, %	Gravimetric, calculation	28-Oct-13	28-Oct-13

**P:** 1-800-749-1947  
**E:** PARACEL@PARACELLABS.COM

WWW.PARACELLABS.COM

**OTTAWA**  
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Ottawa, ON K1G 4J8

**MISSISSAUGA**  
6845 Kitimat Rd. Unit #27  
Mississauga, ON L5N 6J3

**NIAGARA FALLS**  
5415 Morning Glory Crt.  
Niagara Falls, ON L2J 0A3

**SARNIA**  
123 Christina St. N.  
Sarnia, ON N7T 5T7

**Certificate of Analysis**

Report Date: 31-Oct-2013

 Client: **exp Services Inc. (Ottawa)**

Order Date: 25-Oct-2013

Client PO:

Project Description: OTT00214936A0

Client ID:	BH1 SS4	BH2 SS5	BH3 SS3	BH4 SS3
Sample Date:	23-Oct-13	24-Oct-13	23-Oct-13	24-Oct-13
Sample ID:	1343373-01	1343373-02	1343373-03	1343373-04
MDL/Units	Soil	Soil	Soil	Soil

**Physical Characteristics**

% Solids	0.1 % by Wt.	81.9	93.1	91.5	80.2
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**Metals**

Element	MDL/Units	81.9	93.1	91.5	80.2
Antimony	1.0 ug/g dry	1.9	-	<1.0	<1.0
Arsenic	1.0 ug/g dry	6.0	-	5.8	4.1
Barium	1.0 ug/g dry	253	-	71.7	87.8
Beryllium	1.0 ug/g dry	<1.0	-	<1.0	<1.0
Boron	1.0 ug/g dry	7.2	-	6.7	7.6
Cadmium	0.5 ug/g dry	<0.5	-	<0.5	<0.5
Chromium	1.0 ug/g dry	20.4	-	11.9	15.8
Cobalt	1.0 ug/g dry	8.3	-	6.9	6.4
Copper	1.0 ug/g dry	39.8	-	20.1	24.7
Lead	1.0 ug/g dry	325	-	12.0	14.7
Molybdenum	1.0 ug/g dry	1.6	-	2.7	<1.0
Nickel	1.0 ug/g dry	27.3	-	22.7	32.0
Selenium	1.0 ug/g dry	<1.0	-	<1.0	<1.0
Silver	0.5 ug/g dry	<0.5	-	<0.5	<0.5
Thallium	1.0 ug/g dry	<1.0	-	<1.0	<1.0
Uranium	1.0 ug/g dry	<1.0	-	<1.0	<1.0
Vanadium	1.0 ug/g dry	22.3	-	20.4	18.6
Zinc	1.0 ug/g dry	177	-	28.1	58.5

**Volatiles**

Compound	MDL/Units	<0.02	<0.02	<0.02	<0.02
Benzene	0.02 ug/g dry	<0.02	<0.02	<0.02	<0.02
Ethylbenzene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Toluene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
m,p-Xylenes	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
o-Xylene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Xylenes, total	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Toluene-d8	Surrogate	105%	109%	104%	105%

**Hydrocarbons**

PHCs	MDL/Units	<7	<7	<7	<7
F1 PHCs (C6-C10)	7 ug/g dry	<7	<7	<7	<7
F2 PHCs (C10-C16)	4 ug/g dry	<4	<4	<4	<4
F3 PHCs (C16-C34)	8 ug/g dry	81	<8	<8	364
F4 PHCs (C34-C50)	6 ug/g dry	10	<6	<6	624

**Certificate of Analysis**

Report Date: 31-Oct-2013

 Client: **exp Services Inc. (Ottawa)**

Order Date: 25-Oct-2013

Client PO:

Project Description: OTT00214936A0

<b>Client ID:</b>	BH4 SS30	BH9 SS5	-	-
<b>Sample Date:</b>	24-Oct-13	23-Oct-13	-	-
<b>Sample ID:</b>	1343373-05	1343373-06	-	-
<b>MDL/Units</b>	Soil	Soil	-	-

**Physical Characteristics**

% Solids	0.1 % by Wt.	87.1	93.5	-	-
----------	--------------	------	------	---	---

**Metals**

Antimony	1.0 ug/g dry	<1.0	-	-	-
Arsenic	1.0 ug/g dry	3.9	-	-	-
Barium	1.0 ug/g dry	77.0	-	-	-
Beryllium	1.0 ug/g dry	<1.0	-	-	-
Boron	1.0 ug/g dry	7.8	-	-	-
Cadmium	0.5 ug/g dry	<0.5	-	-	-
Chromium	1.0 ug/g dry	14.3	-	-	-
Cobalt	1.0 ug/g dry	5.8	-	-	-
Copper	1.0 ug/g dry	21.3	-	-	-
Lead	1.0 ug/g dry	11.1	-	-	-
Molybdenum	1.0 ug/g dry	<1.0	-	-	-
Nickel	1.0 ug/g dry	29.6	-	-	-
Selenium	1.0 ug/g dry	<1.0	-	-	-
Silver	0.5 ug/g dry	<0.5	-	-	-
Thallium	1.0 ug/g dry	<1.0	-	-	-
Uranium	1.0 ug/g dry	<1.0	-	-	-
Vanadium	1.0 ug/g dry	16.8	-	-	-
Zinc	1.0 ug/g dry	55.0	-	-	-

**Volatiles**

Benzene	0.02 ug/g dry	<0.02	<0.02	-	-
Ethylbenzene	0.05 ug/g dry	<0.05	<0.05	-	-
Toluene	0.05 ug/g dry	<0.05	<0.05	-	-
m,p-Xylenes	0.05 ug/g dry	<0.05	0.07	-	-
o-Xylene	0.05 ug/g dry	<0.05	<0.05	-	-
Xylenes, total	0.05 ug/g dry	<0.05	0.08	-	-
Toluene-d8	Surrogate	105%	109%	-	-

**Hydrocarbons**

F1 PHCs (C6-C10)	7 ug/g dry	<7	17	-	-
F2 PHCs (C10-C16)	4 ug/g dry	14	<4	-	-
F3 PHCs (C16-C34)	8 ug/g dry	536	<8	-	-
F4 PHCs (C34-C50)	6 ug/g dry	1090	<6	-	-

 P: 1-800-749-1947  
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**NIAGARA FALLS**  
 5415 Morning Glory Cr.  
 Niagara Falls, ON L2J 0A3

**SARNIA**  
 123 Christina St. N.  
 Sarnia, ON N7T 5T7

**Certificate of Analysis**

Report Date: 31-Oct-2013

Client: **exp Services Inc. (Ottawa)**

Order Date: 25-Oct-2013

Client PO:

Project Description: OTT00214936A0

**Method Quality Control: Blank**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>Hydrocarbons</b>									
F1 PHCs (C6-C10)	ND	7	ug/g						
F2 PHCs (C10-C16)	ND	4	ug/g						
F3 PHCs (C16-C34)	ND	8	ug/g						
F4 PHCs (C34-C50)	ND	6	ug/g						
<b>Metals</b>									
Antimony	ND	1.0	ug/g						
Arsenic	ND	1.0	ug/g						
Barium	ND	1.0	ug/g						
Beryllium	ND	1.0	ug/g						
Boron	ND	1.0	ug/g						
Cadmium	ND	0.5	ug/g						
Chromium	ND	1.0	ug/g						
Cobalt	ND	1.0	ug/g						
Copper	ND	1.0	ug/g						
Lead	ND	1.0	ug/g						
Molybdenum	ND	1.0	ug/g						
Nickel	ND	1.0	ug/g						
Selenium	ND	1.0	ug/g						
Silver	ND	0.5	ug/g						
Thallium	ND	1.0	ug/g						
Uranium	ND	1.0	ug/g						
Vanadium	ND	1.0	ug/g						
Zinc	ND	1.0	ug/g						
<b>Volatiles</b>									
Benzene	ND	0.02	ug/g						
Ethylbenzene	ND	0.05	ug/g						
Toluene	ND	0.05	ug/g						
m,p-Xylenes	ND	0.05	ug/g						
o-Xylene	ND	0.05	ug/g						
Xylenes, total	ND	0.05	ug/g						
Surrogate: Toluene-d8	7.34		ug/g		91.8	50-140			

**Certificate of Analysis**

Report Date: 31-Oct-2013

Client: **exp Services Inc. (Ottawa)**

Order Date: 25-Oct-2013

Client PO:

Project Description: OTT00214936A0

**Method Quality Control: Duplicate**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>Hydrocarbons</b>									
F1 PHCs (C6-C10)	ND	7	ug/g dry	ND				40	
F2 PHCs (C10-C16)	119	4	ug/g dry	127			6.6	30	
F3 PHCs (C16-C34)	107	8	ug/g dry	110			3.2	30	
F4 PHCs (C34-C50)	39	6	ug/g dry	ND			0.0	30	
<b>Metals</b>									
Antimony	ND	1.0	ug/g dry	ND				30	
Arsenic	ND	1.0	ug/g dry	1.22			0.0	30	
Barium	51.6	1.0	ug/g dry	50.9			1.3	30	
Beryllium	ND	1.0	ug/g dry	ND			0.0	30	
Boron	5.33	1.0	ug/g dry	5.56			4.3	30	
Cadmium	ND	0.5	ug/g dry	ND			0.0	30	
Chromium	8.45	1.0	ug/g dry	8.18			3.3	30	
Cobalt	2.95	1.0	ug/g dry	2.83			4.2	30	
Copper	6.39	1.0	ug/g dry	6.60			3.2	30	
Lead	3.39	1.0	ug/g dry	3.74			9.8	30	
Molybdenum	ND	1.0	ug/g dry	ND			0.0	30	
Nickel	4.96	1.0	ug/g dry	4.46			10.6	30	
Selenium	ND	1.0	ug/g dry	ND				30	
Silver	ND	0.5	ug/g dry	ND				30	
Thallium	ND	1.0	ug/g dry	ND				30	
Uranium	ND	1.0	ug/g dry	ND				30	
Vanadium	15.9	1.0	ug/g dry	16.3			2.7	30	
Zinc	14.3	1.0	ug/g dry	13.8			4.2	30	
<b>Physical Characteristics</b>									
% Solids	92.2	0.1	% by Wt.	92.7			0.6	25	
<b>Volatiles</b>									
Benzene	ND	0.02	ug/g dry	ND				50	
Ethylbenzene	ND	0.05	ug/g dry	ND				50	
Toluene	ND	0.05	ug/g dry	ND				50	
m,p-Xylenes	ND	0.05	ug/g dry	ND				50	
o-Xylene	ND	0.05	ug/g dry	ND				50	
Surrogate: Toluene-d8	5.11		ug/g dry	ND	105	50-140			



**Certificate of Analysis**

Report Date: 31-Oct-2013

Client: **exp Services Inc. (Ottawa)**

Order Date: 25-Oct-2013

Client PO:

Project Description: OTT00214936A0

**Method Quality Control: Spike**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>Hydrocarbons</b>									
F1 PHCs (C6-C10)	188	7	ug/g	ND	93.8	80-120			
F2 PHCs (C10-C16)	217	4	ug/g	127	88.3	60-140			
F3 PHCs (C16-C34)	283	8	ug/g	110	82.3	60-140			
F4 PHCs (C34-C50)	104	6	ug/g	ND	74.1	60-140			
<b>Metals</b>									
Antimony	210		ug/L	ND	84.1	70-130			
Arsenic	235		ug/L	24.5	84.1	70-130			
Barium	1200		ug/L	1020	74.5	70-130			
Beryllium	223		ug/L	2.82	87.9	70-130			
Boron	313		ug/L	111	80.5	70-130			
Cadmium	214		ug/L	ND	85.8	70-130			
Chromium	354		ug/L	164	76.1	70-130			
Cobalt	246		ug/L	56.6	75.9	70-130			
Copper	348		ug/L	132	86.3	70-130			
Lead	275		ug/L	74.9	80.1	70-130			
Molybdenum	197		ug/L	2.09	77.9	70-130			
Nickel	277		ug/L	89.2	75.2	70-130			
Selenium	203		ug/L	ND	81.2	70-130			
Silver	208		ug/L	ND	83.2	70-130			
Thallium	201		ug/L	ND	80.5	70-130			
Uranium	246		ug/L	ND	98.4	70-130			
Vanadium	514		ug/L	327	75.2	70-130			
Zinc	454		ug/L	275	71.5	70-130			
<b>Volatiles</b>									
Benzene	3.64	0.02	ug/g	ND	91.0	60-130			
Ethylbenzene	4.23	0.05	ug/g	ND	106	60-130			
Toluene	3.74	0.05	ug/g	ND	93.4	60-130			
m,p-Xylenes	8.02	0.05	ug/g	ND	100	60-130			
o-Xylene	3.85	0.05	ug/g	ND	96.2	60-130			
Surrogate: Toluene-d8	7.95		ug/g		99.4	50-140			

**Certificate of Analysis**

Report Date: 31-Oct-2013

Client: **exp Services Inc. (Ottawa)**

Order Date: 25-Oct-2013

Client PO:

Project Description: OTT00214936A0

**Qualifier Notes:**

None

**Sample Data Revisions**

None

**Work Order Revisions / Comments:**

None

**Other Report Notes:**

n/a: not applicable  
ND: Not Detected  
MDL: Method Detection Limit  
Source Result: Data used as source for matrix and duplicate samples  
%REC: Percent recovery.  
RPD: Relative percent difference.

Soil results are reported on a dry weight basis when the units are denoted with 'dry'.  
Where %Solids is reported, moisture loss includes the loss of volatile hydrocarbons.

*CCME PHC additional information:*

- The method for the analysis of PHCs complies with the Reference Method for the CWS PHC and is validated for use in the laboratory. All prescribed quality criteria identified in the method has been met.
- F1 range corrected for BTEX.
- F2 to F3 ranges corrected for appropriate PAHs where available.
- The gravimetric heavy hydrocarbons (F4G) are not to be added to C6 to C50 hydrocarbons.
- In the case where F4 and F4G are both reported, the greater of the two results is to be used for comparison to CWS PHC criteria.

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Page 1 of 1

Client Name: <b>EXP Services Inc.</b>		Project Reference: <b>OTT-00214936-40</b>		TAT: <input checked="" type="checkbox"/> Regular <input type="checkbox"/> 3 Day <input type="checkbox"/> 2 Day <input type="checkbox"/> 1 Day Date Required: _____
Contact Name: <b>MARK McALLA / MARK DEVLIN</b>		Quote #		
Address: <b>2650 QUEENSVIEW DRIVE OTTAWA</b>		PO #		
Telephone: <b>613 688 1899</b>		Email Address: <b>mark.mccalla@exp.com</b>		

Criteria:  O. Reg. 153/04 (As Amended) Table 3  RSC Filing  O. Reg. 558/00  PWQO  CCME  SUB (Storm)  SUB (Sanitary) Municipality: \_\_\_\_\_  Other: \_\_\_\_\_

Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other)

Required Analyses

Parcel Order Number: <b>1343373</b>		Matrix	Air Volume	# of Containers	Sample Taken		BTE/PHC	metals											
Sample ID/Location Name					Date	Time													
1	BH1 SS4	S		2	oct 23/13		X	X											
2	BH2 SS.5	S		2	oct 24		X												
3	BH3 SS3	S		2	oct 23		X	X											
4	BH4 SS3	S		2	oct 24		X	X											
5	BH4 SS30	S		2	oct 24		X	X											
6	BH9 SS5	S		2	oct 23		X												
7																			
8																			
9																			
10																			

Comments: **\* ICP metals per Mark McCalla. - mjc**

Method of Delivery:  
**Paracel Courier**

Relinquished By (Sign): <b>Mark McCalla</b>	Received by Driver/Depot: <b>J. ROUSE</b>	Received at Lab: <b>SUNEER PORN</b>	Verified By: <b>mjc</b>
Relinquished By (Print): <b>MARK McALLA</b>	Date/Time: <b>25/10/13 9:34am</b>	Date/Time: <b>OCT 25 2013 10:23</b>	Date/Time: <b>OCT 25/13 6:24</b>
Date/Time: <b>oct 25/13</b>	Temperature: _____ °C	Temperature: <b>10.9 °C</b>	pH Verified <input type="checkbox"/> By: <b>N/A</b>

## Certificate of Analysis

### exp Services Inc. (Ottawa)

100-2650 Queensview Dr.  
Ottawa, ON K2B 8K2  
Attn: Mark McCalla

Phone: (613) 688-1899  
Fax: (613) 225-7337

Client PO:  
Project: OTT00214936A0  
Custody: 12925

Report Date: 18-Nov-2013  
Order Date: 14-Nov-2013

**Order #: 1346314**

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Parcel ID	Client ID
1346314-01	MW13-1a
1346314-02	MW13-1b
1346314-03	MW13-2
1346314-04	MW13-3
1346314-05	MW13-4
1346314-06	MW13-6
1346314-07	MW13-9
1346314-08	MW13-60
1346314-09	Trip Blank
1346314-10	Trip Spike

Approved By:



Mark Foto, M.Sc. For Dale Robertson, BSc  
Laboratory Director

**Certificate of Analysis**

Report Date: 18-Nov-2013

Client: **exp Services Inc. (Ottawa)**

Order Date: 14-Nov-2013

Client PO:

Project Description: OTT00214936A0

**Analysis Summary Table**

Analysis	Method Reference/Description	Extraction Date	Analysis Date
BTEX by P&T GC-MS	EPA 624 - P&T GC-MS	15-Nov-13	16-Nov-13
PHC F1	CWS Tier 1 - P&T GC-FID	15-Nov-13	16-Nov-13
PHC F2 - F4	CWS Tier 1 - GC-FID, extraction	15-Nov-13	16-Nov-13
VOCs by P&T GC-MS	EPA 624 - P&T GC-MS	15-Nov-13	16-Nov-13

**P:** 1-800-749-1947  
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300-2319 St. Laurent Blvd.  
Ottawa, ON K1G 4J8

**MISSISSAUGA**  
6845 Kitimat Rd. Unit #27  
Mississauga, ON L5N 6J3

**NIAGARA FALLS**  
5415 Morning Glory Cr.  
Niagara Falls, ON L2J 0A3

**SARNIA**  
123 Christina St. N.  
Sarnia, ON N7T 5T7

**Certificate of Analysis**

Report Date: 18-Nov-2013

 Client: **exp Services Inc. (Ottawa)**

Order Date: 14-Nov-2013

Client PO:

Project Description: OTT00214936A0

	Client ID:	MW13-1a	MW13-1b	MW13-2	MW13-3
	Sample Date:	14-Nov-13	14-Nov-13	14-Nov-13	14-Nov-13
	Sample ID:	1346314-01	1346314-02	1346314-03	1346314-04
	MDL/Units	Water	Water	Water	Water

**Volatiles**

	MDL/Units	MW13-1a	MW13-1b	MW13-2	MW13-3
Acetone	5.0 ug/L	<5.0	159	142	<5.0
Benzene	0.5 ug/L	<0.5	<0.5	0.7	<0.5
Bromodichloromethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Bromoform	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Bromomethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	0.2 ug/L	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Chloroethane	1.0 ug/L	<1.0	<1.0	<1.0	<1.0
Chloroform	0.5 ug/L	<0.5	3.7	3.1	<0.5
Chloromethane	3.0 ug/L	<3.0	<3.0	<3.0	<3.0
Dibromochloromethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	1.0 ug/L	<1.0	<1.0	<1.0	<1.0
1,2-Dibromoethane	0.2 ug/L	<0.2	<0.2	<0.2	<0.2
1,2-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethylene, total	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,3-Dichloropropene, total	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	0.5 ug/L	<0.5	7.5	3.0	<0.5
Hexane	1.0 ug/L	<1.0	<1.0	<1.0	<1.0
Methyl Ethyl Ketone (2-Butanone)	5.0 ug/L	<5.0	<5.0	<5.0	<5.0
Methyl Butyl Ketone (2-Hexanone)	10.0 ug/L	<10.0	<10.0	<10.0	<10.0
Methyl Isobutyl Ketone	5.0 ug/L	<5.0	<5.0	<5.0	<5.0
Methyl tert-butyl ether	2.0 ug/L	<2.0	<2.0	<2.0	<2.0
Methylene Chloride	5.0 ug/L	<5.0	<5.0	<5.0	<5.0

**Certificate of Analysis**

Report Date: 18-Nov-2013

Order Date: 14-Nov-2013

Client: **exp Services Inc. (Ottawa)**

Project Description: OTT00214936A0

Client PO:

	Client ID:	MW13-1a	MW13-1b	MW13-2	MW13-3
	Sample Date:	14-Nov-13	14-Nov-13	14-Nov-13	14-Nov-13
	Sample ID:	1346314-01	1346314-02	1346314-03	1346314-04
	MDL/Units	Water	Water	Water	Water
Styrene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Tetrachloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Toluene	0.5 ug/L	<0.5	2.9	4.4	<0.5
1,2,4-Trichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Trichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	1.0 ug/L	<1.0	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
m,p-Xylenes	0.5 ug/L	<0.5	8.1	3.3	<0.5
o-Xylene	0.5 ug/L	<0.5	2.1	1.0	<0.5
Xylenes, total	0.5 ug/L	<0.5	10.2	4.3	<0.5
4-Bromofluorobenzene	Surrogate	113%	105%	106%	107%
Dibromofluoromethane	Surrogate	97.2%	100%	102%	98.9%
Toluene-d8	Surrogate	105%	106%	105%	105%

**Hydrocarbons**

F1 PHCs (C6-C10)	25 ug/L	<25	102	<25	<25
F2 PHCs (C10-C16)	100 ug/L	<100	<100	<100	<100
F3 PHCs (C16-C34)	100 ug/L	<100	<100	<100	<100
F4 PHCs (C34-C50)	100 ug/L	<100	<100	<100	<100
F1 + F2 PHCs	125 ug/L	<125	<125	<125	<125
F3 + F4 PHCs	200 ug/L	<200	<200	<200	<200

**Certificate of Analysis**

Report Date: 18-Nov-2013

Client: **exp Services Inc. (Ottawa)**

Order Date: 14-Nov-2013

Client PO:

Project Description: OTT00214936A0

	Client ID:	MW13-4	MW13-6	MW13-9	MW13-60
	Sample Date:	14-Nov-13	14-Nov-13	14-Nov-13	14-Nov-13
	Sample ID:	1346314-05	1346314-06	1346314-07	1346314-08
	MDL/Units	Water	Water	Water	Water

**Volatiles**

	MDL/Units	MW13-4	MW13-6	MW13-9	MW13-60
Acetone	5.0 ug/L	179	<5.0	22.3	<5.0
Benzene	0.5 ug/L	1.0	<0.5	<0.5	<0.5
Bromodichloromethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Bromoform	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Bromomethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	0.2 ug/L	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Chloroethane	1.0 ug/L	<1.0	<1.0	<1.0	<1.0
Chloroform	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Chloromethane	3.0 ug/L	<3.0	<3.0	<3.0	<3.0
Dibromochloromethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	1.0 ug/L	<1.0	<1.0	<1.0	<1.0
1,2-Dibromoethane	0.2 ug/L	<0.2	<0.2	<0.2	<0.2
1,2-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethylene, total	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,3-Dichloropropene, total	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	0.5 ug/L	8.7	<0.5	0.6	<0.5
Hexane	1.0 ug/L	<1.0	<1.0	<1.0	<1.0
Methyl Ethyl Ketone (2-Butanone)	5.0 ug/L	<5.0	<5.0	<5.0	<5.0
Methyl Butyl Ketone (2-Hexanone)	10.0 ug/L	<10.0	<10.0	<10.0	<10.0
Methyl Isobutyl Ketone	5.0 ug/L	<5.0	<5.0	<5.0	<5.0
Methyl tert-butyl ether	2.0 ug/L	<2.0	<2.0	<2.0	<2.0
Methylene Chloride	5.0 ug/L	<5.0	<5.0	<5.0	<5.0



**Certificate of Analysis**

Report Date: 18-Nov-2013

 Client: **exp Services Inc. (Ottawa)**

Order Date: 14-Nov-2013

Client PO:

Project Description: OTT00214936A0

	Client ID:	MW13-4	MW13-6	MW13-9	MW13-60
	Sample Date:	14-Nov-13	14-Nov-13	14-Nov-13	14-Nov-13
	Sample ID:	1346314-05	1346314-06	1346314-07	1346314-08
	MDL/Units	Water	Water	Water	Water
Styrene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Tetrachloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Toluene	0.5 ug/L	8.2	<0.5	0.6	<0.5
1,2,4-Trichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Trichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	1.0 ug/L	<1.0	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
m,p-Xylenes	0.5 ug/L	9.7	<0.5	0.7	<0.5
o-Xylene	0.5 ug/L	3.5	<0.5	<0.5	<0.5
Xylenes, total	0.5 ug/L	13.2	<0.5	0.9	<0.5
4-Bromofluorobenzene	Surrogate	105%	106%	106%	107%
Dibromofluoromethane	Surrogate	100%	96.8%	98.8%	97.9%
Toluene-d8	Surrogate	106%	107%	106%	107%

**Hydrocarbons**

F1 PHCs (C6-C10)	25 ug/L	156	<25	<25	<25
F2 PHCs (C10-C16)	100 ug/L	<100	<100	<100	<100
F3 PHCs (C16-C34)	100 ug/L	<100	<100	<100	<100
F4 PHCs (C34-C50)	100 ug/L	<100	<100	<100	100
F1 + F2 PHCs	125 ug/L	156	<125	<125	<125
F3 + F4 PHCs	200 ug/L	<200	<200	<200	<200

**Certificate of Analysis**

Report Date: 18-Nov-2013

Client: **exp Services Inc. (Ottawa)**

Order Date: 14-Nov-2013

Client PO:

Project Description: OTT00214936A0

<b>Client ID:</b>	Trip Blank	Trip Spike	-	-
<b>Sample Date:</b>	13-Nov-13	13-Nov-13	-	-
<b>Sample ID:</b>	1346314-09	1346314-10	-	-
<b>MDL/Units</b>	Water	Water	-	-

