



## Phase Two Environmental Site Assessment 770 and 774 Bronson Avenue and 557 Cambridge Street, Ottawa, Ontario

**Client:**

*Katasa Groupe*

**Type of Document:**

Final

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OTT-22019409-A0

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**Date Submitted:**

2022-10-06

*Katasa Groupe*  
*Phase Two Environmental Site Assessment*  
*770 and 774 Bronson Avenue and 557 Cambridge Street, Ottawa, Ontario*  
*OTT-22019409-A0*  
*October 6, 2022*

## Legal Notification

This report was prepared by EXP Services Inc. for the account of **Katasa Groupe**.

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 Katasa Group to conduct a Phase Two Environmental Site Assessment (ESA) of the property located at 770 and 774 Bronson Avenue and 557 Cambridge Street in Ottawa, Ontario (hereinafter referred to as the 'Phase Two property'). At the time of the investigation, the Phase Two property was occupied by a vacant former gas station and parking lot.

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

The Phase Two property has the municipal addresses of 770 Bronson Avenue, 774 Bronson Avenue, and 557 Cambridge Street in Ottawa, Ontario. The Phase Two property is irregular in shape and has a total area of approximately 0.45 hectares.

The property at 770 Bronson Avenue is occupied by a vacant gas station. It is legally described as Part Lots 1 and 2, Registered Plan 28, City of Ottawa. The property identification number (PIN) is 04103-0205. The property at 774 Bronson Avenue is vacant and currently used as a parking lot. It is legally described as Lots 3 and 4, Registered Plan 28, City of Ottawa. The PIN is 04103-0125. The property at 557 Cambridge Street is vacant and currently used as a parking lot. It is legally described as Lot 37 and Part Lot 38, Registered Plan 28, Part 4 Registered Plan 5R14360, City of Ottawa. The PIN is 04103-0215.

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

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

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.

Based on the Phase Two ESA investigation, the Phase Two property is a shallow soil property as defined in Section 43.1 of the regulation. There are no waterbodies on the Phase Two property, and the Phase Two is not located within 30 m of a waterbody.

Beneath any fill, the surficial geology of the subject site is characterised by Champlain Sea deposits of plain till. The bedrock geology underlying the site consists of limestone with some shaley partings of the Ottawa Formation. The depth to rock in the area is typically 5 m below surface grade or less. Based on previous investigation, bedrock was identified between 0.8 and 3.1 metres below ground surface the Phase Two property. Topographically, the Phase Two study area slopes towards the southwest.

The groundwater flow direction is anticipated to be to the southeast towards Dow's Lake on the south part of the Phase Two property and towards the north on the north part of the Phase Two property.

The Phase Two property, and surrounding area are serviced by municipal water, storm and sanitary sewers, natural gas, hydro and telecommunication. There were no utilities present on the south part of the Phase Two property.

Since the water table is within the bedrock, the presence of utilities is not expected to affect possible migration of contaminants once buildings are constructed on the Phase Two property.

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

- **PCA 2** – 770 Bronson Avenue (Phase Two property) – Former gas station with three USTs, former garage (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks, PCA 10 – Commercial Autobody Shops);
- **PCA 7** – 774 Bronson Avenue (Phase Two property) – Former heating oil AST in the north residential building (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 8** – 774 Bronson Avenue (Phase Two property) – Former heating oil AST in the south residential building (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 9** – 774 Bronson Avenue (Phase Two property) – Former heating oil AST in the commercial building (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 10** – 770 Bronson Avenue (Phase Two property) – Former heating oil AST in the west side of the garage building (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 11** – 557 Cambridge Street (Phase Two property) – Former heating oil AST in the north office building (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 12** – 557 Cambridge Street (Phase Two property) – Former heating oil AST in the middle office building (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 13** – 557 Cambridge Street (Phase Two property) – Former heating oil AST in the south office building (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 15** – 770 Bronson Avenue (Phase Two property) – Former motor oil AST along the west interior wall of the garage building (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 16** – 770 Bronson Avenue (Phase Two property) – Former waste oil AST along the south exterior wall of the garage building (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 17** – Entire Phase Two property – Impacted fill material identified in previous investigations (PCA #30 – Importation of Fill Material of Unknown Quantity);
- **PCA 18** – 557 Cambridge Avenue (Phase Two property) – Western part of the site was historically used for wood treating (PCA #59 – Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products).
- **PCA 20** – 557 Cambridge Street (Phase Two property) – Former contractor’s yard (PCA #Other – Registered waste generator).

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

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

- **PCA 1** – Between Cambridge Street and Dows Lake (150 m southwest) – Rail spur lines at the Fraserfield Lumber Yard in 1912 and 1922 (PCA #46 – Rail Yards, Tracks and Spurs; PCA #59 – Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products);
- **PCA 3** – 735 Carling Avenue (225 m west) – Former gas station with three USTs (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 4** – 400 Bell Street (125 m west) – Former garage with UST (PCA 10 – Commercial Autobody Shops, PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);

- **PCA 5** – 277 Carling Avenue (40 m northeast) – Hydro sub station (PCA #55 – Transformer Manufacturing, Processing and Use);
- **PCA 6** – 786-788 Bronson Street (20 m south) – Former dry cleaner (PCA #37 – Operation of Dry Cleaning Equipment (where chemicals are used));
- **PCA 14** – 784 Bronson Avenue (15 m south) – Former commercial printing operation (PCA #Other – Commercial printing operation).
- **PCA 19** – 748 Bronson Avenue (now 265 Carling Avenue) (60 m north) – Former gas station (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks).

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

The former dry-cleaning operation and commercial printing operation were located approximately 20 m and 40 m south of the Phase Two property respectively. Previous investigations at the Phase Two property have identified the groundwater flow on the south part of the Phase Two property to be to the southwest. Therefore, these operations were located cross-gradient of the Phase Two property and was determined not to result in APECs.

The former gas station at 265 Carling Avenue and the hydro substation at 277 Carling Avenue are located approximately 60 m north and 40 m northeast respectively. Previous investigations at the Phase Two property have identified the groundwater flow on the north part of the Phase Two property to be to the north. Therefore, these operations were located cross/down-gradient of the Phase Two property and was determined not to result in APECs.

Therefore, none of the off-site APEC were determined to result in APECs.

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. Former gas station at 770 Bronson Avenue</b>       | Northeast part of the Phase One property | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC                    | Soil and groundwater   |
| <b>2. Former automotive garage at 770 Bronson Avenue</b> | Garage building footprint                | PCA #10 – Commercial autobody shop                                | On-Site                               | BTEX, PHC, VOC                    | Soil and groundwater   |
| <b>3. Former heating oil AST at 770 Bronson Avenue</b>   | Along south exterior building wall       | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC, PAH               | Soil and groundwater   |
| <b>4. Former waste oil AST at 770 Bronson Avenue</b>     | Along south exterior building wall       | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC, PAH, metals       | Soil and groundwater   |

| 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>5. Former motor oil AST at 770 Bronson Avenue</b>  | Along west interior building wall                                   | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC                    | Soil and groundwater   |
| <b>6. Former heating oil AST in the north residential building at 774 Bronson Avenue</b>    | Former building footprint at northeast corner of Phase One property | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC, PAH               | Soil and groundwater   |
| <b>7. Former heating oil AST in the south residential building at 774 Bronson Avenue</b>    | Former building footprint on east side of Phase One property        | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC, PAH               | Soil and groundwater   |
| <b>8. Former heating oil AST in the commercial building at 774 Bronson Avenue</b>           | Former building footprint at southeast corner of Phase One property | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC, PAH               | Soil and groundwater   |
| <b>9. Former heating oil AST in the south commercial building at 557 Cambridge Street</b>   | Former building footprint at southwest corner of Phase One property | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC, PAH               | Soil and groundwater   |
| <b>10. Former heating oil AST in the centre commercial building at 557 Cambridge Street</b> | Former building footprint on the west side of Phase One property    | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC, PAH               | Soil and groundwater   |
| <b>11. Former heating oil AST in the north commercial building at 557 Cambridge Street</b>  | Former building footprint at northwest corner of Phase One property | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC, PAH               | Soil and groundwater   |
| <b>12. Poor quality fill at 557 Cambridge Street and 774 Bronson Avenue</b>                 | Entire Phase One property   | PCA #30 – Importation of Fill Material of Unknown Quality         | On-site                               | BTEX, PHC, PAH, 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>13. Former contractors' yard at 557 Cambridge Street</b>      | West part of the Phase One property    | PCA #Other – Registered waste generator   | On-site                               | BTEX, PHC                         | Soil and groundwater   |
| <b>14. Former treated lumber storage at 557 Cambridge Street</b> | West part of the Phase One property    | PCA #59 – Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products | On-site                               | PAH                               | Soil   |

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

Soil and groundwater samples were submitted for analysis of volatile organic compounds (VOC), petroleum hydrocarbons (PHC), and polycyclic aromatic hydrocarbons (PAH). Soil and groundwater samples were compared to the Table 3 site condition standards (SCS) for non-potable groundwater and residential land use.

One of the soil samples exceeded Table 3 SCS for PHC F3. The remainder of the soil samples and all of the groundwater samples were within the Table 3 SCS. Approximately 150 m<sup>3</sup> of PHC impacted soil was identified in the northeast corner of the site. No impact was identified below 1.5 m bgs, and no groundwater contamination was identified. It was recommended that the impacted soil be excavated and sent to a landfill.

In 2016, six boreholes were advanced at 557 Cambridge Street and 774 Bronson Avenue, four of which were completed as monitoring wells. All of the wells were installed as nested wells. Surficial geology generally consisted of 1 to 2 metres of fill material overlying limestone bedrock. Bedrock was encountered in all boreholes between 0.8 and 2.2 m bgs. Two hydrogeologic units were identified at the site, the shallow overburden/weather bedrock aquifer, and the deeper bedrock aquifer. Groundwater flow direction was determined to be to the southwest in both the shallow and deep aquifer.

Soil and groundwater were submitted for analysis of VOC, PHC, PAH, and/or metals. Soil and groundwater results were compared to the Table 7 SCS for shallow bedrock and non-potable groundwater and residential land use.

Four of the soil samples exceeded the Table 7 SCS for metals (lead, nickel, and mercury), cyanide, and/or select PAH. One of the groundwater samples slightly exceeded the Table 7 SCS for benzene. However, this location was subsequently re-sampled twice, and benzene was below the detection limits in both samples. Chloroform exceedances were detected in all five of the monitoring wells installed in the bedrock.

To facilitate bedrock drilling municipal water was likely used to cool the drill bits. Chloroform is generated at municipal water treatment plants when chlorine is used to kill bacteria in the water. It is likely that the source of the chloroform was the municipal water used for drilling.

On August 11, 2022, EXP conducted an additional round of groundwater sampling of the monitoring wells at 770 Bronson Avenue. None of the monitoring wells installed at 774 Bronson Avenue or 557 Cambridge Street were still present. Four groundwater samples, plus a field duplicate, were submitted for analysis of PHC, VOC, and PAH. BH15-4 could not be sampled due to insufficient sample volume. All of the samples were within the Tables 7 SCS for all parameters analysed.

During the Golder March 2015 investigation, eight soil samples were submitted for analysis of PHC, VOC and PAH. All of the samples met the Table 7 SCS for all parameters analysed, with the exception of one sample from BH15-4 which exceeded the SCS for PHC F3. The sample which exceeded the Table 7 SCS was taken from 0.3 to 0.8 m bgs. A sample taken from the same borehole, but deeper (1.5 to 2.1 m bgs) met the Table 7 SCS. It was inferred that the source of the exceedance was likely a surface spill.

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

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

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

An additional round of groundwater sampling was conducted at these wells in August 2022 by EXP. Four groundwater samples (BH15-1, BH15-2, BH15-3, and BH15-5) and a duplicate were submitted for analysis of PHC, VOC and PAH. All of the samples were within the Tables 7 SCS for all parameters analysed.

In January, February and March 2016, groundwater sampling was conducted by WSP at 557 Cambridge Street and 774 Bronson Avenue. Groundwater sampling was conducted over multiple days due to limited sampled volume. Groundwater samples were submitted for analysis of BTEX, PHC, VOC, PAH, and/or metals. Additional samples were submitted for analysis of VOC to address chloroform exceedances present in the first round of groundwater sampling.

Benzene was detected in the initial groundwater sample from BH15-3A. As the exceedance was very close to the Table 7 SCS criteria for benzene (0.83 ug/L vs 0.5 ug/L), and additional two rounds of samples were conducted at this location. Neither of the subsequent groundwater samples from BH15-3A had

All of the chloroform exceedances were detected in monitoring wells installed in the bedrock. To facilitate drilling in the bedrock, municipal water was used to cool the drill bits. Chloroform is generated at municipal water treatment plants when chlorine is used to kill bacteria in the water. In accordance with Regulation 153/04 it is the opinion of the Qualified Person that the source of chloroform in these monitoring wells. In addition, subsequent groundwater sampling events at all of the wells with chloroform exceedances were within the Table 7 SCS.

Therefore, in accordance with Section 49.1 of Regulation 153/04, chloroform is not considered to exceed the SCS. Analytical results are included in Tables 4 to 6 in Appendix E and are shown in plan view on Figures 13 to 15 and on cross-sections on Figures 16 to 18 in Appendix A.

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

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

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

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



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## 1.0 Introduction

EXP Services Inc. (EXP) was retained by Katasa Group to conduct a Phase Two Environmental Site Assessment (ESA) of the property located at 770 and 774 Bronson Avenue and 557 Cambridge Street in Ottawa, Ontario (hereinafter referred to as the 'Phase Two property'). At the time of the investigation, the Phase Two property was occupied by a vacant former gas station and parking lot.

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

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

### 1.1 Site Description

The Phase Two property has the municipal addresses of 770 Bronson Avenue, 774 Bronson Avenue, and 557 Cambridge Street in Ottawa, Ontario. The Phase Two property is irregular in shape and has a total area of approximately 0.45 hectares. A Site Location Plan is provided as Figure 1 in Appendix A.

The property at 770 Bronson Avenue is occupied by a vacant gas station. It is legally described as Part Lots 1 and 2, Registered Plan 28, City of Ottawa. The property identification number (PIN) is 04103-0205.

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

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

**Table 1.1: Site Identification Details**

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

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

## 1.2 Property Ownership

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

## 1.3 Current and Proposed Future Use

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

## 1.4 Applicable Site Condition Standards

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

Table 1 to 9 SCS are summarized as follows:

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

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

For assessment purposes, EXP selected the 2011 Table 7 SCS in a non-potable groundwater condition for residential/parkland/institutional property use.

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

*Katasa Groupe  
Phase Two Environmental Site Assessment  
770 and 774 Bronson Avenue and 557 Cambridge Street, Ottawa, Ontario  
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- Bedrock is less than 2 metres below grade across the subject property;
- The Phase Two property is not located within 30 m 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;
- Potable water for the Phase Two property is provided by the City of Ottawa through its water distribution system;
- The Phase Two property is not located in an area designated in a municipal official plan as a well-head protection area;
- The proposed building is planned for residential and commercial use; and
- It is the opinion of the Qualified Person who oversaw this work that the Phase Two property is not a sensitive site.



## 2.0 Background Information

### 2.1 Physical Setting

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

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

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.

Based on the Phase Two ESA investigation, the Phase Two property is a shallow soil property as defined in Section 43.1 of the regulation. There are no waterbodies on the Phase Two property, and the Phase Two is not located within 30 m of a waterbody.

Beneath any fill, the surficial geology of the subject site is characterised by Champlain Sea deposits of plain till. The bedrock geology underlying the site consists of limestone with some shaley partings of the Ottawa Formation. The depth to rock in the area is typically 5 m below surface grade or less. Based on previous investigation, bedrock was identified between 0.8 and 3.1 metres below ground surface the Phase Two property. Topographically, the Phase Two study area slopes towards the southwest.

The groundwater flow direction is anticipated to be to the southeast towards Dow's Lake on the south part of the Phase Two property and towards the north on the north part of the Phase Two property.

### 2.2 Past Investigations

EXP prepared a report entitled *Phase One Environmental Site Assessment, 770 and 774 Bronson Avenue and 557 Cambridge Street, Ottawa, Ontario*, dated September 22, 2022. Based on the results of the Phase One ESA, EXP identified fourteen areas of potential environmental concern (APEC) within the Phase One study area. 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. Former gas station at 770 Bronson Avenue</b>  | Northeast part of the Phase One property                            | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC                    | Soil and groundwater   |
| <b>2. Former automotive garage at 770 Bronson Avenue</b>                                  | Garage building footprint   | PCA #10 – Commercial autobody shop                                | On-Site                               | BTEX, PHC, VOC                    | Soil and groundwater   |
| <b>3. Former heating oil AST at 770 Bronson Avenue</b>                                    | Along south exterior building wall                                  | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC, PAH               | Soil and groundwater   |
| <b>4. Former waste oil AST at 770 Bronson Avenue</b>                                      | Along south exterior building wall                                  | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC, PAH, metals       | Soil and groundwater   |
| <b>5. Former motor oil AST at 770 Bronson Avenue</b>                                      | Along west interior building wall                                   | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC                    | Soil and groundwater   |
| <b>6. Former heating oil AST in the north residential building at 774 Bronson Avenue</b>  | Former building footprint at northeast corner of Phase One property | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC, PAH               | Soil and groundwater   |
| <b>7. Former heating oil AST in the south residential building at 774 Bronson Avenue</b>  | Former building footprint on east side of Phase One property        | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC, PAH               | Soil and groundwater   |
| <b>8. Former heating oil AST in the commercial building at 774 Bronson Avenue</b>         | Former building footprint at southeast corner of Phase One property | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC, PAH               | Soil and groundwater   |
| <b>9. Former heating oil AST in the south commercial building at 557 Cambridge Street</b> | Former building footprint at southwest corner of Phase One property | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC, PAH               | Soil and groundwater   |

| Area of Potential Environmental Concern (APEC)  | Location of APEC on Phase One Property                              | Potentially Contaminating Activity (PCA)  | Location of PCA (On-Site or Off-Site) | Contaminants of Potential Concern | Media Potentially Impacted (Groundwater, Soil and/or Sediment) |
|---|---|---|---------------------------------------|-----------------------------------|--|
| <b>10. Former heating oil AST in the centre commercial building at 557 Cambridge Street</b> | Former building footprint on the west side of Phase One property    | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks   | On-site                               | BTEX, PHC, VOC, PAH               | Soil and groundwater   |
| <b>11. Former heating oil AST in the north commercial building at 557 Cambridge Street</b>  | Former building footprint at northwest corner of Phase One property | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks   | On-site                               | BTEX, PHC, VOC, PAH               | Soil and groundwater   |
| <b>12. Poor quality fill at 557 Cambridge Street and 774 Bronson Avenue</b>                 | Entire Phase One property   | PCA #30 – Importation of Fill Material of Unknown Quality   | On-site                               | BTEX, PHC, PAH, metals            | Soil   |
| <b>13. Former contractors' yard at 557 Cambridge Street</b>                                 | West part of the Phase One property                                 | PCA #Other – Registered waste generator   | On-site                               | BTEX, PHC                         | Soil and groundwater   |
| <b>14. Former treated lumber storage at 557 Cambridge Street</b>                            | West part of the Phase One property                                 | PCA #59 – Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products | On-site                               | PAH                               | Soil   |

The locations of the APEC are shown on Figures 2 and 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 2015, five boreholes were advanced at 770 Bronson Avenue, all of which were completed as monitoring wells. All of the wells were installed in the bedrock, which was present between 2.4 and 3.1 metres below ground surface (m bgs). Surficial soil generally consisted of sand and gravel fill material. No native soil was identified on the site. Groundwater was not present in the overburden. The groundwater flow direction was observed to be to the north towards Carling Avenue. It was inferred that utilities along Carling Avenue were influencing the direction of local groundwater flow.

Eight soil samples and four groundwater samples were submitted for analysis of volatile organic compounds (VOC), petroleum hydrocarbons (PHC), and polycyclic aromatic hydrocarbons (PAH). Soil and groundwater samples were compared to the Table 3 site condition standards (SCS) for non-potable groundwater and residential land use.

One of the soil samples exceeded Table 3 SCS for PHC F3. The remainder of the soil samples and all of the groundwater samples were within the Table 3 SCS. Approximately 150 m<sup>3</sup> of PHC impacted soil was identified in the northeast corner of the site. No impact was identified below 1.5 m bgs, and no groundwater contamination was identified. It was recommended that the impacted soil be excavated and sent to a landfill.