**Volatiles**

Benzene	0.5 ug/L	<0.5	35.4 [1]	-	-
Ethylbenzene	0.5 ug/L	<0.5	37.0 [1]	-	-
Toluene	0.5 ug/L	<0.5	38.1 [1]	-	-
m,p-Xylenes	0.5 ug/L	<0.5	75.7 [1]	-	-
o-Xylene	0.5 ug/L	<0.5	43.4 [1]	-	-
Xylenes, total	0.5 ug/L	<0.5	119 [1]	-	-
Toluene-d8	Surrogate	107%	77.2% [1]	-	-

**Certificate of Analysis**

Report Date: 18-Nov-2013

Client: **exp Services Inc. (Ottawa)**

Order Date: 14-Nov-2013

Client PO:

Project Description: OTT00214936A0

**Method Quality Control: Blank**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>Hydrocarbons</b>									
F1 PHCs (C6-C10)	ND	25	ug/L						
F2 PHCs (C10-C16)	ND	100	ug/L						
F3 PHCs (C16-C34)	ND	100	ug/L						
F4 PHCs (C34-C50)	ND	100	ug/L						
<b>Volatiles</b>									
Acetone	ND	5.0	ug/L						
Benzene	ND	0.5	ug/L						
Bromodichloromethane	ND	0.5	ug/L						
Bromoform	ND	0.5	ug/L						
Bromomethane	ND	0.5	ug/L						
Carbon Tetrachloride	ND	0.2	ug/L						
Chlorobenzene	ND	0.5	ug/L						
Chloroethane	ND	1.0	ug/L						
Chloroform	ND	0.5	ug/L						
Chloromethane	ND	3.0	ug/L						
Dibromochloromethane	ND	0.5	ug/L						
Dichlorodifluoromethane	ND	1.0	ug/L						
1,2-Dibromoethane	ND	0.2	ug/L						
1,2-Dichlorobenzene	ND	0.5	ug/L						
1,3-Dichlorobenzene	ND	0.5	ug/L						
1,4-Dichlorobenzene	ND	0.5	ug/L						
1,1-Dichloroethane	ND	0.5	ug/L						
1,2-Dichloroethane	ND	0.5	ug/L						
1,1-Dichloroethylene	ND	0.5	ug/L						
cis-1,2-Dichloroethylene	ND	0.5	ug/L						
trans-1,2-Dichloroethylene	ND	0.5	ug/L						
1,2-Dichloroethylene, total	ND	0.5	ug/L						
1,2-Dichloropropane	ND	0.5	ug/L						
cis-1,3-Dichloropropylene	ND	0.5	ug/L						
trans-1,3-Dichloropropylene	ND	0.5	ug/L						
1,3-Dichloropropene, total	ND	0.5	ug/L						
Ethylbenzene	ND	0.5	ug/L						
Hexane	ND	1.0	ug/L						
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L						
Methyl Butyl Ketone (2-Hexanone)	ND	10.0	ug/L						
Methyl Isobutyl Ketone	ND	5.0	ug/L						
Methyl tert-butyl ether	ND	2.0	ug/L						
Methylene Chloride	ND	5.0	ug/L						
Styrene	ND	0.5	ug/L						
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L						
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L						
Tetrachloroethylene	ND	0.5	ug/L						
Toluene	ND	0.5	ug/L						
1,2,4-Trichlorobenzene	ND	0.5	ug/L						
1,1,1-Trichloroethane	ND	0.5	ug/L						
1,1,2-Trichloroethane	ND	0.5	ug/L						
Trichloroethylene	ND	0.5	ug/L						
Trichlorofluoromethane	ND	1.0	ug/L						
1,3,5-Trimethylbenzene	ND	0.5	ug/L						
Vinyl chloride	ND	0.5	ug/L						
m,p-Xylenes	ND	0.5	ug/L						
o-Xylene	ND	0.5	ug/L						
Xylenes, total	ND	0.5	ug/L						
Surrogate: 4-Bromofluorobenzene	90.2		ug/L		113	50-140			
Surrogate: Dibromofluoromethane	73.1		ug/L		91.3	50-140			
Surrogate: Toluene-d8	91.6		ug/L		115	50-140			

**Certificate of Analysis**

Report Date: 18-Nov-2013  
Order Date: 14-Nov-2013

Client: **exp Services Inc. (Ottawa)**

Project Description: OTT00214936A0

Client PO:

**Method Quality Control: Blank**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Benzene	ND	0.5	ug/L						
Ethylbenzene	ND	0.5	ug/L						
Toluene	ND	0.5	ug/L						
m,p-Xylenes	ND	0.5	ug/L						
o-Xylene	ND	0.5	ug/L						
Xylenes, total	ND	0.5	ug/L						
Surrogate: Toluene-d8	91.6		ug/L		115	50-140			

**Certificate of Analysis**

Report Date: 18-Nov-2013

Client: **exp Services Inc. (Ottawa)**

Order Date: 14-Nov-2013

Client PO:

Project Description: OTT00214936A0

**Method Quality Control: Duplicate**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>Hydrocarbons</b>									
F1 PHCs (C6-C10)	ND	25	ug/L	ND				30	
<b>Volatiles</b>									
Acetone	ND	5.0	ug/L	ND				30	
Benzene	0.70	0.5	ug/L	0.92			27.2	30	
Bromodichloromethane	ND	0.5	ug/L	ND				30	
Bromoform	ND	0.5	ug/L	ND				30	
Bromomethane	ND	0.5	ug/L	ND				30	
Carbon Tetrachloride	ND	0.2	ug/L	ND				30	
Chlorobenzene	ND	0.5	ug/L	ND				30	
Chloroethane	ND	1.0	ug/L	ND				30	
Chloroform	ND	0.5	ug/L	ND				30	
Chloromethane	ND	3.0	ug/L	ND				30	
Dibromochloromethane	ND	0.5	ug/L	ND				30	
Dichlorodifluoromethane	ND	1.0	ug/L	ND				30	
1,2-Dibromoethane	ND	0.2	ug/L	ND				30	
1,2-Dichlorobenzene	ND	0.5	ug/L	ND				30	
1,3-Dichlorobenzene	ND	0.5	ug/L	ND				30	
1,4-Dichlorobenzene	ND	0.5	ug/L	ND				30	
1,1-Dichloroethane	ND	0.5	ug/L	ND				30	
1,2-Dichloroethane	ND	0.5	ug/L	ND				30	
1,1-Dichloroethylene	ND	0.5	ug/L	ND				30	
cis-1,2-Dichloroethylene	ND	0.5	ug/L	ND				30	
trans-1,2-Dichloroethylene	ND	0.5	ug/L	ND				30	
1,2-Dichloropropane	ND	0.5	ug/L	ND				30	
cis-1,3-Dichloropropylene	ND	0.5	ug/L	ND				30	
trans-1,3-Dichloropropylene	ND	0.5	ug/L	ND				30	
Ethylbenzene	ND	0.5	ug/L	ND				30	
Hexane	ND	1.0	ug/L	ND				30	
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L	ND				30	
Methyl Butyl Ketone (2-Hexanone)	ND	10.0	ug/L	ND				30	
Methyl Isobutyl Ketone	ND	5.0	ug/L	ND				30	
Methyl tert-butyl ether	ND	2.0	ug/L	ND				30	
Methylene Chloride	ND	5.0	ug/L	ND				30	
Styrene	ND	0.5	ug/L	ND				30	
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L	ND				30	
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	ND				30	
Tetrachloroethylene	ND	0.5	ug/L	ND				30	
Toluene	ND	0.5	ug/L	ND			0.0	30	
1,2,4-Trichlorobenzene	ND	0.5	ug/L	ND				30	
1,1,1-Trichloroethane	ND	0.5	ug/L	ND				30	
1,1,2-Trichloroethane	ND	0.5	ug/L	ND				30	
Trichloroethylene	ND	0.5	ug/L	ND				30	
Trichlorofluoromethane	ND	1.0	ug/L	ND				30	
1,3,5-Trimethylbenzene	ND	0.5	ug/L	ND				30	
Vinyl chloride	ND	0.5	ug/L	ND				30	
m,p-Xylenes	0.70	0.5	ug/L	0.76			8.2	30	
o-Xylene	ND	0.5	ug/L	ND				30	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>85.4</i>		<i>ug/L</i>	<i>ND</i>	<i>107</i>	<i>50-140</i>			
<i>Surrogate: Dibromofluoromethane</i>	<i>79.2</i>		<i>ug/L</i>	<i>ND</i>	<i>99.1</i>	<i>50-140</i>			
<i>Surrogate: Toluene-d8</i>	<i>86.5</i>		<i>ug/L</i>	<i>ND</i>	<i>108</i>	<i>50-140</i>			
Benzene	0.70	0.5	ug/L	0.92			27.2	30	
Ethylbenzene	ND	0.5	ug/L	ND				30	
Toluene	ND	0.5	ug/L	ND			0.0	30	
m,p-Xylenes	0.70	0.5	ug/L	0.76			8.2	30	
o-Xylene	ND	0.5	ug/L	ND				30	

**Certificate of Analysis**

Report Date: 18-Nov-2013

Order Date: 14-Nov-2013

Client: **exp Services Inc. (Ottawa)**

Project Description: OTT00214936A0

Client PO:

**Method Quality Control: Duplicate**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Surrogate: Toluene-d8	86.5		ug/L	ND	108	50-140			

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Niagara Falls, ON L2J 0A3

**SARNIA**  
123 Christina St. N.  
Sarnia, ON N7T 5T7

**Certificate of Analysis**

Report Date: 18-Nov-2013

Client: **exp Services Inc. (Ottawa)**

Order Date: 14-Nov-2013

Client PO:

Project Description: OTT00214936A0

**Method Quality Control: Spike**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>Hydrocarbons</b>									
F1 PHCs (C6-C10)	1960	25	ug/L	ND	97.8	68-117			
F2 PHCs (C10-C16)	1770	100	ug/L	ND	98.2	60-140			
F3 PHCs (C16-C34)	3540	100	ug/L	ND	95.1	60-140			
F4 PHCs (C34-C50)	2280	100	ug/L	ND	92.0	60-140			
<b>Volatiles</b>									
Acetone	68.7	5.0	ug/L	ND	68.7	50-140			
Benzene	37.9	0.5	ug/L	ND	94.7	60-130			
Bromodichloromethane	35.2	0.5	ug/L	ND	88.1	60-130			
Bromoform	34.3	0.5	ug/L	ND	85.7	60-130			
Bromomethane	21.2	0.5	ug/L	ND	52.9	50-140			
Carbon Tetrachloride	35.0	0.2	ug/L	ND	87.5	60-130			
Chlorobenzene	32.7	0.5	ug/L	ND	81.8	60-130			
Chloroethane	36.2	1.0	ug/L	ND	90.6	50-140			
Chloroform	35.2	0.5	ug/L	ND	87.9	60-130			
Chloromethane	22.9	3.0	ug/L	ND	57.3	50-140			
Dibromochloromethane	32.4	0.5	ug/L	ND	81.0	60-130			
Dichlorodifluoromethane	23.4	1.0	ug/L	ND	58.4	50-140			
1,2-Dibromoethane	32.9	0.2	ug/L	ND	82.3	60-130			
1,2-Dichlorobenzene	34.4	0.5	ug/L	ND	85.9	60-130			
1,3-Dichlorobenzene	35.0	0.5	ug/L	ND	87.4	60-130			
1,4-Dichlorobenzene	36.6	0.5	ug/L	ND	91.4	60-130			
1,1-Dichloroethane	37.9	0.5	ug/L	ND	94.8	60-130			
1,2-Dichloroethane	34.4	0.5	ug/L	ND	86.0	60-130			
1,1-Dichloroethylene	33.9	0.5	ug/L	ND	84.7	60-130			
cis-1,2-Dichloroethylene	36.1	0.5	ug/L	ND	90.3	60-130			
trans-1,2-Dichloroethylene	33.7	0.5	ug/L	ND	84.4	60-130			
1,2-Dichloropropane	36.3	0.5	ug/L	ND	90.8	60-130			
cis-1,3-Dichloropropylene	35.5	0.5	ug/L	ND	88.8	60-130			
trans-1,3-Dichloropropylene	37.5	0.5	ug/L	ND	93.8	60-130			
Ethylbenzene	43.0	0.5	ug/L	ND	107	60-130			
Hexane	36.7	1.0	ug/L	ND	91.7	60-130			
Methyl Ethyl Ketone (2-Butanone)	98.4	5.0	ug/L	ND	98.4	50-140			
Methyl Butyl Ketone (2-Hexanone)	91.9	10.0	ug/L	ND	91.9	50-140			
Methyl Isobutyl Ketone	90.4	5.0	ug/L	ND	90.4	50-140			
Methyl tert-butyl ether	86.9	2.0	ug/L	ND	86.9	50-140			
Methylene Chloride	30.9	5.0	ug/L	ND	77.3	60-130			
Styrene	35.5	0.5	ug/L	ND	88.7	60-130			
1,1,1,2-Tetrachloroethane	33.2	0.5	ug/L	ND	82.9	60-130			
1,1,2,2-Tetrachloroethane	35.7	0.5	ug/L	ND	89.3	60-130			
Tetrachloroethylene	32.9	0.5	ug/L	ND	82.2	60-130			
Toluene	36.6	0.5	ug/L	ND	91.6	60-130			
1,2,4-Trichlorobenzene	35.4	0.5	ug/L	ND	88.6	60-130			
1,1,1-Trichloroethane	33.7	0.5	ug/L	ND	84.2	60-130			
1,1,2-Trichloroethane	35.3	0.5	ug/L	ND	88.2	60-130			
Trichloroethylene	33.1	0.5	ug/L	ND	82.8	60-130			
Trichlorofluoromethane	33.8	1.0	ug/L	ND	84.6	60-130			
1,3,5-Trimethylbenzene	30.8	0.5	ug/L	ND	77.1	60-130			
Vinyl chloride	29.9	0.5	ug/L	ND	74.8	50-140			
m,p-Xylenes	68.8	0.5	ug/L	ND	86.0	60-130			

**Certificate of Analysis**

Report Date: 18-Nov-2013

Client: **exp Services Inc. (Ottawa)**

Order Date: 14-Nov-2013

Client PO:

Project Description: OTT00214936A0

**Method Quality Control: Spike**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
o-Xylene	36.1	0.5	ug/L	ND	90.3	60-130			
Surrogate: 4-Bromofluorobenzene	75.0		ug/L		93.7	50-140			
Benzene	37.9	0.5	ug/L	ND	94.7	60-130			
Ethylbenzene	43.0	0.5	ug/L	ND	107	60-130			
Toluene	36.6	0.5	ug/L	ND	91.6	60-130			
m,p-Xylenes	68.8	0.5	ug/L	ND	86.0	60-130			
o-Xylene	36.1	0.5	ug/L	ND	90.3	60-130			



**Certificate of Analysis**

Client: **exp Services Inc. (Ottawa)**  
Client PO:

Project Description: OTT00214936A0

Report Date: 18-Nov-2013  
Order Date: 14-Nov-2013

**Qualifier Notes:**

**Sample Qualifiers :**

1 : VOC Trip Spike prepared at 40 ug/L for all parameters, except for m/p-Xylene which is at 80 ug/L and ketones at 100 ug/L.

**Sample Data Revisions**

None

**Work Order Revisions / Comments:**

None

**Other Report Notes:**

n/a: not applicable  
ND: Not Detected  
MDL: Method Detection Limit  
Source Result: Data used as source for matrix and duplicate samples  
%REC: Percent recovery.  
RPD: Relative percent difference.

**CCME PHC additional information:**

- The method for the analysis of PHCs complies with the Reference Method for the CWS PHC and is validated for use in the laboratory. All prescribed quality criteria identified in the method has been met.
- F1 range corrected for BTEX.
- F2 to F3 ranges corrected for appropriate PAHs where available.
- The gravimetric heavy hydrocarbons (F4G) are not to be added to C6 to C50 hydrocarbons.
- In the case where F4 and F4G are both reported, the greater of the two results is to be used for comparison to CWS PHC criteria.

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123 Christina St. N.  
Sarnia, ON N7T 5T7

OTTAWA ● KINGSTON ● NIAGARA ● MISSISSAUGA ● SARNIA

Client Name: <u>EXP Services Inc.</u>	Project Reference: <u>OTT-00214936-A0.</u>	TAT: <input checked="" type="checkbox"/> Regular <input type="checkbox"/> 3 Day <input type="checkbox"/> 2 Day <input type="checkbox"/> 1 Day Date Required: _____
Contact Name: <u>Mark McCalla</u>	Quote #	
Address: <u>2650 Queensview Drive, Ottawa</u>	PO #	
Telephone: <u>613-688-1899</u>	Email Address: <u>mark.mccalla@exp.com.</u>	

Criteria:  O. Reg. 153/04 (As Amended) Table 3  RSC Filing  O. Reg. 558/00  PWQO  CCME  SUB (Storm)  SUB (Sanitary) Municipality: \_\_\_\_\_  Other: \_\_\_\_\_

Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other) Required Analyses

Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken		PHC (F-F)	VOC	BTEX	Required Analyses												
				Date	Time																
1 MW13-1a	GW		3	14 Nov 2013		X	X														
2 MW13-1b						X	X														
3 MW13-2						X	X														
4 MW13-3						X	X														
5 MW13-4						X	X														
6 MW13-6						X	X														
7 MW13-9						X	X														
8 MW13-60						X	X														
9 Trip blank	0		1																		
10 Trip spike	0		1																		

Comments: \_\_\_\_\_ Method of Delivery: Walkin

Relinquished By (Sign):	Received by Driver/Depot:	Received at Lab: <u>M/C</u>	Verified By: <u>M/C</u>
Relinquished By (Print): <u>DARRAGH KILOY</u>	Date/Time: _____	Date/Time: <u>Nov 14/13 5:00</u>	Date/Time: <u>Nov 14/13 5:36</u>
Date/Time: <u>14 Nov 2013 17:00</u>	Temperature: _____ °C	Temperature: <u>9.3</u> °C	pH Verified [ ] By: <u>N/A</u>

## *Certificate of Analysis*

**exp Services Inc. (Ottawa)**

100-2650 Queensview Dr.  
Ottawa, ON K2B 8K2  
Attn: Mark McCalla

Phone: (613) 688-1899  
Fax: (613) 225-7337

Client PO:  
Project: OTT00214936A0  
Custody: 12815

Report Date: 25-Nov-2013  
Order Date: 19-Nov-2013

**Order #: 1347114**

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

<b>Paracel ID</b>	<b>Client ID</b>
1347114-01	BH18
1347114-02	BH23

Approved By:



Mark Foto, M.Sc. For Dale Robertson, BSc  
Laboratory Director

**Certificate of Analysis**

Report Date: 25-Nov-2013

Client: **exp Services Inc. (Ottawa)**

Order Date: 19-Nov-2013

Client PO:

Project Description: OTT00214936A0

**Analysis Summary Table**

Analysis	Method Reference/Description	Extraction Date	Analysis Date
PHC F1	CWS Tier 1 - P&T GC-FID	20-Nov-13	22-Nov-13
PHC F2 - F4	CWS Tier 1 - GC-FID, extraction	23-Nov-13	23-Nov-13
VOCs by P&T GC-MS	EPA 624 - P&T GC-MS	20-Nov-13	22-Nov-13

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**NIAGARA FALLS**  
5415 Morning Glory Cr.  
Niagara Falls, ON L2J 0A3

**SARNIA**  
123 Christina St. N.  
Sarnia, ON N7T 5T7

**Certificate of Analysis**

Report Date: 25-Nov-2013

Order Date: 19-Nov-2013

 Client: **exp Services Inc. (Ottawa)**

Client PO:

Project Description: OTT00214936A0

Client ID:	BH18	BH23	-	-
Sample Date:	19-Nov-13	19-Nov-13	-	-
Sample ID:	1347114-01	1347114-02	-	-
MDL/Units	Water	Water	-	-

**Volatiles**

	5.0 ug/L	<5.0	<5.0	-	-
Acetone	5.0 ug/L	<5.0	<5.0	-	-
Benzene	0.5 ug/L	<0.5	<0.5	-	-
Bromodichloromethane	0.5 ug/L	<0.5	<0.5	-	-
Bromoform	0.5 ug/L	<0.5	<0.5	-	-
Bromomethane	0.5 ug/L	<0.5	<0.5	-	-
Carbon Tetrachloride	0.2 ug/L	<0.2	<0.2	-	-
Chlorobenzene	0.5 ug/L	<0.5	<0.5	-	-
Chloroethane	1.0 ug/L	<1.0	<1.0	-	-
Chloroform	0.5 ug/L	<0.5	<0.5	-	-
Chloromethane	3.0 ug/L	<3.0	<3.0	-	-
Dibromochloromethane	0.5 ug/L	<0.5	<0.5	-	-
Dichlorodifluoromethane	1.0 ug/L	<1.0	<1.0	-	-
1,2-Dibromoethane	0.2 ug/L	<0.2	<0.2	-	-
1,2-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	-	-
1,3-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	-	-
1,4-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	-	-
1,1-Dichloroethane	0.5 ug/L	<0.5	<0.5	-	-
1,2-Dichloroethane	0.5 ug/L	<0.5	<0.5	-	-
1,1-Dichloroethylene	0.5 ug/L	<0.5	<0.5	-	-
cis-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	-	-
trans-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	-	-
1,2-Dichloroethylene, total	0.5 ug/L	<0.5	<0.5	-	-
1,2-Dichloropropane	0.5 ug/L	<0.5	<0.5	-	-
cis-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	-	-
trans-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	-	-
1,3-Dichloropropene, total	0.5 ug/L	<0.5	<0.5	-	-
Ethylbenzene	0.5 ug/L	<0.5	<0.5	-	-
Hexane	1.0 ug/L	<1.0	<1.0	-	-
Methyl Ethyl Ketone (2-Butanone)	5.0 ug/L	<5.0	<5.0	-	-
Methyl Butyl Ketone (2-Hexanone)	10.0 ug/L	<10.0	<10.0	-	-
Methyl Isobutyl Ketone	5.0 ug/L	<5.0	<5.0	-	-
Methyl tert-butyl ether	2.0 ug/L	<2.0	<2.0	-	-
Methylene Chloride	5.0 ug/L	<5.0	<5.0	-	-

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**Certificate of Analysis**

Report Date: 25-Nov-2013

Order Date: 19-Nov-2013

 Client: **exp Services Inc. (Ottawa)**

Project Description: OTT00214936A0

Client PO:

	Client ID: Sample Date: Sample ID:	BH18 19-Nov-13 1347114-01 Water	BH23 19-Nov-13 1347114-02 Water	-	-
	MDL/Units				
Styrene	0.5 ug/L	<0.5	<0.5	-	-
1,1,1,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	-	-
1,1,2,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	-	-
Tetrachloroethylene	0.5 ug/L	<0.5	<0.5	-	-
Toluene	0.5 ug/L	<0.5	<0.5	-	-
1,2,4-Trichlorobenzene	0.5 ug/L	<0.5	<0.5	-	-
1,1,1-Trichloroethane	0.5 ug/L	<0.5	<0.5	-	-
1,1,2-Trichloroethane	0.5 ug/L	<0.5	<0.5	-	-
Trichloroethylene	0.5 ug/L	<0.5	<0.5	-	-
Trichlorofluoromethane	1.0 ug/L	<1.0	<1.0	-	-
1,3,5-Trimethylbenzene	0.5 ug/L	<0.5	<0.5	-	-
Vinyl chloride	0.5 ug/L	<0.5	<0.5	-	-
m,p-Xylenes	0.5 ug/L	<0.5	<0.5	-	-
o-Xylene	0.5 ug/L	<0.5	<0.5	-	-
Xylenes, total	0.5 ug/L	<0.5	<0.5	-	-
4-Bromofluorobenzene	Surrogate	119%	118%	-	-
Dibromofluoromethane	Surrogate	99.5%	99.1%	-	-
Toluene-d8	Surrogate	120%	114%	-	-

**Hydrocarbons**

F1 PHCs (C6-C10)	25 ug/L	<25	<25	-	-
F2 PHCs (C10-C16)	100 ug/L	<100	<100	-	-
F3 PHCs (C16-C34)	100 ug/L	<100	<100	-	-
F4 PHCs (C34-C50)	100 ug/L	<100	<100	-	-
F1 + F2 PHCs	125 ug/L	<125	<125	-	-
F3 + F4 PHCs	200 ug/L	<200	<200	-	-

**Certificate of Analysis**

Report Date: 25-Nov-2013

Client: **exp Services Inc. (Ottawa)**

Order Date: 19-Nov-2013

Client PO:

Project Description: OTT00214936A0

**Method Quality Control: Blank**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>Hydrocarbons</b>									
F1 PHCs (C6-C10)	ND	25	ug/L						
F2 PHCs (C10-C16)	ND	100	ug/L						
F3 PHCs (C16-C34)	ND	100	ug/L						
F4 PHCs (C34-C50)	ND	100	ug/L						
<b>Volatiles</b>									
Acetone	ND	5.0	ug/L						
Benzene	ND	0.5	ug/L						
Bromodichloromethane	ND	0.5	ug/L						
Bromoform	ND	0.5	ug/L						
Bromomethane	ND	0.5	ug/L						
Carbon Tetrachloride	ND	0.2	ug/L						
Chlorobenzene	ND	0.5	ug/L						
Chloroethane	ND	1.0	ug/L						
Chloroform	ND	0.5	ug/L						
Chloromethane	ND	3.0	ug/L						
Dibromochloromethane	ND	0.5	ug/L						
Dichlorodifluoromethane	ND	1.0	ug/L						
1,2-Dibromoethane	ND	0.2	ug/L						
1,2-Dichlorobenzene	ND	0.5	ug/L						
1,3-Dichlorobenzene	ND	0.5	ug/L						
1,4-Dichlorobenzene	ND	0.5	ug/L						
1,1-Dichloroethane	ND	0.5	ug/L						
1,2-Dichloroethane	ND	0.5	ug/L						
1,1-Dichloroethylene	ND	0.5	ug/L						
cis-1,2-Dichloroethylene	ND	0.5	ug/L						
trans-1,2-Dichloroethylene	ND	0.5	ug/L						
1,2-Dichloroethylene, total	ND	0.5	ug/L						
1,2-Dichloropropane	ND	0.5	ug/L						
cis-1,3-Dichloropropylene	ND	0.5	ug/L						
trans-1,3-Dichloropropylene	ND	0.5	ug/L						
1,3-Dichloropropene, total	ND	0.5	ug/L						
Ethylbenzene	ND	0.5	ug/L						
Hexane	ND	1.0	ug/L						
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L						
Methyl Butyl Ketone (2-Hexanone)	ND	10.0	ug/L						
Methyl Isobutyl Ketone	ND	5.0	ug/L						
Methyl tert-butyl ether	ND	2.0	ug/L						
Methylene Chloride	ND	5.0	ug/L						
Styrene	ND	0.5	ug/L						
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L						
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L						
Tetrachloroethylene	ND	0.5	ug/L						
Toluene	ND	0.5	ug/L						
1,2,4-Trichlorobenzene	ND	0.5	ug/L						
1,1,1-Trichloroethane	ND	0.5	ug/L						
1,1,2-Trichloroethane	ND	0.5	ug/L						
Trichloroethylene	ND	0.5	ug/L						
Trichlorofluoromethane	ND	1.0	ug/L						
1,3,5-Trimethylbenzene	ND	0.5	ug/L						
Vinyl chloride	ND	0.5	ug/L						
m,p-Xylenes	ND	0.5	ug/L						
o-Xylene	ND	0.5	ug/L						
Xylenes, total	ND	0.5	ug/L						
Surrogate: 4-Bromofluorobenzene	92.8		ug/L		116	50-140			
Surrogate: Dibromofluoromethane	78.6		ug/L		98.2	50-140			
Surrogate: Toluene-d8	92.4		ug/L		115	50-140			

**Certificate of Analysis**

Report Date: 25-Nov-2013

Client: **exp Services Inc. (Ottawa)**

Order Date: 19-Nov-2013

Client PO:

Project Description: OTT00214936A0

**Method Quality Control: Duplicate**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>Hydrocarbons</b>									
F1 PHCs (C6-C10)	ND	25	ug/L	ND				30	
<b>Volatiles</b>									
Acetone	ND	5.0	ug/L	ND				30	
Benzene	ND	0.5	ug/L	ND				30	
Bromodichloromethane	ND	0.5	ug/L	ND				30	
Bromoform	ND	0.5	ug/L	ND				30	
Bromomethane	ND	0.5	ug/L	ND				30	
Carbon Tetrachloride	ND	0.2	ug/L	ND				30	
Chlorobenzene	ND	0.5	ug/L	ND				30	
Chloroethane	ND	1.0	ug/L	ND				30	
Chloroform	ND	0.5	ug/L	ND				30	
Chloromethane	ND	3.0	ug/L	ND				30	
Dibromochloromethane	ND	0.5	ug/L	ND				30	
Dichlorodifluoromethane	ND	1.0	ug/L	ND				30	
1,2-Dibromoethane	ND	0.2	ug/L	ND				30	
1,2-Dichlorobenzene	ND	0.5	ug/L	ND				30	
1,3-Dichlorobenzene	ND	0.5	ug/L	ND				30	
1,4-Dichlorobenzene	ND	0.5	ug/L	ND				30	
1,1-Dichloroethane	44.1	0.5	ug/L	50.0			12.7	30	
1,2-Dichloroethane	ND	0.5	ug/L	ND				30	
1,1-Dichloroethylene	46.0	0.5	ug/L	52.1			12.4	30	
cis-1,2-Dichloroethylene	ND	0.5	ug/L	ND			0.0	30	
trans-1,2-Dichloroethylene	0.56	0.5	ug/L	0.63			11.8	30	
1,2-Dichloropropane	ND	0.5	ug/L	ND				30	
cis-1,3-Dichloropropylene	ND	0.5	ug/L	ND				30	
trans-1,3-Dichloropropylene	ND	0.5	ug/L	ND				30	
Ethylbenzene	ND	0.5	ug/L	ND				30	
Hexane	ND	1.0	ug/L	ND				30	
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L	ND				30	
Methyl Butyl Ketone (2-Hexanone)	ND	10.0	ug/L	ND				30	
Methyl Isobutyl Ketone	ND	5.0	ug/L	ND				30	
Methyl tert-butyl ether	ND	2.0	ug/L	ND				30	
Methylene Chloride	ND	5.0	ug/L	ND				30	
Styrene	ND	0.5	ug/L	ND				30	
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L	ND				30	
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	ND				30	
Tetrachloroethylene	ND	0.5	ug/L	ND				30	
Toluene	ND	0.5	ug/L	ND				30	
1,2,4-Trichlorobenzene	ND	0.5	ug/L	ND				30	
1,1,1-Trichloroethane	59.8	0.5	ug/L	67.8			12.7	30	
1,1,2-Trichloroethane	ND	0.5	ug/L	ND				30	
Trichloroethylene	1.58	0.5	ug/L	1.80			13.0	30	
Trichlorofluoromethane	ND	1.0	ug/L	ND				30	
1,3,5-Trimethylbenzene	ND	0.5	ug/L	ND				30	
Vinyl chloride	ND	0.5	ug/L	ND				30	
m,p-Xylenes	ND	0.5	ug/L	ND				30	
o-Xylene	ND	0.5	ug/L	ND				30	
Surrogate: 4-Bromofluorobenzene	92.0		ug/L	ND	115	50-140			
Surrogate: Dibromofluoromethane	81.1		ug/L	ND	101	50-140			
Surrogate: Toluene-d8	92.2		ug/L	ND	115	50-140			



**Certificate of Analysis**

Report Date: 25-Nov-2013

Client: **exp Services Inc. (Ottawa)**

Order Date: 19-Nov-2013

Client PO:

Project Description: OTT00214936A0

**Method Quality Control: Spike**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>Hydrocarbons</b>									
F1 PHCs (C6-C10)	2100	25	ug/L	ND	105	68-117			
F2 PHCs (C10-C16)	1240	100	ug/L	ND	68.8	60-140			
F3 PHCs (C16-C34)	2510	100	ug/L	ND	67.5	60-140			
F4 PHCs (C34-C50)	1520	100	ug/L	ND	61.3	60-140			
<b>Volatiles</b>									
Acetone	68.8	5.0	ug/L	ND	68.8	50-140			
Benzene	50.4	0.5	ug/L	ND	126	60-130			
Bromodichloromethane	41.9	0.5	ug/L	ND	105	60-130			
Bromoform	37.8	0.5	ug/L	ND	94.4	60-130			
Bromomethane	34.6	0.5	ug/L	ND	86.4	50-140			
Carbon Tetrachloride	38.0	0.2	ug/L	ND	95.0	60-130			
Chlorobenzene	40.0	0.5	ug/L	ND	99.9	60-130			
Chloroethane	26.5	1.0	ug/L	ND	66.3	50-140			
Chloroform	46.8	0.5	ug/L	ND	117	60-130			
Chloromethane	30.8	3.0	ug/L	ND	77.0	50-140			
Dibromochloromethane	36.7	0.5	ug/L	ND	91.8	60-130			
Dichlorodifluoromethane	27.4	1.0	ug/L	ND	68.4	50-140			
1,2-Dibromoethane	41.0	0.2	ug/L	ND	102	60-130			
1,2-Dichlorobenzene	47.8	0.5	ug/L	ND	119	60-130			
1,3-Dichlorobenzene	44.2	0.5	ug/L	ND	110	60-130			
1,4-Dichlorobenzene	45.2	0.5	ug/L	ND	113	60-130			
1,1-Dichloroethane	49.5	0.5	ug/L	ND	124	60-130			
1,2-Dichloroethane	41.0	0.5	ug/L	ND	102	60-130			
1,1-Dichloroethylene	29.1	0.5	ug/L	ND	72.7	60-130			
cis-1,2-Dichloroethylene	50.3	0.5	ug/L	ND	126	60-130			
trans-1,2-Dichloroethylene	30.0	0.5	ug/L	ND	75.0	60-130			
1,2-Dichloropropane	51.0	0.5	ug/L	ND	127	60-130			
cis-1,3-Dichloropropylene	42.6	0.5	ug/L	ND	106	60-130			
trans-1,3-Dichloropropylene	38.6	0.5	ug/L	ND	96.6	60-130			
Ethylbenzene	40.5	0.5	ug/L	ND	101	60-130			
Hexane	36.1	1.0	ug/L	ND	90.3	60-130			
Methyl Ethyl Ketone (2-Butanone)	127	5.0	ug/L	ND	127	50-140			
Methyl Butyl Ketone (2-Hexanone)	112	10.0	ug/L	ND	112	50-140			
Methyl Isobutyl Ketone	114	5.0	ug/L	ND	114	50-140			
Methyl tert-butyl ether	91.3	2.0	ug/L	ND	91.3	50-140			
Methylene Chloride	34.6	5.0	ug/L	ND	86.6	60-130			
Styrene	43.5	0.5	ug/L	ND	109	60-130			
1,1,1,2-Tetrachloroethane	35.5	0.5	ug/L	ND	88.8	60-130			
1,1,2,2-Tetrachloroethane	41.0	0.5	ug/L	ND	102	60-130			
Tetrachloroethylene	38.9	0.5	ug/L	ND	97.2	60-130			
Toluene	43.6	0.5	ug/L	ND	109	60-130			
1,2,4-Trichlorobenzene	42.1	0.5	ug/L	ND	105	60-130			
1,1,1-Trichloroethane	38.7	0.5	ug/L	ND	96.7	60-130			
1,1,2-Trichloroethane	49.8	0.5	ug/L	ND	125	60-130			
Trichloroethylene	43.3	0.5	ug/L	ND	108	60-130			
Trichlorofluoromethane	28.6	1.0	ug/L	ND	71.4	60-130			
1,3,5-Trimethylbenzene	41.5	0.5	ug/L	ND	104	60-130			
Vinyl chloride	30.4	0.5	ug/L	ND	76.1	50-140			
m,p-Xylenes	81.2	0.5	ug/L	ND	101	60-130			

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**Certificate of Analysis**

Report Date: 25-Nov-2013  
Order Date: 19-Nov-2013

Client: **exp Services Inc. (Ottawa)**

Project Description: OTT00214936A0

Client PO:

**Method Quality Control: Spike**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
o-Xylene	42.1	0.5	ug/L	ND	105	60-130			
Surrogate: 4-Bromofluorobenzene	85.3		ug/L		107	50-140			

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**Certificate of Analysis**

Client: **exp Services Inc. (Ottawa)**  
Client PO:

Project Description: OTT00214936A0

Report Date: 25-Nov-2013  
Order Date: 19-Nov-2013

**Qualifier Notes:**

None

**Sample Data Revisions**

None

**Work Order Revisions / Comments:**

None

**Other Report Notes:**

n/a: not applicable  
ND: Not Detected  
MDL: Method Detection Limit  
Source Result: Data used as source for matrix and duplicate samples  
%REC: Percent recovery.  
RPD: Relative percent difference.

*CCME PHC additional information:*

- The method for the analysis of PHCs complies with the Reference Method for the CWS PHC and is validated for use in the laboratory. All prescribed quality criteria identified in the method has been met.
- F1 range corrected for BTEX.
- F2 to F3 ranges corrected for appropriate PAHs where available.
- The gravimetric heavy hydrocarbons (F4G) are not to be added to C6 to C50 hydrocarbons.
- In the case where F4 and F4G are both reported, the greater of the two results is to be used for comparison to CWS PHC criteria.

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Client Name: <b>EXP</b>	Project Reference: <b>OTT-00214936-A0</b>	TAT: <input checked="" type="checkbox"/> Regular <input type="checkbox"/> 3 Day
Contact Name: <b>Mark McCalla</b>	Quote #	<input type="checkbox"/> 2 Day <input type="checkbox"/> 1 Day
Address: <b>2650 Queensview Drive</b>	PO #	Date Required: _____
Telephone: <b>613-688-1899</b>	Email Address: <b>mark.mccalla@exp.com</b>	

Criteria:  O. Reg. 153/04 (As Amended) Table 3  RSC Filing  O. Reg. 558/00  PWQO  CCME  SUB (Storm)  SUB (Sanitary) Municipality: \_\_\_\_\_  Other: \_\_\_\_\_

Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other)

**Required Analyses**

Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken		PHC (F <sub>1</sub> -F <sub>4</sub> )	VOC	Required Analyses												
				Date	Time															
1 BH18	GV		3	19 Nov 2013		X	X													
2 BH23	↓		↓	↓		X	X													
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Comments: \_\_\_\_\_ Method of Delivery: **Walk-in**

Relinquished By (Sign):	Received by Driver/Depot: <b>SUNDEPORN</b>	Received at Lab:	Verified By: <b>MJC</b>
Relinquished By (Print): <b>DARRAGH KILROY</b>	Date/Time: <b>NOV 19 2013 09:30</b>	Date/Time: <b>NOV 19/13</b>	Date/Time: <b>Nov 19/13 4:38</b>
Date/Time: <b>19 Nov 2013 12:35 pm</b>	Temperature: <b>9.7 °C</b>	Temperature: <b>12.3 °C</b>	pH Verified [ ] By: <b>N/A</b>

C.O.C.: G105048

REPORT No. B22-28067

**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: 01-Sep-22

JOB/PROJECT NO.: OTT-00214936-CO

DATE REPORTED: 09-Sep-22

SAMPLE MATRIX: Soil

P.O. NUMBER:

WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
% Moisture	30	Richmond Hill	FAL	02-Sep-22	A-% moisture RH	
Cyanide	30	Kingston	kwe	08-Sep-22	A-CN s K	in house
Conductivity	30	Holly Lane	LMG	07-Sep-22	A-COND-01 (o)	SM 2510B
pH	30	Holly Lane	LMG	07-Sep-22	A-PH-01 (o)	SM 4500H
PHC(F2-F4)	7	Kingston	aso	07-Sep-22	C-PHC-S-001 (k)	CWS Tier 1
PHC(F2-F4)	30	Kingston	KPR	02-Sep-22	C-PHC-S-001 (k)	CWS Tier 1
VOC's	30	Richmond Hill	FAL	02-Sep-22	C-VOC-02 (rh)	EPA 8260
PHC(F1)	30	Richmond Hill	FAL	02-Sep-22	C-VPHS-01 (rh)	CWS Tier 1
Chromium (VI)	30	Holly Lane	LMG	08-Sep-22	D-CRVI-02 (o)	EPA7196A
Mercury	30	Holly Lane	PBK	07-Sep-22	D-HG-01 (o)	EPA 7471A
Boron - HWS	30	Holly Lane	hmc	08-Sep-22	D-HWE s	MOE3470
Sodium Adsorption Ratio	30	Holly Lane	hmc	08-Sep-22	D-ICP-01 SAR (o)	SM 3120
Metals - ICP-OES	30	Holly Lane	hmc	08-Sep-22	D-ICP-02 (o)	EPA 6010
Metals - ICP-MS	30	Holly Lane	TPR	08-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. 1 - All - Table 1 - Res/Park/Institutional/Indus/Com/Commun



Tahir Yapici Ph.D  
 Lab Manager - Ottawa District

R.L. = Reporting Limit  
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C.O.C.: G105048

REPORT No. B22-28067

**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: 01-Sep-22

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P.O. NUMBER:

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP1-1.0	TP1-2.5	TP1-4.5	TP2-1.0	O. Reg. 153	
			Sample I.D.	B22-28067-1	B22-28067-2	B22-28067-3	B22-28067-4	Tbl. 1 - All	
			Date Collected	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22		
Sodium Adsorption Ratio	units			1.50	1.64	1.69	0.217	2.4	
Antimony	µg/g	0.5		< 0.5	< 0.5	0.6	< 0.5	1.3	
Arsenic	µg/g	0.5		7.4	6.9	10.3	9.3	18	
Barium	µg/g	1		96	99	121	107	220	
Beryllium	µg/g	0.2		0.7	0.7	0.8	0.6	2.5	
Boron	µg/g	0.5		7.4	6.9	6.8	6.4	36	
Boron (HWS)	µg/g	0.02		0.07	0.07	0.08	0.10		
Cadmium	µg/g	0.5		< 0.5	< 0.5	< 0.5	< 0.5	1.2	
Chromium	µg/g	1		21	21	21	20	70	
Chromium (VI)	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	0.66	
Cobalt	µg/g	1		9	9	14	10	21	
Copper	µg/g	1		34	36	46	38	92	
Lead	µg/g	5		25	16	32	29	120	
Mercury	µg/g	0.005		0.084	0.080	0.103	0.108	0.27	
Molybdenum	µg/g	1		2	2	4	2	2	
Nickel	µg/g	1		44	53	60	48	82	
Selenium	µg/g	0.5		1.1	1.0	1.3	1.3	1.5	
Silver	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	0.5	
Thallium	µg/g	0.1		0.4	0.5	0.6	0.5	1	
Uranium	µg/g	0.1		2.2	2.2	2.7	2.2	2.5	
Vanadium	µg/g	1		26	28	30	29	86	
Zinc	µg/g	3		108	84	92	85	290	
pH @25°C	pH Units			7.66	7.65	7.58	7.65		
Conductivity @25°C	µmho/cm	1		302	612	479	247	0.57	
% moisture	%			18.7	16.3	17.7	14.2		
Benzene	µg/g	0.02		< 0.02	< 0.02	< 0.02	< 0.02	0.02	
Ethylbenzene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	0.05	

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

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP1-1.0	TP1-2.5	TP1-4.5	TP2-1.0	O. Reg. 153	
			Sample I.D.	B22-28067-1	B22-28067-2	B22-28067-3	B22-28067-4	Tbl. 1 - All	
Date Collected				31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22		
Toluene	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	0.2	
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	0.05	
Dibromofluoromethane (SS)	% rec.			83.2	80.5	80.3	79.6		
Toluene-d8 (SS)	% rec.			96.7	97.9	97.7	97.8		
Bromofluorobenzene,4(SS)	% rec.			94.1	99.2	97.6	98.9		
PHC F1 (C6-C10)	µg/g	10		< 10	< 10	< 10	< 10	25	
PHC F2 (>C10-C16)	µg/g	5		< 5	< 5	< 5	< 5	10	
PHC F3 (>C16-C34)	µg/g	10		15	16	22	28	240	
PHC F4 (>C34-C50)	µg/g	10		13	< 10	< 10	12	120	
Cyanide (Free)	µg/g	0.05		< 0.05	< 0.05	< 0.1	< 0.05	0.051	
PHC F4 (Gravimetric)	µg/g	50						120	

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. 1 - All - Table 1 - Res/Park/Institutional/Indus/Com/Commun



Tahir Yapici Ph.D  
 Lab Manager - Ottawa District

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SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP2-2.0	TP2-3.0	TP2-3.7	TP3-1.0	O. Reg. 153	
			Sample I.D.	B22-28067-5	B22-28067-6	B22-28067-7	B22-28067-8	Tbl. 1 - All	
			Date Collected	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22		
Sodium Adsorption Ratio	units			0.435	0.517	1.05	0.116	2.4	
Antimony	µg/g	0.5		< 0.5	< 0.5	< 0.5	< 0.5	1.3	
Arsenic	µg/g	0.5		7.9	8.6	7.2	5.7	18	
Barium	µg/g	1		176	110	155	254	220	
Beryllium	µg/g	0.2		0.6	0.7	0.6	0.5	2.5	
Boron	µg/g	0.5		6.9	6.9	7.9	7.3	36	
Boron (HWS)	µg/g	0.02		0.04	0.06	0.05	0.06		
Cadmium	µg/g	0.5		< 0.5	< 0.5	< 0.5	< 0.5	1.2	
Chromium	µg/g	1		18	23	18	16	70	
Chromium (VI)	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	0.66	
Cobalt	µg/g	1		13	12	11	10	21	
Copper	µg/g	1		39	41	35	31	92	
Lead	µg/g	5		26	35	25	26	120	
Mercury	µg/g	0.005		0.090	0.122	0.097	0.073	0.27	
Molybdenum	µg/g	1		3	3	3	2	2	
Nickel	µg/g	1		53	58	44	35	82	
Selenium	µg/g	0.5		1.2	1.1	0.9	1.0	1.5	
Silver	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	0.5	
Thallium	µg/g	0.1		0.6	0.8	0.5	0.4	1	
Uranium	µg/g	0.1		2.3	2.0	1.8	1.9	2.5	
Vanadium	µg/g	1		27	29	26	24	86	
Zinc	µg/g	3		87	100	83	70	290	
pH @25°C	pH Units			7.71	7.63	7.72	7.82		
Conductivity @25°C	µmho/cm	1		389	395	387	319	0.57	
% moisture	%			13.5	11.0	12.3	8.3		
Benzene	µg/g	0.02		< 0.02	< 0.02	< 0.02	< 0.02	0.02	
Ethylbenzene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	0.05	

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SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP2-2.0	TP2-3.0	TP2-3.7	TP3-1.0	O. Reg. 153	
			Sample I.D.	TP2-2.0	TP2-3.0	TP2-3.7	TP3-1.0	Tbl. 1 - All	
Date Collected			B22-28067-5	B22-28067-5	B22-28067-6	B22-28067-7	B22-28067-8		
			31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22		
Toluene	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.2	
Xylene, m,p-	µg/g	0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03		
Xylene, o-	µg/g	0.03	< 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	< 0.03	0.05	
Dibromofluoromethane (SS)	% rec.		81.7	79.6	81.9	79.2			
Toluene-d8 (SS)	% rec.		96.5	98.2	97.3	98.0			
Bromofluorobenzene,4(SS)	% rec.		98.0	99.5	98.0	98.4			
PHC F1 (C6-C10)	µg/g	10	< 10	< 10	< 10	< 10		25	
PHC F2 (>C10-C16)	µg/g	5	9	12	8	15		10	
PHC F3 (>C16-C34)	µg/g	10	32	34	36	42		240	
PHC F4 (>C34-C50)	µg/g	10	< 10	< 10	32	27		120	
Cyanide (Free)	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05		0.051	
PHC F4 (Gravimetric)	µg/g	50			< 50			120	

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. 1 - All - Table 1 - Res/Park/Institutional/Indus/Com/Commun



Tahir Yapici Ph.D  
Lab Manager - Ottawa District

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SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP3-2.0	TP3-2.75	TP3-3.50	TP4-1.0	O. Reg. 153	
			Sample I.D.	TP3-2.0	TP3-2.75	TP3-3.50	TP4-1.0	Tbl. 1 - All	
Date Collected			B22-28067-9	B22-28067-9	B22-28067-10	B22-28067-11	B22-28067-12		
			31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22		
Sodium Adsorption Ratio	units		0.776	0.523	0.814	0.316	2.4		
Antimony	µg/g	0.5	< 0.5	2.1	< 0.5	< 0.5	1.3		
Arsenic	µg/g	0.5	3.7	5.7	4.9	5.7	18		
Barium	µg/g	1	70	127	115	151	220		
Beryllium	µg/g	0.2	0.4	0.6	0.5	0.6	2.5		
Boron	µg/g	0.5	5.8	8.6	7.3	7.5	36		
Boron (HWS)	µg/g	0.02	0.07	0.08	0.07	0.12			
Cadmium	µg/g	0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.2		
Chromium	µg/g	1	15	17	16	17	70		
Chromium (VI)	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.66		
Cobalt	µg/g	1	7	9	10	10	21		
Copper	µg/g	1	32	38	33	38	92		
Lead	µg/g	5	26	23	15	22	120		
Mercury	µg/g	0.005	0.115	0.064	0.051	0.085	0.27		
Molybdenum	µg/g	1	1	3	2	3	2		
Nickel	µg/g	1	22	33	37	37	82		
Selenium	µg/g	0.5	0.7	1.3	0.9	1.2	1.5		
Silver	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.5		
Thallium	µg/g	0.1	0.2	0.2	0.3	0.2	1		
Uranium	µg/g	0.1	1.0	1.8	1.4	1.9	2.5		
Vanadium	µg/g	1	22	24	24	26	86		
Zinc	µg/g	3	67	74	63	67	290		
pH @25°C	pH Units		7.89	7.86	5.97	7.92			
Conductivity @25°C	µmho/cm	1	393	814	434	261	0.57		
% moisture	%		11.8	12.5	8.9	16.1			
Benzene	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.02		
Ethylbenzene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05		

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SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP3-2.0	TP3-2.75	TP3-3.50	TP4-1.0	O. Reg. 153	
			Sample I.D.	B22-28067-9	B22-28067-10	B22-28067-11	B22-28067-12	Tbl. 1 - All	
			Date Collected	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22		
Toluene	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	0.2	
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	0.05	
Dibromofluoromethane (SS)	% rec.			82.3	81.3	82.8	80.9		
Toluene-d8 (SS)	% rec.			96.0	97.0	97.8	98.4		
Bromofluorobenzene,4(SS)	% rec.			95.8	98.2	97.2	99.9		
PHC F1 (C6-C10)	µg/g	10		< 10	< 10	< 10	< 10	25	
PHC F2 (>C10-C16)	µg/g	5		< 5	< 5	<b>21</b>	<b>19</b>	10	
PHC F3 (>C16-C34)	µg/g	10		36	125	51	<b>1230</b>	240	
PHC F4 (>C34-C50)	µg/g	10		67 <sup>2</sup>	<b>299</b> <sup>2</sup>	< 10	15	120	
Cyanide (Free)	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	0.051	
PHC F4 (Gravimetric)	µg/g	50		<b>390</b> <sup>1</sup>	<b>1440</b> <sup>1</sup>			120	

1. Note : Sample Silica Cleaned

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

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JOB/PROJECT NO.: OTT-00214936-CO