In 2016, six boreholes were advanced at 557 Cambridge Street and 774 Bronson Avenue, four of which were completed as monitoring wells. All of the wells were installed as nested wells. Surficial geology generally consisted of 1 to 2 metres of fill material overlying limestone bedrock. Bedrock was encountered in all boreholes between 0.8 and 2.2 m bgs. Two hydrogeologic units were identified at the site, the shallow overburden/weather bedrock aquifer, and the deeper bedrock aquifer. Groundwater flow direction was determined to be to the southwest in both the shallow and deep aquifer.

Six soil samples and eight groundwater samples were submitted for analysis of VOC, PHC, PAH, and/or metals. Soil and groundwater results were compared to the Table 7 SCS for shallow bedrock and non-potable groundwater and residential land use.

Four of the soil samples exceeded the Table 7 SCS for metals (lead, nickel, and mercury), cyanide, and/or select PAH. One of the groundwater samples slightly exceeded the Table 7 SCS for benzene. However, this location was subsequently re-sampled twice, and benzene was below the detection limits in both samples. Chloroform exceedances were detected in all five of the monitoring wells installed in the bedrock.

To facilitate bedrock drilling municipal water was likely used to cool the drill bits. Chloroform is generated at municipal water treatment plants when chlorine is used to kill bacteria in the water. Its is likely that the source of the chloroform was the municipal water used for drilling.

## 3.0 Scope of the Investigation

### 3.1 Overview of Site Investigation

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

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

Previous investigations consisted of drilling programs to evaluate soil and groundwater conditions at the subject property. EXP's investigation consisted of groundwater sampling of the existing wells at 770 Bronson Avenue. No monitoring wells were present at the 557 Cambridge Street and 774 Bronson Avenue parts of the Phase Two property.

### 3.2 Scope of Work

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

- Review previous Reports for Phase II ESA investigations conducted at the Phase Two property;
- Sample the five existing monitoring wells at 770 Bronson Avenue;
- Submit groundwater samples for laboratory analysis of benzene, toluene, ethylbenzene, xylenes (BTEX), petroleum hydrocarbon (PHC) fractions F1 to F4, volatile organic compounds (VOC), and polycyclic aromatic hydrocarbons (PAH);
- 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);
- 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 Figures 2 and 3 in Appendix A.

### 3.4.1 Buildings and Structures

The Phase Two property is occupied by a single-storey, slab on grade building that formerly operated as a gas station, then a garage. The building was vacant at the time of the investigation. No other buildings were present on the Phase Two property.

### 3.4.2 Water Bodies and Groundwater Flow Direction

There are no water bodies on the subject site. The closest water body is Dow's Lake, located approximately 370 m southwest of the Phase Two property.

Topographically, the Phase Two property is relatively flat. The surrounding area slopes down towards Dow's Lake. The groundwater flow at the Phase Two property is anticipated to be southwest due to the proximity to Dow's Lake.

### 3.4.3 Areas of Natural Significance

There are no ANSI within the Phase Two study area.

### 3.4.4 Water Wells

There are no potable water wells within the Phase Two study area.

### 3.4.5 Potentially Contaminating Activity

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

- **PCA 2** – 770 Bronson Avenue (Phase Two property) – Former gas station with three USTs, former garage (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks, PCA 10 – Commercial Autobody Shops);
- **PCA 7** – 774 Bronson Avenue (Phase Two property) – Former heating oil AST in the north residential building (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 8** – 774 Bronson Avenue (Phase Two property) – Former heating oil AST in the south residential building (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 9** – 774 Bronson Avenue (Phase Two property) – Former heating oil AST in the commercial building (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 10** – 770 Bronson Avenue (Phase Two property) – Former heating oil AST in the west side of the garage building (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 11** – 557 Cambridge Street (Phase Two property) – Former heating oil AST in the north office building (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 12** – 557 Cambridge Street (Phase Two property) – Former heating oil AST in the middle office building (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 13** – 557 Cambridge Street (Phase Two property) – Former heating oil AST in the south office building (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 15** – 770 Bronson Avenue (Phase Two property) – Former motor oil AST along the west interior wall of the garage building (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 16** – 770 Bronson Avenue (Phase Two property) – Former waste oil AST along the south exterior wall of the garage building (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);

- **PCA 17** – Entire Phase Two property – Impacted fill material identified in previous investigations (PCA #30 – Importation of Fill Material of Unknown Quantity);
- **PCA 18** – 557 Cambridge Avenue (Phase Two property) – Western part of the site was historically used for wood treating (PCA #59 – Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products).
- **PCA 20** – 557 Cambridge Street (Phase Two property) – Former contractor’s yard (PCA #Other – Registered waste generator).

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

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

- **PCA 1** – Between Cambridge Street and Dows Lake (150 m southwest) – Rail spur lines at the Fraserfield Lumber Yard in 1912 and 1922 (PCA #46 – Rail Yards, Tracks and Spurs; PCA #59 – Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products);
- **PCA 3** – 735 Carling Avenue (225 m west) – Former gas station with three USTs (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 4** – 400 Bell Street (125 m west) – Former garage with UST (PCA 10 – Commercial Autobody Shops, PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 5** – 277 Carling Avenue (40 m northeast) – Hydro sub station (PCA #55 – Transformer Manufacturing, Processing and Use);
- **PCA 6** – 786-788 Bronson Street (20 m south) – Former dry cleaner (PCA #37 – Operation of Dry Cleaning Equipment (where chemicals are used));
- **PCA 14** – 784 Bronson Avenue (15 m south) – Former commercial printing operation (PCA #Other – Commercial printing operation).
- **PCA 19** – 748 Bronson Avenue (now 265 Carling Avenue) (60 m north) – Former gas station (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks).

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

The former dry-cleaning operation and commercial printing operation were located approximately 20 m and 40 m south of the Phase Two property respectively. Previous investigations at the Phase Two property have identified the groundwater flow on the south part of the Phase Two property to be to the southwest. Therefore, these operations were located cross-gradient of the Phase Two property and was determined not to result in APECs.

The former gas station at 265 Carling Avenue and the hydro substation at 277 Carling Avenue are located approximately 60 m north and 40 m northeast respectively. Previous investigations at the Phase Two property have identified the groundwater flow on the north part of the Phase Two property to be to the north. Therefore, these operations were located cross/down-gradient of the Phase Two property and was determined not to result in APECs.

Therefore, none of the off-site APEC were determined to result in APECs.

### 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. Former gas station at 770 Bronson Avenue</b>  | Northeast part of the Phase Two property                            | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC                    | Soil and groundwater   |
| <b>2. Former automotive garage at 770 Bronson Avenue</b>                                  | Garage building footprint   | PCA #10 – Commercial autobody shop                                | On-Site                               | BTEX, PHC, VOC                    | Soil and groundwater   |
| <b>3. Former heating oil AST at 770 Bronson Avenue</b>                                    | Along south exterior building wall                                  | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC, PAH               | Soil and groundwater   |
| <b>4. Former waste oil AST at 770 Bronson Avenue</b>                                      | Along south exterior building wall                                  | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC, PAH, metals       | Soil and groundwater   |
| <b>5. Former motor oil AST at 770 Bronson Avenue</b>                                      | Along west interior building wall                                   | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC                    | Soil and groundwater   |
| <b>6. Former heating oil AST in the north residential building at 774 Bronson Avenue</b>  | Former building footprint at northeast corner of Phase Two property | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC, PAH               | Soil and groundwater   |
| <b>7. Former heating oil AST in the south residential building at 774 Bronson Avenue</b>  | Former building footprint on east side of Phase Two property        | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC, PAH               | Soil and groundwater   |
| <b>8. Former heating oil AST in the commercial building at 774 Bronson Avenue</b>         | Former building footprint at southeast corner of Phase Two property | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC, PAH               | Soil and groundwater   |
| <b>9. Former heating oil AST in the south commercial building at 557 Cambridge Street</b> | Former building footprint at southwest corner of Phase Two property | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC, PAH               | Soil and groundwater   |



| Area of Potential Environmental Concern (APEC)  | Location of APEC on Phase One Property                              | Potentially Contaminating Activity (PCA)  | Location of PCA (On-Site or Off-Site) | Contaminants of Potential Concern | Media Potentially Impacted (Groundwater, Soil and/or Sediment) |
|---|---|---|---------------------------------------|-----------------------------------|--|
| <b>10. Former heating oil AST in the centre commercial building at 557 Cambridge Street</b> | Former building footprint on the west side of Phase Two property    | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks   | On-site                               | BTEX, PHC, VOC, PAH               | Soil and groundwater   |
| <b>11. Former heating oil AST in the north commercial building at 557 Cambridge Street</b>  | Former building footprint at northwest corner of Phase Two property | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks   | On-site                               | BTEX, PHC, VOC, PAH               | Soil and groundwater   |
| <b>12. Poor quality fill at 557 Cambridge Street and 774 Bronson Avenue</b>                 | Entire Phase Two property   | PCA #30 – Importation of Fill Material of Unknown Quality   | On-site                               | BTEX, PHC, PAH, metals            | Soil   |
| <b>13. Former contractors' yard at 557 Cambridge Street</b>                                 | West part of the Phase Two property                                 | PCA #Other – Registered waste generator   | On-site                               | BTEX, PHC                         | Soil and groundwater   |
| <b>14. Former treated lumber storage at 557 Cambridge Street</b>                            | West part of the Phase Two property                                 | PCA #59 – Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products | On-site                               | PAH                               | Soil   |

### 3.4.7 Underground Utilities

The Phase Two property, and surrounding area are serviced by municipal water, storm and sanitary sewers, natural gas, hydro and telecommunication. There were no utilities present on the south part of the Phase Two property.

Since the water table is within the bedrock, the presence of utilities is not expected to affect possible migration of contaminants once buildings are constructed on the Phase Two property.

### 3.4.8 Subsurface Stratigraphy

Beneath any fill, the surficial geology of the subject site is characterised by Champlain Sea deposits of plain till. The bedrock geology underlying the site consists of limestone with some shaley partings of the Ottawa Formation. The depth to rock in the area is typically 5 m below surface grade or less. Based on previous investigation, bedrock was identified between 0.8 and 3.1 metres below ground surface the Phase Two property. Topographically, the Phase Two study area slopes towards the southwest.

### 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.

The SAAPs for the EXP, Golder and WSP work programs are provided in Appendix C.

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

### 3.6 Impediments

No impediments were encountered during this investigation.

## 4.0 Investigation Method

### 4.1 General

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

### 4.2 Drilling

Previous site investigative activities consisted of the drilling of 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. EXP did not oversee any drilling activities at the Phase Two property.

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.

A drilling program was conducted at 770 Bronson Avenue in March 2015 under the supervision of Golder Associates. The drilling program was completed on March 24 and 25, 2015 by Marathon Drilling Ltd. (Marathon), a licensed well contractor. Marathon advanced four boreholes (BH15-1 to BH15-4) across the site, using a CCME track mounted drill. Boreholes were augured to refusal, then cored to depth. All of the boreholes were completed as monitoring wells. Bedrock was encountered between 2.4 and 3.1 metres below ground surface (m bgs) in all boreholes. On June 19, 2015, Golder installed an additional well (BH15-5) at 770 Bronson Avenue for geotechnical and hydrogeological site assessment.

A drilling program was conducted at 774 Bronson Avenue and 557 Cambridge Avenue in January 2016 under the supervision of WSP. The drilling program was completed January 11 to 13, 2016 by George Downing Estate Drilling (Downing), a licensed well contractor. Downing advanced six boreholes (BH15-1 to BH15-6) across the site using a CME 55 track mounted drill. Two of the boreholes were augured to refusal (BH15-1 and BH15-5). Four boreholes (BH15-2, BH15-3B, BH15-4, and BH15-6) were augured to refusal, then cored to depth. Nested monitoring wells were installed in BH15-2, BH15-3, BH15-4, and BH15-6.

Field observations are documented on the borehole logs provided in Appendix D. The locations of the boreholes are shown on Figure 2 in Appendix A.

### 4.3 Soil Sampling

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.

### 4.4 Field Screening Measurements

In March 2015, Golder completed soil sample field screening for VOCs using a MiniRae photo-ionization detector (PID). No significant measurable organic vapours were detected during screening.

In January 2016, WSP completed soil sample field screening for VOCs using an UltraRae 3000 PID.

### 4.5 Groundwater: Monitoring Well Installation

Monitoring wells were installed in general accordance with the Ontario Water Resources Act - R.R.O. 1990, Regulation 903 (as amended). EXP did not supervise the installation of any monitoring wells on the Phase Two property.

All five of the boreholes installed at 770 Bronson Avenue were completed as bedrock monitoring wells. The monitoring wells consisted of a 32- or 52-mm diameter Schedule 40 PVC screen and a 32- or 52-mm diameter Schedule 40 PVC riser. The annular space around the wells was backfilled with sand to an average height of 0.3 m above the top of the screen. All wells were completed with flushmount casings.

Four of the boreholes at 774 Bronson Avenue and 557 Cambridge Street were completed as nested monitoring wells. The shallow wells were identified as BH15-2A, BH15-3A, BH15-4A, and BH15-6A. The deeper monitoring wells were identified as BH15-2B, BH15-3B, BH15-4B, and BH15-6B. The monitoring wells consisted of a 32- or 52-mm diameter Schedule 40 PVC screen and a 32- or 52-mm diameter Schedule 40 PVC riser. The annular space around the wells was backfilled with sand to an average height of 0.3 m above the top of the screen. All wells were completed with stickup casings.

Following installation, all of the monitoring wells were developed by removing between three and ten well volumes using Waterra tubing and a foot valve.

Monitoring wells details are shown on the borehole logs provided in Appendix D.

## 4.6 Groundwater: Field Measurement and Water Quality Parameters

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

## 4.7 Groundwater: Sampling

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

- Turbidity: within 10% for values greater than 5 nephelometric turbidity units (NTU), or three values less than 5 NTU;
- Dissolved oxygen: within 10% for values greater than 0.5 mg/L, or three values less than 0.5 mg/L;
- Conductivity: within 3%;
- Temperature:  $\pm 1^{\circ}\text{C}$ ;
- 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 SAAPs 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 March 27, 2015, Golder collected groundwater samples from the monitoring wells at 770 Bronson Avenue. Four groundwater samples, and a duplicate sample, were submitted for analysis of PHC, VOC, and PAH.

On January 19 and 21, February 15 and 23, and March 1, 2016, WSP collected groundwater samples from the monitoring wells at 774 Bronson Avenue and 557 Cambridge Street. A total of 20 samples and three replicates were submitted for analysis of BTEX; seven samples and one duplicate were submitted for analysis of PHC; 19 samples and three duplicates were

submitted for analysis of VOC, seven samples and one duplicate were submitted for analysis of PAH, and eight samples and one duplicate were submitted for analysis of metals and inorganics.

On August 11, 2022, EXP conducted an additional round of groundwater sampling of the monitoring wells at 770 Bronson Avenue. None of the monitoring wells installed at 774 Bronson Avenue or 557 Cambridge Street were still present. Four groundwater samples, plus a field duplicate, were submitted for analysis of PHC, VOC, and PAH. BH15-4 could not be sampled due to insufficient sample volume.

#### 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 laboratory selected to perform chemical analysis on all soil and groundwater samples collected by Golder Associates was AGAT.

The contracted laboratory selected to perform chemical analysis on all soil and groundwater samples collected by WSP was Maxxam Analytics Inc. (now Bureau Veritas Laboratories).

The contracted laboratory selected to perform chemical analysis on all groundwater samples collected by EXP was Caduceon Environmental Laboratories (Caduceon).

All contracted 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

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

Soil cuttings and purge water from the WSP investigation were left on the subject site.

#### 4.11 Elevation Surveying

The monitoring wells at 770 Bronson Avenue were surveyed by Golder on March 27, 2015, and July 6, 2015, relative to a geodetic reference. The monitoring wells at 774 Bronson Avenue and 557 Cambridge Street were surveyed by WSP relative to the northeast corner of the site.

#### 4.12 Quality Assurance and Quality Control Measures

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

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

- Collecting and analysing field duplicate samples to ensure analytical precision;

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- 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.

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

## 5.0 Review and Evaluation

### 5.1 Geology

A layer of asphalt approximately 100 mm thick was present at surface in all of the boreholes at 770 Bronson Avenue. In general, surficial geology at the site underlying the asphalt consisted of sand and gravel fill material overlying bedrock. Silty clay with trace gravel was encountered in one of the boreholes underlying the fill (BH15-3). Bedrock was encountered between 2.4 and 3.1 m bgs.

Soil conditions at 774 Bronson Avenue and 557 Cambridge Street generally consisted of sand and gravel fill with some silt and clay overlying bedrock. The fill material was noted to contain debris, including wood, ash, asphalt, and brick fragments. Bedrock was encountered between 1.2 and 2.2 m bgs.

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 March 27, 2015, Golder collected groundwater levels from the monitoring wells at 770 Bronson Avenue. The groundwater elevations ranged between 2.40 and 3.32 m bgs.

Groundwater monitoring and elevation data are provided below.

**Table 5.1: Monitoring and Elevation Data - Golder 770 Bronson Avenue**

| Monitoring Well ID | Grade Elevation (masl) | Top of Casing Elevation (masl) | Screen Depth (mbgs) | Depth to LNAPL (mbgs) | Depth to Groundwater (mbTOC) | Groundwater Elevation (masl) |
|--------------------|------------------------|--------------------------------|---------------------|-----------------------|------------------------------|------------------------------|
| BH15-01            | 75.86                  | 75.76                          | 4.1 to 5.6          | N/A                   | 2.40                         | 73.36                        |
| BH15-02            | 75.70                  | 75.65                          | 4.4 to 5.9          | N/A                   | 2.86                         | 72.79                        |
| BH15-03            | 75.75                  | 75.70                          | 4.4 to 5.9          | N/A                   | 3.32                         | 72.38                        |
| BH15-04            | 75.62                  | 75.57                          | 4.4 to 6.0          | N/A                   | 2.70                         | 72.87                        |
| BH15-05            | 75.49                  | 75.42                          | 7.8 to 15.3         | N/A                   | N/A                          | N/A                          |

**Notes:** Elevations were measured to a geodetic datum  
LNAPL – light non-aqueous phase liquid  
ppmv – parts per million by volume  
mbgs – metres below ground surface

masl – metres above sea level  
mbTOC – metres below top of monitor casing  
ND – non-detectable  
N/A – not applicable

On March 1, 2016, WSP collected groundwater levels from the monitoring wells at 774 Bronson Avenue and 557 Cambridge Street. The groundwater elevations at ranged between 1.91 and 2.51 m bgs in the shallow wells, and between 2.98 and 7.63 in the deeper wells.

Groundwater monitoring and elevation data are provided below.

**Table 5.2: Monitoring and Elevation Data – WSP 557 Cambridge Street and 774 Bronson Avenue**

| Monitoring Well ID   | Grade Elevation (masl) | Top of Casing Elevation (masl) | Screen Depth (mbgs) | Depth to LNAPL (mbgs) | Depth to Groundwater (mbTOC) | Groundwater Elevation (masl) |
|----------------------|------------------------|--------------------------------|---------------------|-----------------------|------------------------------|------------------------------|
| <b>Shallow Wells</b> |                        |                                |                     |                       |                              |                              |
| BH15-2A              | 75.60                  | N/A                            | 2.1 to 4.0          | N/A                   | 2.46                         | 73.14                        |
| BH15-3A              | 75.50                  | N/A                            | 1.0 to 2.6          | N/A                   | 2.34                         | 73.16                        |
| BH15-4A              | 74.50                  | N/A                            | 2.2 to 3.7          | N/A                   | 1.91                         | 72.59                        |
| BH15-6A              | 73.70                  | N/A                            | 21. to 3.7          | N/A                   | 2.51                         | 71.19                        |
| <b>Deep Wells</b>    |                        |                                |                     |                       |                              |                              |
| BH15-2B              | 75.60                  | N/A                            | 6.3 to 7.8          | N/A                   | 2.98                         | 72.62                        |
| BH15-3B              | 75.50                  | N/A                            | 6.3 to 7.8          | N/A                   | 4.77                         | 70.73                        |
| BH15-4B              | 74.50                  | N/A                            | 5.9 to 7.4          | N/A                   | 6.94                         | 67.56                        |
| BH15-6B              | 73.70                  | N/A                            | 6.4 to 8.0          | N/A                   | 7.63                         | 66.07                        |

**Notes:** Elevations were measured to a geodetic datum  
LNAPL – light non-aqueous phase liquid  
ppmv – parts per million by volume  
mbgs – metres below ground surface

masl – metres above sea level  
mbTOC – metres below top of monitor casing  
N/A – not applicable

Based on the groundwater elevations, a groundwater contour plan was prepared by EXP. The groundwater flow direction at 770 Bronson Avenue was determined to be to the north. The groundwater flow direction at 774 Bronson and 557 Cambridge Street was determined to be to the southwest. The groundwater contour plan is provided as Figure 4 in Appendix A.