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P.O. NUMBER:

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP4-2.0	TP4-2.75	TP4-3.75	TP5-1.0	O. Reg. 153	
			Sample I.D.	B22-28067-13	B22-28067-14	B22-28067-15	B22-28067-16	Tbl. 1 - All	
			Date Collected	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22		
Sodium Adsorption Ratio	units			0.318	0.340	0.847	0.302	2.4	
Antimony	µg/g	0.5		< 0.5	< 0.5	0.6	< 0.5	1.3	
Arsenic	µg/g	0.5		4.6	5.6	7.5	5.8	18	
Barium	µg/g	1		93	124	90	100	220	
Beryllium	µg/g	0.2		0.4	0.5	0.5	0.5	2.5	
Boron	µg/g	0.5		7.5	8.2	6.4	6.8	36	
Boron (HWS)	µg/g	0.02		0.06	0.07	0.06	0.08		
Cadmium	µg/g	0.5		< 0.5	< 0.5	< 0.5	< 0.5	1.2	
Chromium	µg/g	1		17	20	29	18	70	
Chromium (VI)	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	0.66	
Cobalt	µg/g	1		9	10	12	10	21	
Copper	µg/g	1		27	37	71	30	92	
Lead	µg/g	5		13	17	14	51	120	
Mercury	µg/g	0.005		0.036	0.060	0.054	0.109	0.27	
Molybdenum	µg/g	1		2	3	5	2	2	
Nickel	µg/g	1		26	34	50	33	82	
Selenium	µg/g	0.5		0.8	1.0	1.0	0.9	1.5	
Silver	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	0.5	
Thallium	µg/g	0.1		0.2	0.2	0.3	0.3	1	
Uranium	µg/g	0.1		1.4	1.8	1.6	1.4	2.5	
Vanadium	µg/g	1		21	23	26	26	86	
Zinc	µg/g	3		54	64	62	91	290	
pH @25°C	pH Units			7.89	8.04	8.02	7.96		
Conductivity @25°C	µmho/cm	1		504	819	502	209	0.57	
% moisture	%			12.3	11.6	12.7	14.2		
Benzene	µg/g	0.02		< 0.02	< 0.02	< 0.02	< 0.02	0.02	
Ethylbenzene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	0.05	

O. Reg. 153 - Soil, Ground Water and Sediment Standards  
 Tbl. 1 - All - Table 1 - Res/Park/Institutional/Indus/Com/Commun



Tahir Yapici Ph.D  
 Lab Manager - Ottawa District

R.L. = Reporting Limit  
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C.O.C.: G105048

REPORT No. B22-28067

**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: 01-Sep-22

JOB/PROJECT NO.: OTT-00214936-CO

DATE REPORTED: 09-Sep-22

P.O. NUMBER:

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP4-2.0	TP4-2.75	TP4-3.75	TP5-1.0	O. Reg. 153	
			Sample I.D.	TP4-2.0	TP4-2.75	TP4-3.75	TP5-1.0	Tbl. 1 - All	
Date Collected			B22-28067-13	B22-28067-13	B22-28067-14	B22-28067-15	B22-28067-16		
Toluene	µg/g	0.2	31-Aug-22	< 0.2	< 0.2	< 0.2	< 0.2	0.2	
Xylene, m,p-	µg/g	0.03	31-Aug-22	< 0.03	< 0.03	< 0.03	< 0.03		
Xylene, o-	µg/g	0.03	31-Aug-22	< 0.03	< 0.03	< 0.03	< 0.03		
Xylene, m,p,o-	µg/g	0.03	31-Aug-22	< 0.03	< 0.03	< 0.03	< 0.03	0.05	
Dibromofluoromethane (SS)	% rec.		31-Aug-22	80.5	81.2	79.8	81.9		
Toluene-d8 (SS)	% rec.		31-Aug-22	97.4	97.4	97.9	98.5		
Bromofluorobenzene,4(SS)	% rec.		31-Aug-22	96.6	98.1	99.3	99.4		
PHC F1 (C6-C10)	µg/g	10	31-Aug-22	< 10	< 10	< 10	< 10	25	
PHC F2 (>C10-C16)	µg/g	5	31-Aug-22	35	29	59	15	10	
PHC F3 (>C16-C34)	µg/g	10	31-Aug-22	77	65	112	72	240	
PHC F4 (>C34-C50)	µg/g	10	31-Aug-22	10	20	12	12	120	
Cyanide (Free)	µg/g	0.05	31-Aug-22	< 0.05	< 0.05	< 0.05	< 0.05	0.051	
PHC F4 (Gravimetric)	µg/g	50	31-Aug-22					120	

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. 1 - All - Table 1 - Res/Park/Institutional/Indus/Com/Commun



Tahir Yapici Ph.D  
 Lab Manager - Ottawa District

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SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP5-2.0	TP5-2.75	TP5-3.25	TP6-1.0	O. Reg. 153	
			Sample I.D.	B22-28067-17	B22-28067-18	B22-28067-19	B22-28067-20	Tbl. 1 - All	
			Date Collected	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22		
Sodium Adsorption Ratio	units			0.306	0.514	0.278	0.444	2.4	
Antimony	µg/g	0.5		< 0.5	0.7	0.6	< 0.5	1.3	
Arsenic	µg/g	0.5		7.1	7.0	8.7	6.8	18	
Barium	µg/g	1		130	126	113	157	220	
Beryllium	µg/g	0.2		0.6	0.5	0.6	0.8	2.5	
Boron	µg/g	0.5		9.0	7.8	8.6	6.8	36	
Boron (HWS)	µg/g	0.02		0.08	0.08	0.07	0.07		
Cadmium	µg/g	0.5		< 0.5	< 0.5	< 0.5	< 0.5	1.2	
Chromium	µg/g	1		19	17	18	21	70	
Chromium (VI)	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	0.66	
Cobalt	µg/g	1		12	11	12	9	21	
Copper	µg/g	1		31	42	34	46	92	
Lead	µg/g	5		30	62	43	22	120	
Mercury	µg/g	0.005		0.083	0.166	0.158	0.100	0.27	
Molybdenum	µg/g	1		2	2	3	2	2	
Nickel	µg/g	1		40	36	40	52	82	
Selenium	µg/g	0.5		1.0	1.0	1.0	1.1	1.5	
Silver	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	0.5	
Thallium	µg/g	0.1		0.3	0.3	0.4	0.3	1	
Uranium	µg/g	0.1		1.8	1.5	1.6	1.4	2.5	
Vanadium	µg/g	1		25	24	26	25	86	
Zinc	µg/g	3		87	121	90	85	290	
pH @25°C	pH Units			8.02	8.06	8.10	8.02		
Conductivity @25°C	µmho/cm	1		283	703	1	176	0.57	
% moisture	%			11.2	11.3	14.3	16.4		
Benzene	µg/g	0.02		< 0.02	< 0.02	< 0.02	< 0.02	0.02	
Ethylbenzene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	0.05	

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SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP5-2.0	TP5-2.75	TP5-3.25	TP6-1.0	O. Reg. 153	
			Sample I.D.	TP5-2.0	TP5-2.75	TP5-3.25	TP6-1.0	Tbl. 1 - All	
Date Collected			B22-28067-17	B22-28067-17	B22-28067-18	B22-28067-19	B22-28067-20		
Toluene	µg/g	0.2	31-Aug-22	< 0.2	< 0.2	< 0.2	< 0.2	0.2	
Xylene, m,p-	µg/g	0.03	31-Aug-22	< 0.03	< 0.03	< 0.03	< 0.03		
Xylene, o-	µg/g	0.03	31-Aug-22	< 0.03	< 0.03	< 0.03	< 0.03		
Xylene, m,p,o-	µg/g	0.03	31-Aug-22	< 0.03	< 0.03	< 0.03	< 0.03	0.05	
Dibromofluoromethane (SS)	% rec.		31-Aug-22	80.5	81.5	83.3	82.3		
Toluene-d8 (SS)	% rec.		31-Aug-22	98.9	97.8	97.8	98.1		
Bromofluorobenzene,4(SS)	% rec.		31-Aug-22	100	93.6	94.3	95.9		
PHC F1 (C6-C10)	µg/g	10	31-Aug-22	10	< 10	< 10	< 10	25	
PHC F2 (>C10-C16)	µg/g	5	31-Aug-22	26	28	26	8	10	
PHC F3 (>C16-C34)	µg/g	10	31-Aug-22	141	68	74	94	240	
PHC F4 (>C34-C50)	µg/g	10	31-Aug-22	182	< 10	20	30	120	
Cyanide (Free)	µg/g	0.05	31-Aug-22	< 0.05	< 0.05	< 0.05	< 0.05	0.051	
PHC F4 (Gravimetric)	µg/g	50	31-Aug-22	490				120	

1. Note : Sample Silica Cleaned

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

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SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP7-1.0	TP8-1.0	TP9-1.0	BH1	O. Reg. 153	
			Sample I.D.	B22-28067-21	B22-28067-22	B22-28067-23	B22-28067-24	Tbl. 1 - All	
			Date Collected	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22		
Sodium Adsorption Ratio	units			0.140	0.376	0.546	0.523	2.4	
Antimony	µg/g	0.5		< 0.5	< 0.5	< 0.5	0.5	1.3	
Arsenic	µg/g	0.5		7.0	5.9	6.3	9.2	18	
Barium	µg/g	1		112	92	86	131	220	
Beryllium	µg/g	0.2		0.6	0.5	0.5	0.8	2.5	
Boron	µg/g	0.5		7.5	7.2	6.6	9.0	36	
Boron (HWS)	µg/g	0.02		0.06	0.11	0.04	0.05		
Cadmium	µg/g	0.5		< 0.5	< 0.5	< 0.5	0.9	1.2	
Chromium	µg/g	1		18	17	14	24	70	
Chromium (VI)	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	0.66	
Cobalt	µg/g	1		10	8	10	11	21	
Copper	µg/g	1		35	34	30	73	92	
Lead	µg/g	5		26	36	18	89	120	
Mercury	µg/g	0.005		0.076	0.096	0.099	0.096	0.27	
Molybdenum	µg/g	1		<b>3</b>	<b>3</b>	<b>4</b>	<b>3</b>	2	
Nickel	µg/g	1		47	43	39	55	82	
Selenium	µg/g	0.5		1.2	0.9	<b>1.7</b>	1.2	1.5	
Silver	µg/g	0.2		< 0.2	< 0.2	< 0.2	0.2	0.5	
Thallium	µg/g	0.1		0.4	0.5	0.4	0.4	1	
Uranium	µg/g	0.1		2.1	1.8	2.1	1.8	2.5	
Vanadium	µg/g	1		24	24	24	35	86	
Zinc	µg/g	3		96	85	57	261	290	
pH @25°C	pH Units			8.94	8.04	7.89	8.00		
Conductivity @25°C	µmho/cm	1		<b>361</b>	<b>220</b>	<b>264</b>	<b>172</b>	0.57	
% moisture	%			12.4	9.8	10.0	11.2		
Benzene	µg/g	0.02		< 0.02	< 0.02	< 0.02	< 0.02	0.02	
Ethylbenzene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	0.05	

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 Lab Manager - Ottawa District

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SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	TP7-1.0	TP8-1.0	TP9-1.0	BH1	O. Reg. 153	
			Sample I.D.	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22	Tbl. 1 - All	
Toluene	µg/g	0.2	B22-28067-21	< 0.2	< 0.2	< 0.2	< 0.2	0.2	
Xylene, m,p-	µg/g	0.03	B22-28067-22	< 0.03	< 0.03	< 0.03	< 0.03		
Xylene, o-	µg/g	0.03	B22-28067-23	< 0.03	< 0.03	< 0.03	< 0.03		
Xylene, m,p,o-	µg/g	0.03	B22-28067-24	< 0.03	< 0.03	< 0.03	< 0.03	0.05	
Dibromofluoromethane (SS)	% rec.			84.6	83.4	81.9	83.4		
Toluene-d8 (SS)	% rec.			97.0	97.0	97.8	97.0		
Bromofluorobenzene,4(SS)	% rec.			97.3	97.4	97.3	97.2		
PHC F1 (C6-C10)	µg/g	10		< 10	< 10	< 10	< 10	25	
PHC F2 (>C10-C16)	µg/g	5		37	16	30	109	10	
PHC F3 (>C16-C34)	µg/g	10		312	78	60	2620	240	
PHC F4 (>C34-C50)	µg/g	10		63	29	18	352	120	
Cyanide (Free)	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	0.051	
PHC F4 (Gravimetric)	µg/g	50						120	

1. Note : Sample Silica Cleaned

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

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SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	BH2	BH5	BH6	Dup1	O. Reg. 153	
			Sample I.D.	B22-28067-25	B22-28067-26	B22-28067-27	B22-28067-28	Tbl. 1 - All	
			Date Collected	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22		
Sodium Adsorption Ratio	units			0.440	0.517	0.132	0.446	2.4	
Antimony	µg/g	0.5		< 0.5	0.7	< 0.5	0.6	1.3	
Arsenic	µg/g	0.5		6.4	8.4	3.5	6.1	18	
Barium	µg/g	1		90	97	47	155	220	
Beryllium	µg/g	0.2		0.3	0.6	0.2	0.5	2.5	
Boron	µg/g	0.5		6.1	6.5	4.6	7.0	36	
Boron (HWS)	µg/g	0.02		0.05	0.10	0.02	0.07		
Cadmium	µg/g	0.5		< 0.5	< 0.5	< 0.5	< 0.5	1.2	
Chromium	µg/g	1		13	17	9	17	70	
Chromium (VI)	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	0.66	
Cobalt	µg/g	1		8	11	7	8	21	
Copper	µg/g	1		18	30	16	28	92	
Lead	µg/g	5		54	33	6	57	120	
Mercury	µg/g	0.005		0.058	0.096	0.022	0.102	0.27	
Molybdenum	µg/g	1		<b>3</b>	<b>4</b>	2	2	2	
Nickel	µg/g	1		20	48	19	32	82	
Selenium	µg/g	0.5		0.6	0.9	0.6	1.0	1.5	
Silver	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	0.5	
Thallium	µg/g	0.1		0.3	0.5	0.2	0.4	1	
Uranium	µg/g	0.1		0.9	2.2	1.8	1.2	2.5	
Vanadium	µg/g	1		18	26	16	24	86	
Zinc	µg/g	3		91	59	22	93	290	
pH @25°C	pH Units			8.04	8.19	8.11	8.03		
Conductivity @25°C	µmho/cm	1		<b>259</b>	<b>363</b>	<b>1</b>	<b>398</b>	0.57	
% moisture	%			9.3	13.8	9.9	10.6		
Benzene	µg/g	0.02		< 0.02	< 0.02	< 0.02	< 0.02	0.02	
Ethylbenzene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	0.05	

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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: 01-Sep-22

JOB/PROJECT NO.: OTT-00214936-CO

DATE REPORTED: 09-Sep-22

P.O. NUMBER:

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	BH2	BH5	BH6	Dup1	O. Reg. 153	
			Sample I.D.	B22-28067-25	B22-28067-26	B22-28067-27	B22-28067-28	Tbl. 1 - All	
			Date Collected	31-Aug-22	31-Aug-22	31-Aug-22	31-Aug-22		
Toluene	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	0.2	
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	0.05	
Dibromofluoromethane (SS)	% rec.			81.6	81.2	80.0	81.5		
Toluene-d8 (SS)	% rec.			96.5	97.3	96.9	97.7		
Bromofluorobenzene,4(SS)	% rec.			99.3	99.7	100	97.8		
PHC F1 (C6-C10)	µg/g	10		< 10	< 10	< 10	< 10	25	
PHC F2 (>C10-C16)	µg/g	5		< 5	5	15	5	10	
PHC F3 (>C16-C34)	µg/g	10		50	94	29	152	240	
PHC F4 (>C34-C50)	µg/g	10		133 <sup>2</sup>	94 <sup>2</sup>	< 10	431 <sup>2</sup>	120	
Cyanide (Free)	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	0.051	
PHC F4 (Gravimetric)	µg/g	50		470 <sup>1</sup>	400 <sup>1</sup>		2150 <sup>1</sup>	120	

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. 1 - All - Table 1 - Res/Park/Institutional/Indus/Com/Commun



Tahir Yapici Ph.D  
Lab Manager - Ottawa District

R.L. = Reporting Limit

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

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C.O.C.: G105048

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SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	Dup2	Dup3	O. Reg. 153	
			Sample I.D.	B22-28067-29	B22-28067-30	Tbl. 1 - All	
			Date Collected	31-Aug-22	31-Aug-22		
Sodium Adsorption Ratio	units			0.538	0.127	2.4	
Antimony	µg/g	0.5		< 0.5	< 0.5	1.3	
Arsenic	µg/g	0.5		5.9	7.6	18	
Barium	µg/g	1		84	104	220	
Beryllium	µg/g	0.2		0.4	0.6	2.5	
Boron	µg/g	0.5		5.6	7.3	36	
Boron (HWS)	µg/g	0.02		0.04	0.05		
Cadmium	µg/g	0.5		< 0.5	< 0.5	1.2	
Chromium	µg/g	1		13	18	70	
Chromium (VI)	µg/g	0.2		< 0.2	< 0.2	0.66	
Cobalt	µg/g	1		10	10	21	
Copper	µg/g	1		29	47	92	
Lead	µg/g	5		15	23	120	
Mercury	µg/g	0.005		0.071	0.075	0.27	
Molybdenum	µg/g	1		<b>4</b>	<b>3</b>	2	
Nickel	µg/g	1		35	45	82	
Selenium	µg/g	0.5		<b>1.7</b>	1.3	1.5	
Silver	µg/g	0.2		< 0.2	< 0.2	0.5	
Thallium	µg/g	0.1		0.3	0.4	1	
Uranium	µg/g	0.1		2.1	2.2	2.5	
Vanadium	µg/g	1		22	24	86	
Zinc	µg/g	3		37	86	290	
pH @25°C	pH Units			8.05	8.12		
Conductivity @25°C	µmho/cm	1		<b>301</b>	<b>380</b>	0.57	
% moisture	%			10.5	13.2		
Benzene	µg/g	0.02		< 0.02	< 0.02	0.02	
Ethylbenzene	µg/g	0.05		< 0.05	< 0.05	0.05	

O. Reg. 153 - Soil, Ground Water and Sediment Standards  
 Tbl. 1 - All - Table 1 - Res/Park/Institutional/Indus/Com/Commun



Tahir Yapici Ph.D  
 Lab Manager - Ottawa District

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**Attention:** Mark McCalla

**Caduceon Environmental Laboratories**

2378 Holly Lane  
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 Fax: 613-526-1244

DATE RECEIVED: 01-Sep-22

JOB/PROJECT NO.: OTT-00214936-CO

DATE REPORTED: 09-Sep-22

P.O. NUMBER:

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	Dup2	Dup3	O. Reg. 153	
			Sample I.D.	B22-28067-29	B22-28067-30	Tbl. 1 - All	
			Date Collected	31-Aug-22	31-Aug-22		
Toluene	µg/g	0.2		< 0.2	< 0.2	0.2	
Xylene, m,p-	µg/g	0.03		< 0.03	< 0.03		
Xylene, o-	µg/g	0.03		< 0.03	< 0.03		
Xylene, m,p,o-	µg/g	0.03		< 0.03	< 0.03	0.05	
Dibromofluoromethane (SS)	% rec.			81.8	82.6		
Toluene-d8 (SS)	% rec.			97.7	97.0		
Bromofluorobenzene,4(SS)	% rec.			99.8	96.1		
PHC F1 (C6-C10)	µg/g	10		< 10	< 10	25	
PHC F2 (>C10-C16)	µg/g	5		26	49	10	
PHC F3 (>C16-C34)	µg/g	10		71	522	240	
PHC F4 (>C34-C50)	µg/g	10		46	141	120	
Cyanide (Free)	µg/g	0.05		< 0.05	< 0.05	0.051	
PHC F4 (Gravimetric)	µg/g	50				120	

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. 1 - All - Table 1 - Res/Park/Institutional/Indus/Com/Commun



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 Lab Manager - Ottawa District

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P.O. NUMBER:

SAMPLE MATRIX: Soil

WATERWORKS NO.

**Summary of Exceedances**

Table 1 - Res/Park/Institutional/Indus/Com/Commun		
<b>TP1-1.0</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	302	0.57
<b>TP1-2.5</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	612	0.57
<b>TP1-4.5</b>	Found Value	Limit
Cyanide (Free) (µg/g)	< 0.1	0.051
Molybdenum (µg/g)	4	2
Conductivity @25°C (µmho/cm)	479	0.57
Uranium (µg/g)	2.7	2.5
<b>TP2-1.0</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	247	0.57
<b>TP2-2.0</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	389	0.57
Molybdenum (µg/g)	3	2
<b>TP2-3.0</b>	Found Value	Limit
Molybdenum (µg/g)	3	2
Conductivity @25°C (µmho/cm)	395	0.57
PHC F2 (>C10-C16) (µg/g)	12	10
<b>TP2-3.7</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	387	0.57

O. Reg. 153 - Soil, Ground Water and Sediment Standards  
 Tbl. 1 - All - Table 1 - Res/Park/Institutional/Indus/Com/Commun

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SAMPLE MATRIX: Soil

WATERWORKS NO.

Table 1 - Res/Park/Institutional/Indus/Com/Commun		
	Found Value	Limit
<b>TP2-3.7</b>		
Molybdenum (µg/g)	3	2
Cyanide (Free) (µg/g)	< 0.5	0.051
<b>TP3-1.0</b>		
PHC F2 (>C10-C16) (µg/g)	15	10
Barium (µg/g)	254	220
Conductivity @25°C (µmho/cm)	319	0.57
<b>TP3-2.0</b>		
Conductivity @25°C (µmho/cm)	393	0.57
PHC F4 (Gravimetric) (µg/g)	390	120
<b>TP3-2.75</b>		
Molybdenum (µg/g)	3	2
Conductivity @25°C (µmho/cm)	814	0.57
PHC F4 (>C34-C50) (µg/g)	299	120
PHC F4 (Gravimetric) (µg/g)	1440	120
Antimony (µg/g)	2.1	1.3
<b>TP3-3.50</b>		
PHC F2 (>C10-C16) (µg/g)	21	10
Conductivity @25°C (µmho/cm)	434	0.57
<b>TP4-1.0</b>		
PHC F2 (>C10-C16) (µg/g)	19	10
Molybdenum (µg/g)	3	2

O. Reg. 153 - Soil, Ground Water and Sediment Standards  
 Tbl. 1 - All - Table 1 - Res/Park/Institutional/Indus/Com/Commun

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SAMPLE MATRIX: Soil

WATERWORKS NO.

<b>Table 1 - Res/Park/Institutional/Indus/Com/Commun</b>		
	Found Value	Limit
<b>TP4-1.0</b>		
PHC F3 (>C16-C34) (µg/g)	1230	240
Conductivity @25°C (µmho/cm)	261	0.57
<b>TP4-2.0</b>		
PHC F2 (>C10-C16) (µg/g)	35	10
Conductivity @25°C (µmho/cm)	504	0.57
<b>TP4-2.75</b>		
PHC F2 (>C10-C16) (µg/g)	29	10
Conductivity @25°C (µmho/cm)	819	0.57
Molybdenum (µg/g)	3	2
<b>TP4-3.75</b>		
Molybdenum (µg/g)	5	2
PHC F2 (>C10-C16) (µg/g)	59	10
Conductivity @25°C (µmho/cm)	502	0.57
<b>TP5-1.0</b>		
Conductivity @25°C (µmho/cm)	209	0.57
PHC F2 (>C10-C16) (µg/g)	15	10
<b>TP5-2.0</b>		
Conductivity @25°C (µmho/cm)	283	0.57
PHC F4 (>C34-C50) (µg/g)	182	120
PHC F4 (Gravimetric) (µg/g)	490	120
PHC F2 (>C10-C16) (µg/g)	26	10

O. Reg. 153 - Soil, Ground Water and Sediment Standards  
 Tbl. 1 - All - Table 1 - Res/Park/Institutional/Indus/Com/Commun



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SAMPLE MATRIX: Soil

WATERWORKS NO.

**Table 1 - Res/Park/Institutional/Indus/Com/Commun**

	Found Value	Limit
<b>TP5-2.75</b>		
Conductivity @25°C (µmho/cm)	703	0.57
PHC F2 (>C10-C16) (µg/g)	28	10
<b>TP5-3.25</b>	Found Value	Limit
Molybdenum (µg/g)	3	2
Conductivity @25°C (µmho/cm)	1	0.57
PHC F2 (>C10-C16) (µg/g)	26	10
<b>TP6-1.0</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	176	0.57
<b>TP7-1.0</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	361	0.57
Molybdenum (µg/g)	3	2
PHC F2 (>C10-C16) (µg/g)	37	10
PHC F3 (>C16-C34) (µg/g)	312	240
<b>TP8-1.0</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	220	0.57
PHC F2 (>C10-C16) (µg/g)	16	10
Molybdenum (µg/g)	3	2
<b>TP9-1.0</b>	Found Value	Limit
PHC F2 (>C10-C16) (µg/g)	30	10
Selenium (µg/g)	1.7	1.5
Molybdenum (µg/g)	4	2

O. Reg. 153 - Soil, Ground Water and Sediment Standards  
 Tbl. 1 - All - Table 1 - Res/Park/Institutional/Indus/Com/Commun



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SAMPLE MATRIX: Soil

WATERWORKS NO.

<b>Table 1 - Res/Park/Institutional/Indus/Com/Commun</b>		
<b>TP9-1.0</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	264	0.57
<b>BH1</b>	Found Value	Limit
PHC F4 (>C34-C50) (µg/g)	352	120
PHC F3 (>C16-C34) (µg/g)	2620	240
PHC F2 (>C10-C16) (µg/g)	109	10
Molybdenum (µg/g)	3	2
Conductivity @25°C (µmho/cm)	172	0.57
<b>BH2</b>	Found Value	Limit
PHC F4 (>C34-C50) (µg/g)	133	120
PHC F4 (Gravimetric) (µg/g)	470	120
Conductivity @25°C (µmho/cm)	259	0.57
Molybdenum (µg/g)	3	2
<b>BH5</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	363	0.57
Molybdenum (µg/g)	4	2
PHC F4 (Gravimetric) (µg/g)	400	120
<b>BH6</b>	Found Value	Limit
PHC F2 (>C10-C16) (µg/g)	15	10
Conductivity @25°C (µmho/cm)	1	0.57
<b>Dup1</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	398	0.57

O. Reg. 153 - Soil, Ground Water and Sediment Standards  
 Tbl. 1 - All - Table 1 - Res/Park/Institutional/Indus/Com/Commun



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P.O. NUMBER:

SAMPLE MATRIX: Soil

WATERWORKS NO.

Table 1 - Res/Park/Institutional/Indus/Com/Commun		
<b>Dup1</b>	Found Value	Limit
PHC F4 (Gravimetric) (µg/g)	2150	120
PHC F4 (>C34-C50) (µg/g)	431	120
<b>Dup2</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	301	0.57
Selenium (µg/g)	1.7	1.5
Molybdenum (µg/g)	4	2
PHC F2 (>C10-C16) (µg/g)	26	10
<b>Dup3</b>	Found Value	Limit
PHC F4 (>C34-C50) (µg/g)	141	120
PHC F2 (>C10-C16) (µg/g)	49	10
Conductivity @25°C (µmho/cm)	380	0.57
Molybdenum (µg/g)	3	2
PHC F3 (>C16-C34) (µg/g)	522	240

O. Reg. 153 - Soil, Ground Water and Sediment Standards  
 Tbl. 1 - All - Table 1 - Res/Park/Institutional/Indus/Com/Commun



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C.O.C.: G110500

REPORT No. B22-29759

**Report To:**

**EXP Services Inc**  
 2650 Queensview Drive, Suite 100  
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**Attention:** Chris Kimmerly

**Caduceon Environmental Laboratories**

2378 Holly Lane  
 Ottawa Ontario K1V 7P1  
 Tel: 613-526-0123  
 Fax: 613-526-1244

DATE RECEIVED: 16-Sep-22

JOB/PROJECT NO.:

DATE REPORTED: 27-Sep-22

SAMPLE MATRIX: Soil

P.O. NUMBER: OTT-21016315-AO

WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
% Moisture	24	Richmond Hill	FAL	20-Sep-22	A-% moisture RH	
Conductivity	24	Holly Lane	ST	23-Sep-22	A-COND-01 (o)	SM 2510B
PHC(F2-F4)	24	Kingston	KPR	22-Sep-22	C-PHC-S-001 (k)	CWS Tier 1
PHC(F2-F4)	5	Kingston	SmT	26-Sep-22	C-PHC-S-001 (k)	CWS Tier 1
VOC's	24	Richmond Hill	FAL	20-Sep-22	C-VOC-02 (rh)	EPA 8260
PHC(F1)	24	Richmond Hill	FAL	20-Sep-22	C-VPHS-01 (rh)	CWS Tier 1
Chromium (VI)	24	Holly Lane	ST	22-Sep-22	D-CRVI-02 (o)	EPA7196A
Mercury	24	Holly Lane	PBK	23-Sep-22	D-HG-01 (o)	EPA 7471A
Boron - HWS	24	Holly Lane	NHG	23-Sep-22	D-HWE s	MOE3470
Sodium Adsorption Ratio	24	Holly Lane	NHG	23-Sep-22	D-ICP-01 SAR (o)	SM 3120
Metals - ICP-OES	24	Holly Lane	NHG	23-Sep-22	D-ICP-02 (o)	EPA 6010
Metals - ICP-MS	24	Holly Lane	TPR	23-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 (f/m) - Table 3 - Ind./Commer/Commun Soil (fine/med)  
 Tbl. 3 - ICC Soil - Table 3 - Ind./Commercial/Community Soil Std



Tahir Yapici Ph.D

Lab Manager - Ottawa District

R.L. = Reporting Limit

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

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C.O.C.: G110500

REPORT No. B22-29759

**Report To:**

**EXP Services Inc**  
 2650 Queensview Drive, Suite 100  
 Ottawa ON K2B 8H6 Canada

**Attention:** Chris Kimmerly

**Caduceon Environmental Laboratories**

2378 Holly Lane  
 Ottawa Ontario K1V 7P1  
 Tel: 613-526-0123  
 Fax: 613-526-1244

DATE RECEIVED: 16-Sep-22

JOB/PROJECT NO.:

DATE REPORTED: 27-Sep-22

P.O. NUMBER: OTT-21016315-AO

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	AH7-SS3	AH7-SS4	AH8-SS3	AH8-SS4	O. Reg. 153	
			Sample I.D.	AH7-SS3	AH7-SS4	AH8-SS3	AH8-SS4	Tbl. 3 - ICC (f/m)	Tbl. 3 - ICC Soil
Date Collected			B22-29759-1	B22-29759-1	B22-29759-2	B22-29759-3	B22-29759-4		
			14-Sep-22	14-Sep-22	14-Sep-22	14-Sep-22	14-Sep-22		
Conductivity @25°C	µmho/cm	1	211	195	280	278		1.4	1.4
Sodium Adsorption Ratio	units		1.28	1.11	2.69	2.67		12	12
Antimony	µg/g	0.5	< 0.5	< 0.5	< 0.5	< 0.5		50	40
Arsenic	µg/g	0.5	4.7	3.6	4.0	3.5		18	18
Barium	µg/g	1	151	70	48	67		670	670
Beryllium	µg/g	0.2	0.4	0.3	0.3	0.3		10	8
Boron	µg/g	0.5	6.5	7.1	6.1	6.9		120	120
Boron (HWS)	µg/g	0.02	0.02	0.02	< 0.02	< 0.02		2	2
Cadmium	µg/g	0.5	< 0.5	< 0.5	< 0.5	< 0.5		1.9	1.9
Chromium	µg/g	1	13	13	13	14		160	160
Chromium (VI)	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2		10	8
Cobalt	µg/g	1	12	8	9	9		100	80
Copper	µg/g	1	26	17	20	20		300	230
Lead	µg/g	5	10	7	8	8		120	120
Mercury	µg/g	0.005	0.025	0.017	0.019	0.019		20	3.9
Molybdenum	µg/g	1	4	2	3	3		40	40
Nickel	µg/g	1	32	20	25	23		340	270
Selenium	µg/g	0.5	0.9	0.6	0.7	0.6		5.5	5.5
Silver	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2		50	40
Thallium	µg/g	0.1	0.2	0.2	< 0.1	0.2		3.3	3.3
Uranium	µg/g	0.1	1.5	1.3	1.5	1.3		33	33
Vanadium	µg/g	1	21	20	21	22		86	86
Zinc	µg/g	3	48	27	30	31		340	340
% moisture	%		7.5	7.9	7.7	7.2			
Benzene	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02		0.4	0.32
Toluene	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2		78	68
Ethylbenzene	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05		19	9.5

O. Reg. 153 - Soil, Ground Water and Sediment Standards  
 Tbl. 3 - ICC (f/m) - Table 3 - Ind./Commer/Commun Soil (fine/med)  
 Tbl. 3 - ICC Soil - Table 3 - Ind./Commercial/Community Soil Std



Tahir Yapici Ph.D  
 Lab Manager - Ottawa District

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DATE RECEIVED: 16-Sep-22

JOB/PROJECT NO.:

DATE REPORTED: 27-Sep-22

P.O. NUMBER: OTT-21016315-AO

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	AH7-SS3	AH7-SS4	AH8-SS3	AH8-SS4	O. Reg. 153	
			Sample I.D.	AH7-SS3	AH7-SS4	AH8-SS3	AH8-SS4	Tbl. 3 - ICC (f/m)	Tbl. 3 - ICC Soil
Date Collected			B22-29759-1	B22-29759-1	B22-29759-2	B22-29759-3	B22-29759-4		
Xylene, m,p-	µg/g	0.03	14-Sep-22	< 0.03	< 0.03	< 0.03	< 0.03		
Xylene, o-	µg/g	0.03	14-Sep-22	< 0.03	< 0.03	< 0.03	< 0.03		
Xylene, m,p,o-	µg/g	0.03	14-Sep-22	< 0.03	< 0.03	< 0.03	< 0.03	30	26
Toluene-d8 (SS)	% rec.		14-Sep-22	98.1	96.2	96.7	97.7		
PHC F1 (C6-C10)	µg/g	10	14-Sep-22	13	< 10	< 10	< 10	65	55
PHC F2 (>C10-C16)	µg/g	5	14-Sep-22	20	41	28	33	250	230
PHC F3 (>C16-C34)	µg/g	10	14-Sep-22	47	66	53	139	2500	1700
PHC F4 (>C34-C50)	µg/g	10	14-Sep-22	< 10	11	18	198 <sup>1</sup>	6600	3300
PHC F4 (Gravimetric)	µg/g	50	14-Sep-22				680 <sup>2</sup>	6600	3300

1 Note: Chromat did not return to baseline F4G requ

2 Note: Sample silica cleaned

O. Reg. 153 - Soil, Ground Water and Sediment Standards  
 Tbl. 3 - ICC (f/m) - Table 3 - Ind./Commer/Commun Soil (fine/med)  
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SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	AH9-SS3	AH9-SS1	DUP2	DUP1	O. Reg. 153	
			Sample I.D.	B22-29759-5	B22-29759-6	B22-29759-7	B22-29759-8	Tbl. 3 - ICC (f/m)	Tbl. 3 - ICC Soil
			Date Collected	14-Sep-22	14-Sep-22	14-Sep-22	14-Sep-22		
Conductivity @25°C	µmho/cm	1		892	553	1230	511	1.4	1.4
Sodium Adsorption Ratio	units			1.53	1.87	1.46	2.67	12	12
Antimony	µg/g	0.5		< 0.5	< 0.5	0.7	< 0.5	50	40
Arsenic	µg/g	0.5		6.2	6.7	6.3	3.5	18	18
Barium	µg/g	1		131	133	136	96	670	670
Beryllium	µg/g	0.2		0.5	0.6	0.5	0.4	10	8
Boron	µg/g	0.5		9.7	8.9	10.0	6.6	120	120
Boron (HWS)	µg/g	0.02		0.07	0.06	0.09	0.02	2	2
Cadmium	µg/g	0.5		< 0.5	< 0.5	< 0.5	< 0.5	1.9	1.9
Chromium	µg/g	1		29	19	26	19	160	160
Chromium (VI)	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	10	8
Cobalt	µg/g	1		10	10	9	11	100	80
Copper	µg/g	1		31	33	48	21	300	230
Lead	µg/g	5		42	22	52	9	120	120
Mercury	µg/g	0.005		0.070	0.065	0.081	0.017	20	3.9
Molybdenum	µg/g	1		2	2	2	2	40	40
Nickel	µg/g	1		28	40	29	26	340	270
Selenium	µg/g	0.5		0.8	1.0	0.8	1.0	5.5	5.5
Silver	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	50	40
Thallium	µg/g	0.1		0.2	0.3	0.2	0.2	3.3	3.3
Uranium	µg/g	0.1		1.4	1.8	2.0	1.0	33	33
Vanadium	µg/g	1		29	25	30	30	86	86
Zinc	µg/g	3		72	77	91	41	340	340
% moisture	%			8.1	6.3	9.4	9.0		
Benzene	µg/g	0.02		< 0.02	< 0.02	< 0.02	< 0.02	0.4	0.32
Toluene	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	78	68
Ethylbenzene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	19	9.5

O. Reg. 153 - Soil, Ground Water and Sediment Standards  
 Tbl. 3 - ICC (f/m) - Table 3 - Ind./Commer/Commun Soil (fine/med)  
 Tbl. 3 - ICC Soil - Table 3 - Ind./Commercial/Community Soil Std



Tahir Yapici Ph.D  
 Lab Manager - Ottawa District

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DATE RECEIVED: 16-Sep-22

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DATE REPORTED: 27-Sep-22

P.O. NUMBER: OTT-21016315-AO

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	AH9-SS3	AH9-SS1	DUP2	DUP1	O. Reg. 153	
			Sample I.D.	B22-29759-5	B22-29759-6	B22-29759-7	B22-29759-8	Tbl. 3 - ICC (f/m)	Tbl. 3 - ICC Soil
			Date Collected	14-Sep-22	14-Sep-22	14-Sep-22	14-Sep-22		
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	30	26
Toluene-d8 (SS)	% rec.			97.7	97.8	97.6	96.3		
PHC F1 (C6-C10)	µg/g	10		17	< 10	14	< 10	65	55
PHC F2 (>C10-C16)	µg/g	5		32	33	30	< 5	250	230
PHC F3 (>C16-C34)	µg/g	10		139	141	114	11	2500	1700
PHC F4 (>C34-C50)	µg/g	10		153 <sup>1</sup>	270 <sup>1</sup>	132 <sup>1</sup>	< 10	6600	3300
PHC F4 (Gravimetric)	µg/g	50		680 <sup>2</sup>	1240 <sup>2</sup>	650 <sup>2</sup>		6600	3300

1 Note: Chromat did not return to baseline F4G requ

2 Note: Sample silica cleaned

O. Reg. 153 - Soil, Ground Water and Sediment Standards  
 Tbl. 3 - ICC (f/m) - Table 3 - Ind./Commer/Commun Soil (fine/med)  
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SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	AH10-SS4	AH10-SS3	BH4-SS4	BH3-SS2	O. Reg. 153	
			Sample I.D.	B22-29759-9	B22-29759-10	B22-29759-11	B22-29759-12	Tbl. 3 - ICC (f/m)	Tbl. 3 - ICC Soil
			Date Collected	14-Sep-22	14-Sep-22	14-Sep-22	15-Sep-22		
Conductivity @25°C	µmho/cm	1		497	569	239	519	1.4	1.4
Sodium Adsorption Ratio	units			2.87	2.92	1.22	0.885	12	12
Antimony	µg/g	0.5		< 0.5	< 0.5	< 0.5	< 0.5	50	40
Arsenic	µg/g	0.5		2.8	4.1	3.1	7.0	18	18
Barium	µg/g	1		88	114	181	118	670	670
Beryllium	µg/g	0.2		0.4	0.4	0.6	0.6	10	8
Boron	µg/g	0.5		6.1	6.7	13.8	7.0	120	120
Boron (HWS)	µg/g	0.02		< 0.02	0.05	0.06	0.04	2	2
Cadmium	µg/g	0.5		< 0.5	< 0.5	< 0.5	< 0.5	1.9	1.9
Chromium	µg/g	1		19	21	15	21	160	160
Chromium (VI)	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	10	8
Cobalt	µg/g	1		8	10	8	9	100	80
Copper	µg/g	1		19	22	13	38	300	230
Lead	µg/g	5		7	27	< 5	26	120	120
Mercury	µg/g	0.005		0.014	0.038	0.017	0.100	20	3.9
Molybdenum	µg/g	1		< 1	3	1	2	40	40
Nickel	µg/g	1		20	34	20	46	340	270
Selenium	µg/g	0.5		0.6	0.5	0.6	1.0	5.5	5.5
Silver	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	50	40
Thallium	µg/g	0.1		0.2	0.3	< 0.1	0.3	3.3	3.3
Uranium	µg/g	0.1		1.0	1.0	1.7	2.2	33	33
Vanadium	µg/g	1		31	30	19	26	86	86
Zinc	µg/g	3		36	49	65	96	340	340
% moisture	%			9.1	9.7	7.1	14.2		
Benzene	µg/g	0.02		< 0.02	< 0.02	< 0.02	< 0.02	0.4	0.32
Toluene	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	78	68
Ethylbenzene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	19	9.5

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SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	AH10-SS4	AH10-SS3	BH4-SS4	BH3-SS2	O. Reg. 153	
			Sample I.D.	B22-29759-9	B22-29759-10	B22-29759-11	B22-29759-12	Tbl. 3 - ICC (f/m)	Tbl. 3 - ICC Soil
			Date Collected	14-Sep-22	14-Sep-22	14-Sep-22	15-Sep-22		
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	30	26
Toluene-d8 (SS)	% rec.			96.9	97.4	97.7	96.8		
PHC F1 (C6-C10)	µg/g	10		< 10	< 10	38	< 10	65	55
PHC F2 (>C10-C16)	µg/g	5		34	< 5	67	22	250	230
PHC F3 (>C16-C34)	µg/g	10		63	< 10	77	65	2500	1700
PHC F4 (>C34-C50)	µg/g	10		15	< 10	< 10	34	6600	3300
PHC F4 (Gravimetric)	µg/g	50						6600	3300

- Note: Chromat did not return to baseline F4G requ
- Note: Sample silica cleaned

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SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	AH1-SS1	AH1-SS2	AH2-SS1	AH2-SS2	O. Reg. 153	
			Sample I.D.	16-Sep-22	16-Sep-22	16-Sep-22	16-Sep-22	Tbl. 3 - ICC (f/m)	Tbl. 3 - ICC Soil
Conductivity @25°C	µmho/cm	1	B22-29759-13	290	299	201	185	1.4	1.4
Sodium Adsorption Ratio	units		B22-29759-14	1.14	0.938	0.255	1.48	12	12
Antimony	µg/g	0.5	B22-29759-15	< 0.5	2.0	3.4	< 0.5	50	40
Arsenic	µg/g	0.5	B22-29759-16	3.8	6.1	8.3	6.3	18	18
Barium	µg/g	1		66	170	232	69	670	670
Beryllium	µg/g	0.2		0.3	0.5	0.6	0.6	10	8
Boron	µg/g	0.5		5.5	7.5	9.6	8.3	120	120
Boron (HWS)	µg/g	0.02		0.07	0.12	0.13	0.04	2	2
Cadmium	µg/g	0.5		< 0.5	< 0.5	0.6	< 0.5	1.9	1.9
Chromium	µg/g	1		11	19	24	18	160	160
Chromium (VI)	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	10	8
Cobalt	µg/g	1		6	9	12	13	100	80
Copper	µg/g	1		21	102	147	47	300	230
Lead	µg/g	5		34	210	396	14	120	120
Mercury	µg/g	0.005		0.061	0.233	0.315	0.049	20	3.9
Molybdenum	µg/g	1		1	3	3	3	40	40
Nickel	µg/g	1		20	35	38	48	340	270
Selenium	µg/g	0.5		0.7	0.9	1.1	1.5	5.5	5.5
Silver	µg/g	0.2		< 0.2	0.3	0.3	< 0.2	50	40
Thallium	µg/g	0.1		0.2	0.3	0.4	0.3	3.3	3.3
Uranium	µg/g	0.1		1.1	1.5	1.6	1.7	33	33
Vanadium	µg/g	1		17	28	30	25	86	86
Zinc	µg/g	3		78	167	259	81	340	340
% moisture	%			10.9	9.8	9.7	7.2		
Benzene	µg/g	0.02		< 0.02	< 0.02	< 0.02	< 0.02	0.4	0.32
Toluene	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	78	68
Ethylbenzene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	19	9.5

O. Reg. 153 - Soil, Ground Water and Sediment Standards  
 Tbl. 3 - ICC (f/m) - Table 3 - Ind./Commer/Commun Soil (fine/med)  
 Tbl. 3 - ICC Soil - Table 3 - Ind./Commercial/Community Soil Std



Tahir Yapici Ph.D  
 Lab Manager - Ottawa District

R.L. = Reporting Limit

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

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C.O.C.: G110500

REPORT No. B22-29759

**Report To:**

**EXP Services Inc**  
 2650 Queensview Drive, Suite 100  
 Ottawa ON K2B 8H6 Canada

**Attention:** Chris Kimmerly

**Caduceon Environmental Laboratories**

2378 Holly Lane  
 Ottawa Ontario K1V 7P1  
 Tel: 613-526-0123  
 Fax: 613-526-1244

DATE RECEIVED: 16-Sep-22

JOB/PROJECT NO.:

DATE REPORTED: 27-Sep-22

P.O. NUMBER: OTT-21016315-AO

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	AH1-SS1	AH1-SS2	AH2-SS1	AH2-SS2	O. Reg. 153	
			Sample I.D.	16-Sep-22	16-Sep-22	16-Sep-22	16-Sep-22	Tbl. 3 - ICC (f/m)	Tbl. 3 - ICC Soil
Xylene, m,p-	µg/g	0.03	B22-29759-13	< 0.03	< 0.03	< 0.03	< 0.03		
Xylene, o-	µg/g	0.03	B22-29759-14	< 0.03	< 0.03	< 0.03	< 0.03		
Xylene, m,p,o-	µg/g	0.03	B22-29759-15	< 0.03	< 0.03	< 0.03	< 0.03	30	26
Toluene-d8 (SS)	% rec.		B22-29759-16	96.8	98.1	96.9	97.8		
PHC F1 (C6-C10)	µg/g	10		< 10	19	< 10	13	65	55
PHC F2 (>C10-C16)	µg/g	5		10	57	19	78	250	230
PHC F3 (>C16-C34)	µg/g	10		45	109	193	126	2500	1700
PHC F4 (>C34-C50)	µg/g	10		16	17	154 <sup>1</sup>	< 10	6600	3300
PHC F4 (Gravimetric)	µg/g	50				700 <sup>2</sup>		6600	3300

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

2. Note: Sample silica cleaned

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

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	AH3-SS2	AH3-SS3	AH4-SS3	AH4-SS4	O. Reg. 153	
			Sample I.D.	16-Sep-22	16-Sep-22	16-Sep-22	16-Sep-22	Tbl. 3 - ICC (f/m)	Tbl. 3 - ICC Soil
Conductivity @25°C	µmho/cm	1	B22-29759-17	525	494	341	166	1.4	1.4
Sodium Adsorption Ratio	units		B22-29759-18	2.21	1.12	0.631	0.630	12	12
Antimony	µg/g	0.5	B22-29759-19	0.6	< 0.5	< 0.5	< 0.5	50	40
Arsenic	µg/g	0.5	B22-29759-20	10.8	7.0	2.3	2.9	18	18
Barium	µg/g	1		94	208	107	298	670	670
Beryllium	µg/g	0.2		0.9	0.6	0.4	0.5	10	8
Boron	µg/g	0.5		7.0	10.2	11.2	13.9	120	120
Boron (HWS)	µg/g	0.02		0.02	< 0.02	0.06	0.04	2	2
Cadmium	µg/g	0.5		< 0.5	< 0.5	< 0.5	< 0.5	1.9	1.9
Chromium	µg/g	1		22	21	17	17	160	160
Chromium (VI)	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	10	8
Cobalt	µg/g	1		15	12	6	9	100	80
Copper	µg/g	1		59	37	9	17	300	230
Lead	µg/g	5		18	12	< 5	< 5	120	120
Mercury	µg/g	0.005		0.098	0.038	0.017	0.021	20	3.9
Molybdenum	µg/g	1		4	4	1	2	40	40
Nickel	µg/g	1		71	42	14	25	340	270
Selenium	µg/g	0.5		1.4	1.6	0.6	0.7	5.5	5.5
Silver	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	50	40
Thallium	µg/g	0.1		0.4	< 0.1	< 0.1	< 0.1	3.3	3.3
Uranium	µg/g	0.1		2.4	2.1	1.5	2.0	33	33
Vanadium	µg/g	1		33	26	16	21	86	86
Zinc	µg/g	3		89	84	49	82	340	340
% moisture	%			10.1	5.4	3.3	5.0		
Benzene	µg/g	0.02		< 0.02	< 0.02	< 0.02	< 0.02	0.4	0.32
Toluene	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	78	68
Ethylbenzene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	19	9.5

O. Reg. 153 - Soil, Ground Water and Sediment Standards  
 Tbl. 3 - ICC (f/m) - Table 3 - Ind./Commer/Commun Soil (fine/med)  
 Tbl. 3 - ICC Soil - Table 3 - Ind./Commercial/Community Soil Std



Tahir Yapici Ph.D  
 Lab Manager - Ottawa District

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JOB/PROJECT NO.:

DATE REPORTED: 27-Sep-22

P.O. NUMBER: OTT-21016315-AO

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	AH3-SS2	AH3-SS3	AH4-SS3	AH4-SS4	O. Reg. 153	
			Sample I.D.	16-Sep-22	16-Sep-22	16-Sep-22	16-Sep-22	Tbl. 3 - ICC (f/m)	Tbl. 3 - ICC Soil
Xylene, m,p-	µg/g	0.03	B22-29759-17	< 0.03	< 0.03	0.30	< 0.03		
Xylene, o-	µg/g	0.03	B22-29759-18	< 0.03	< 0.03	0.07	< 0.03		
Xylene, m,p,o-	µg/g	0.03	B22-29759-19	< 0.03	< 0.03	0.37	< 0.03	30	26
Toluene-d8 (SS)	% rec.		B22-29759-20	97.6	97.4	98.9	97.3		
PHC F1 (C6-C10)	µg/g	10		< 10	15	50	36	65	55
PHC F2 (>C10-C16)	µg/g	5		24	111	45	111	250	230
PHC F3 (>C16-C34)	µg/g	10		75	152	58	104	2500	1700
PHC F4 (>C34-C50)	µg/g	10		< 10	18	20	10	6600	3300
PHC F4 (Gravimetric)	µg/g	50						6600	3300

- Note: Chromat did not return to baseline F4G requ
- Note: Sample silica cleaned

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

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	AH5-SS2	AH5-SS3	AH6-SS3	AH6-SS4	O. Reg. 153	
			Sample I.D.	16-Sep-22	16-Sep-22	14-Sep-22	14-Sep-22	Tbl. 3 - ICC (f/m)	Tbl. 3 - ICC Soil
Conductivity @25°C	µmho/cm	1	B22-29759-21	308	341	300	250	1.4	1.4
Sodium Adsorption Ratio	units		B22-29759-22	2.81	2.28	2.24	0.787	12	12
Antimony	µg/g	0.5	B22-29759-23	< 0.5	< 0.5	< 0.5	< 0.5	50	40
Arsenic	µg/g	0.5		7.4	8.0	4.1	3.5	18	18
Barium	µg/g	1		96	184	71	84	670	670
Beryllium	µg/g	0.2		0.8	0.7	0.4	0.3	10	8
Boron	µg/g	0.5		7.2	10.3	5.9	6.8	120	120
Boron (HWS)	µg/g	0.02		0.04	< 0.02	< 0.02	< 0.02	2	2
Cadmium	µg/g	0.5		< 0.5	< 0.5	< 0.5	< 0.5	1.9	1.9
Chromium	µg/g	1		22	21	13	12	160	160
Chromium (VI)	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	10	8
Cobalt	µg/g	1		13	12	10	9	100	80
Copper	µg/g	1		59	44	21	17	300	230
Lead	µg/g	5		23	13	9	8	120	120
Mercury	µg/g	0.005		0.094	0.051	0.027	0.023	20	3.9
Molybdenum	µg/g	1		3	4	3	2	40	40
Nickel	µg/g	1		58	47	27	21	340	270
Selenium	µg/g	0.5		1.3	1.2	0.8	0.6	5.5	5.5
Silver	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	50	40
Thallium	µg/g	0.1		< 0.1	< 0.1	0.2	0.2	3.3	3.3
Uranium	µg/g	0.1		1.9	2.7	1.1	1.3	33	33
Vanadium	µg/g	1		32	25	21	20	86	86
Zinc	µg/g	3		89	77	40	23	340	340
% moisture	%			14.9	5.6	7.5	5.8		
Benzene	µg/g	0.02		< 0.02	< 0.02	< 0.02	< 0.02	0.4	0.32
Toluene	µg/g	0.2		< 0.2	< 0.2	< 0.2	< 0.2	78	68
Ethylbenzene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	19	9.5

O. Reg. 153 - Soil, Ground Water and Sediment Standards  
 Tbl. 3 - ICC (f/m) - Table 3 - Ind./Commer/Commun Soil (fine/med)  
 Tbl. 3 - ICC Soil - Table 3 - Ind./Commercial/Community Soil Std



Tahir Yapici Ph.D  
 Lab Manager - Ottawa District

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 Ottawa ON K2B 8H6 Canada

**Attention:** Chris Kimmerly

**Caduceon Environmental Laboratories**

2378 Holly Lane  
 Ottawa Ontario K1V 7P1  
 Tel: 613-526-0123  
 Fax: 613-526-1244

DATE RECEIVED: 16-Sep-22

JOB/PROJECT NO.:

DATE REPORTED: 27-Sep-22

P.O. NUMBER: OTT-21016315-AO

SAMPLE MATRIX: Soil

WATERWORKS NO.