EXP notes that groundwater levels depend on the size of the fractures that are intercepted as drilling progresses. Groundwater levels can also be influenced by seasonal changes, the presence of subsurface structures, or fill, however based on the presence of the water table within the bedrock, it is unlikely that any of these factors significantly impact the groundwater flow direction.

### 5.3 Groundwater: Hydraulic Gradients

Horizontal hydraulic gradients were estimated for the groundwater flow components identified in the bedrock aquifer.

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.

Based on the March 2015 groundwater elevations, the horizontal hydraulic gradient at 770 Bronson Avenue was calculated to be 0.03 m/m. Vertical hydraulic gradients were not calculated by Golder for 770 Bronson Avenue.

Based on the March 2016 groundwater elevations, the horizontal hydraulic gradient at 774 Bronson Avenue and 557 Cambridge Street was calculated to be 0.03 m/m in the overburden/weather bedrock, and 0.07 in the deeper bedrock wells. Nested monitoring wells were installed in four locations at 774 Bronson Avenue and 557 Cambridge Avenue. There a was a



downward vertical gradient identified at all four locations, with the largest vertical gradient present along the south property line.

## 5.4 Soil: Field Screening

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

During the March 2015 investigation, organic vapours ranged from non-detectable to 3.0 ppm in samples collected from 770 Bronson Avenue.

During the January 2016 investigation, organic vapours ranged from 1.0 and 21.3 ppm. No notable odours or staining were observed by WSP.

Field screening data is presented in the borehole logs in Appendix D.

## 5.5 Soil: Quality

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

During the Golder March 2015 investigation, eight soil samples were submitted for analysis of PHC, VOC and PAH. All of the samples met the Table 7 SCS for all parameters analysed, with the exception of one sample from BH15-4 which exceeded the SCS for PHC F3. The sample which exceeded the Table 7 SCS was taken from 0.3 to 0.8 m bgs. A sample taken from the same borehole, but deeper (1.5 to 2.1 m bgs) met the Table 7 SCS. It was inferred that the source of the exceedance was likely a surface spill.

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

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

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

## 5.6 Groundwater: Quality

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

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

An additional round of groundwater sampling was conducted at these wells in August 2022 by EXP. Four groundwater samples (BH15-1, BH15-2, BH15-3, and BH15-5) and a duplicate were submitted for analysis of PHC, VOC and PAH. All of the samples were within the Tables 7 SCS for all parameters analysed.

In January, February and March 2016, groundwater sampling was conducted by WSP at 557 Cambridge Street and 774 Bronson Avenue. Groundwater sampling was conducted over multiple days due to limited sampled volume. Groundwater

samples were submitted for analysis of BTEX, PHC, VOC, PAH, and/or metals. Additional samples were submitted for analysis of VOC to address chloroform exceedances present in the first round of groundwater sampling.

Benzene was detected in the initial groundwater sample from BH15-3A. As the exceedance was very close to the Table 7 SCS criteria for benzene (0.83 ug/L vs 0.5 ug/L), and additional two rounds of samples were conducted at this location. Neither of the subsequent groundwater samples from BH15-3A had

All of the chloroform exceedances were detected in monitoring wells installed in the bedrock. To facilitate drilling in the bedrock, municipal water was used to cool the drill bits. Chloroform is generated at municipal water treatment plants when chlorine is used to kill bacteria in the water. In accordance with Regulation 153/04 it is the opinion of the Qualified Person that the source of chloroform in these monitoring wells. In addition, subsequent groundwater sampling events at all of the wells with chloroform exceedances were within the Table 7 SCS.

Therefore, in accordance with Section 49.1 of Regulation 153/04, chloroform is not considered to exceed the SCS. Analytical results are included in Tables 4 to 6 in Appendix E and are shown in plan view on Figures 13 to 15 and on cross-sections on Figures 16 to 18 in Appendix A.

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

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

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

### 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 standards included:

**Soil:** PHC fraction F3, benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[b]fluoranthene, dibenzo[a,h]anthracene, fluoranthene, indeno[1,2,3-cd]pyrene, cyanide, lead, mercury, nickel, and uranium.

**Groundwater:** None.

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

## 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 Katasa Group to conduct a Phase Two Environmental Site Assessment (ESA) of the property located at 770 and 774 Bronson Avenue and 557 Cambridge Street in Ottawa, Ontario (hereinafter referred to as the 'Phase Two property'). At the time of the investigation, the Phase Two property was occupied by a vacant former gas station and parking lot.

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

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

### 5.9.2 Physical Site Description

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

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

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.

Based on the Phase Two ESA investigation, the Phase Two property is a shallow soil property as defined in Section 43.1 of the regulation. There are no waterbodies on the Phase Two property, and the Phase Two is not located within 30 m of a waterbody.

Refer to Table 5.3 for the Site identification information.

**Table 5.3: Site Identification Details**

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

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

### 5.9.3 Geological and Hydrogeological

Beneath any fill, the surficial geology of the subject site is characterised by Champlain Sea deposits of plain till. The bedrock geology underlying the site consists of limestone with some shaley partings of the Ottawa Formation. The depth to rock in the area is typically 5 m below surface grade or less. Based on previous investigation, bedrock was identified between 0.8 and 3.1 metres below ground surface the Phase Two property. Topographically, the Phase Two study area slopes towards the southwest.

The groundwater flow direction is anticipated to be to the southeast towards Dow's Lake on the south part of the Phase Two property and towards the north on the north part of the Phase Two property. The groundwater flow direction is shown in Figure 4.

EXP notes that groundwater levels depend on the size of the fractures that are intercepted as drilling progresses. Groundwater levels can also be influenced by seasonal changes, the presence of subsurface structures, or fill.

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 5.4.

**Table 5.4: Site Characteristics**

| Characteristic                  | Description  |
|---------------------------------|--|
| Minimum Depth to Bedrock        | 0.8 metres below ground surface  |
| Minimum Depth to Groundwater    | 1.91 m bgs (March 1, 2016)   |
| Shallow Soil Property           | Yes, bedrock is less than 2.0 mbgs                                       |
| Proximity to water body or ANSI | Dow's Lake – 370 m southwest   |
| Soil pH                         | 8.22 to 8.25   |
| Soil Texture                    | Coarse   |
| Current Property Use            | Commercial   |
| Future Property Use             | Residential and Commercial   |
| Proposed Future Building        | Multi-storey residential, commercial on ground level, one basement level |
| Areas Containing Suspected Fill | All soil that was on the property was ill                                |

#### 5.9.4 Utilities and Impediments

The Phase Two property, and surrounding area are serviced by municipal water, storm and sanitary sewers, natural gas, hydro and telecommunication. There were no utilities present on the south part of the Phase Two property.

Since the water table is within the bedrock, the presence of utilities is not expected to affect possible migration of contaminants once buildings are constructed on the Phase Two property.

#### 5.9.5 Potentially Contaminating Activities

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

- **PCA 2** – 770 Bronson Avenue (Phase Two property) – Former gas station with three USTs, former garage (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks, PCA 10 – Commercial Autobody Shops);
- **PCA 7** – 774 Bronson Avenue (Phase Two property) – Former heating oil AST in the north residential building (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 8** – 774 Bronson Avenue (Phase Two property) – Former heating oil AST in the south residential building (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 9** – 774 Bronson Avenue (Phase Two property) – Former heating oil AST in the commercial building (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 10** – 770 Bronson Avenue (Phase Two property) – Former heating oil AST in the west side of the garage building (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 11** – 557 Cambridge Street (Phase Two property) – Former heating oil AST in the north office building (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 12** – 557 Cambridge Street (Phase Two property) – Former heating oil AST in the middle office building (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);

- **PCA 13** – 557 Cambridge Street (Phase Two property) – Former heating oil AST in the south office building (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 15** – 770 Bronson Avenue (Phase Two property) – Former motor oil AST along the west interior wall of the garage building (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 16** – 770 Bronson Avenue (Phase Two property) – Former waste oil AST along the south exterior wall of the garage building (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 17** – Entire Phase Two property – Impacted fill material identified in previous investigations (PCA #30 – Importation of Fill Material of Unknown Quantity);
- **PCA 18** – 557 Cambridge Avenue (Phase Two property) – Western part of the site was historically used for wood treating (PCA #59 – Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products).
- **PCA 20** – 557 Cambridge Street (Phase Two property) – Former contractor’s yard (PCA #Other – Registered waste generator).

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

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

- **PCA 1** – Between Cambridge Street and Dows Lake (150 m southwest) – Rail spur lines at the Fraserfield Lumber Yard in 1912 and 1922 (PCA #46 – Rail Yards, Tracks and Spurs; PCA #59 – Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products);
- **PCA 3** – 735 Carling Avenue (225 m west) – Former gas station with three USTs (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 4** – 400 Bell Street (125 m west) – Former garage with UST (PCA 10 – Commercial Autobody Shops, PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks);
- **PCA 5** – 277 Carling Avenue (40 m northeast) – Hydro sub station (PCA #55 – Transformer Manufacturing, Processing and Use);
- **PCA 6** – 786-788 Bronson Street (20 m south) – Former dry cleaner (PCA #37 – Operation of Dry Cleaning Equipment (where chemicals are used));
- **PCA 14** – 784 Bronson Avenue (15 m south) – Former commercial printing operation (PCA #Other – Commercial printing operation).
- **PCA 19** – 748 Bronson Avenue (now 265 Carling Avenue) (60 m north) – Former gas station (PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks).

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

The former dry-cleaning operation and commercial printing operation were located approximately 20 m and 40 m south of the Phase Two property respectively. Previous investigations at the Phase Two property have identified the groundwater flow on the south part of the Phase Two property to be to the southwest. Therefore, these operations were located cross-gradient of the Phase Two property and was determined not to result in APECs.

The former gas station at 265 Carling Avenue and the hydro substation at 277 Carling Avenue are located approximately 60 m north and 40 m northeast respectively. Previous investigations at the Phase Two property have identified the groundwater

flow on the north part of the Phase Two property to be to the north. Therefore, these operations were located cross/down-gradient of the Phase Two property and was determined not to result in APECs.

Therefore, none of the off-site APEC were determined to result in APECs.

### 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 5.9 below:

**Table 5.9: 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. Former gas station at 770 Bronson Avenue</b>                                       | Northeast part of the Phase Two property                            | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC                    | Soil and groundwater   |
| <b>2. Former automotive garage at 770 Bronson Avenue</b>                                 | Garage building footprint   | PCA #10 – Commercial autobody shop                                | On-Site                               | BTEX, PHC, VOC                    | Soil and groundwater   |
| <b>3. Former heating oil AST at 770 Bronson Avenue</b>                                   | Along south exterior building wall                                  | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC, PAH               | Soil and groundwater   |
| <b>4. Former waste oil AST at 770 Bronson Avenue</b>                                     | Along south exterior building wall                                  | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC, PAH, metals       | Soil and groundwater   |
| <b>5. Former motor oil AST at 770 Bronson Avenue</b>                                     | Along west interior building wall                                   | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC                    | Soil and groundwater   |
| <b>6. Former heating oil AST in the north residential building at 774 Bronson Avenue</b> | Former building footprint at northeast corner of Phase Two property | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC, PAH               | Soil and groundwater   |
| <b>7. Former heating oil AST in the south residential building at 774 Bronson Avenue</b> | Former building footprint on east side of Phase Two property        | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks | On-site                               | BTEX, PHC, VOC, PAH               | Soil and groundwater   |

| Area of Potential Environmental Concern (APEC)  | Location of APEC on Phase One Property                              | Potentially Contaminating Activity (PCA)  | Location of PCA (On-Site or Off-Site) | Contaminants of Potential Concern | Media Potentially Impacted (Groundwater, Soil and/or Sediment) |
|---|---|---|---------------------------------------|-----------------------------------|--|
| <b>8. Former heating oil AST in the commercial building at 774 Bronson Avenue</b>           | Former building footprint at southeast corner of Phase Two property | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks   | On-site                               | BTEX, PHC, VOC, PAH               | Soil and groundwater   |
| <b>9. Former heating oil AST in the south commercial building at 557 Cambridge Street</b>   | Former building footprint at southwest corner of Phase Two property | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks   | On-site                               | BTEX, PHC, VOC, PAH               | Soil and groundwater   |
| <b>10. Former heating oil AST in the centre commercial building at 557 Cambridge Street</b> | Former building footprint on the west side of Phase Two property    | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks   | On-site                               | BTEX, PHC, VOC, PAH               | Soil and groundwater   |
| <b>11. Former heating oil AST in the north commercial building at 557 Cambridge Street</b>  | Former building footprint at northwest corner of Phase Two property | PCA #28 – Gasoline and Associated Products Storage in Fixed Tanks   | On-site                               | BTEX, PHC, VOC, PAH               | Soil and groundwater   |
| <b>12. Poor quality fill at 557 Cambridge Street and 774 Bronson Avenue</b>                 | Entire Phase Two property   | PCA #30 – Importation of Fill Material of Unknown Quality   | On-site                               | BTEX, PHC, PAH, metals            | Soil   |
| <b>13. Former contractors' yard at 557 Cambridge Street</b>                                 | West part of the Phase Two property                                 | PCA #Other – Registered waste generator   | On-site                               | BTEX, PHC                         | Soil and groundwater   |
| <b>14. Former treated lumber storage at 557 Cambridge Street</b>                            | West part of the Phase Two property                                 | PCA #59 – Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products | On-site                               | PAH                               | Soil   |

### 5.9.7 Investigation

Previous site investigative activities consisted of the drilling of 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. EXP did not oversee any drilling activities at the Phase Two property.



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.

A drilling program was conducted at 770 Bronson Avenue in March 2015 under the supervision of Golder Associates. The drilling program was completed on March 24 and 25, 2015 by Marathon Drilling Ltd. (Marathon), a licensed well contractor. Marathon advanced four boreholes (BH15-1 to BH15-4) across the site, using a CCME track mounted drill. Boreholes were augured to refusal, then cored to depth. All of the boreholes were completed as monitoring wells. Bedrock was encountered between 2.4 and 3.1 metres below ground surface (m bgs) in all boreholes. On June 19, 2015, Golder installed an additional well (BH15-5) at 770 Bronson Avenue for geotechnical and hydrogeological site assessment.

A drilling program was conducted at 774 Bronson Avenue and 557 Cambridge Avenue in January 2016 under the supervision of WSP. The drilling program was completed January 11 to 13, 2016 by George Downing Estate Drilling (Downing), a licensed well contractor. Downing advanced six boreholes (BH15-1 to BH15-6) across the site using a CME 55 track mounted drill. Two of the boreholes were augured to refusal (BH15-1 and BH15-5). Four boreholes (BH15-2, BH15-3B, BH15-4, and BH15-6) were augured to refusal, then cored to depth. Nested monitoring wells were installed in BH15-2, BH15-3, BH15-4, and BH15-6.

On March 27, 2015, Golder collected groundwater samples from the monitoring wells at 770 Bronson Avenue. Four groundwater samples, and a duplicate sample, were submitted for analysis of PHC, VOC, and PAH.

On January 19 and 21, February 15 and 23, and March 1, 2016, WSP collected groundwater samples from the monitoring wells at 774 Bronson Avenue and 557 Cambridge Street. A total of 20 samples and three duplicates were submitted for analysis of BTEX; seven samples and one duplicate were submitted for analysis of PHC; 19 samples and three duplicates were submitted for analysis of VOC, seven samples and one duplicate were submitted for analysis of PAH, and eight samples and one duplicate were submitted for analysis of metals and inorganics.

On August 11, 2022, EXP conducted an additional round of groundwater sampling of the monitoring wells at 770 Bronson Avenue. None of the monitoring wells installed at 774 Bronson Avenue or 557 Cambridge Street were still present. Four groundwater samples, plus a field duplicate, were submitted for analysis of PHC, VOC, and PAH. BH15-4 could not be sampled due to insufficient sample volume.

### 5.9.8 Soil Sampling

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

During the Golder March 2015 investigation, eight soil samples were submitted for analysis of PHC, VOC and PAH. All of the samples met the Table 7 SCS for all parameters analysed, with the exception of one sample from BH15-4 which exceeded the SCS for PHC F3. The sample which exceeded the Table 7 SCS was taken from 0.3 to 0.8 m bgs. A sample taken from the same borehole, but deeper (1.5 to 2.1 m bgs) met the Table 7 SCS. It was inferred that the source of the exceedance was likely a surface spill.

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

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

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

### 5.9.9 Groundwater Sampling

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

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

An additional round of groundwater sampling was conducted at these wells in August 2022 by EXP. Four groundwater samples (BH15-1, BH15-2, BH15-3, and BH15-5) and a duplicate were submitted for analysis of PHC, VOC and PAH. All of the samples were within the Tables 7 SCS for all parameters analysed.

In January, February and March 2016, groundwater sampling was conducted by WSP at 557 Cambridge Street and 774 Bronson Avenue. Groundwater sampling was conducted over multiple days due to limited sampled volume. Groundwater samples were submitted for analysis of BTEX, PHC, VOC, PAH, and/or metals. Additional samples were submitted for analysis of VOC to address chloroform exceedances present in the first round of groundwater sampling.

Benzene was detected in the initial groundwater sample from BH15-3A. As the exceedance was very close to the Table 7 SCS criteria for benzene (0.83 ug/L vs 0.5 ug/L), and additional two rounds of samples were conducted at this location. Neither of the subsequent groundwater samples from BH15-3A had

All of the chloroform exceedances were detected in monitoring wells installed in the bedrock. To facilitate drilling in the bedrock, municipal water was used to cool the drill bits. Chloroform is generated at municipal water treatment plants when chlorine is used to kill bacteria in the water. In accordance with Regulation 153/04 it is the opinion of the Qualified Person that the source of chloroform in these monitoring wells. In addition, subsequent groundwater sampling events at all of the wells with chloroform exceedances were within the Table 7 SCS.

Therefore, in accordance with Section 49.1 of Regulation 153/04, chloroform is not considered to exceed the SCS. Analytical results are included in Tables 4 to 6 in Appendix E and are shown in plan view on Figures 13 to 15 and on cross-sections on Figures 16 to 18 in Appendix A.

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

Contaminants that exceeded the applicable standards included:

**Soil:** PHC fraction F3, benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[b]fluoranthene, dibenzo[a,h]anthracene, fluoranthene, indeno[1,2,3-cd]pyrene, cyanide, lead, mercury, nickel, and uranium.

**Groundwater:** None.

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

### 5.9.10 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.

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OTT-22019409-A0  
October 6, 2022*

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

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

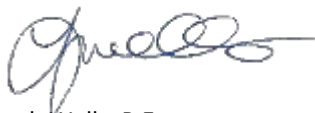
*Katasa Groupe*  
*Phase Two Environmental Site Assessment*  
*770 and 774 Bronson Avenue and 557 Cambridge Street, Ottawa, Ontario*  
*OTT-22019409-A0*  
*October 6, 2022*

## 6.0 Conclusion

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

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

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.  
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.

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

## 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 Katasa Groupe ("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.