Parameter	Units	R.L.	Client I.D.	AH5-SS2	AH5-SS3	AH6-SS3	AH6-SS4	O. Reg. 153	
			Sample I.D.	16-Sep-22	16-Sep-22	14-Sep-22	14-Sep-22	Tbl. 3 - ICC (f/m)	Tbl. 3 - ICC Soil
Xylene, m,p-	µg/g	0.03	B22-29759-21	< 0.03	< 0.03	< 0.03	< 0.03		
Xylene, o-	µg/g	0.03	B22-29759-22	< 0.03	< 0.03	< 0.03	< 0.03		
Xylene, m,p,o-	µg/g	0.03	B22-29759-23	< 0.03	< 0.03	< 0.03	< 0.03	30	26
Toluene-d8 (SS)	% rec.		B22-29759-24	96.8	98.1	96.7	97.4		
PHC F1 (C6-C10)	µg/g	10		< 10	11	< 10	< 10	65	55
PHC F2 (>C10-C16)	µg/g	5		31	81	28	28	250	230
PHC F3 (>C16-C34)	µg/g	10		93	131	56	71	2500	1700
PHC F4 (>C34-C50)	µg/g	10		14	17	< 10	15	6600	3300
PHC F4 (Gravimetric)	µg/g	50						6600	3300

- Note: Chromat did not return to baseline F4G requ
- Note: Sample silica cleaned

O. Reg. 153 - Soil, Ground Water and Sediment Standards  
 Tbl. 3 - ICC (f/m) - Table 3 - Ind./Commer/Commun Soil (fine/med)  
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SAMPLE MATRIX: Soil

WATERWORKS NO.

**Summary of Exceedances**

Table 3 - Ind./Commer/Commun Soil (fine/med)		
	Found Value	Limit
<b>AH7-SS3</b>		
Conductivity @25°C (µmho/cm)	211	1.4
<b>AH7-SS4</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	195	1.4
<b>AH8-SS3</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	280	1.4
<b>AH8-SS4</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	278	1.4
<b>AH9-SS3</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	892	1.4
<b>AH9-SS1</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	553	1.4
<b>DUP2</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	1230	1.4
<b>DUP1</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	511	1.4
<b>AH10-SS4</b>	Found Value	Limit

Table 3 - Ind./Commercial/Community Soil Std		
	Found Value	Limit
<b>AH7-SS3</b>		
Conductivity @25°C (µmho/cm)	211	1.4
<b>AH7-SS4</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	195	1.4
<b>AH8-SS3</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	280	1.4
<b>AH8-SS4</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	278	1.4
<b>AH9-SS3</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	892	1.4
<b>AH9-SS1</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	553	1.4
<b>DUP2</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	1230	1.4
<b>DUP1</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	511	1.4
<b>AH10-SS4</b>	Found Value	Limit

O. Reg. 153 - Soil, Ground Water and Sediment Standards  
 Tbl. 3 - ICC (f/m) - Table 3 - Ind./Commer/Commun Soil (fine/med)  
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SAMPLE MATRIX: Soil

WATERWORKS NO.

Table 3 - Ind./Commer/Commun Soil (fine/med)		
	Found Value	Limit
<b>AH10-SS4</b>		
Conductivity @25°C (µmho/cm)	497	1.4
<b>AH10-SS3</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	569	1.4
<b>BH4-SS4</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	239	1.4
<b>BH3-SS2</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	519	1.4
<b>AH1-SS1</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	290	1.4
<b>AH1-SS2</b>	Found Value	Limit
Lead (µg/g)	210	120
Conductivity @25°C (µmho/cm)	299	1.4
<b>AH2-SS1</b>	Found Value	Limit
Lead (µg/g)	396	120
Conductivity @25°C (µmho/cm)	201	1.4
<b>AH2-SS2</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	185	1.4
<b>AH3-SS2</b>	Found Value	Limit

Table 3 - Ind./Commercial/Community Soil Std		
	Found Value	Limit
<b>AH10-SS4</b>		
Conductivity @25°C (µmho/cm)	497	1.4
<b>AH10-SS3</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	569	1.4
<b>BH4-SS4</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	239	1.4
<b>BH3-SS2</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	519	1.4
<b>AH1-SS1</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	290	1.4
<b>AH1-SS2</b>	Found Value	Limit
Lead (µg/g)	210	120
Conductivity @25°C (µmho/cm)	299	1.4
<b>AH2-SS1</b>	Found Value	Limit
Lead (µg/g)	396	120
Conductivity @25°C (µmho/cm)	201	1.4
<b>AH2-SS2</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	185	1.4
<b>AH3-SS2</b>	Found Value	Limit

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SAMPLE MATRIX: Soil

WATERWORKS NO.

Table 3 - Ind./Commer/Commun Soil (fine/med)		
	Found Value	Limit
<b>AH3-SS2</b>		
Conductivity @25°C (µmho/cm)	525	1.4
<b>AH3-SS3</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	494	1.4
<b>AH4-SS3</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	341	1.4
<b>AH4-SS4</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	166	1.4
<b>AH5-SS2</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	308	1.4
<b>AH5-SS3</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	341	1.4
<b>AH6-SS3</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	300	1.4
<b>AH6-SS4</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	250	1.4

Table 3 - Ind./Commercial/Community Soil Std		
	Found Value	Limit
<b>AH3-SS2</b>		
Conductivity @25°C (µmho/cm)	525	1.4
<b>AH3-SS3</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	494	1.4
<b>AH4-SS3</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	341	1.4
<b>AH4-SS4</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	166	1.4
<b>AH5-SS2</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	308	1.4
<b>AH5-SS3</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	341	1.4
<b>AH6-SS3</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	300	1.4
<b>AH6-SS4</b>	Found Value	Limit
Conductivity @25°C (µmho/cm)	250	1.4

O. Reg. 153 - Soil, Ground Water and Sediment Standards  
 Tbl. 3 - ICC (f/m) - Table 3 - Ind./Commer/Commun Soil (fine/med)  
 Tbl. 3 - ICC Soil - Table 3 - Ind./Commercial/Community Soil Std



Tahir Yapici Ph.D  
 Lab Manager - Ottawa District

R.L. = Reporting Limit  
 Test methods may be modified from specified reference method unless indicated by an \*  
 Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

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C.O.C.: G109932

REPORT No. B23-02200

**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: 01-Mar-23

JOB/PROJECT NO.:

DATE REPORTED: 07-Mar-23

P.O. NUMBER:

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

<b>Client I.D.</b>	MW23-1	MW13-2	BH-4	Dup1
<b>Sample I.D.</b>	B23-02200-1	B23-02200-2	B23-02200-3	B23-02200-4
<b>Date Collected</b>	27-Feb-23	27-Feb-23	27-Feb-23	27-Feb-23

Parameter	Units	R.L.	Reference Method	Date/Site Analyzed				
Sodium	µg/L	200	SM 3120	02-Mar-23/O	136000	346000	104000	135000
Barium	µg/L	1	SM 3120	02-Mar-23/O	38	63	52	44
Boron	µg/L	5	SM 3120	02-Mar-23/O	110	385	115	108
Chromium	µg/L	2	SM 3120	02-Mar-23/O	< 2	< 2	< 2	< 2
Copper	µg/L	2	SM 3120	02-Mar-23/O	< 2	< 2	< 2	< 2
Zinc	µg/L	5	SM 3120	02-Mar-23/O	< 5	< 5	7	< 5
Antimony	µg/L	0.1	EPA 200.8	03-Mar-23/O	< 0.1	< 0.2	< 0.1	< 0.1
Arsenic	µg/L	0.1	EPA 200.8	03-Mar-23/O	0.2	0.7	0.8	0.2
Beryllium	µg/L	0.1	EPA 200.8	03-Mar-23/O	< 0.1	< 0.2	< 0.1	< 0.1
Cadmium	µg/L	0.015	EPA 200.8	03-Mar-23/O	< 0.015	< 0.028	0.091	0.017
Cobalt	µg/L	0.1	EPA 200.8	03-Mar-23/O	0.1	< 0.2	< 0.1	0.1
Lead	µg/L	0.02	EPA 200.8	03-Mar-23/O	< 0.02	0.04	0.07	0.03
Molybdenum	µg/L	0.1	EPA 200.8	03-Mar-23/O	6.1	7.1	3.7	6.4
Nickel	µg/L	0.2	EPA 200.8	03-Mar-23/O	1.9	4.3	1.2	1.9
Selenium	µg/L	1	EPA 200.8	03-Mar-23/O	1	< 2	< 1	1
Silver	µg/L	0.1	EPA 200.8	03-Mar-23/O	< 0.1	< 0.1	< 0.1	< 0.1
Thallium	µg/L	0.05	EPA 200.8	03-Mar-23/O	< 0.05	< 0.1	< 0.05	< 0.05
Uranium	µg/L	0.05	EPA 200.8	03-Mar-23/O	2.60	3.05	0.16	2.72
Vanadium	µg/L	0.1	EPA 200.8	03-Mar-23/O	< 0.1	< 0.2	0.2	< 0.1
Mercury	µg/L	0.02	SM 3112 B	06-Mar-23/O	< 0.02	< 0.02	< 0.02	< 0.02
Chromium (VI)	µg/L	10	MOE E3056	02-Mar-23/O	< 10	< 10	< 10	< 10
Acetone	µg/L	30	EPA 8260	02-Mar-23/R	< 30	< 30	< 30	< 30
Benzene	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	µg/L	2	EPA 8260	02-Mar-23/R	< 2	< 2	3	< 2
Bromoform	µg/L	5	EPA 8260	02-Mar-23/R	< 5	< 5	< 5	< 5
Bromomethane	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Tetrachloride	µg/L	0.2	EPA 8260	02-Mar-23/R	< 0.2	< 0.2	< 0.2	< 0.2

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Tahir Yapici Ph.D  
 Lab Manager - Ottawa District

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DATE RECEIVED: 01-Mar-23

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DATE REPORTED: 07-Mar-23

P.O. NUMBER:

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

Parameter	Units	R.L.	Reference Method	Date/Site Analyzed	Client I.D.	MW23-1	MW13-2	BH-4	Dup1
					Sample I.D.	B23-02200-1	B23-02200-2	B23-02200-3	B23-02200-4
					Date Collected	27-Feb-23	27-Feb-23	27-Feb-23	27-Feb-23
Monochlorobenzene (Chlorobenzene)	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	µg/L	1	EPA 8260	02-Mar-23/R	< 1	< 1	21	< 1	< 1
Dibromochloromethane	µg/L	2	EPA 8260	02-Mar-23/R	< 2	< 2	< 2	< 2	< 2
Dichlorobenzene, 1,2-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	µg/L	2	EPA 8260	02-Mar-23/R	< 2	< 2	< 2	< 2	< 2
Dichloroethane, 1,1-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethene, cis-1,2-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethene, trans-1,2-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropane, 1,2-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropene, cis-1,3-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropene, trans-1,3-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropene 1,3-cis+trans	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2- (Ethylene Dibromide)	µg/L	0.2	EPA 8260	02-Mar-23/R	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Hexane	µg/L	5	EPA 8260	02-Mar-23/R	< 5	< 5	< 5	< 5	< 5
Methyl Ethyl Ketone	µg/L	20	EPA 8260	02-Mar-23/R	< 20	< 20	< 20	< 20	< 20
Methyl Isobutyl Ketone	µg/L	20	EPA 8260	02-Mar-23/R	< 20	< 20	< 20	< 20	< 20
Methyl-t-butyl Ether	µg/L	2	EPA 8260	02-Mar-23/R	< 2	< 2	< 2	< 2	< 2
Dichloromethane (Methylene Chloride)	µg/L	5	EPA 8260	02-Mar-23/R	< 5	< 5	< 5	< 5	< 5
Styrene	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5



Tahir Yapici Ph.D  
 Lab Manager - Ottawa District

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 Ottawa Ontario K1V 7P1  
 Tel: 613-526-0123  
 Fax: 613-526-1244

DATE RECEIVED: 01-Mar-23

JOB/PROJECT NO.:

DATE REPORTED: 07-Mar-23

P.O. NUMBER:

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

Client I.D.	MW23-1	MW13-2	BH-4	Dup1
Sample I.D.	B23-02200-1	B23-02200-2	B23-02200-3	B23-02200-4
Date Collected	27-Feb-23	27-Feb-23	27-Feb-23	27-Feb-23

Parameter	Units	R.L.	Reference Method	Date/Site Analyzed				
Tetrachloroethane, 1,1,1,2-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	1.7	< 0.5
Trichloroethane, 1,1,1-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	µg/L	5	EPA 8260	02-Mar-23/R	< 5	< 5	< 5	< 5
Vinyl Chloride	µg/L	0.2	EPA 8260	02-Mar-23/R	< 0.2	< 0.2	< 0.2	< 0.2
Xylene, m,p-	µg/L	1.0	EPA 8260	02-Mar-23/R	< 1.0	< 1.0	< 1.0	< 1.0
Xylene, o-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m,p,o-	µg/L	1.1	EPA 8260	02-Mar-23/R	< 1.1	< 1.1	< 1.1	< 1.1
PHC F1 (C6-C10)	µg/L	25	MOE E3421	02-Mar-23/R	< 25	< 25	< 25	< 25
PHC F2 (>C10-C16)	µg/L	50	MOE E3421	02-Mar-23/K	< 50	< 50	< 50	< 50
PHC F3 (>C16-C34)	µg/L	400	MOE E3421	02-Mar-23/K	< 400	< 400	< 400	< 400
PHC F4 (>C34-C50)	µg/L	400	MOE E3421	02-Mar-23/K	< 400	< 400	< 400	< 400
Acenaphthene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	µg/L	0.01	EPA 8270	03-Mar-23/K	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	µg/L	0.1	EPA 8270	03-Mar-23/K	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(g,h,i)perylene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzo(a,h)anthracene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05



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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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P.O. NUMBER:

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

<b>Client I.D.</b>	MW23-1	MW13-2	BH-4	Dup1
<b>Sample I.D.</b>	B23-02200-1	B23-02200-2	B23-02200-3	B23-02200-4
<b>Date Collected</b>	27-Feb-23	27-Feb-23	27-Feb-23	27-Feb-23

Parameter	Units	R.L.	Reference Method	Date/Site Analyzed				
Fluoranthene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3,-cd)pyrene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Methylnaphthalene,1-	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Methylnaphthalene,2-	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Methylnaphthalene 2-(1-)	µg/L	1	EPA 8270	03-Mar-23/K	< 1	< 1	< 1	< 1
Naphthalene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05

1 Chromium (VI) result is based on total Chromium



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SAMPLE MATRIX: Groundwater

WATERWORKS NO.

Client I.D.	MW23-5	MW23-4	BH-1	MW23-2
Sample I.D.	B23-02200-5	B23-02200-6	B23-02200-7	B23-02200-8
Date Collected	28-Feb-23	28-Feb-23	28-Feb-23	28-Feb-23

Parameter	Units	R.L.	Reference Method	Date/Site Analyzed				
Sodium	µg/L	200	SM 3120	02-Mar-23/O	94600	86200	63800	442000
Barium	µg/L	1	SM 3120	02-Mar-23/O	102	122	66	152
Boron	µg/L	5	SM 3120	02-Mar-23/O	84	88	55	270
Chromium	µg/L	2	SM 3120	02-Mar-23/O	< 2	< 2	< 2	< 2
Copper	µg/L	2	SM 3120	02-Mar-23/O	2	4	3	4
Zinc	µg/L	5	SM 3120	02-Mar-23/O	5	< 5	7	7
Antimony	µg/L	0.1	EPA 200.8	03-Mar-23/O	0.3	0.4	0.1	0.9
Arsenic	µg/L	0.1	EPA 200.8	03-Mar-23/O	1.4	0.5	1.9	1.4
Beryllium	µg/L	0.1	EPA 200.8	03-Mar-23/O	< 0.1	< 0.1	< 0.1	< 0.2
Cadmium	µg/L	0.015	EPA 200.8	03-Mar-23/O	0.049	0.029	0.019	0.048
Cobalt	µg/L	0.1	EPA 200.8	03-Mar-23/O	1.8	1.6	0.2	1.3
Lead	µg/L	0.02	EPA 200.8	03-Mar-23/O	0.08	0.08	0.06	0.09
Molybdenum	µg/L	0.1	EPA 200.8	03-Mar-23/O	6.4	2.8	2.4	8.4
Nickel	µg/L	0.2	EPA 200.8	03-Mar-23/O	6.2	14.4	2.5	6.8
Selenium	µg/L	1	EPA 200.8	03-Mar-23/O	< 1	2	< 1	2
Silver	µg/L	0.1	EPA 200.8	03-Mar-23/O	< 0.1	< 0.1	< 0.1	< 0.1
Thallium	µg/L	0.05	EPA 200.8	03-Mar-23/O	< 0.05	< 0.05	< 0.05	< 0.1
Uranium	µg/L	0.05	EPA 200.8	03-Mar-23/O	5.69	6.90	0.98	7.76
Vanadium	µg/L	0.1	EPA 200.8	03-Mar-23/O	0.3	0.2	0.1	0.4
Mercury	µg/L	0.02	SM 3112 B	06-Mar-23/O	< 0.02	< 0.02	< 0.02	< 0.02
Chromium (VI)	µg/L	10	MOE E3056	02-Mar-23/O	< 10	< 10	< 10	< 10
Acetone	µg/L	30	EPA 8260	02-Mar-23/R	< 30	< 30	60	< 30
Benzene	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	0.9	< 0.5
Bromodichloromethane	µg/L	2	EPA 8260	02-Mar-23/R	< 2	< 2	< 2	< 2
Bromoform	µg/L	5	EPA 8260	02-Mar-23/R	< 5	< 5	< 5	< 5
Bromomethane	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Tetrachloride	µg/L	0.2	EPA 8260	02-Mar-23/R	< 0.2	< 0.2	< 0.2	< 0.2



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WATERWORKS NO.

Parameter	Units	R.L.	Reference Method	Date/Site Analyzed	Client I.D.	MW23-5	MW23-4	BH-1	MW23-2
					Sample I.D.	B23-02200-5	B23-02200-6	B23-02200-7	B23-02200-8
Date Collected					28-Feb-23	28-Feb-23	28-Feb-23	28-Feb-23	28-Feb-23
Monochlorobenzene (Chlorobenzene)	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	µg/L	1	EPA 8260	02-Mar-23/R	< 1	< 1	20	< 1	< 1
Dibromochloromethane	µg/L	2	EPA 8260	02-Mar-23/R	< 2	< 2	< 2	< 2	< 2
Dichlorobenzene, 1,2-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,3-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorobenzene, 1,4-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane	µg/L	2	EPA 8260	02-Mar-23/R	< 2	< 2	< 2	< 2	< 2
Dichloroethane, 1,1-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethane, 1,2-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethylene, 1,1-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethene, cis-1,2-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloroethene, trans-1,2-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropane, 1,2-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropene, cis-1,3-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropene, trans-1,3-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloropropene 1,3-cis+trans	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dibromoethane, 1,2- (Ethylene Dibromide)	µg/L	0.2	EPA 8260	02-Mar-23/R	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Hexane	µg/L	5	EPA 8260	02-Mar-23/R	< 5	< 5	10	< 5	< 5
Methyl Ethyl Ketone	µg/L	20	EPA 8260	02-Mar-23/R	< 20	< 20	< 20	< 20	< 20
Methyl Isobutyl Ketone	µg/L	20	EPA 8260	02-Mar-23/R	< 20	< 20	< 20	< 20	< 20
Methyl-t-butyl Ether	µg/L	2	EPA 8260	02-Mar-23/R	< 2	< 2	< 2	< 2	< 2
Dichloromethane (Methylene Chloride)	µg/L	5	EPA 8260	02-Mar-23/R	< 5	< 5	< 5	< 5	< 5
Styrene	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5



Tahir Yapici Ph.D  
 Lab Manager - Ottawa District

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C.O.C.: G109932

REPORT No. B23-02200

**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: 01-Mar-23

JOB/PROJECT NO.:

DATE REPORTED: 07-Mar-23

P.O. NUMBER:

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

Client I.D.	MW23-5	MW23-4	BH-1	MW23-2
Sample I.D.	B23-02200-5	B23-02200-6	B23-02200-7	B23-02200-8
Date Collected	28-Feb-23	28-Feb-23	28-Feb-23	28-Feb-23

Parameter	Units	R.L.	Reference Method	Date/Site Analyzed				
Tetrachloroethane, 1,1,1,2-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethane, 1,1,2,2-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	0.9	< 0.5
Trichloroethane, 1,1,1-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethane, 1,1,2-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	µg/L	5	EPA 8260	02-Mar-23/R	< 5	< 5	< 5	< 5
Vinyl Chloride	µg/L	0.2	EPA 8260	02-Mar-23/R	< 0.2	< 0.2	< 0.2	< 0.2
Xylene, m,p-	µg/L	1.0	EPA 8260	02-Mar-23/R	< 1.0	1.1	< 1.0	< 1.0
Xylene, o-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5	< 0.5	< 0.5	< 0.5
Xylene, m,p,o-	µg/L	1.1	EPA 8260	02-Mar-23/R	< 1.1	1.1	< 1.1	< 1.1
PHC F1 (C6-C10)	µg/L	25	MOE E3421	02-Mar-23/R	< 25	< 25	98	< 25
PHC F2 (>C10-C16)	µg/L	50	MOE E3421	02-Mar-23/K	< 50	< 50	< 50	< 50
PHC F3 (>C16-C34)	µg/L	400	MOE E3421	02-Mar-23/K	< 400	< 400	< 400	< 400
PHC F4 (>C34-C50)	µg/L	400	MOE E3421	02-Mar-23/K	< 400	< 400	< 400	< 400
Acenaphthene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	µg/L	0.01	EPA 8270	03-Mar-23/K	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	µg/L	0.1	EPA 8270	03-Mar-23/K	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(g,h,i)perylene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzo(a,h)anthracene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05



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Tahir Yapici Ph.D  
 Lab Manager - Ottawa District

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Tel: 613-526-0123

Fax: 613-526-1244

DATE RECEIVED: 01-Mar-23

JOB/PROJECT NO.:

DATE REPORTED: 07-Mar-23

P.O. NUMBER:

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

<b>Client I.D.</b>	MW23-5	MW23-4	BH-1	MW23-2
<b>Sample I.D.</b>	B23-02200-5	B23-02200-6	B23-02200-7	B23-02200-8
<b>Date Collected</b>	28-Feb-23	28-Feb-23	28-Feb-23	28-Feb-23

Parameter	Units	R.L.	Reference Method	Date/Site Analyzed				
Fluoranthene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3,-cd)pyrene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Methylnaphthalene,1-	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Methylnaphthalene,2-	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Methylnaphthalene 2-(1-)	µg/L	1	EPA 8270	03-Mar-23/K	< 1	< 1	< 1	< 1
Naphthalene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05	< 0.05	< 0.05	< 0.05

1 Chromium (VI) result is based on total Chromium



Tahir Yapici Ph.D  
 Lab Manager - Ottawa District

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JOB/PROJECT NO.:

DATE REPORTED: 07-Mar-23

P.O. NUMBER:

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

<b>Client I.D.</b>	BH-2		
<b>Sample I.D.</b>	B23-02200-9		
<b>Date Collected</b>	28-Feb-23		

Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			
Sodium	µg/L	200	SM 3120	02-Mar-23/O	43000		
Barium	µg/L	1	SM 3120	02-Mar-23/O	36		
Boron	µg/L	5	SM 3120	02-Mar-23/O	35		
Chromium	µg/L	2	SM 3120	02-Mar-23/O	< 2		
Copper	µg/L	2	SM 3120	02-Mar-23/O	5		
Zinc	µg/L	5	SM 3120	02-Mar-23/O	13		
Antimony	µg/L	0.1	EPA 200.8	03-Mar-23/O	0.3		
Arsenic	µg/L	0.1	EPA 200.8	03-Mar-23/O	2.2		
Beryllium	µg/L	0.1	EPA 200.8	03-Mar-23/O	< 0.1		
Cadmium	µg/L	0.015	EPA 200.8	03-Mar-23/O	0.153		
Cobalt	µg/L	0.1	EPA 200.8	03-Mar-23/O	< 0.1		
Lead	µg/L	0.02	EPA 200.8	03-Mar-23/O	0.08		
Molybdenum	µg/L	0.1	EPA 200.8	03-Mar-23/O	6.5		
Nickel	µg/L	0.2	EPA 200.8	03-Mar-23/O	1.0		
Selenium	µg/L	1	EPA 200.8	03-Mar-23/O	1		
Silver	µg/L	0.1	EPA 200.8	03-Mar-23/O	< 0.1		
Thallium	µg/L	0.05	EPA 200.8	03-Mar-23/O	< 0.05		
Uranium	µg/L	0.05	EPA 200.8	03-Mar-23/O	0.86		
Vanadium	µg/L	0.1	EPA 200.8	03-Mar-23/O	0.6		
Mercury	µg/L	0.02	SM 3112 B	06-Mar-23/O	< 0.02		
Chromium (VI)	µg/L	10	MOE E3056	02-Mar-23/O	< 10		
Acetone	µg/L	30	EPA 8260	02-Mar-23/R	< 30		
Benzene	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5		
Bromodichloromethane	µg/L	2	EPA 8260	02-Mar-23/R	2		
Bromoform	µg/L	5	EPA 8260	02-Mar-23/R	< 5		
Bromomethane	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5		
Carbon Tetrachloride	µg/L	0.2	EPA 8260	02-Mar-23/R	< 0.2		



Tahir Yapici Ph.D  
 Lab Manager - Ottawa District

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SAMPLE MATRIX: Groundwater

WATERWORKS NO.