*Katasa Groupe*

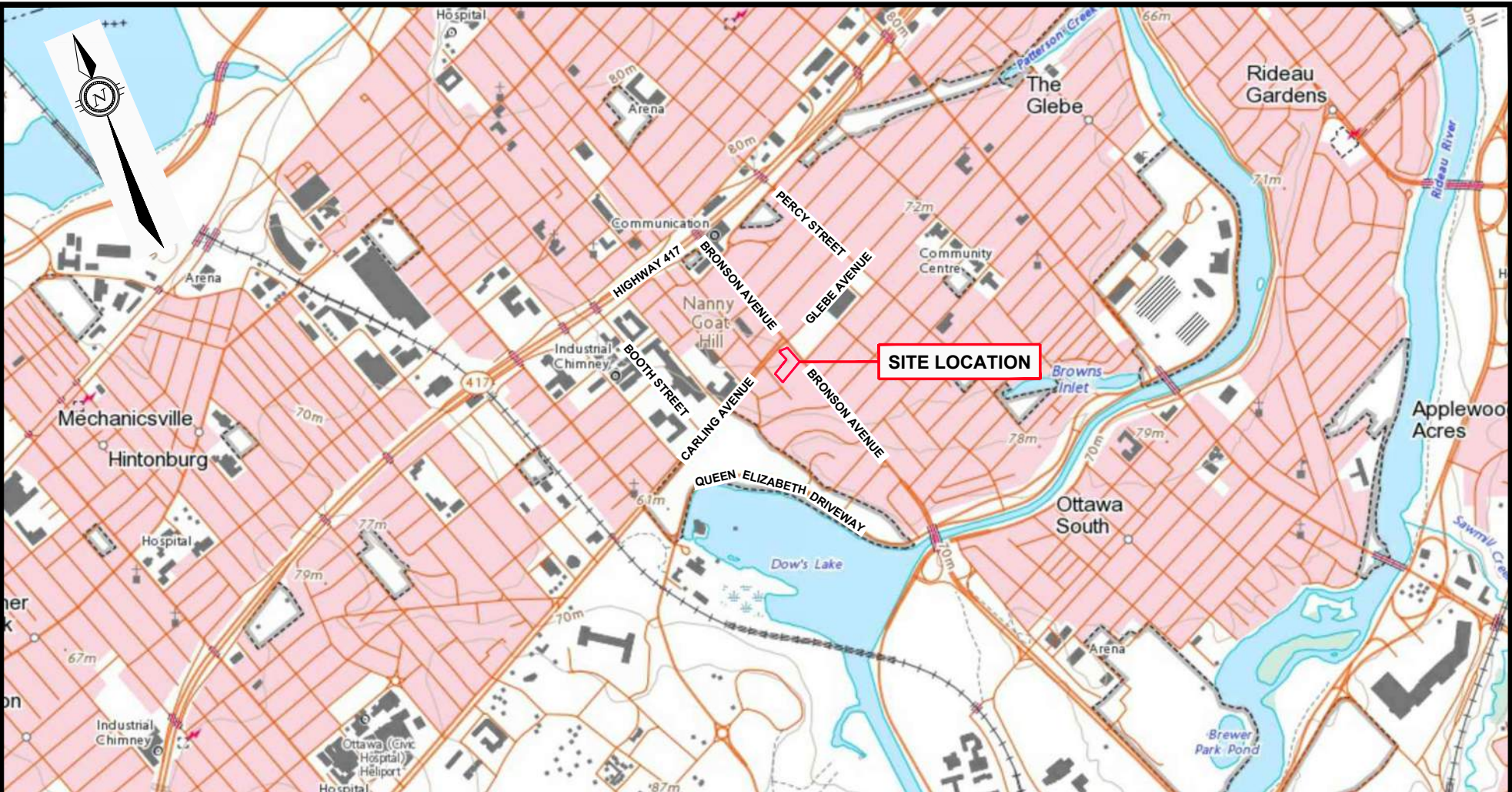
*Phase Two Environmental Site Assessment  
770 and 774 Bronson Avenue and 557 Cambridge Street, Ottawa, Ontario*

*OTT-22019409-A0*


*October 6, 2022*

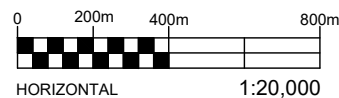
## **Appendix A: Figures**

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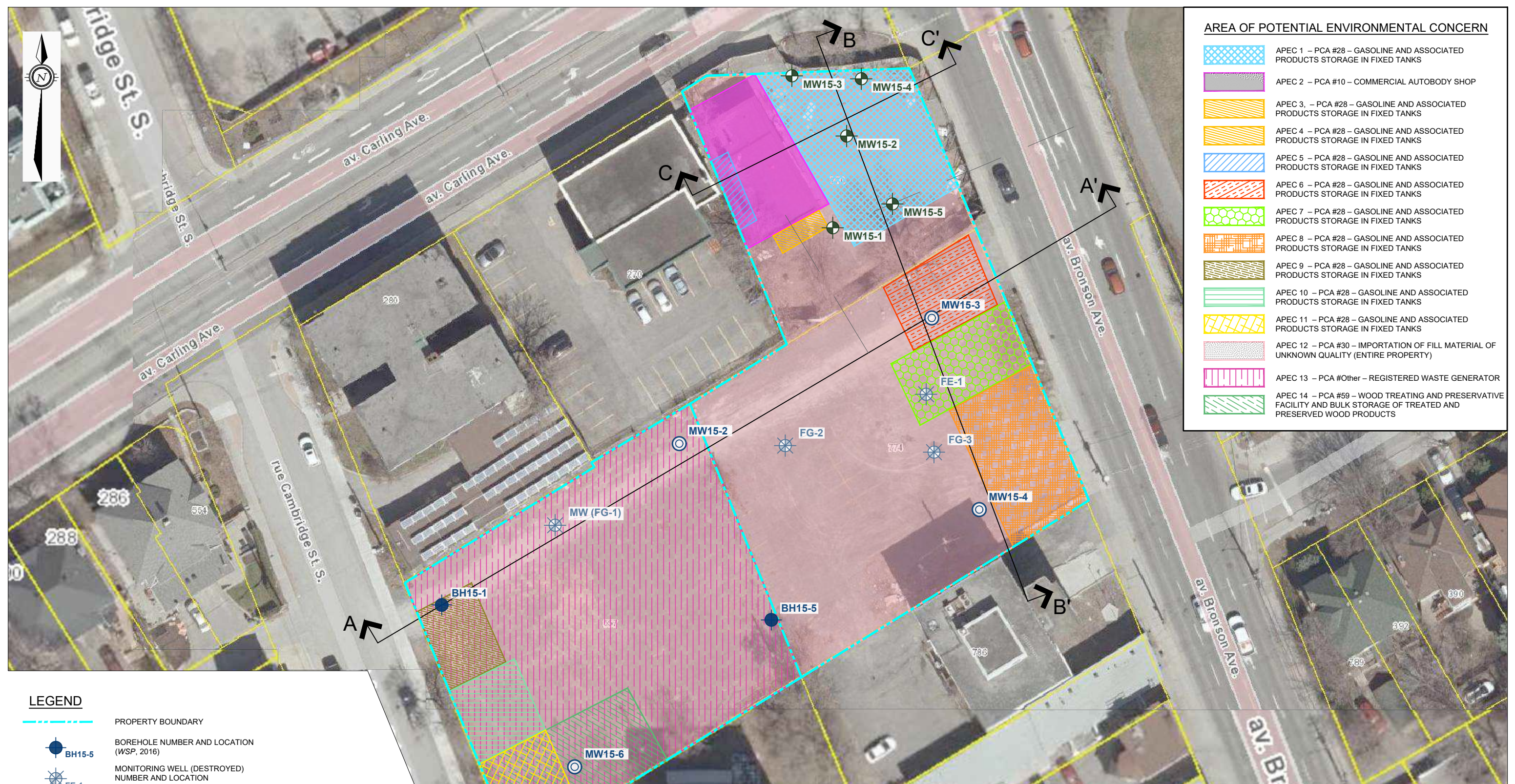
 PROPERTY BOUNDARY



|  |               |   |   |
|--|---------------|---|---|
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|  |               | DATE<br>OCTOBER 2022  | CLIENT:<br>PHASE TWO ENVIRONMENTAL SITE ASSESSMENT<br>770 & 774 BRONSON AVENUE + 557 CAMBRIDGE STREET, OTTAWA, ON |
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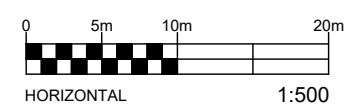


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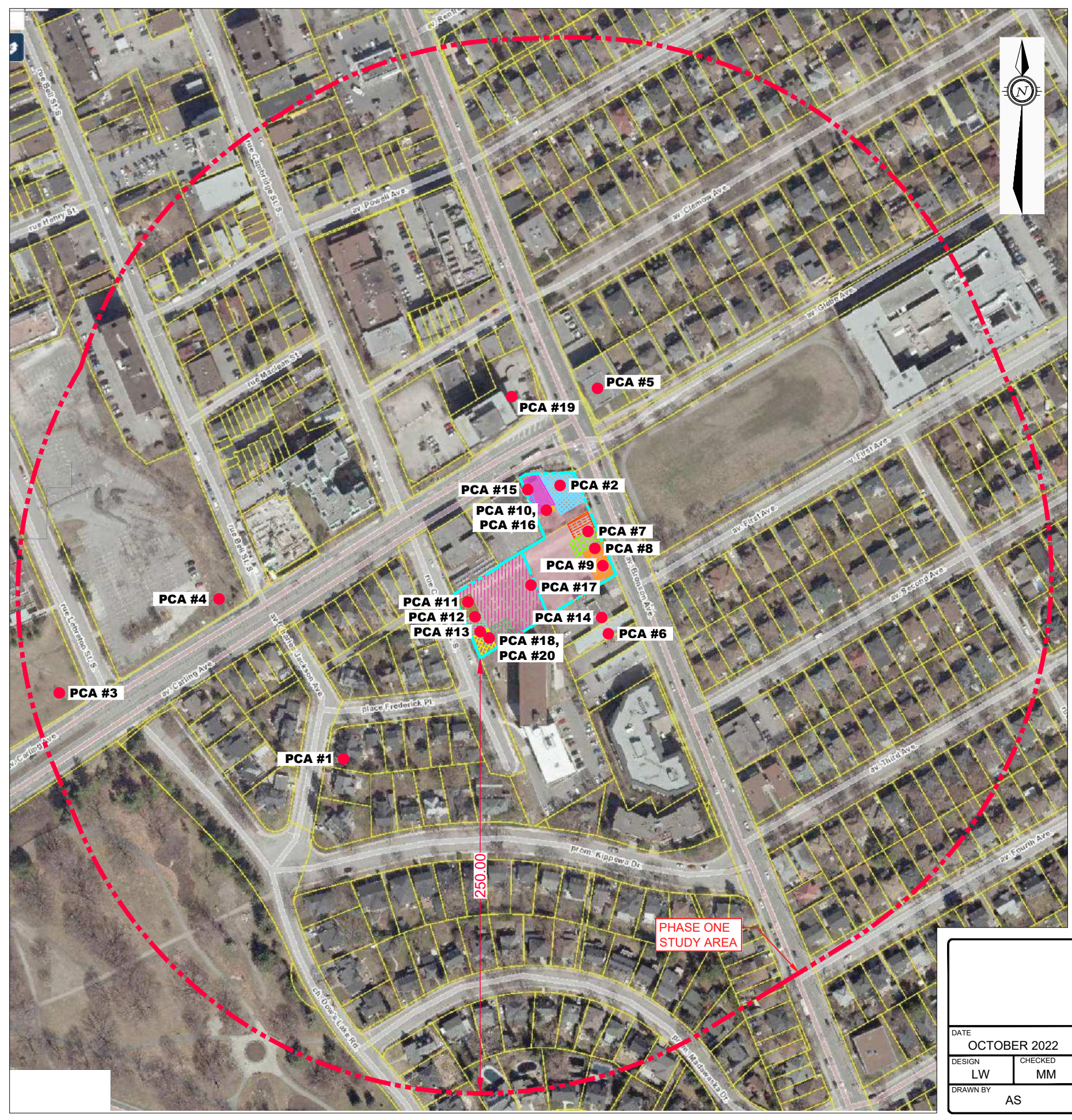


| AREA OF POTENTIAL ENVIRONMENTAL CONCERN |   |
|---|---|
|   | APEC 1 – PCA #28 – GASOLINE AND ASSOCIATED PRODUCTS STORAGE IN FIXED TANKS  |
|   | APEC 2 – PCA #10 – COMMERCIAL AUTOBODY SHOP   |
|   | APEC 3 – PCA #28 – GASOLINE AND ASSOCIATED PRODUCTS STORAGE IN FIXED TANKS  |
|   | APEC 4 – PCA #28 – GASOLINE AND ASSOCIATED PRODUCTS STORAGE IN FIXED TANKS  |
|   | APEC 5 – PCA #28 – GASOLINE AND ASSOCIATED PRODUCTS STORAGE IN FIXED TANKS  |
|   | APEC 6 – PCA #28 – GASOLINE AND ASSOCIATED PRODUCTS STORAGE IN FIXED TANKS  |
|   | APEC 7 – PCA #28 – GASOLINE AND ASSOCIATED PRODUCTS STORAGE IN FIXED TANKS  |
|   | APEC 8 – PCA #28 – GASOLINE AND ASSOCIATED PRODUCTS STORAGE IN FIXED TANKS  |
|   | APEC 9 – PCA #28 – GASOLINE AND ASSOCIATED PRODUCTS STORAGE IN FIXED TANKS  |
|   | APEC 10 – PCA #28 – GASOLINE AND ASSOCIATED PRODUCTS STORAGE IN FIXED TANKS   |
|   | APEC 11 – PCA #28 – GASOLINE AND ASSOCIATED PRODUCTS STORAGE IN FIXED TANKS   |
|   | APEC 12 – PCA #30 – IMPORTATION OF FILL MATERIAL OF UNKNOWN QUALITY (ENTIRE PROPERTY)                               |
|   | APEC 13 – PCA #Other – REGISTERED WASTE GENERATOR   |
|   | APEC 14 – PCA #59 – WOOD TREATING AND PRESERVATIVE FACILITY AND BULK STORAGE OF TREATED AND PRESERVED WOOD PRODUCTS |

| LEGEND |   |
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|        | NESTED MONITORING WELL NUMBER AND LOCATION (WSP, 2016)          |
|        | BOREHOLE / MONITORING WELL NUMBER AND LOCATION (GOLDER, 2015)   |



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| <b>SITE PLAN</b> |  |  | <b>FIG 2</b>   |



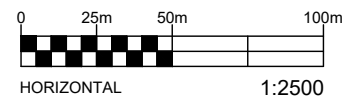
| AREA OF POTENTIAL ENVIRONMENTAL CONCERN |   |
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|   | APEC 2 - PCA #10 - COMMERCIAL AUTOBODY SHOP   |
|   | APEC 3 - PCA #28 - GASOLINE AND ASSOCIATED PRODUCTS STORAGE IN FIXED TANKS  |
|   | APEC 4 - PCA #28 - GASOLINE AND ASSOCIATED PRODUCTS STORAGE IN FIXED TANKS  |
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|   | APEC 9 - PCA #28 - GASOLINE AND ASSOCIATED PRODUCTS STORAGE IN FIXED TANKS  |
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|   | APEC 11 - PCA #28 - GASOLINE AND ASSOCIATED PRODUCTS STORAGE IN FIXED TANKS   |
|   | APEC 12 - PCA #30 - IMPORTATION OF FILL MATERIAL OF UNKNOWN QUALITY (ENTIRE PROPERTY)                               |
|   | APEC 13 - PCA #Other - REGISTERED WASTE GENERATOR   |
|   | APEC 14 - PCA #59 - WOOD TREATING AND PRESERVATIVE FACILITY AND BULK STORAGE OF TREATED AND PRESERVED WOOD PRODUCTS |

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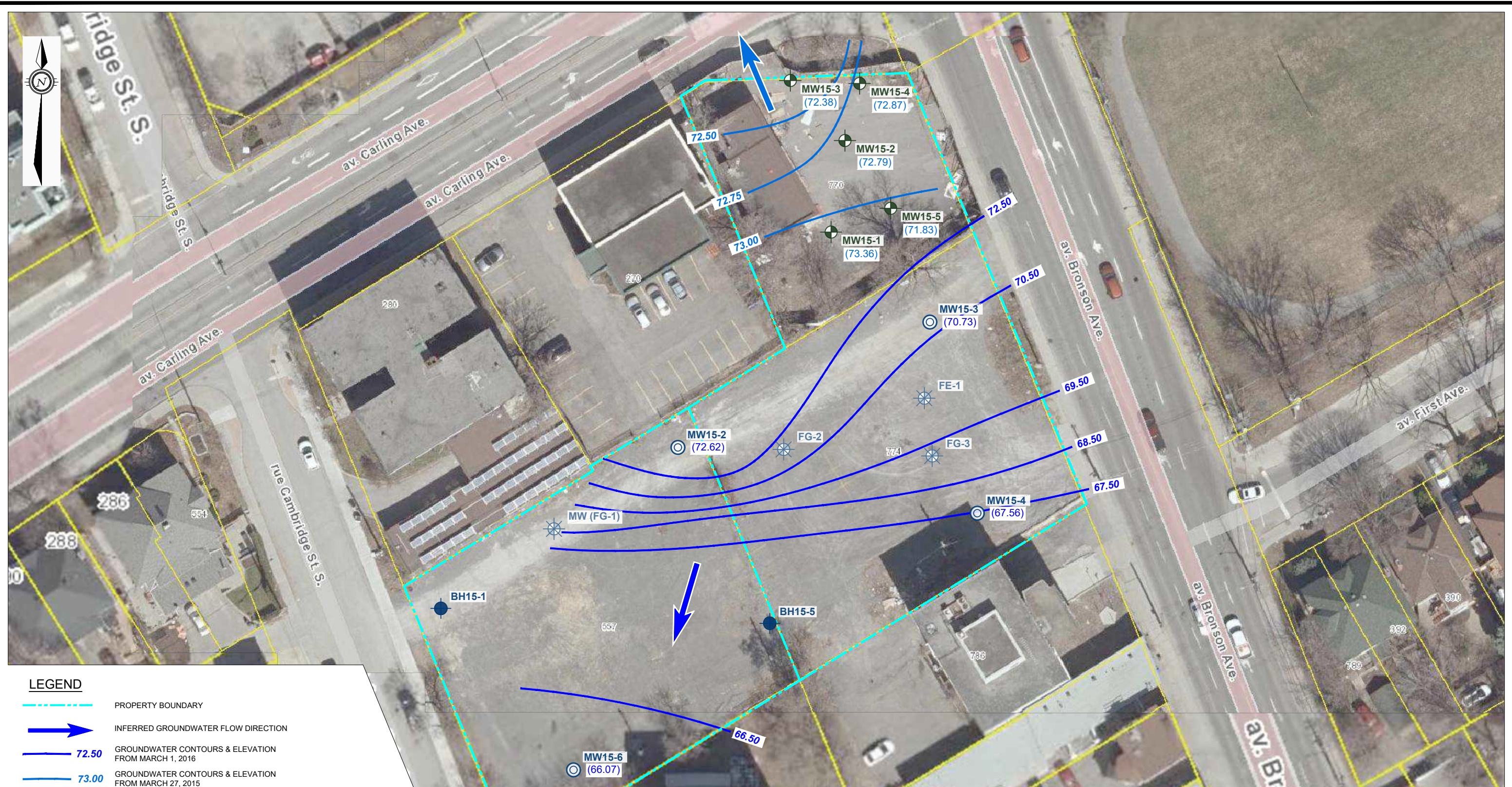
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POTENTIALLY CONTAMINATING ACTIVITY (PCA)

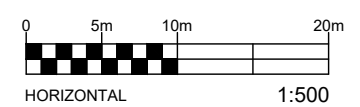


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| DATE<br>OCTOBER 2022  | CLIENT:<br>PHASE TWO ENVIRONMENTAL SITE ASSESSMENT<br>770 & 774 BRONSON AVENUE + 557 CAMBRIDGE STREET, OTTAWA, ON | FIG 3  |
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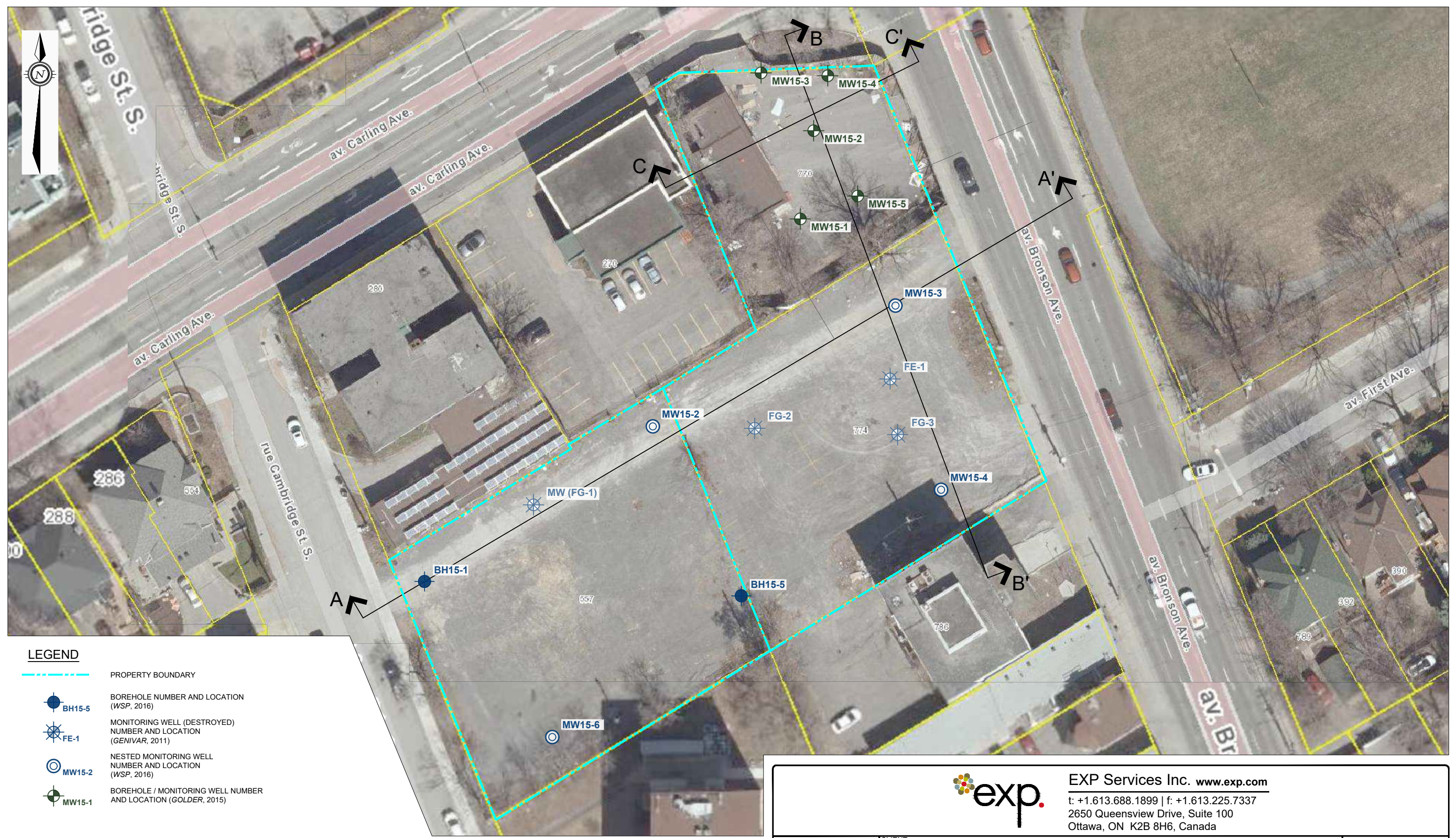


- LEGEND**
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  - 73.00 GROUNDWATER CONTOURS & ELEVATION FROM MARCH 27, 2015
  - (XX.XX) GROUNDWATER ELEVATION
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  - BOREHOLE / MONITORING WELL NUMBER AND LOCATION (GOLDER, 2015)

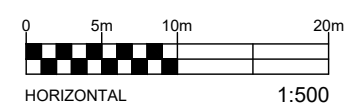


|          |              |  |  |
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|          |              | EXP Services Inc. <a href="http://www.exp.com">www.exp.com</a> |  |
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|          |              | 2650 Queensview Drive, Suite 100<br>Ottawa, ON K2B 8H6, Canada |  |
| DATE     | OCTOBER 2022 | CLIENT:  | PHASE TWO ENVIRONMENTAL SITE ASSESSMENT<br>770 & 774 BRONSON AVENUE + 557 CAMBRIDGE STREET, OTTAWA, ON |
| DESIGN   | LW           | CHECKED  | MM   |
| DRAWN BY | AS           | TITLE:   | GROUNDWATER CONTOUR PLAN   |
|          |              |  | project no.<br>OTT-22019409-A0   |
|          |              |  | scale<br>1:500   |
|          |              |  | <b>FIG 4</b>   |

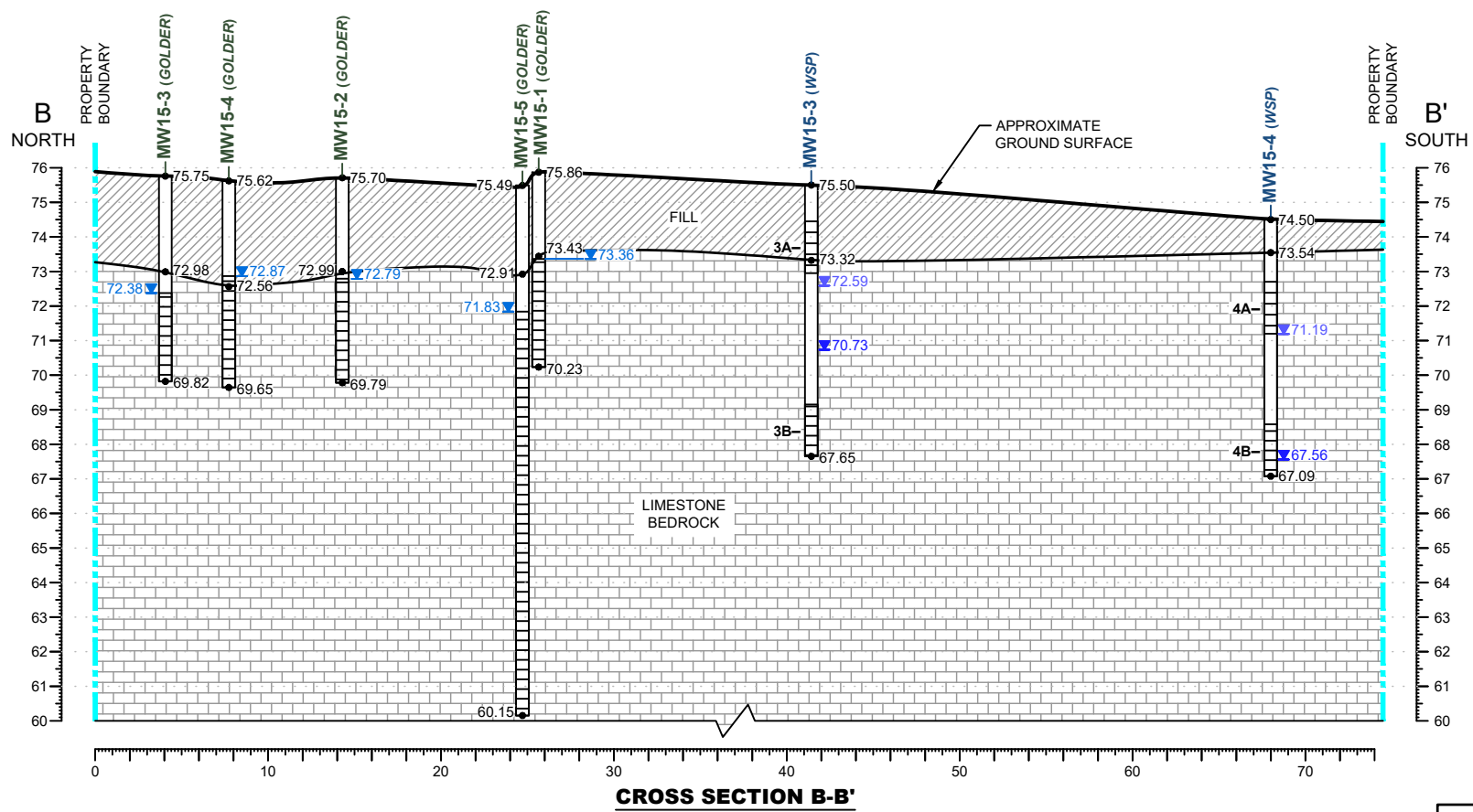
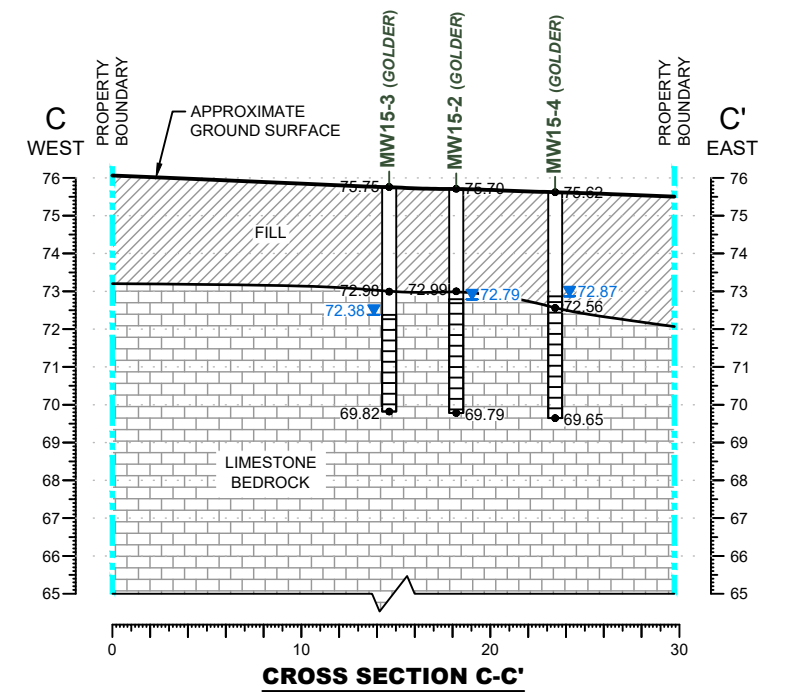
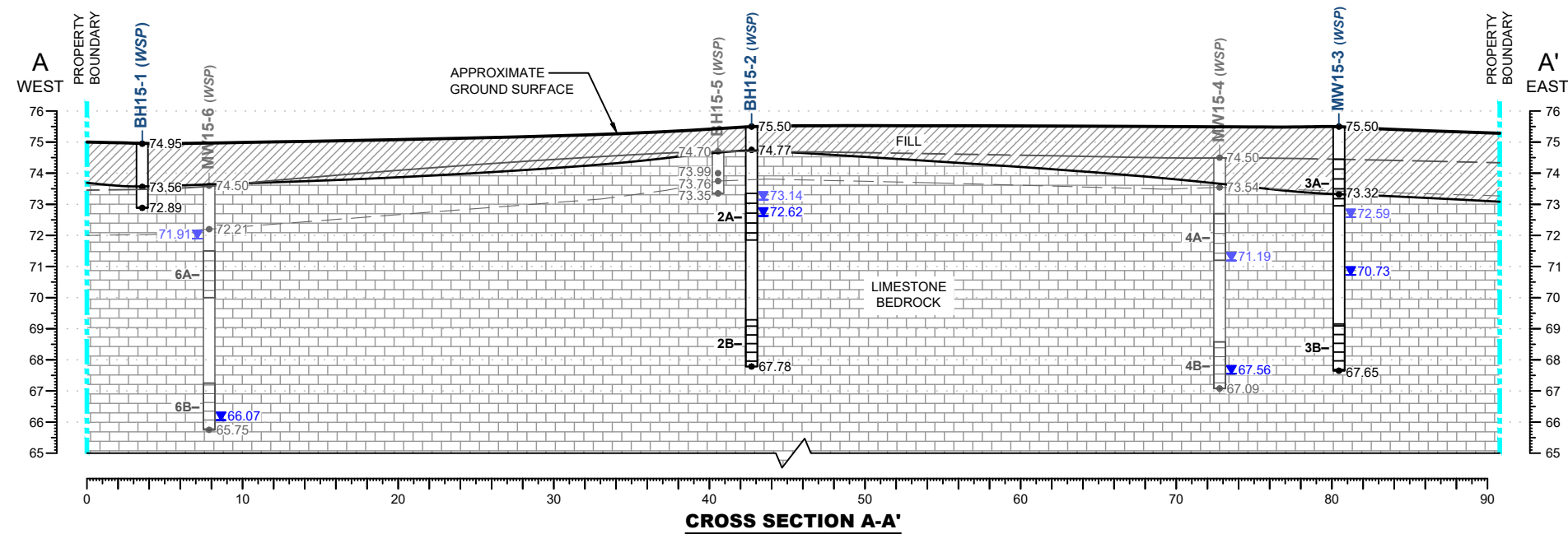
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 Last Saved: Oct 6, 2022 12:47 PM  
 Last Plotted: Oct 6, 2022 12:47 PM  
 Plotted by: SeverA



| LEGEND |   |
|--------|---|
|        | PROPERTY BOUNDARY   |
|        | BOREHOLE NUMBER AND LOCATION (WSP, 2016)                        |
|        | MONITORING WELL (DESTROYED) NUMBER AND LOCATION (GENIVAR, 2011) |
|        | NESTED MONITORING WELL NUMBER AND LOCATION (WSP, 2016)          |
|        | BOREHOLE / MONITORING WELL NUMBER AND LOCATION (GOLDER, 2015)   |

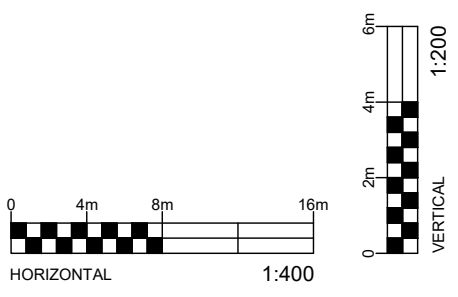


|  |  |  |   |
|--|--|--|---|
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|  |  | DATE: OCTOBER 2022<br>DESIGN: LW<br>DRAWN BY: AS   | CLIENT: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT<br>770 & 774 BRONSON AVENUE + 557 CAMBRIDGE STREET, OTTAWA, ON<br>TITLE: CROSS SECTION PLAN |



**LEGEND**

|  |  |
|--|--|
|  | PROPERTY BOUNDARY  |
|  | GROUNDWATER ELEVATION FROM MARCH 1, 2016 (WSP) - SHALLOW |
|  | GROUNDWATER ELEVATION FROM MARCH 1, 2016 (WSP) - DEEP    |
|  | GROUNDWATER ELEVATION FROM MARCH 27, 2016 (GOLDER)       |



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|                      |   |                                  |
|----------------------|---|----------------------------------|
| DATE<br>OCTOBER 2022 | CLIENT:<br>PHASE TWO ENVIRONMENTAL SITE ASSESSMENT<br>770 & 774 BRONSON AVENUE + 557 CAMBRIDGE STREET, OTTAWA, ON | project no.<br>OTT-22019409-A0   |
| DESIGN<br>LW         | CHECKED<br>MM   | scale<br>HORIZ 1:400, VERT 1:200 |
| DRAWN BY<br>AS       | TITLE:<br>CROSS SECTIONS A-A', B-B', C-C'   |                                  |
|                      |   | <b>FIG 6</b>                     |

Filename: E:\OTT-22019409-A0\_60\_Execution\65 Drawings\22019409-A0\_Ph-2.dwg  
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Filename: E:\OTT-22019409-A0\_60\_Execution\65 Drawings\22019409-A0\_Ph-2.dwg  
 Last Saved: Oct 6, 2022 12:47 PM  
 Last Plotted: Oct 6, 2022 12:47 PM  
 Plotted by: Severa



**LEGEND**

|  |   |
|--|---|
|  | PROPERTY BOUNDARY   |
|  | BOREHOLE NUMBER AND LOCATION (WSP, 2016)                      |
|  | NESTED MONITORING WELL NUMBER AND LOCATION (WSP, 2016)        |
|  | BOREHOLE / MONITORING WELL NUMBER AND LOCATION (GOLDER, 2015) |
|  | SOIL SAMPLE EXCEEDS TABLE 7 SCS                               |
|  | SOIL SAMPLE MEETS TABLE 7 SCS                                 |
|  | LOCATION NOT SAMPLED  |

| Golder | Depth (mbga) | 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    | 24-Mar-15 |
|--------|--------------|-------|-------|-------|-------|----|-----|-----|-----|---------|---------|---------|-----------|-----------|-------|-------|-------|-----------|
| BH15-1 |              |       |       |       |       |    |     |     |     |         |         |         |           |           |       |       |       |           |
| SA1    | 0.1 to 0.7   | <0.02 | <0.05 | <0.05 | <0.05 | <5 | <10 | <50 | <50 | <0.02   | <0.03   | <0.05   | <0.02     | <0.05     | <0.05 | <0.03 | <0.02 |           |
| SA4    | 2.0 to 2.4   | <0.02 | <0.05 | <0.05 | <0.05 | <5 | <10 | <50 | <50 | <0.02   | <0.03   | <0.05   | <0.02     | <0.05     | <0.05 | <0.03 | <0.02 |           |

| Golder | Depth (mbga) | 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    | 24-Mar-15 |
|--------|--------------|-------|-------|-------|-------|----|-----|-----|-----|---------|---------|---------|-----------|-----------|-------|-------|-------|-----------|
| BH15-2 |              |       |       |       |       |    |     |     |     |         |         |         |           |           |       |       |       |           |
| SA1    | 0.1 to 0.7   | <0.02 | <0.05 | <0.05 | <0.05 | <5 | <10 | <50 | <50 | <0.02   | <0.03   | <0.05   | <0.02     | <0.05     | <0.05 | <0.03 | <0.02 |           |
| SA4    | 2.0 to 2.4   | <0.02 | <0.05 | <0.05 | <0.05 | <5 | <10 | <50 | <50 | <0.02   | <0.03   | <0.05   | <0.02     | <0.05     | <0.05 | <0.03 | <0.02 |           |

| Golder  | Depth (mbga) | 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    | 24-Mar-15 |
|---------|--------------|-------|-------|-------|-------|----|-----|-----|-----|---------|---------|---------|-----------|-----------|-------|-------|-------|-----------|
| BH15-S3 |              |       |       |       |       |    |     |     |     |         |         |         |           |           |       |       |       |           |
| SA1     | 0.1 to 0.7   | <0.02 | <0.05 | <0.05 | <0.05 | <5 | <10 | <50 | <50 | <0.02   | <0.03   | <0.05   | <0.02     | <0.05     | <0.05 | <0.03 | <0.02 |           |
| SA3     | 1.4 to 2.0   | <0.02 | <0.05 | <0.05 | <0.05 | <5 | <10 | <50 | <50 | <0.02   | <0.03   | <0.05   | <0.02     | <0.05     | <0.05 | <0.03 | <0.02 |           |

| Golder  | Depth (mbga) | 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    | 24-Mar-15 |
|---------|--------------|-------|-------|-------|-------|----|-----|-----|------|---------|---------|---------|-----------|-----------|-------|-------|-------|-----------|
| BH15-S4 |              |       |       |       |       |    |     |     |      |         |         |         |           |           |       |       |       |           |
| SA1     | 0.1 to 0.7   | <0.02 | <0.05 | <0.05 | <0.05 | <5 | <10 | 740 | 1100 | <0.02   | <0.03   | <0.05   | <0.02     | <0.05     | <0.05 | <0.03 | <0.02 |           |
| SA3     | 1.4 to 2.0   | <0.02 | <0.05 | <0.05 | <0.05 | <5 | <10 | <50 | <50  | <0.02   | <0.03   | <0.05   | <0.02     | <0.05     | <0.05 | <0.03 | <0.02 |           |

| WSP    | Depth (mbga) | 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     | 11-Jan-16 |
|--------|--------------|--------|--------|--------|--------|-----|-----|-----|-----|---------|---------|---------|-----------|-----------|--------|--------|--------|-----------|
| BH15-1 |              |        |        |        |        |     |     |     |     |         |         |         |           |           |        |        |        |           |
| 2      | 0.15 to 0.61 | <0.020 | <0.020 | <0.050 | <0.050 | <10 | <10 | <50 | <50 | <0.050  | <0.050  | <0.050  | <0.050    | <0.050    | <0.050 | <0.050 | <0.020 |           |

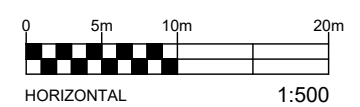
  

| WSP    | Depth (mbga) | B      | T      | E      | X      | F1  | F2  | F3  | F4  | 1,1-DCA | 1,2-DCA | 1,1-DCE | c-1,2-DCE | t-1,2-DCE | PCE    | TCE    | VC     | 11-Jan-16 |
|--------|--------------|--------|--------|--------|--------|-----|-----|-----|-----|---------|---------|---------|-----------|-----------|--------|--------|--------|-----------|
| BH15-2 |              |        |        |        |        |     |     |     |     |         |         |         |           |           |        |        |        |           |
| 2      | 0.61 to 0.83 | <0.020 | <0.020 | <0.050 | <0.050 | <10 | <10 | <50 | <50 | <0.050  | <0.050  | <0.050  | <0.050    | <0.050    | <0.050 | <0.050 | <0.020 |           |

| WSP    | Depth (mbga) | 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     | 11-Jan-16 |
|--------|--------------|--------|--------|--------|--------|-----|-----|-----|-----|---------|---------|---------|-----------|-----------|--------|--------|--------|-----------|
| BH15-3 |              |        |        |        |        |     |     |     |     |         |         |         |           |           |        |        |        |           |
| 4      | 1.22 to 1.83 | <0.020 | <0.020 | <0.050 | <0.050 | <10 | <10 | <50 | <50 | <0.050  | <0.050  | <0.050  | <0.050    | <0.050    | <0.050 | <0.050 | <0.020 |           |
| DUP    |              | <0.020 | <0.020 | <0.050 | <0.050 | <10 | <10 | <50 | <50 | <0.050  | <0.050  | <0.050  | <0.050    | <0.050    | <0.050 | <0.050 | <0.020 |           |