<b>Client I.D.</b>	BH-2		
<b>Sample I.D.</b>	B23-02200-9		
<b>Date Collected</b>	28-Feb-23		

Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			
Monochlorobenzene (Chlorobenzene)	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5		
Chloroform	µg/L	1	EPA 8260	02-Mar-23/R	20		
Dibromochloromethane	µg/L	2	EPA 8260	02-Mar-23/R	< 2		
Dichlorobenzene, 1,2-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5		
Dichlorobenzene, 1,3-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5		
Dichlorobenzene, 1,4-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5		
Dichlorodifluoromethane	µg/L	2	EPA 8260	02-Mar-23/R	< 2		
Dichloroethane, 1,1-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5		
Dichloroethane, 1,2-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5		
Dichloroethylene, 1,1-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5		
Dichloroethene, cis-1,2-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5		
Dichloroethene, trans-1,2-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5		
Dichloropropane, 1,2-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5		
Dichloropropene, cis-1,3-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5		
Dichloropropene, trans-1,3-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5		
Dichloropropene 1,3-cis+trans	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5		
Ethylbenzene	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5		
Dibromoethane, 1,2- (Ethylene Dibromide)	µg/L	0.2	EPA 8260	02-Mar-23/R	< 0.2		
Hexane	µg/L	5	EPA 8260	02-Mar-23/R	< 5		
Methyl Ethyl Ketone	µg/L	20	EPA 8260	02-Mar-23/R	< 20		
Methyl Isobutyl Ketone	µg/L	20	EPA 8260	02-Mar-23/R	< 20		
Methyl-t-butyl Ether	µg/L	2	EPA 8260	02-Mar-23/R	< 2		
Dichloromethane (Methylene Chloride)	µg/L	5	EPA 8260	02-Mar-23/R	< 5		
Styrene	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5		



Tahir Yapici Ph.D

Lab Manager - Ottawa District

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DATE REPORTED: 07-Mar-23

P.O. NUMBER:

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

<b>Client I.D.</b>	BH-2		
<b>Sample I.D.</b>	B23-02200-9		
<b>Date Collected</b>	28-Feb-23		

Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			
Tetrachloroethane, 1,1,1,2-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5		
Tetrachloroethane, 1,1,2,2-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5		
Tetrachloroethylene	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5		
Toluene	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5		
Trichloroethane, 1,1,1-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5		
Trichloroethane, 1,1,2-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5		
Trichloroethylene	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5		
Trichlorofluoromethane	µg/L	5	EPA 8260	02-Mar-23/R	< 5		
Vinyl Chloride	µg/L	0.2	EPA 8260	02-Mar-23/R	< 0.2		
Xylene, m,p-	µg/L	1.0	EPA 8260	02-Mar-23/R	< 1.0		
Xylene, o-	µg/L	0.5	EPA 8260	02-Mar-23/R	< 0.5		
Xylene, m,p,o-	µg/L	1.1	EPA 8260	02-Mar-23/R	< 1.1		
PHC F1 (C6-C10)	µg/L	25	MOE E3421	02-Mar-23/R	< 25		
PHC F2 (>C10-C16)	µg/L	50	MOE E3421	02-Mar-23/K	< 50		
PHC F3 (>C16-C34)	µg/L	400	MOE E3421	02-Mar-23/K	< 400		
PHC F4 (>C34-C50)	µg/L	400	MOE E3421	02-Mar-23/K	< 400		
Acenaphthene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05		
Acenaphthylene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05		
Anthracene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05		
Benzo(a)anthracene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05		
Benzo(a)pyrene	µg/L	0.01	EPA 8270	03-Mar-23/K	< 0.01		
Benzo(b)fluoranthene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05		
Benzo(b+k)fluoranthene	µg/L	0.1	EPA 8270	03-Mar-23/K	< 0.1		
Benzo(g,h,i)perylene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05		
Benzo(k)fluoranthene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05		
Chrysene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05		
Dibenzo(a,h)anthracene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05		



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JOB/PROJECT NO.:

DATE REPORTED: 07-Mar-23

P.O. NUMBER:

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

<b>Client I.D.</b>	BH-2		
<b>Sample I.D.</b>	B23-02200-9		
<b>Date Collected</b>	28-Feb-23		

Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			
Fluoranthene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05		
Fluorene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05		
Indeno(1,2,3,-cd)pyrene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05		
Methylnaphthalene,1-	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05		
Methylnaphthalene,2-	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05		
Methylnaphthalene 2-(1-)	µg/L	1	EPA 8270	03-Mar-23/K	< 1		
Naphthalene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05		
Phenanthrene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05		
Pyrene	µg/L	0.05	EPA 8270	03-Mar-23/K	< 0.05		

1. Chromium (VI) result is based on total Chromium



Tahir Yapici Ph.D  
 Lab Manager - Ottawa District

R.L. = Reporting Limit

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

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

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**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 ON K1V 7P1

Tel: 613-526 0123

Fax: 613-526 1244

DATE SUBMITTED: 1-Mar-23

JOB/PROJECT NO.:

DATE REPORTED: 7-Mar-23

P.O. NUMBER: OTT-00214936-CO

SAMPLE MATRIX: Groundwater

WATERWORKS NO.:

Analyses	Qty.	Site Analyzed	Analyst Initials	Date Extracted	Date Analyzed	Date Approved	Lab Method	Method Reference
Mercury	9	Ottawa	PBK	6-Mar-23	6-Mar-23	6-Mar-23	D-HG-02 (o)	SM 3112 B
Metals - ICP-OES	9	Ottawa	NHG	2-Mar-23	2-Mar-23	2-Mar-23	D-ICP-01 (o)	SM 3120
Metals - ICP-MS	9	Ottawa	TPR	3-Mar-23	3-Mar-23	7-Mar-23	D-ICPMS-01 (o)	EPA 200.8

NA = Not Applicable

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PARAMETERS	R.L.	QC DATA								
		LCS Sample (% Rec.)		Duplicate				Lab Blank	Matrix Spike (% Recovery)	
		Found	Limits	Result 1	Result 2	R.P.D.	Limits (%)		Found	Limits
Antimony	0.1	99	80-120	0.1	0.1	NC	20	0.1	71	70-130
Arsenic	0.1	104	80-120	1.9	1.9	0	20	< R.L.	115	70-130
Barium	1	105	80-120	62.5	61.6	1.5	20	< R.L.	89	70-130
Beryllium	0.1	90	80-120	< R.L.	< R.L.	NC	20	< R.L.	125	70-130
Boron	5	105	80-120	9	8	NC	20	< R.L.	116	70-130
Cadmium	0.015	104	80-120	0.019	0.018	NC	20	< R.L.	106	70-130
Chromium	2	96	80-120	< R.L.	< R.L.	NC	20	< R.L.	113	70-130
Cobalt	0.1	96	80-120	0.2	0.3	NC	20	< R.L.	117	70-130
Copper	2	103	80-120	3.9	3.8	NC	20	< R.L.	109	70-130
Lead	0.02	104	80-120	0.06	0.06	NC	20	< R.L.	100	70-130
Mercury	0.02	97	80-120	< R.L.	< R.L.	NC	20	< R.L.	88	70-130
Molybdenum	0.1	97	80-120	2.4	2.4	0	20	< R.L.	109	70-130
Nickel	0.2	94	80-120	2.5	2.3	8.3	20	< R.L.	118	70-130
Selenium	1	99	80-120	< R.L.	< R.L.	NC	20	< R.L.	100	70-130
Silver	0.1	95	80-120	< R.L.	< R.L.	NC	20	< R.L.	107	70-130
Sodium	200	101	80-120	2500	2500	0	20	< R.L.	100	70-130
Thallium	0.05	97	80-120	< R.L.	< R.L.	NC	20	< R.L.	95	70-130
Uranium	0.05	94	80-120	0.98	0.92	6.3	20	< R.L.	84	70-130
Vanadium	0.1	117	80-120	0.1	0.1	NC	20	< R.L.	113	70-130
Zinc	5	99	80-120	< R.L.	< R.L.	NC	20	< R.L.	119	70-130

All values expressed as µg/L unless stated otherwise

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**Report To:**  
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 2650 Queensview Drive, Suite 100  
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**Attention:** Mark McCalla

**Caduceon Environmental Laboratories**  
 2378 Holly Lane  
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 Tel: 613-526-0123  
 Fax: 613-526-1244

DATE SUBMITTED: 1-Mar-23  
 DATE REPORTED: 7-Mar-23  
 SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.:  
 P.O. NUMBER: OTT-00214936-CO  
 WATERWORKS NO.:

Analyses	Qty.	Site Analyzed	Analyst Initials	Date Extracted	Date Analyzed	Date Approved	Lab Method	Method Reference
PHC(F1)	9	RH	JE	2-Mar-23	2-Mar-23	7-Mar-23	C-VPHW-01(rh)	MOE E3421
PHC(F2-F4)	9	Kingston	KPR	2-Mar-23	2-Mar-23	3-Mar-23	C-PHC-W-001(k)	MOE E3421
VOC's	9	RH	JE	2-Mar-23	2-Mar-23	7-Mar-23	C-VOC-02(rh)	EPA 8260

NA = Not Applicable

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PARAMETERS	R.L.	QC DATA								
		LCS Sample (% Rec.)		Duplicate				Lab Blank	Matrix Spike (% Recovery)	
		Found	Limits	Result 1	Result 2	R.P.D.	Limits (%)		Found	Limits
Acetone	30	130	50-140	< R.L.	< R.L.	NC	50	< R.L.	120	50-140
Benzene	0.5	101	60-120	< R.L.	< R.L.	NC	50	< R.L.	101	50-140
Bromodichloromethane	2	106	60-140	3	3	NC	50	< R.L.	108	50-140
Bromoform	5	109	50-140	< R.L.	< R.L.	NC	50	< R.L.	110	50-140
Bromomethane	0.5	78	50-140	< R.L.	< R.L.	NC	50	< R.L.	73	50-140
Carbon Tetrachloride	0.2	110	60-130	< R.L.	< R.L.	NC	50	< R.L.	108	50-140
Monochlorobenzene	0.5	106	60-130	< R.L.	< R.L.	NC	50	< R.L.	107	50-140
Chloroform	1	112	60-130	21	22	4.7	50	< R.L.	114	50-140
Dibromochloromethane	2	105	60-130	< R.L.	< R.L.	NC	50	< R.L.	108	50-140
Dichlorobenzene,1,2-	0.5	113	60-130	< R.L.	< R.L.	NC	50	< R.L.	115	50-140
Dichlorobenzene,1,3-	0.5	98	60-130	< R.L.	< R.L.	NC	50	< R.L.	97	50-140
Dichlorobenzene,1,4-	0.5	119	60-130	< R.L.	< R.L.	NC	50	< R.L.	118	50-140
Dichloroethane,1,1-	0.5	120	60-130	< R.L.	< R.L.	NC	50	< R.L.	118	50-140
Dichloroethane,1,2-	0.5	114	60-130	< R.L.	< R.L.	NC	50	< R.L.	116	50-140
Dichloroethylene,1,1-	0.5	116	60-130	< R.L.	< R.L.	NC	50	< R.L.	112	50-140
Dichloroethene, cis-1,2-	0.5	109	60-130	< R.L.	< R.L.	NC	50	< R.L.	109	50-140
Dichloroethene, trans-1,2-	0.5	111	60-130	< R.L.	< R.L.	NC	50	< R.L.	109	50-140
Dichloropropane,1,2-	0.5	106	60-130	< R.L.	< R.L.	NC	50	< R.L.	107	50-140
Dichloropropene, cis-1,3-	0.5	107	60-130	< R.L.	< R.L.	NC	50	< R.L.	92	50-140

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PARAMETERS	R.L.	QC DATA								
		LCS Sample (% Rec.)		Duplicate				Lab Blank	Matrix Spike (% Recovery)	
		Found	Limits	Result 1	Result 2	R.P.D.	Limits (%)		Found	Limits
Dichloropropene, trans-1,3-	0.5	114	60-130	< R.L.	< R.L.	NC	50	< R.L.	97	50-140
Ethylbenzene	0.5	107	60-130	< R.L.	< R.L.	NC	50	< R.L.	107	50-140
Dibromoethane,1,2- (Ethylene Dibromide)	0.2	111	60-130	< R.L.	< R.L.	NC	50	< R.L.	113	50-140
Hexane	5	99	60-130	< R.L.	< R.L.	NC	50	< R.L.	90	50-140
Methyl Ethyl Ketone	20	153	50-140	< R.L.	< R.L.	NC	50	< R.L.	120	50-140
Methyl Isobutyl Ketone	20	118	50-140	< R.L.	< R.L.	NC	50	< R.L.	120	50-140
Methyl-t-butyl Ether	2	124	60-130	< R.L.	< R.L.	NC	50	< R.L.	124	50-140
Dichloromethane (Methylene Chloride)	5	112	60-130	< R.L.	< R.L.	NC	50	< R.L.	116	50-140
Styrene	0.5	101	60-130	< R.L.	< R.L.	NC	50	< R.L.	101	50-140
Tetrachloroethane,1,1,1,2-	0.5	108	60-130	< R.L.	< R.L.	NC	50	< R.L.	112	50-140
Tetrachloroethane,1,1,2,2-	0.5	104	60-130	< R.L.	< R.L.	NC	50	< R.L.	101	50-140
Tetrachloroethylene	0.5	99	60-130	< R.L.	< R.L.	NC	50	< R.L.	94	50-140
Toluene	0.5	99	60-130	1.7	1.8	NC	50	< R.L.	100	50-140
Trichloroethane,1,1,1-	0.5	117	60-130	< R.L.	< R.L.	NC	50	< R.L.	115	50-140
Trichloroethane,1,1,2-	0.5	114	60-130	< R.L.	< R.L.	NC	50	< R.L.	116	50-140
Trichloroethylene	0.5	99	60-130	< R.L.	< R.L.	NC	50	< R.L.	96	50-140
Trichlorofluoromethane	5	101	50-140	< R.L.	< R.L.	NC	50	< R.L.	94	50-140
Vinyl Chloride	0.2	62	50-140	< R.L.	< R.L.	NC	50	< R.L.	74	50-140
Xylene, m,p-	1	103	60-130	< R.L.	< R.L.	NC	50	< R.L.	104	50-140
Xylene, o-	0.5	104	60-130	< R.L.	< R.L.	NC	50	< R.L.	105	50-140

All values expressed as µg/L unless stated otherwise

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R.L. = Reporting Limit

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NA = Not Applicable

PARAMETERS	R.L.	QC DATA								
		LCS Sample (% Rec.)		Duplicate				Lab Blank	Matrix Spike (% Recovery)	
		Found	Limits	Result 1	Result 2	R.P.D.	Limits (%)		Found	Limits
PHC F1 (C6-C10)	50	95	60-140	<R.L.	<R.L.	NC	40	< R.L.	108	60-140
PHC F2 (>C10-C16)	50	69	60-140	1085	1027	6.0	40	< R.L.	70	60-140
PHC F3 (>C16-C34)	400	92	60-140	2853	2834	NC	40	< R.L.	95	60-140
PHC F4 (>C34-C50)	400	108	60-140	<R.L.	<R.L.	NC	40	< R.L.	71	60-140

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**Report To:**

**EXP Services Inc**

2650 Queensview Drive, Suite 100  
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**Attention:** Mark McCalla

**Caduceon Environmental Laboratories**

2378 Holly Lane  
 Ottawa ON K1V 7P1  
 Tel: 613-526-0123  
 Fax: 613-526-1244

DATE SUBMITTED: 1-Mar-23  
 DATE REPORTED: 7-Mar-23  
 SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.:  
 P.O. NUMBER: OTT-00214936-CO  
 WATERWORKS NO.:

Analyses	Qty.	Site Analyzed	Analyst Initials	Date Extracted	Date Analyzed	Date Approved	Lab Method	Method Reference
SVOC	9	Kingston	ESI	2-Mar-23	2-Mar-23	3-Mar-23	C-NAB-W-001 (K)	EPA 8270

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PARAMETERS	R.L.	QC DATA								
		LCS Sample (% Rec.)		Duplicate				Lab Blank	Matrix Spike (% Recovery)	
		Found	Limits	Result 1	Result 2	R.P.D.	Limits (%)		Found	Limits
Acenaphthene	0.05	99	50-140	12.4	10.2	19.5	50	< R.L.	86	50-140
Acenaphthylene	0.05	98	50-140	12.3	10.1	19.6	50	< R.L.	82	50-140
Anthracene	0.05	104	50-140	12.6	10.6	17.2	50	< R.L.	90	50-140
Benzo(a)anthracene	0.05	108	50-140	13.5	11.2	18.6	50	< R.L.	88	50-140
Benzo(a)pyrene	0.01	111	50-140	14.8	12.3	18.5	50	< R.L.	90	50-140
Benzo(b)fluoranthene	0.05	108	50-140	13.9	11.3	20.6	50	< R.L.	84	50-140
Benzo(k)fluoranthene	0.05	106	50-140	13.2	11.1	17.3	50	< R.L.	88	50-140
Benzo(g,h,i)perylene	0.05	102	50-140	13.1	10.7	20.2	50	< R.L.	84	50-140
Chrysene	0.05	108	50-140	12.9	10.7	18.6	50	< R.L.	74	50-140
Dibenzo(a,h)anthracene	0.05	108	50-140	13.9	11.5	18.9	50	< R.L.	94	50-140
Fluoranthene	0.05	104	50-140	13.1	10.8	19.2	50	< R.L.	90	50-140
Fluorene	0.05	103	50-140	12.7	10.6	18.0	50	< R.L.	94	50-140
Indeno(1,2,3,-cd)pyrene	0.05	112	50-140	14.3	12	17.5	50	<R.L.	94	50-140
Methylnaphthalene,2-	0.08	105	50-140	13.5	11.1	19.5	50	< R.L.	78	50-140
Naphthalene	0.05	95	50-140	12.3	10.3	17.7	50	< R.L.	68	50-140
Phenanthrene	0.05	102	50-140	12.9	10.6	19.6	50	< R.L.	90	50-140
Pyrene	0.05	107	50-140	13.3	11	18.9	50	< R.L.	92	50-140

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**Attention:** **Chris kimmerly**

**Caduceon Environmental Laboratories**

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 Fax: 613-526-1244

DATE SUBMITTED: 16-Sep-22  
 DATE REPORTED: 27-Sep-22  
 SAMPLE MATRIX: Soil

JOB/PROJECT NO.:  
 P.O. NUMBER: OTT-21016315-AO  
 WATERWORKS NO.:

<b>Analyses</b>	<b>Qty.</b>	<b>Site Analyzed</b>	<b>Analyst Initials</b>	<b>Date Extracted</b>	<b>Date Analyzed</b>	<b>Date Approved</b>	<b>Lab Method</b>	<b>Method Reference</b>
Conductivity	24	Ottawa	MD	23-Sep-22	23-Sep-22	23-Sep-22	A-COND-001(O)	SM2510B
Chromium (VI)	24	Ottawa	LMG	22-Sep-22	22-Sep-22	22-Sep-22	D-CRVI-02 (o)	EPA7196A
Mercury	24	Ottawa	PBK	23-Sep-22	23-Sep-22	23-Sep-22	D-HG-01 (o)	EPA 7471A
Metals - ICP-OES	24	Ottawa	HMC	23-Sep-22	23-Sep-22	26-Sep-22	D-ICP-02(o)	EPA 6010
Metals - ICP-MS	24	Ottawa	TPR	23-Sep-22	23-Sep-22	23-Sep-22	D-ICPMS-01 (o)	EPA 6020
Metals - ICP-OES	24	Ottawa	NHG	23-Sep-22	23-Sep-22	23-Sep-22	D-ICP-01 (o)	SM 3120
Boron - HWS	24	Ottawa	NHG	23-Sep-22	23-Sep-22	23-Sep-22	D-HWE s	MOE3470

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PARAMETERS	R.L.	QC DATA								
		LCS Sample (% Rec.)		Duplicate				Lab Blank	Matrix Spike (% Recovery)	
		Found	Limits	Result 1	Result 2	R.P.D.	Limits (%)		Found	Limits
Conductivity @25°C	0.001	111	90-110	308	319	3.5	10	<R.L.	NA	-
Antimony	0.5	100	80-120	< R.L.	< R.L.	0	30	< R.L.	100	70-130
Arsenic	0.5	108	80-120	7.4	7.1	4.1	30	< R.L.	108	70-130
Barium	1	99	80-120	181	200	10.0	30	< R.L.	105	70-130
Beryllium	0.2	91	80-120	0.8	0.8	NC	30	< R.L.	83	70-130
Boron	0.5	108	80-120	13.8	12.4	10.7	30	< R.L.	108	70-130
Boron (HWS)	0.02	NA	70-130	0.07	0.06	NC	40	< R.L.	NA	60-140
Cadmium	0.5	86	80-120	< R.L.	< R.L.	NC	30	< R.L.	106	70-130
Chromium	1	99	80-120	22	22	0	30	< R.L.	87	70-130
Chromium (VI)	0.2	NA	80-120	< R.L.	< R.L.	NC	35	< R.L.	N/A	25-124
Cobalt	1	86	80-120	13	14	7.4	30	< R.L.	109	70-130
Copper	1	102	80-120	59	57	3.4	30	< R.L.	105	70-130
Lead	5	105	80-120	23	23	NC	30	< R.L.	111	70-130
Mercury	0.005	108	80-120	0.025	0.031	NC	30	< R.L.	108	70-130
Molybdenum	1	109	80-120	4	4	NC	30	< R.L.	99	70-130
Nickel	1	102	80-120	58	57	1.7	30	< R.L.	113	70-130
Selenium	0.5	103	80-120	1.3	1.2	NC	30	< R.L.	100	70-130
Silver	0.2	99	80-120	1	0.3	NC	30	< R.L.	92	70-130
Thallium	0.1	99	80-120	0.2	0.2	NC	30	< R.L.	100	70-130
Uranium	0.1	97	80-120	1.9	1.8	5.4	30	< R.L.	96	70-130
Vanadium	1	100	80-120	32	32	0	30	< R.L.	96	70-130
Zinc	3	101	80-120	89	88	1.1	30	< R.L.	106	70-130

All values expressed as µg/g unless stated otherwise

LCS = Laboratory Control Standard

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DATE SUBMITTED: 16-Sep-22  
 DATE REPORTED: 27-Sep-22  
 SAMPLE MATRIX: Soil

JOB/PROJECT NO.:  
 P.O. NUMBER: OTT-21016315-AO  
 WATERWORKS NO.:

Analyses	Qty.	Site Analyzed	Analyst Initials	Date Extracted	Date Analyzed	Date Approved	Lab Method	Method Reference
PHC(F1)	24	RH	FAL	20-Sep-22	20-Sep-22	23-Sep-22	C-VHPS-01(rh)	MOE E3421
PHC(F2-F4)	24	Kingston	KPR	22-Sep-22	22-Sep-22	23-Sep-22	C-PHC-S-001(k)	MOE E3421
VOC's	24	RH	FAL	20-Sep-22	20-Sep-22	23-Sep-22	C-VOC-02(rh)	EPA 8260