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



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

DATE: **OCTOBER 2022**

DESIGN: LW | CHECKED: MM

DRAWN BY: AS

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

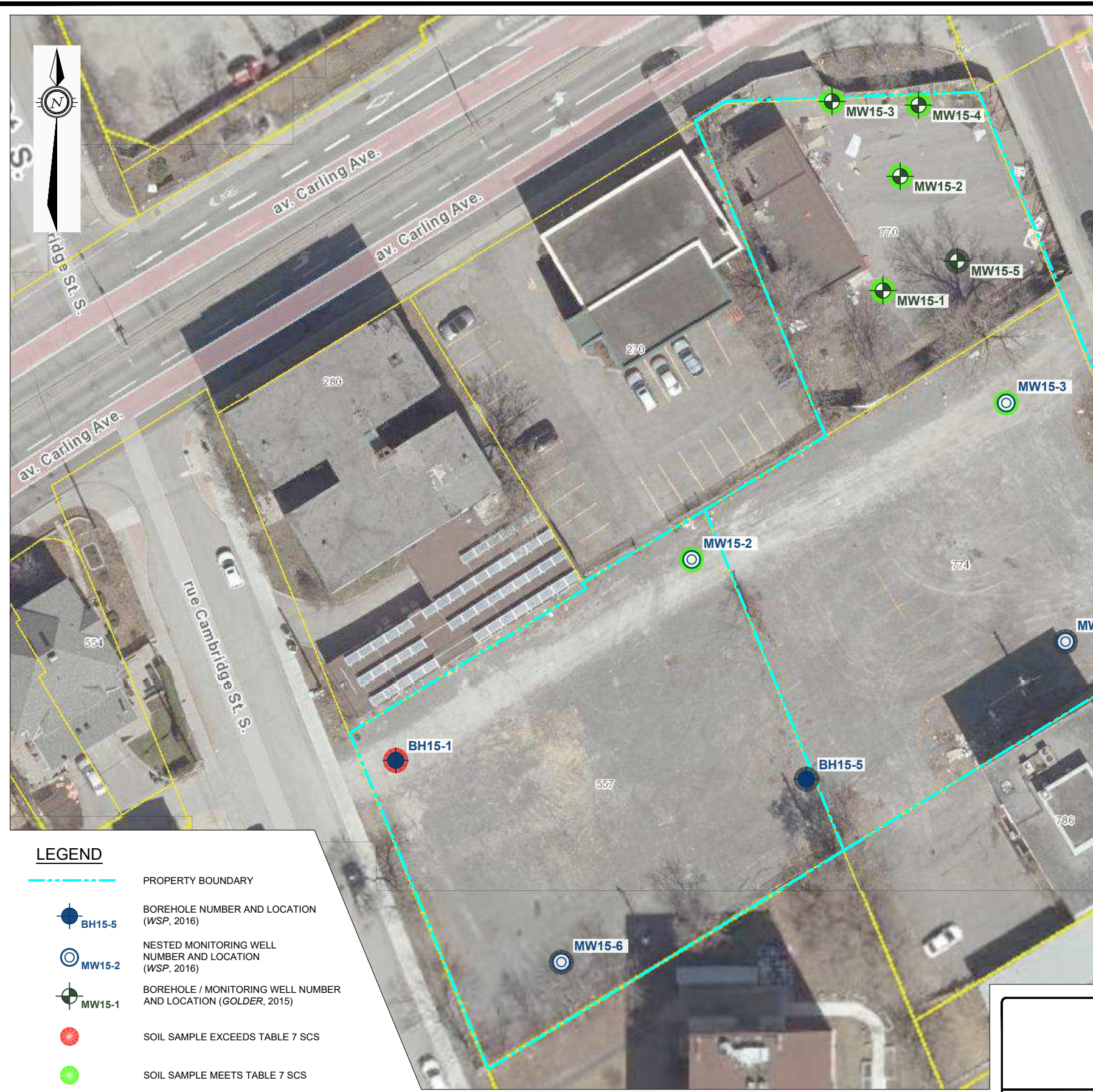
TITLE: **SOIL ANALYTICAL RESULTS – PHC & VOC**

project no.: **OTT-22019409-A0**

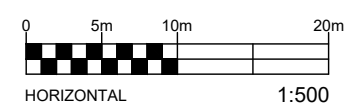
scale: **1:500**

**FIG 7**

Filename: E:\OTT-22019409-A0\_60\_Execution\65 Drawings\22019409-A0\_Ph-2.dwg  
 Last Saved: Oct 6, 2022 12:47 PM  
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- LEGEND**
- PROPERTY BOUNDARY
  - BOREHOLE NUMBER AND LOCATION (WSP, 2016)
  - NESTED MONITORING WELL NUMBER AND LOCATION (WSP, 2016)
  - BOREHOLE / MONITORING WELL NUMBER AND LOCATION (GOLDER, 2015)
  - SOIL SAMPLE EXCEEDS TABLE 7 SCS
  - SOIL SAMPLE MEETS TABLE 7 SCS
  - LOCATION NOT SAMPLED



| Golder | Depth (mbgs) | Ace   | Acl   | An    | B(a)A | B(a)P | B(b)F | B(ghi)P | B(k)F | C     | DA    | Fl    | F     | I(123)P | T-MN  | N     | P     | Py    |
|--------|--------------|-------|-------|-------|-------|-------|-------|---------|-------|-------|-------|-------|-------|---------|-------|-------|-------|-------|
| BH15-1 | 0.1 to 0.7   | <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 |
| SA1    | 0.1 to 0.7   | <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 |
| SA4    | 2.0 to 2.4   | <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 |

| Golder | Depth (mbgs) | Ace   | Acl   | An    | B(a)A | B(a)P | B(b)F | B(ghi)P | B(k)F | C     | DA    | Fl    | F     | I(123)P | T-MN  | N     | P     | Py    |
|--------|--------------|-------|-------|-------|-------|-------|-------|---------|-------|-------|-------|-------|-------|---------|-------|-------|-------|-------|
| BH15-2 | 0.1 to 0.7   | <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 |
| SA1    | 0.1 to 0.7   | <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 |
| SA4    | 1.4 to 2.0   | <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 |

| Golder  | Depth (mbgs) | Ace   | Acl   | An    | B(a)A | B(a)P | B(b)F | B(ghi)P | B(k)F | C     | DA    | Fl    | F     | I(123)P | T-MN  | N     | P     | Py    |
|---------|--------------|-------|-------|-------|-------|-------|-------|---------|-------|-------|-------|-------|-------|---------|-------|-------|-------|-------|
| BH15-S3 | 0.1 to 0.7   | <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 |
| SA1     | 0.1 to 0.7   | <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 |
| SA3     | 1.4 to 2.0   | <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 |

| Golder  | Depth (mbgs) | Ace   | Acl   | An    | B(a)A | B(a)P | B(b)F | B(ghi)P | B(k)F | C     | DA    | Fl    | F     | I(123)P | T-MN  | N     | P     | Py    |
|---------|--------------|-------|-------|-------|-------|-------|-------|---------|-------|-------|-------|-------|-------|---------|-------|-------|-------|-------|
| BH15-S4 | 1.4 to 2.0   | <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 |
| SA3     | 1.4 to 2.0   | <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 |

| WSP    | Depth (mbgs) | Ace     | Acl     | An      | B(a)A   | B(a)P   | B(b)F  | B(ghi)P | B(k)F   | C       | DA      | Fl     | F       | I(123)P | T-MN    | N       | P       | Py     |
|--------|--------------|---------|---------|---------|---------|---------|--------|---------|---------|---------|---------|--------|---------|---------|---------|---------|---------|--------|
| BH15-1 | 0.15 to 0.61 | 0.1     | 0.066   | 0.23    | 0.72    | 0.78    | 1.1    | 0.42    | 0.41    | 0.71    | 0.13    | 1.9    | 0.11    | 0.44    | 0.037   | 0.022   | 1.1     | 1.3    |
| 2      | 0.15 to 0.61 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0095 | <0.0050 | <0.0050 | <0.0071 | <0.0050 | <0.0050 | 0.0095 |

| WSP    | Depth (mbgs) | Ace     | Acl     | An      | B(a)A   | B(a)P   | B(b)F  | B(ghi)P | B(k)F   | C       | DA      | Fl     | F       | I(123)P | T-MN    | N       | P       | Py     |
|--------|--------------|---------|---------|---------|---------|---------|--------|---------|---------|---------|---------|--------|---------|---------|---------|---------|---------|--------|
| BH15-2 | 0.61 to 0.83 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0095 | <0.0050 | <0.0050 | <0.0071 | <0.0050 | <0.0050 | 0.0095 |
| 2      | 0.61 to 0.83 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0095 | <0.0050 | <0.0050 | <0.0071 | <0.0050 | <0.0050 | 0.0095 |

| WSP    | Depth (mbgs) | Ace     | Acl     | An      | B(a)A   | B(a)P   | B(b)F  | B(ghi)P | B(k)F   | C       | DA      | Fl     | F       | I(123)P | T-MN    | N       | P       | Py     |
|--------|--------------|---------|---------|---------|---------|---------|--------|---------|---------|---------|---------|--------|---------|---------|---------|---------|---------|--------|
| BH15-3 | 1.22 to 1.83 | <0.0050 | <0.0050 | <0.0050 | 0.02    | 0.02    | 0.035  | 0.015   | 0.0099  | 0.02    | <0.0050 | 0.035  | <0.0050 | 0.0099  | <0.0071 | <0.0050 | 0.02    | 0.03   |
| 4      | 1.22 to 1.83 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0084 | <0.0050 | <0.0050 | <0.0071 | <0.0050 | <0.0050 | 0.0084 |
| DUP    | 1.22 to 1.83 | <0.0050 | <0.0050 | <0.0050 | 0.02    | 0.02    | 0.035  | 0.015   | 0.0099  | 0.02    | <0.0050 | 0.035  | <0.0050 | 0.0099  | <0.0071 | <0.0050 | 0.02    | 0.03   |

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



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DATE: **OCTOBER 2022**

DESIGN: LW | CHECKED: MM

DRAWN BY: AS

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

TITLE: **SOIL ANALYTICAL RESULTS – PAH**

project no.: **OTT-22019409-A0**

scale: **1:500**

**FIG 8**

Filename: E:\OTT\22019409-A0\_60\_Execution\65 Drawings\22019409-A0\_Ph-2.dwg  
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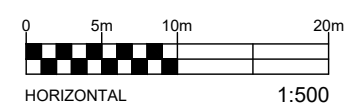


| PARAMETERS  | ABBREVIATION | REG 153/04 TABLE 7 |
|-------------|--------------|--------------------|
| Antimony    | Sb           | 7.5                |
| Arsenic     | As           | 18                 |
| Barium      | Ba           | 390                |
| Beryllium   | Be           | 4        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

**LEGEND**

- PROPERTY BOUNDARY
- BOREHOLE NUMBER AND LOCATION (WSP, 2016)
- NESTED MONITORING WELL NUMBER AND LOCATION (WSP, 2016)
- BOREHOLE / MONITORING WELL NUMBER AND LOCATION (GOLDER, 2015)
- SOIL SAMPLE EXCEEDS TABLE 7 SCS
- SOIL SAMPLE MEETS TABLE 7 SCS
- LOCATION NOT SAMPLED

| WSP    | Depth (mbgs) | Sb   | As  | Ba   | Be   | B    | Cd   | Cr | Cr VI | Co  | Cu   | Cy   | Pb   | Hg     | Mo   | Ni    | Se    | Ag    | Tl    | U    | V   | Zn  |
|--------|--------------|------|-----|------|------|------|------|----|-------|-----|------|------|------|--------|------|-------|-------|-------|-------|------|-----|-----|
| BH15-4 | 1            | 0.63 | 15  | 160  | 0.52 | 7.2  | 0.3  | 24 | <0.2  | 6.8 | 28   | 0.09 | 140  | 0.39   | 1.8  | 15    | 0.72  | <0.20 | 0.19  | 0.49 | 34  | 120 |
| BH15-5 | 2            | 1    | 31  | 130  | 0.5  | 17   | 0.19 | 48 | -     | 11  | 17.0 | -    | 83   | <0.050 | 0.77 | 140   | <0.50 | <0.20 | 0.085 | 3.8  | 30  | 97  |
| BH15-6 | 2            | 0.92 | 27  | 110  | 0.28 | <5.0 | 0.22 | 16 | -     | 4.4 | 24   | -    | 190  | 0.076  | 1    | 11    | <0.50 | <0.20 | 0.1   | 0.49 | 17  | 170 |
| DUP    | 1            | 3.6  | 130 | 0.33 | <5.0 | 0.29 | 19   | -  | 5.1   | 22  | -    | 210  | 0.13 | 1.1    | 11.0 | <0.50 | <0.20 | 0.12  | 100   | 20   | 190 |     |

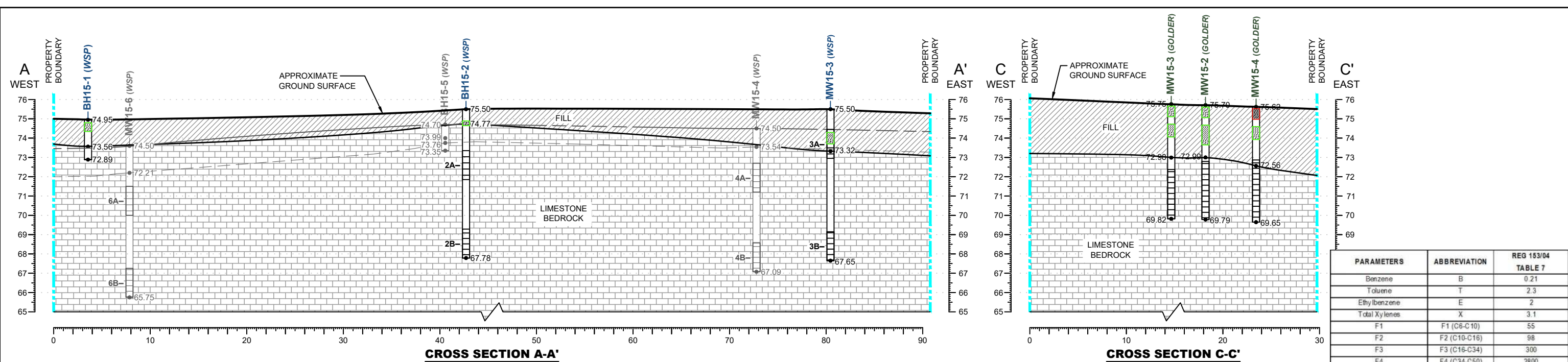


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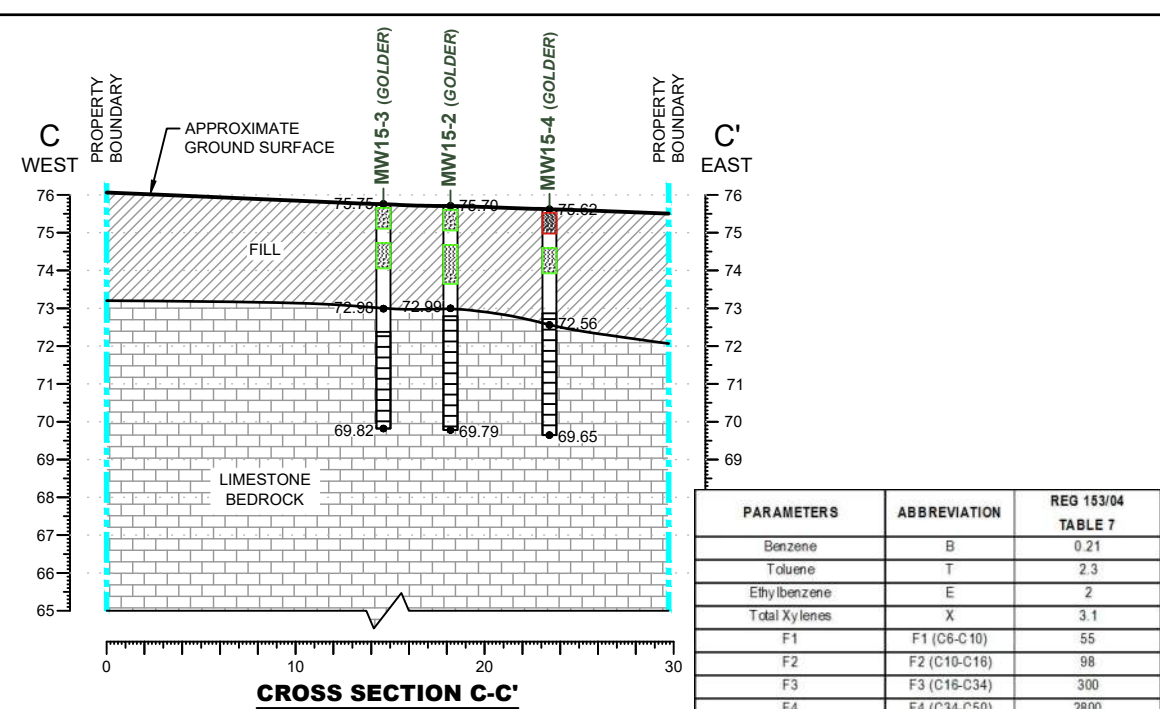
|                      |   |  |
|----------------------|---|--|
| DATE<br>OCTOBER 2022 | CLIENT:<br>PHASE TWO ENVIRONMENTAL SITE ASSESSMENT<br>770 & 774 BRONSON AVENUE + 557 CAMBRIDGE STREET, OTTAWA, ON | project no.<br>OTT-22019409-A0                 |
| DESIGN<br>LW         | CHECKED<br>MM   | scale<br>1:500                                 |
| DRAWN BY<br>AS       |   | TITLE:<br>SOIL ANALYTICAL RESULTS – INORGANICS |
|                      |   | FIG 9  |



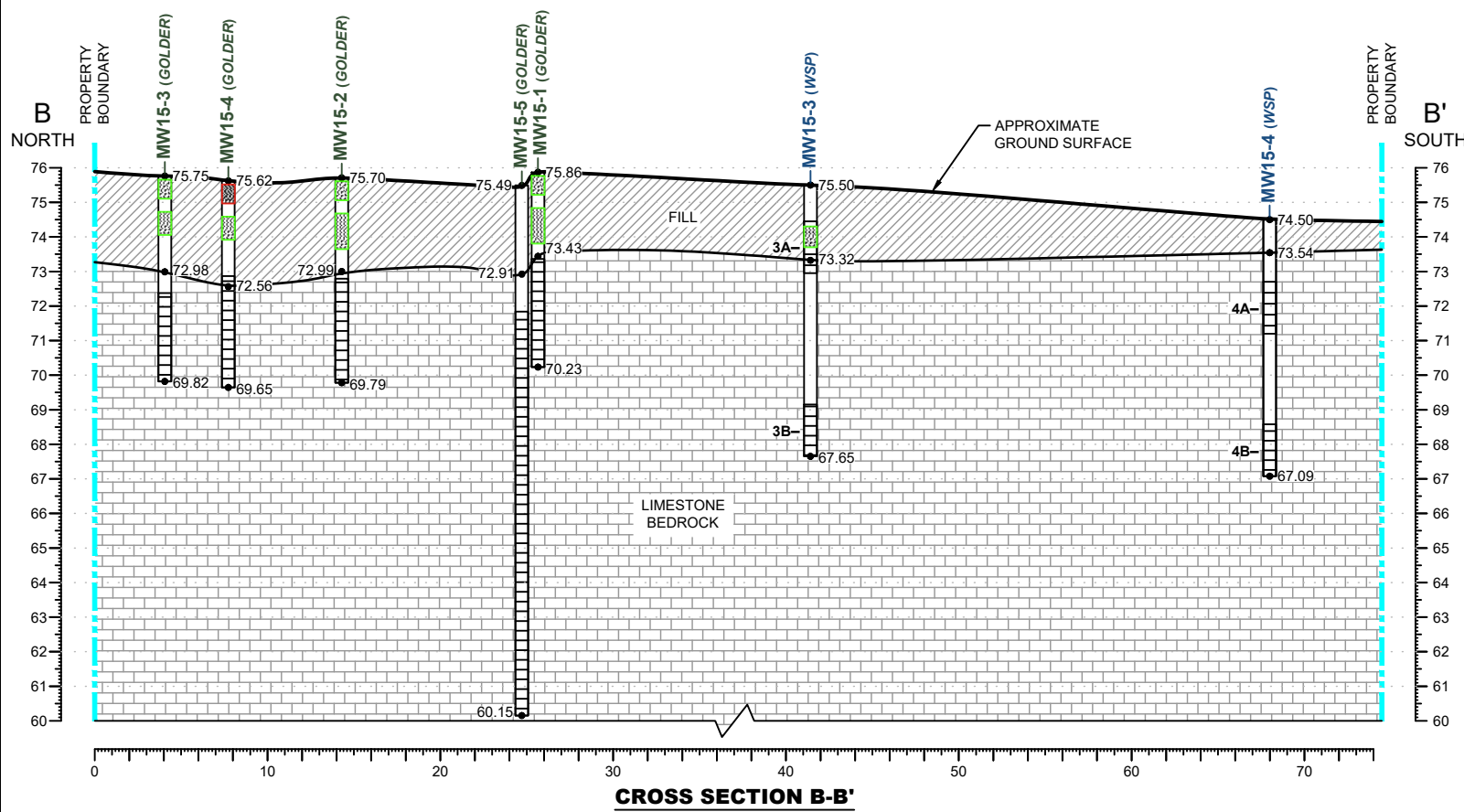
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**CROSS SECTION A-A'**



**CROSS SECTION C-C'**



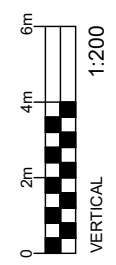
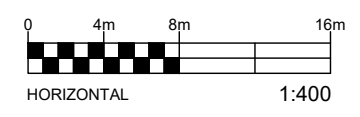
**CROSS SECTION B-B'**

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

| Golder  |               | 24-Mar-15 |        |        |        |     |     |     |      |         |         |         |           |           |        |        |        |
|---------|---------------|-----------|--------|--------|--------|-----|-----|-----|------|---------|---------|---------|-----------|-----------|--------|--------|--------|
| BH15-1  | Depth (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     |
| SA1     | 0.1 to 0.7    | <0.02     | <0.05  | <0.05  | <0.05  | <5  | <10 | <50 | <50  | <0.02   | <0.03   | <0.05   | <0.02     | <0.05     | <0.05  | <0.03  | <0.02  |
| SA4     | 2.0 to 2.4    | <0.02     | <0.05  | <0.05  | <0.05  | <5  | <10 | <50 | <50  | <0.02   | <0.03   | <0.05   | <0.02     | <0.05     | <0.05  | <0.03  | <0.02  |
| Golder  |               | 24-Mar-15 |        |        |        |     |     |     |      |         |         |         |           |           |        |        |        |
| BH15-2  | Depth (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     |
| SA1     | 0.1 to 0.7    | <0.02     | <0.05  | <0.05  | <0.05  | <5  | <10 | <50 | <50  | <0.02   | <0.03   | <0.05   | <0.02     | <0.05     | <0.05  | <0.03  | <0.02  |
| SA4     | 2.0 to 2.4    | <0.02     | <0.05  | <0.05  | <0.05  | <5  | <10 | <50 | <50  | <0.02   | <0.03   | <0.05   | <0.02     | <0.05     | <0.05  | <0.03  | <0.02  |
| Golder  |               | 24-Mar-15 |        |        |        |     |     |     |      |         |         |         |           |           |        |        |        |
| BH15-S3 | Depth (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     |
| SA1     | 0.1 to 0.7    | <0.02     | <0.05  | <0.05  | <0.05  | <5  | <10 | <50 | <50  | <0.02   | <0.03   | <0.05   | <0.02     | <0.05     | <0.05  | <0.03  | <0.02  |
| SA3     | 1.4 to 2.0    | <0.02     | <0.05  | <0.05  | <0.05  | <5  | <10 | <50 | <50  | <0.02   | <0.03   | <0.05   | <0.02     | <0.05     | <0.05  | <0.03  | <0.02  |
| Golder  |               | 24-Mar-15 |        |        |        |     |     |     |      |         |         |         |           |           |        |        |        |
| BH15-S4 | Depth (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     |
| SA1     | 0.1 to 0.7    | <0.02     | <0.05  | <0.05  | <0.05  | <5  | <10 | 740 | 1100 | <0.02   | <0.03   | <0.05   | <0.02     | <0.05     | <0.05  | <0.03  | <0.02  |
| SA3     | 1.4 to 2.0    | <0.02     | <0.05  | <0.05  | <0.05  | <5  | <10 | <50 | <50  | <0.02   | <0.03   | <0.05   | <0.02     | <0.05     | <0.05  | <0.03  | <0.02  |
| WSP     |               | 11-Jan-16 |        |        |        |     |     |     |      |         |         |         |           |           |        |        |        |
| BH15-1  | Depth (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     |
| 2       | 0.15 to 0.61  | <0.020    | <0.020 | <0.050 | <0.050 | <10 | <10 | <50 | <50  | <0.050  | <0.050  | <0.050  | <0.050    | <0.050    | <0.050 | <0.050 | <0.020 |
| WSP     |               | 11-Jan-16 |        |        |        |     |     |     |      |         |         |         |           |           |        |        |        |
| BH15-2  | Depth (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     |
| 2       | 0.61 to 0.83  | <0.020    | <0.020 | <0.050 | <0.050 | <10 | <10 | <50 | <50  | <0.050  | <0.050  | <0.050  | <0.050    | <0.050    | <0.050 | <0.050 | <0.020 |
| WSP     |               | 11-Jan-16 |        |        |        |     |     |     |      |         |         |         |           |           |        |        |        |
| BH15-3  | Depth (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     |
| 4       | 1.22 to 1.83  | <0.020    | <0.020 | <0.050 | <0.050 | <10 | <10 | <50 | <50  | <0.050  | <0.050  | <0.050  | <0.050    | <0.050    | <0.050 | <0.050 | <0.020 |
| DUP     |               | <0.020    | <0.020 | <0.050 | <0.050 | <10 | <10 | <50 | <50  | <0.050  | <0.050  | <0.050  | <0.050    | <0.050    | <0.050 | <0.050 | <0.020 |

**LEGEND**

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



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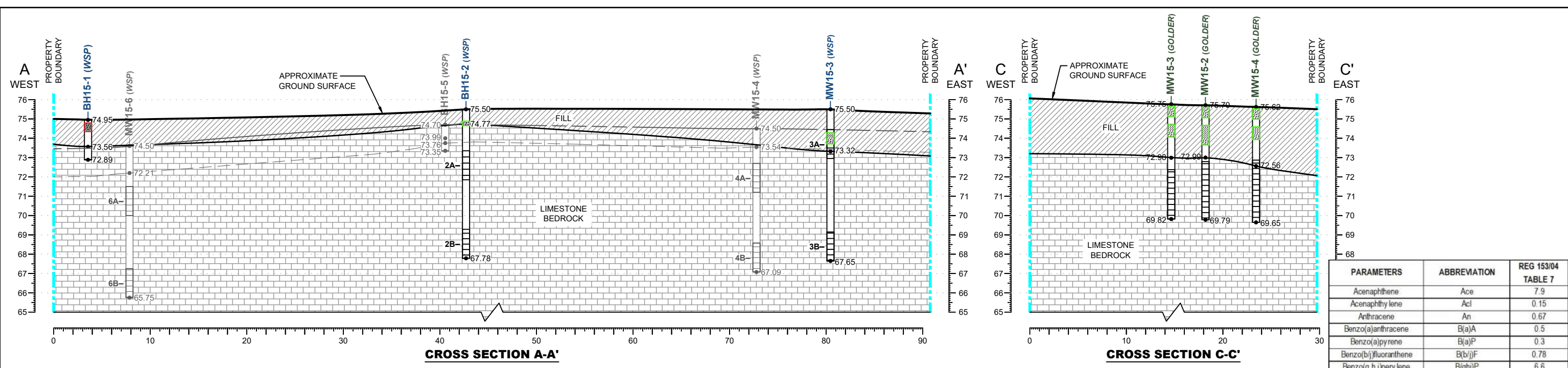
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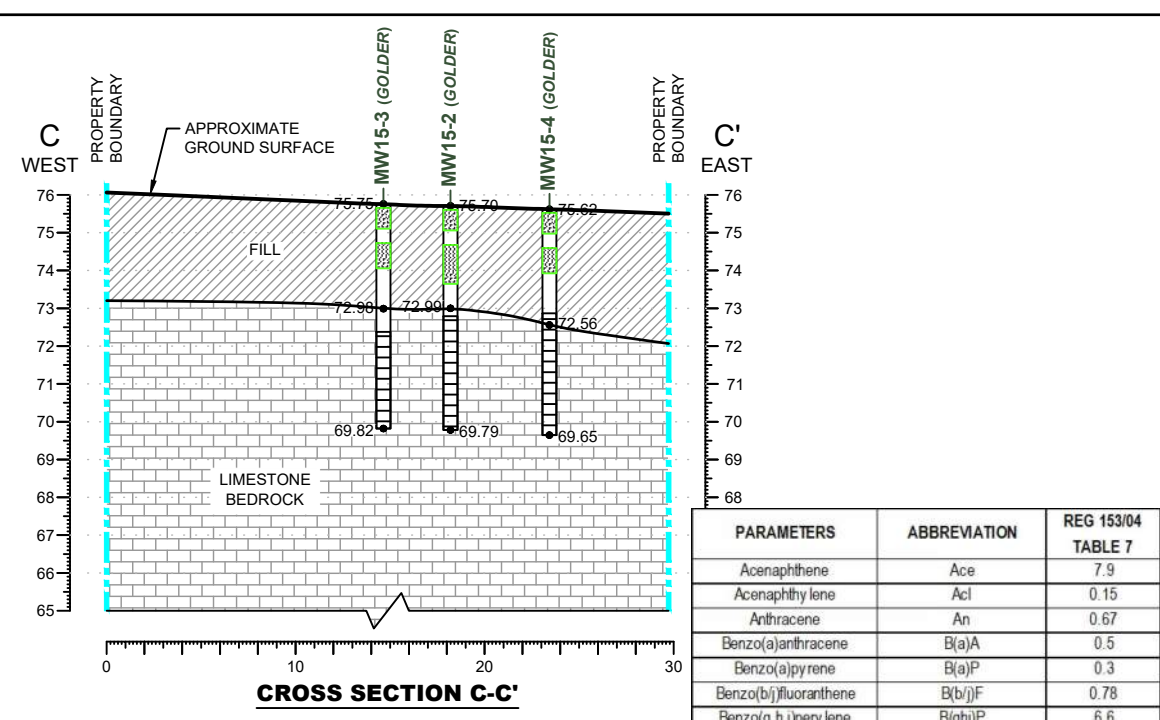
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|          |              |   |  |             |                         |
|----------|--------------|---|--|-------------|-------------------------|
| DATE     | OCTOBER 2022 | CLIENT:   | PHASE TWO ENVIRONMENTAL SITE ASSESSMENT<br>770 & 774 BRONSON AVENUE + 557 CAMBRIDGE STREET, OTTAWA, ON | project no. | OTT-22019409-A0         |
| DESIGN   | LW           | CHECKED   | MM   | scale       | HORIZ 1:400, VERT 1:200 |
| DRAWN BY | AS           | <b>SOIL CROSS SECTIONS A-A', B-B', C-C' – PHC &amp; VOC</b> |  |             | <b>FIG 10</b>           |

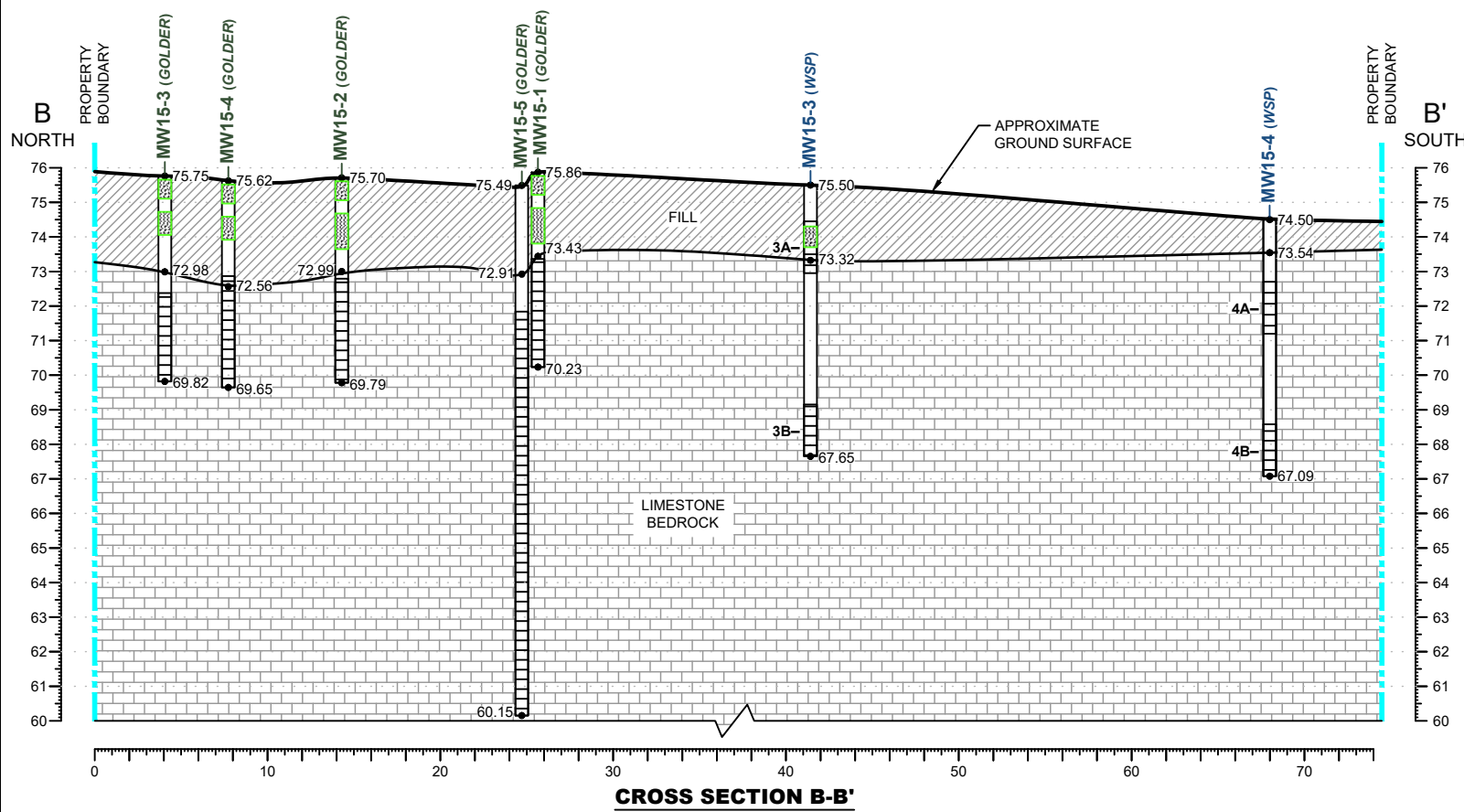
Filename: E:\OTT\22019409-A0\_60\_Execution\65 Drawings\22019409-A0\_Ph-2.dwg  
 Last Saved: Oct 6, 2022 12:47 PM  
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CROSS SECTION A-A'



CROSS SECTION C-C'



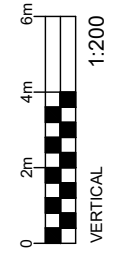
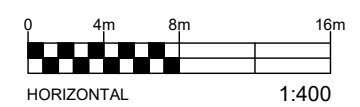
CROSS SECTION B-B'

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

|        |               | 24-Mar-15 |         |         |         |         |        |         |         |         |         |        |         |         |         |         |         |        |
|--------|---------------|-----------|---------|---------|---------|---------|--------|---------|---------|---------|---------|--------|---------|---------|---------|---------|---------|--------|
| Golder | Depth (m bgs) | Ace       | AcI     | An      | B(a)A   | B(a)P   | B(b)F  | B(ghi)P | B(k)F   | C       | DA      | Fl     | F       | I(123)P | T-MN    | N       | P       | Py     |
| BH15-1 | 0.1 to 0.7    | <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  |
| SA1    | 0.1 to 0.7    | <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  |
| SA4    | 2.0 to 2.4    | <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  |
|        |               | 24-Mar-15 |         |         |         |         |        |         |         |         |         |        |         |         |         |         |         |        |
| Golder | Depth (m bgs) | Ace       | AcI     | An      | B(a)A   | B(a)P   | B(b)F  | B(ghi)P | B(k)F   | C       | DA      | Fl     | F       | I(123)P | T-MN    | N       | P       | Py     |
| BH15-2 | 0.1 to 0.7    | <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  |
| SA1    | 0.1 to 0.7    | <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  |
| SA4    | 1.4 to 2.0    | <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  |
|        |               | 24-Mar-15 |         |         |         |         |        |         |         |         |         |        |         |         |         |         |         |        |
| Golder | Depth (m bgs) | Ace       | AcI     | An      | B(a)A   | B(a)P   | B(b)F  | B(ghi)P | B(k)F   | C       | DA      | Fl     | F       | I(123)P | T-MN    | N       | P       | Py     |
| BH15-3 | 0.1 to 0.7    | <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  |
| SA1    | 0.1 to 0.7    | <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  |
| SA3    | 1.4 to 2.0    | <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  |
|        |               | 11-Jan-16 |         |         |         |         |        |         |         |         |         |        |         |         |         |         |         |        |
| WSP    | Depth (m bgs) | Ace       | AcI     | An      | B(a)A   | B(a)P   | B(b)F  | B(ghi)P | B(k)F   | C       | DA      | Fl     | F       | I(123)P | T-MN    | N       | P       | Py     |
| BH15-1 | 0.15 to 0.61  | 0.1       | 0.066   | 0.23    | 0.72    | 0.78    | 1.1    | 0.42    | 0.41    | 0.71    | 0.13    | 1.9    | 0.11    | 0.44    | 0.037   | 0.022   | 1.1     | 1.3    |
|        |               | 11-Jan-16 |         |         |         |         |        |         |         |         |         |        |         |         |         |         |         |        |
| WSP    | Depth (m bgs) | Ace       | AcI     | An      | B(a)A   | B(a)P   | B(b)F  | B(ghi)P | B(k)F   | C       | DA      | Fl     | F       | I(123)P | T-MN    | N       | P       | Py     |
| BH15-2 | 0.61 to 0.83  | <0.0050   | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0095 | <0.0050 | <0.0050 | <0.0071 | <0.0050 | <0.0050 | 0.0095 |
|        |               | 11-Jan-16 |         |         |         |         |        |         |         |         |         |        |         |         |         |         |         |        |
| WSP    | Depth (m bgs) | Ace       | AcI     | An      | B(a)A   | B(a)P   | B(b)F  | B(ghi)P | B(k)F   | C       | DA      | Fl     | F       | I(123)P | T-MN    | N       | P       | Py     |
| BH15-3 | 1.22 to 1.83  | <0.0050   | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.010 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0084 | <0.0050 | <0.0050 | <0.0071 | <0.0050 | <0.0050 | 0.0084 |
| DUP    |               | <0.0050   | <0.0050 | <0.0050 | 0.02    | 0.02    | 0.035  | 0.015   | 0.0099  | 0.02    | <0.0050 | 0.035  | <0.0050 | 0.0099  | <0.0071 | <0.0050 | 0.02    | 0.03   |