NA = Not Applicable

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PARAMETERS	R.L.	QC DATA								
		LCS Sample (% Rec.)		Duplicate				Lab Blank	Matrix Spike (% Recovery)	
		Found	Limits	Result 1	Result 2	R.P.D.	Limits (%)		Found	Limits
Benzene	0.02	89	60-130	< R.L.	< R.L.	NC	50	< R.L.	90	50-140
Ethylbenzene	0.05	99	60-130	< R.L.	< R.L.	NC	50	< R.L.	99	50-140
Toluene	0.2	92	60-130	< R.L.	< R.L.	NC	50	< R.L.	95	50-140
Xylene, m,p-	0.03	98	60-130	< R.L.	< R.L.	NC	50	< R.L.	99	50-140
Xylene, o-	0.03	96	60-130	< R.L.	< R.L.	NC	50	< R.L.	99	50-140
PHC F1 (C6-C10)	10	101	80-120	36	36	NC	50	< R.L.	117	60-140
PHC F2 (>C10-C16)	5	107	80-120	45	42	NC	50	< R.L.	75	60-140
PHC F3 (>C16-C34)	10	102	80-120	58	48	NC	50	< R.L.	73	60-140
PHC F4 (>C34-C50)	10	92	80-120	20	17	NC	50	< R.L.	85	60-140

NC = Not Calculated  
 - = Not Requested/Analyzed  
 NA = Not Applicable

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**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 ON K1V 7P1  
 Tel: 613-526 0123  
 Fax: 613-526-1244

DATE SUBMITTED: 1-Sep-22  
 DATE REPORTED: 9-Sep-22  
 SAMPLE MATRIX: Soil

JOB/PROJECT NO.:  
 P.O. NUMBER: OTT-00214936-CO  
 WATERWORKS NO.:

<b>Analyses</b>	<b>Qty.</b>	<b>Site Analyzed</b>	<b>Analyst Initials</b>	<b>Date Extracted</b>	<b>Date Analyzed</b>	<b>Date Approved</b>	<b>Lab Method</b>	<b>Method Reference</b>
Conductivity	30	Ottawa	LMG	7-Sep-22	7-Sep-22	7-Sep-22	A-COND-001(O)	SM2510B
pH	30	Ottawa	LMG	7-Sep-22	7-Sep-22	7-Sep-22	A-PH-001 (O)	SM4500H+
Chromium (VI)	30	Ottawa	LMG	8-Sep-22	8-Sep-22	8-Sep-22	D-CRVI-02 (o)	EPA7196A
Mercury	30	Ottawa	PBK	7-Sep-22	7-Sep-22	7-Sep-22	D-HG-01 (o)	EPA 7471A
Metals - ICP-OES	30	Ottawa	NHG	8-Sep-22	8-Sep-22	9-Sep-22	D-ICP-02(o)	EPA 6010
Metals - ICP-MS	30	Ottawa	TPR	7-Sep-22	8-Sep-22	8-Sep-22	D-ICPMS-01 (o)	EPA 6020
Metals - ICP-OES	30	Ottawa	NHG	8-Sep-22	8-Sep-22	8-Sep-22	D-ICP-01 (o)	SM 3120
Boron - HWS	30	Ottawa	NHG	8-Sep-22	8-Sep-22	9-Sep-22	D-HWE s	MOE3470

NA = Not Applicable

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PARAMETERS	R.L.	QC DATA								
		LCS Sample (% Rec.)		Duplicate				Lab Blank	Matrix Spike (% Recovery)	
		Found	Limits	Result 1	Result 2	R.P.D.	Limits (%)		Found	Limits
Conductivity @25°C	0.001	93	90-110	0.502	0.507	1.0	10	<R.L.	NA	-
pH	-	7.16	0.2 pHunits	7.92	7.93	0.01	0.3pHunits	NA	-	-
Antimony	0.5	96	80-120	< R.L.	< R.L.	NC	30	< R.L.	97	70-130
Arsenic	0.5	108	80-120	7.4	7.5	1.3	30	< R.L.	108	70-130
Barium	1	102	80-120	115	105	9.1	30	< R.L.	107	70-130
Beryllium	0.2	93	80-120	0.7	0.7	NC	30	< R.L.	83	70-130
Boron	0.5	110	80-120	7.5	7.6	1.3	30	< R.L.	110	70-130
Boron (HWS)	0.02	NA	70-130	0.07	0.08	NC	40	< R.L.	NA	60-140
Cadmium	0.5	85	80-120	< R.L.	< R.L.	NC	30	< R.L.	103	70-130
Chromium	1	101	80-120	21	21	0	30	< R.L.	88	70-130
Chromium (VI)	0.2	NA	80-120	< R.L.	< R.L.	NC	35	< R.L.	N/A	25-124
Cobalt	1	87	80-120	10	10	0	30	< R.L.	109	70-130
Copper	1	98	80-120	35	36	2.8	30	< R.L.	101	70-130
Lead	5	98	80-120	26	26	NC	30	< R.L.	104	70-130
Mercury	0.005	94	80-120	0.084	0.092	9.1	30	< R.L.	94	70-130
Molybdenum	1	109	80-120	3	3	NC	30	< R.L.	103	70-130
Nickel	1	100	80-120	47	47	0	30	< R.L.	110	70-130
Selenium	0.5	88	80-120	1.2	1.2	NC	30	< R.L.	115	70-130
Silver	0.2	105	80-120	< R.L.	< R.L.	NC	30	< R.L.	92	70-130
Thallium	0.1	113	80-120	0.4	0.4	NC	30	< R.L.	105	70-130
Uranium	0.1	103	80-120	2.2	2.3	4.4	30	< R.L.	103	70-130
Vanadium	1	101	80-120	26	26	0	30	< R.L.	96	70-130
Zinc	3	97	80-120	108	108	0	30	< R.L.	101	70-130

All values expressed as µg/g unless stated otherwise

LCS = Laboratory Control Standard

R.P.D. = Relative Percent Difference of Duplicate Pairs at > 10 x's M.D.L.

R.L. = Reporting Limit

NC = Not Calculated

- = Not Requested/Analyzed

NA = Not Applicable

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**Report To:**  
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 2650 Queensview Drive, Suite 100  
 Ottawa ON K2B 8H6 Canada

**Attention:** Mark McCalla

**Caduceon Environmental Laboratories**  
 2378 Holly Lane  
 Ottawa ON K1V 7P1  
 Tel: 613 526 0123  
 Fax: 613 526 1244

DATE SUBMITTED: 1-Sep-22  
 DATE REPORTED: 9-Sep-22  
 SAMPLE MATRIX: Soil

JOB/PROJECT NO.:  
 P.O. NUMBER: OTT-00214936-CO  
 WATERWORKS NO.:

Analyses	Qty.	Site Analyzed	Analyst Initials	Date Extracted	Date Analyzed	Date Approved	Lab Method	Method Reference
PHC(F1)	30	RH	FAL	2-Sep-22	2-Sep-22	9-Sep-22	C-VHPS-01(rh)	MOE E3421
PHC(F2-F4)	30	Kingston	KPR	2-Sep-22	2-Sep-22	6-Sep-22	C-PHC-S-001(k)	MOE E3421
VOC's	30	RH	FAL	2-Sep-22	2-Sep-22	7-Sep-22	C-VOC-02(rh)	EPA 8260

NA = Not Applicable

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PARAMETERS	R.L.	QC DATA								
		LCS Sample (% Rec.)		Duplicate				Lab Blank	Matrix Spike (% Recovery)	
		Found	Limits	Result 1	Result 2	R.P.D.	Limits (%)		Found	Limits
Benzene	0.02	96	60-130	< R.L.	< R.L.	NC	50	< R.L.	90	50-140
Ethylbenzene	0.05	111	60-130	< R.L.	< R.L.	NC	50	< R.L.	99	50-140
Toluene	0.2	105	60-130	< R.L.	< R.L.	NC	50	< R.L.	95	50-140
Xylene, m,p-	0.03	111	60-130	< R.L.	< R.L.	NC	50	< R.L.	99	50-140
Xylene, o-	0.03	108	60-130	< R.L.	< R.L.	NC	50	< R.L.	99	50-140
PHC F1 (C6-C10)	10	95	80-120	< R.L.	< R.L.	NC	50	< R.L.	107	60-140
PHC F2 (>C10-C16)	5	99	80-120	8	10	NC	50	< R.L.	75	60-140
PHC F3 (>C16-C34)	10	97	80-120	94	105	NC	50	< R.L.	63	60-140
PHC F4 (>C34-C50)	10	82	80-120	30	24	NC	50	< R.L.	83	60-140

NC = Not Calculated  
 - = Not Requested/Analyzed  
 NA = Not Applicable

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EXP Services Inc.  
2705460 Ontario Inc.  
Phase Two Environmental Site Assessment  
112 Montreal Road, Ottawa, Ontario  
OTT-00214936-C0  
April 13, 2023

## Appendix G: Hydraulic Conductivity Testing





Data Set: C:\Users\AhmedD\OneDrive - EXP\Desktop\122 Montreal Rd Ottawa\AQtestAnalysis.aqt  
 Date: 04/11/23  
 Time: 10:01:45

PROJECT INFORMATION

Company: exp  
 Project: OTT-00214936  
 Location: 122 Montreal Road, Vanier, Ott  
 Test Date: March 03, 2023  
 Test Well: MW23-2

AQUIFER DATA

Saturated Thickness: 2.26 m  
 Anisotropy Ratio (Kz/Kr): 0.1

SLUG TEST WELL DATA

Test Well: MW23-2

X Location: 0. m  
 Y Location: 0. m

Initial Displacement: 2.11 m  
 Static Water Column Height: 2.26 m  
 Casing Radius: 0.05 m  
 Well Radius: 0.055 m  
 Well Skin Radius: 0.1 m  
 Screen Length: 3. m  
 Total Well Penetration Depth: 4.75 m

No. of Observations: 24

Time (min)	Observation Data		Displacement (m)
	Displacement (m)	Time (min)	
0.	2.11	4.75	1.83
0.25	2.06	5.75	1.79
0.5	2.04	6.75	1.74
0.75	2.02	8.75	1.65
1.	2.	10.75	1.58
1.25	1.99	12.75	1.51
1.5	1.98	17.75	1.34
1.75	1.96	22.75	1.2
2.25	1.94	27.75	1.06
2.75	1.92	37.75	0.83
3.25	1.9	47.75	0.65
3.75	1.88	57.75	0.49

SOLUTION

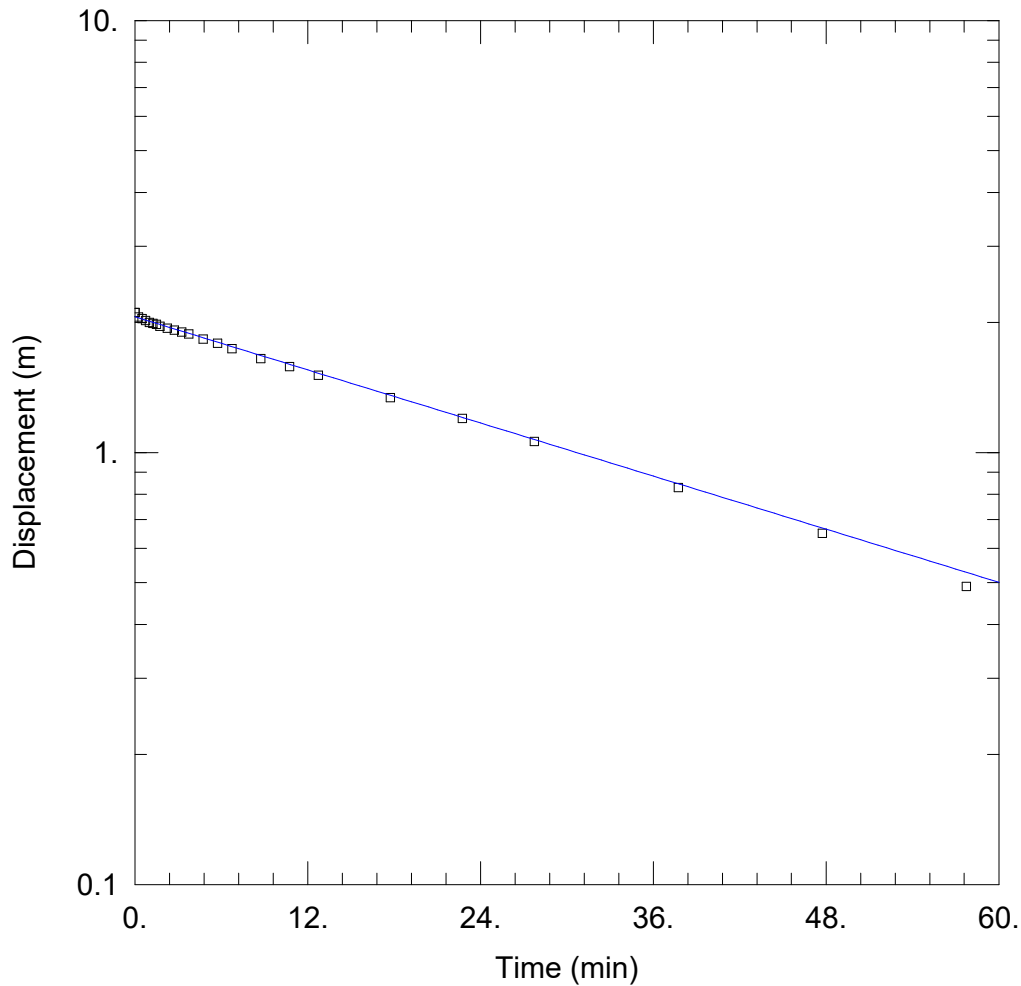
Slug Test  
 Aquifer Model: Unconfined  
 Solution Method: Bouwer-Rice  
 ln(Re/rw): 3.295

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	5.691E-7	m/sec
y0	2.062	m

K = 5.691E-5 cm/sec  
 T = K\*b = 1.286E-6 m<sup>2</sup>/sec (0.01286 sq. cm/sec)



WELL TEST ANALYSIS

Data Set: C:\...\AQtestAnalysisMW23-2.aqt  
 Date: 04/11/23

Time: 10:36:11

PROJECT INFORMATION

Company: exp  
 Project: OTT-00214936  
 Location: 122 Montreal Road, Vanier, Ott  
 Test Well: MW23-2  
 Test Date: March 03, 2023

AQUIFER DATA

Saturated Thickness: 2.26 m                      Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (MW23-2)

Initial Displacement: 2.11 m                      Static Water Column Height: 2.26 m  
 Total Well Penetration Depth: 4.75 m                      Screen Length: 3. m  
 Casing Radius: 0.05 m                      Well Radius: 0.055 m

SOLUTION

Aquifer Model: Unconfined                      Solution Method: Bouwer-Rice  
 K = 7.164E-7 m/sec                      y0 = 2.062 m

Data Set: C:\Users\AhmedD\OneDrive - EXP\Desktop\122 Montreal Rd Ottawa\AQtestAnalysisMW23-4.aqt  
 Date: 04/11/23  
 Time: 10:11:31

PROJECT INFORMATION

Company: exp  
 Project: OTT-00214936  
 Location: 122 Montreal Road, Vanier, Ott  
 Test Date: March 03, 2023  
 Test Well: MW23-2

AQUIFER DATA

Saturated Thickness: 2.5 m  
 Anisotropy Ratio (Kz/Kr): 0.1

SLUG TEST WELL DATA

Test Well: MW23-4

X Location: 0. m  
 Y Location: 0. m

Initial Displacement: 2.05 m  
 Static Water Column Height: 2.5 m  
 Casing Radius: 0.05 m  
 Well Radius: 0.055 m  
 Well Skin Radius: 0.1 m  
 Screen Length: 3. m  
 Total Well Penetration Depth: 4.5 m

No. of Observations: 15

Time (min)	Observation Data		Displacement (m)
	Displacement (m)	Time (min)	
0.	2.05	7.5	1.42
0.5	2.	9.5	1.26
1.	1.96	11.5	1.11
1.5	1.92	13.5	0.96
2.5	1.83	18.5	0.6
3.5	1.74	23.5	0.25
4.5	1.66	28.5	0.08
5.5	1.58		

SOLUTION

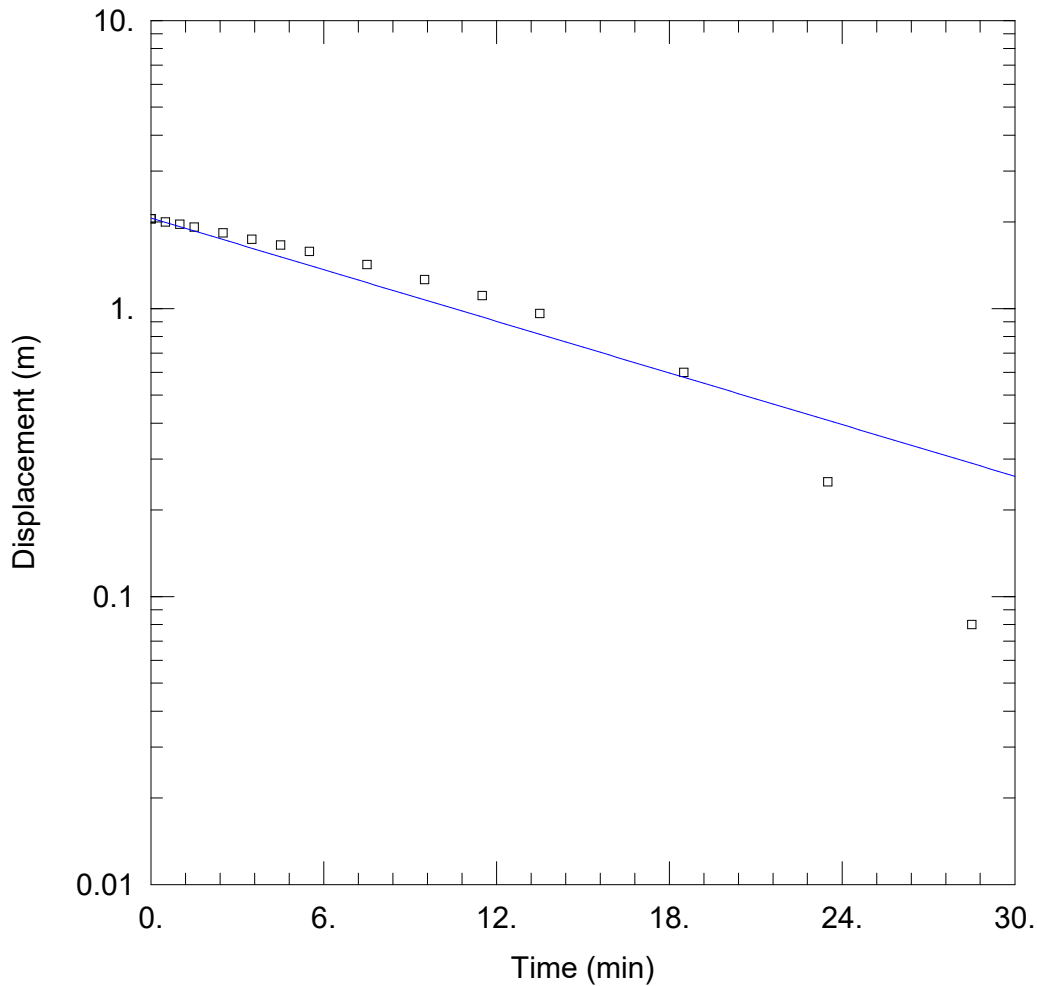
Slug Test  
 Aquifer Model: Unconfined  
 Solution Method: Bouwer-Rice  
 ln(Re/rw): 3.286

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	5.691E-7	m/sec
y0	2.062	m

K = 5.691E-5 cm/sec  
 T = K\*b = 1.423E-6 m<sup>2</sup>/sec (0.01423 sq. cm/sec)



WELL TEST ANALYSIS

Data Set: C:\...\AQtestAnalysisMW23-4.aqt  
 Date: 04/11/23

Time: 10:37:21

PROJECT INFORMATION

Company: exp  
 Project: OTT-00214936  
 Location: 122 Montreal Road, Vanier, Ott  
 Test Well: MW23-2  
 Test Date: March 03, 2023

AQUIFER DATA

Saturated Thickness: 2.5 m                      Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (MW23-4)

Initial Displacement: 2.05 m                      Static Water Column Height: 2.5 m  
 Total Well Penetration Depth: 4.5 m                      Screen Length: 3. m  
 Casing Radius: 0.05 m                      Well Radius: 0.055 m

SOLUTION

Aquifer Model: Unconfined                      Solution Method: Bouwer-Rice  
 K = 1.884E-6 m/sec                      y0 = 2.062 m

Data Set: C:\Users\AhmedD\OneDrive - EXP\Desktop\122 Montreal Rd Ottawa\AQtestAnalysisMW23-5.aqt  
 Date: 04/11/23  
 Time: 10:29:36

PROJECT INFORMATION

Company: exp  
 Project: OTT-00214936  
 Location: 122 Montreal Road, Vanier, Ott  
 Test Date: March 03, 2023  
 Test Well: MW23-2

AQUIFER DATA

Saturated Thickness: 3.04 m  
 Anisotropy Ratio (Kz/Kr): 0.1

SLUG TEST WELL DATA

Test Well: MW23-5

X Location: 0. m  
 Y Location: 0. m

Initial Displacement: 3.03 m  
 Static Water Column Height: 3.04 m  
 Casing Radius: 0.05 m  
 Well Radius: 0.055 m  
 Well Skin Radius: 0.1 m  
 Screen Length: 3. m  
 Total Well Penetration Depth: 6.75 m

No. of Observations: 17

Time (min)	Observation Data		Displacement (m)
	Displacement (m)	Time (min)	
0.	3.03	6.5	2.39
0.5	2.84	8.5	2.33
1.	2.65	10.5	2.29
1.5	2.59	12.5	2.24
2.	2.55	14.5	2.19
2.5	2.52	19.5	2.09
3.5	2.48	24.5	1.99
4.5	2.44	68.5	1.26
5.5	2.41		

SOLUTION

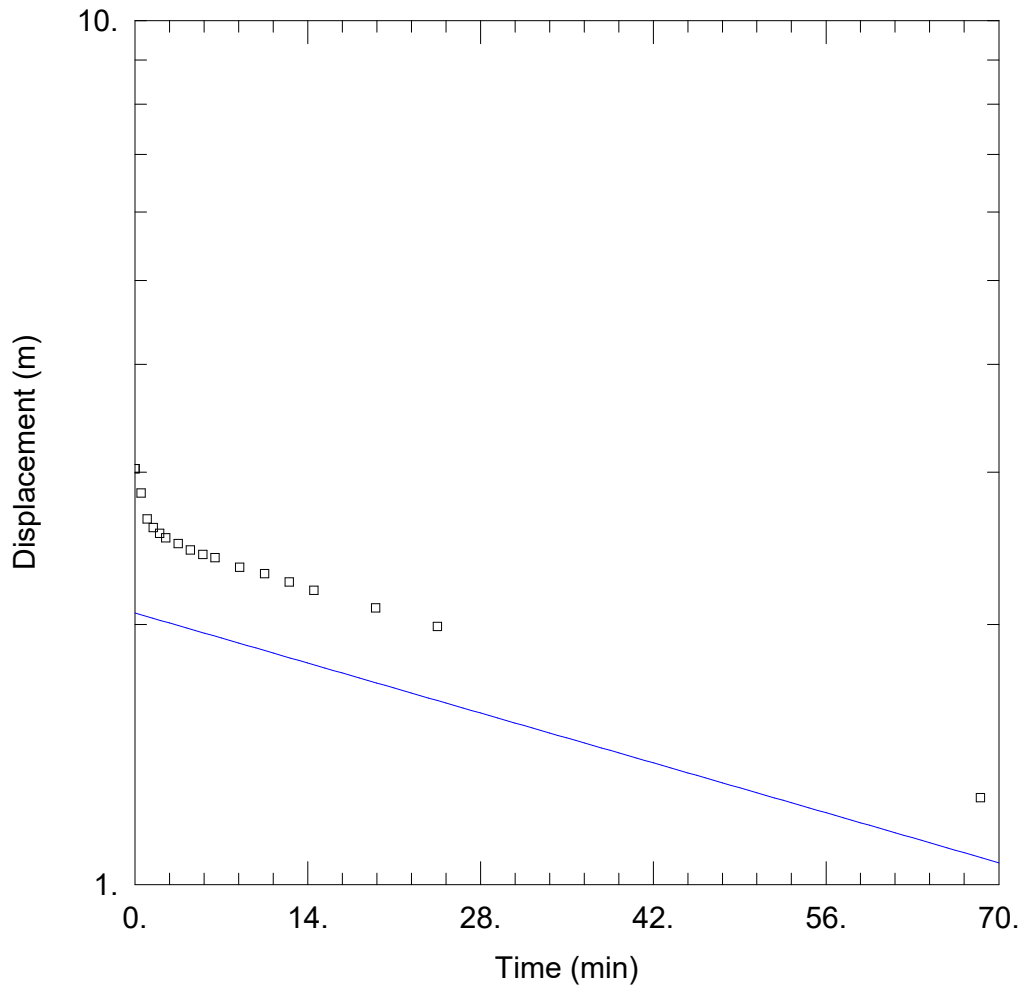
Slug Test  
 Aquifer Model: Unconfined  
 Solution Method: Bouwer-Rice  
 ln(Re/rw): 4.524

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	5.691E-7	m/sec
y0	2.062	m

K = 5.691E-5 cm/sec  
 T = K\*b = 1.73E-6 m<sup>2</sup>/sec (0.0173 sq. cm/sec)



WELL TEST ANALYSIS

Data Set: C:\...\AQtestAnalysisMW23-5.aqt  
 Date: 04/11/23

Time: 10:40:05

PROJECT INFORMATION

Company: exp  
 Project: OTT-00214936  
 Location: 122 Montreal Road, Vanier, Ott  
 Test Well: MW23-2  
 Test Date: March 03, 2023

AQUIFER DATA

Saturated Thickness: 3.04 m

Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (MW23-5)

Initial Displacement: 3.03 m  
 Total Well Penetration Depth: 6.75 m  
 Casing Radius: 0.05 m

Static Water Column Height: 3.04 m  
 Screen Length: 3. m  
 Well Radius: 0.055 m

SOLUTION

Aquifer Model: Unconfined  
 K = 2.987E-7 m/sec

Solution Method: Bouwer-Rice  
 y0 = 2.062 m