**LEGEND**

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



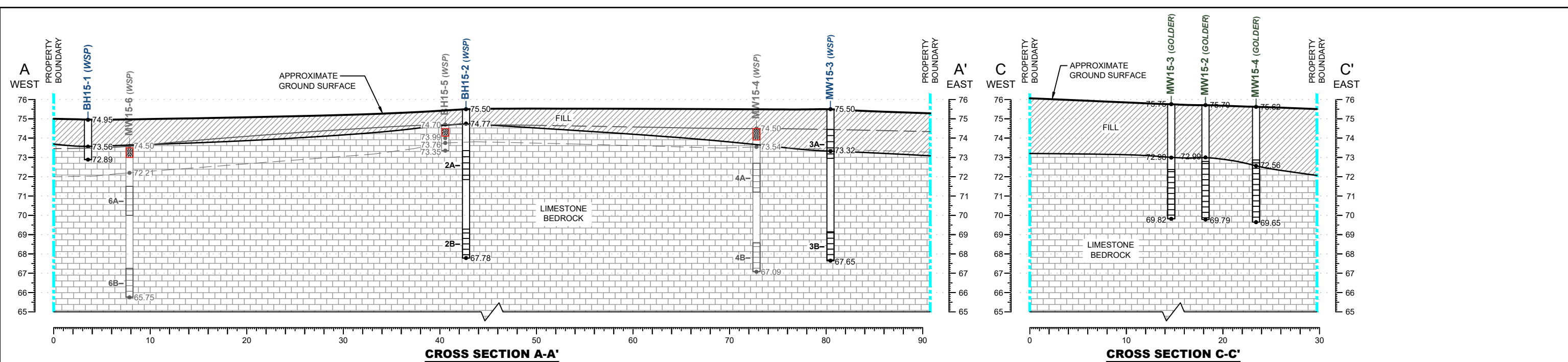
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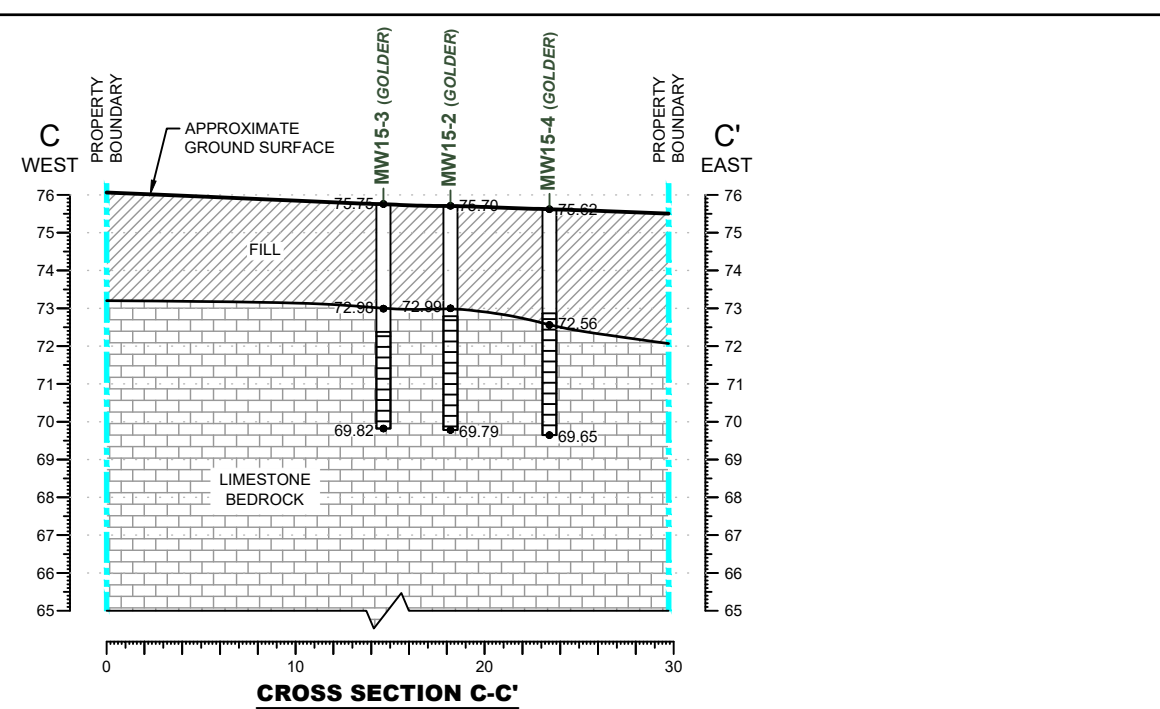
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|          |              |  |  |             |                         |
|----------|--------------|--|--|-------------|-------------------------|
| DATE     | OCTOBER 2022 | CLIENT:                                    | PHASE TWO ENVIRONMENTAL SITE ASSESSMENT<br>770 & 774 BRONSON AVENUE + 557 CAMBRIDGE STREET, OTTAWA, ON | project no. | OTT-22019409-A0         |
| DESIGN   | LW           | CHECKED                                    | MM   | scale       | HORIZ 1:400, VERT 1:200 |
| DRAWN BY | AS           | SOIL CROSS SECTIONS A-A', B-B', C-C' – PAH |  |             | FIG 11                  |

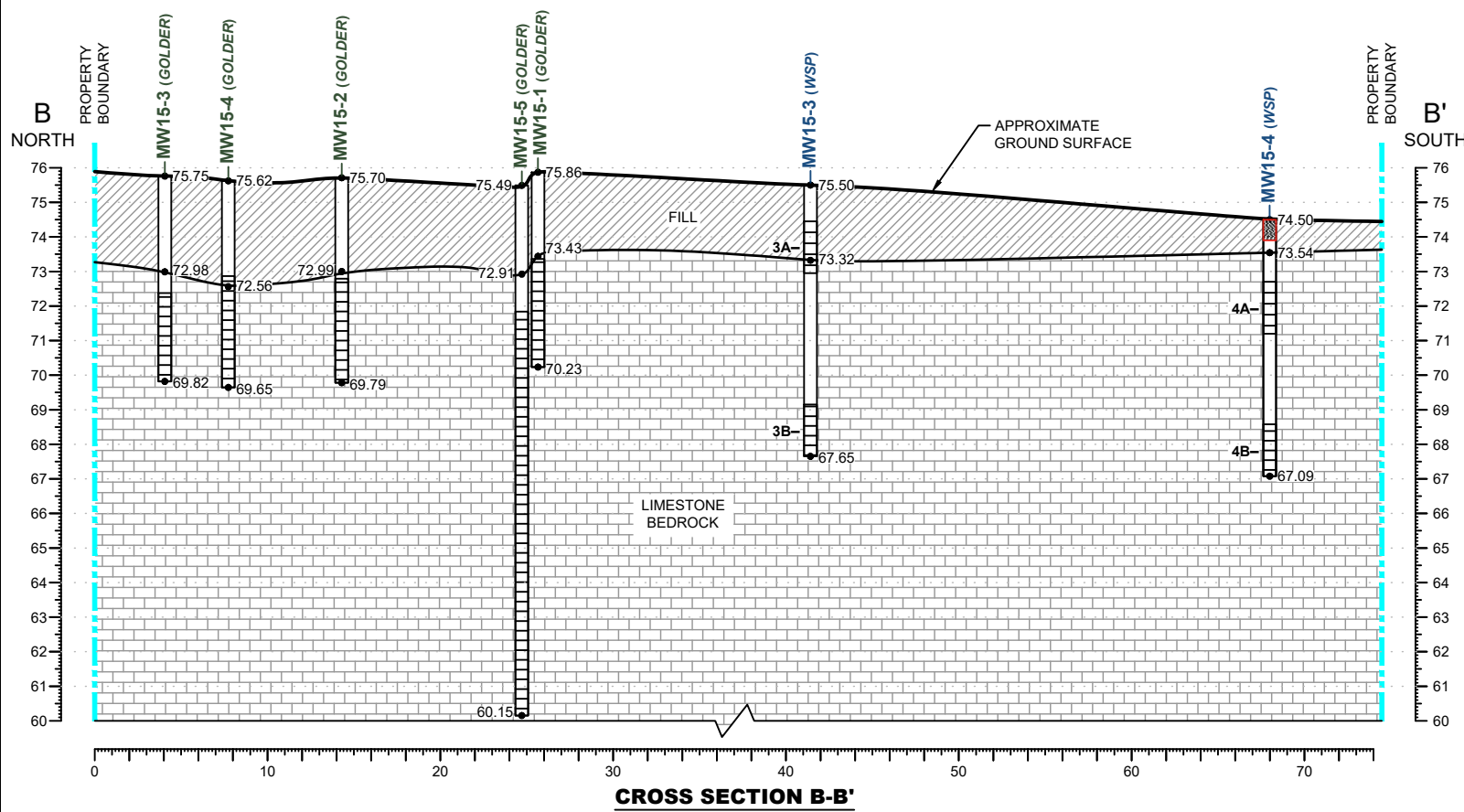
Filename: E:\OTT\22019409-A0\_60\_Execution\65 Drawings\22019409-A0\_Ph-2.dwg  
 Last Saved: Oct 6, 2022 12:47 PM Plotted by: SeverA  
 Last Plotted: Oct 6, 2022 12:47 PM



CROSS SECTION A-A'



CROSS SECTION C-C'

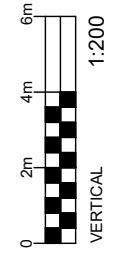
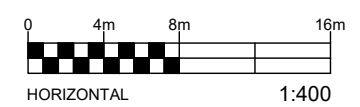


CROSS SECTION B-B'

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

| WSP    | Depth (mbgs) | Sb   | As  | Ba  | Be   | B    | Cd   | Cr | Cr VI | Co  | Cu   | Cy   | Pb  | Hg     | Mo   | Ni  | Se    | Ag    | Tl    | U    | V  | Zn  |
|--------|--------------|------|-----|-----|------|------|------|----|-------|-----|------|------|-----|--------|------|-----|-------|-------|-------|------|----|-----|
| BH15-4 | 0.0 to 0.6   | 0.63 | 15  | 160 | 0.52 | 7.2  | 0.3  | 24 | <0.2  | 6.8 | 28   | 0.09 | 140 | 0.39   | 1.8  | 15  | 0.72  | <0.20 | 0.19  | 0.49 | 34 | 120 |
| BH15-5 | 0.2 to 0.6   | 1    | 3.1 | 130 | 0.5  | 17   | 0.19 | 48 | -     | 11  | 17.0 | -    | 63  | <0.050 | 0.77 | 140 | <0.50 | <0.20 | 0.085 | 3.8  | 30 | 97  |
| BH15-6 | 0.1 to 0.6   | 0.92 | 2.7 | 110 | 0.28 | <5.0 | 0.22 | 16 | -     | 4.4 | 24   | -    | 190 | 0.076  | 1    | 11  | <0.50 | <0.20 | 0.1   | 0.49 | 17 | 170 |
| DUP    | 0.1 to 0.6   | 1    | 3.6 | 130 | 0.33 | <5.0 | 0.29 | 19 | -     | 5.1 | 22   | -    | 210 | 0.13   | 1.1  | 110 | <0.50 | <0.20 | 0.12  | 100  | 20 | 190 |

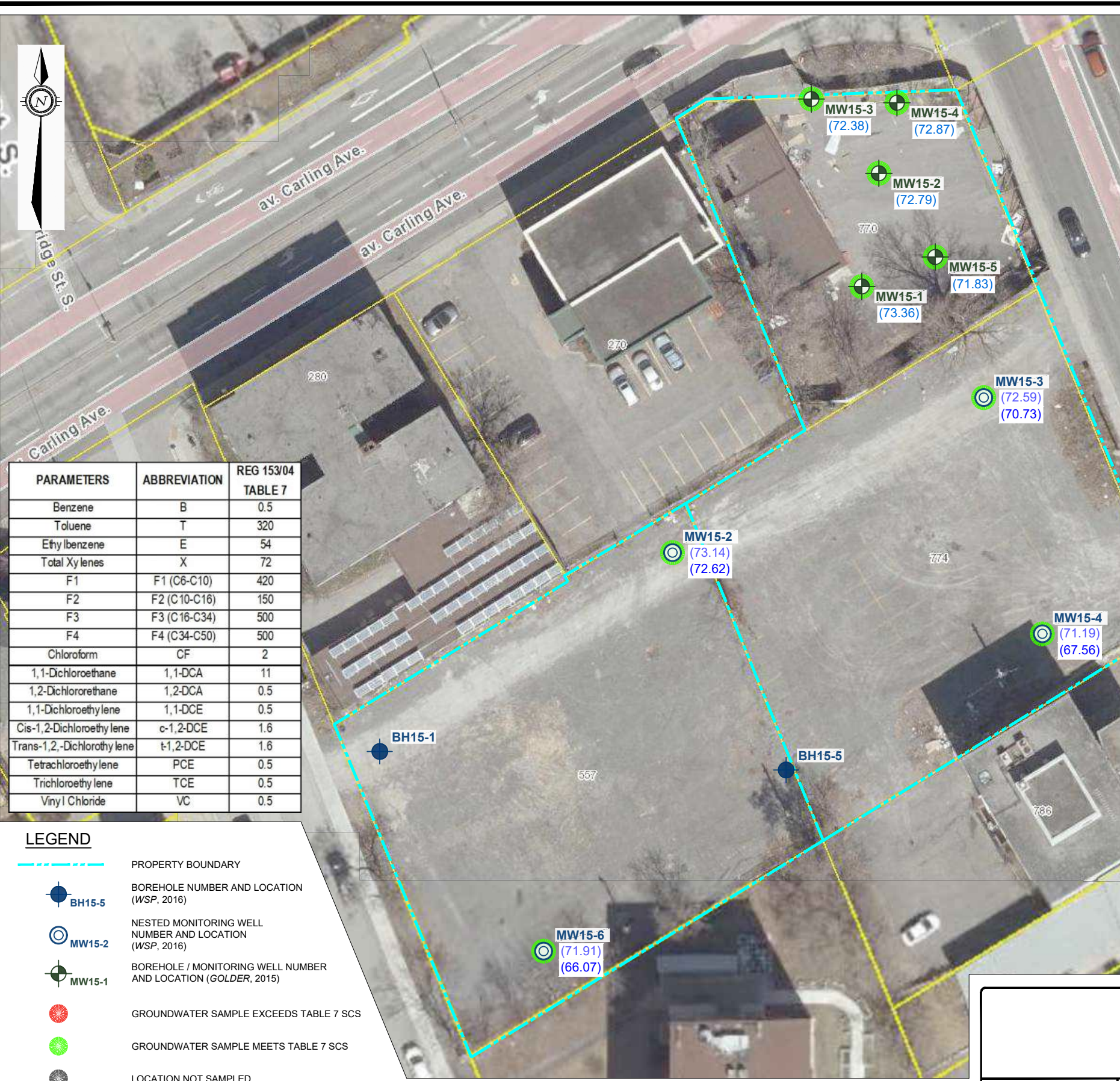
- LEGEND**
- PROPERTY BOUNDARY
  - SOIL SAMPLE EXCEEDS TABLE 7 SCS
  - SOIL SAMPLE MEETS TABLE 7 SCS
  - SCREEN NAME AND LOCATION/DEPTH (WSP)



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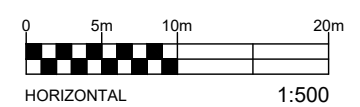
|                      |   |                                  |
|----------------------|---|----------------------------------|
| DATE<br>OCTOBER 2022 | CLIENT:<br>PHASE TWO ENVIRONMENTAL SITE ASSESSMENT<br>770 & 774 BRONSON AVENUE + 557 CAMBRIDGE STREET, OTTAWA, ON | project no.<br>OTT-22019409-A0   |
| DESIGN<br>LW         | CHECKED<br>MM   | scale<br>HORIZ 1:400, VERT 1:200 |
| DRAWN BY<br>AS       | TITLE:<br>SOIL CROSS SECTIONS A-A', B-B', C-C' – INORGANICS   | FIG 12                           |

Filename: E:\OTT\22019409-A0\_60\_Execution\65 Drawings\22019409-A0\_Ph-2.dwg  
 Last Saved: Oct 6, 2022 12:47 PM  
 Plotted by: Severa



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

- LEGEND**
- PROPERTY BOUNDARY
  - BOREHOLE NUMBER AND LOCATION (WSP, 2016)
  - NESTED MONITORING WELL NUMBER AND LOCATION (WSP, 2016)
  - BOREHOLE / MONITORING WELL NUMBER AND LOCATION (GOLDER, 2015)
  - GROUNDWATER SAMPLE EXCEEDS TABLE 7 SCS
  - GROUNDWATER SAMPLE MEETS TABLE 7 SCS
  - LOCATION NOT SAMPLED
  - (72.59) GROUNDWATER ELEVATION FROM MARCH 1, 2016 (WSP) - SHALLOW
  - (70.73) GROUNDWATER ELEVATION FROM MARCH 1, 2016 (WSP) - DEEP
  - (71.83) GROUNDWATER ELEVATION FROM MARCH 27, 2016 (GOLDER)



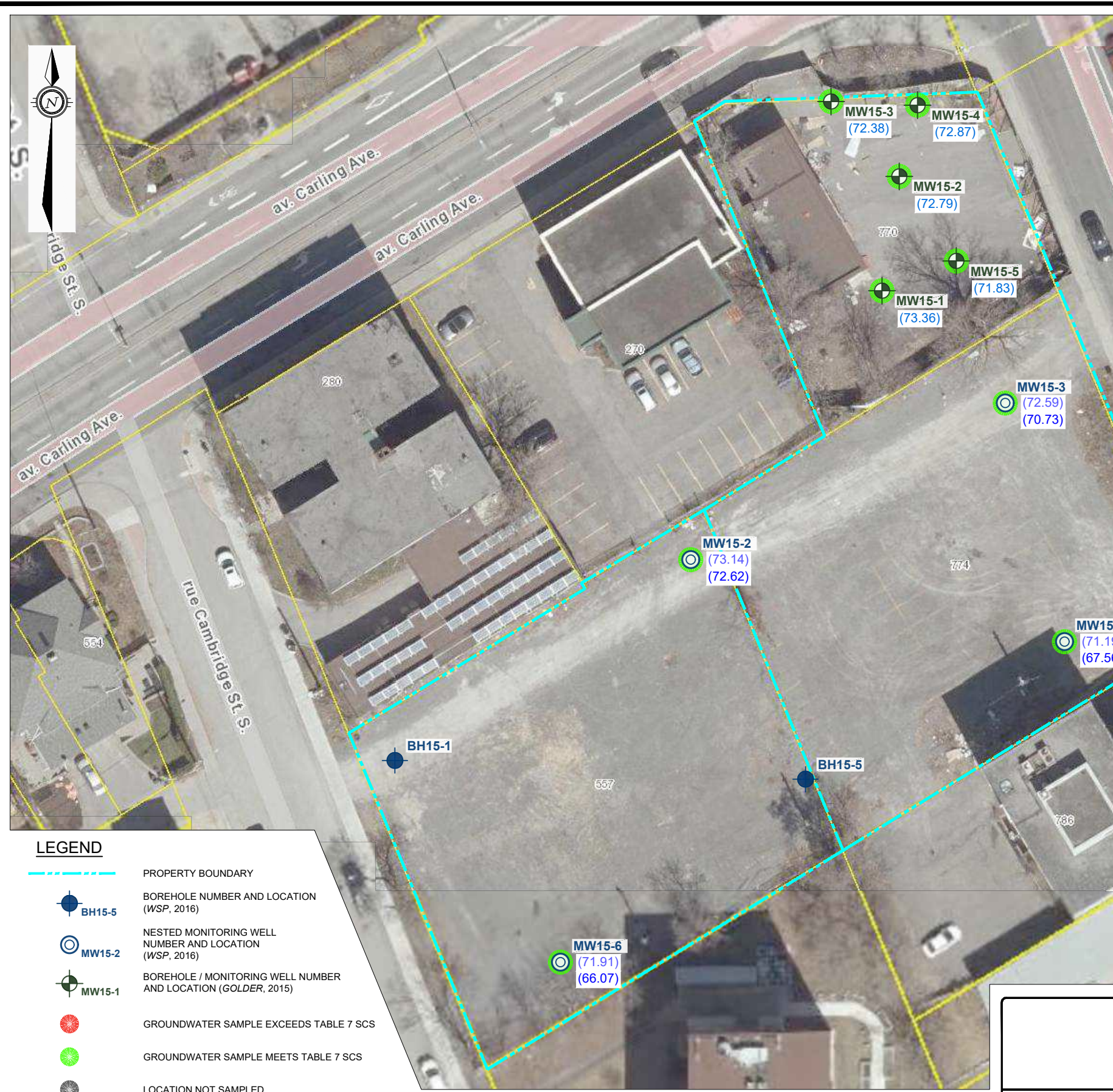
| Golder    |       |      |       |       |     |      |      |      |     |         |         |         |           |           | Screen Interval 4.1 to 5.6 mbgs |       |       |  |  |
|-----------|-------|------|-------|-------|-----|------|------|------|-----|---------|---------|---------|-----------|-----------|---------------------------------|-------|-------|--|--|
| BH15-1    | B     | T    | E     | X     | F1  | F2   | F3   | F4   | CF  | 1,1-DCA | 1,2-DCA | 1,1-DCE | c-1,2-DCE | t-1,2-DCE | PCE                             | TCE   | VC    |  |  |
| 27-Mar-15 | <0.20 | 0.67 | <0.10 | <0.20 | <25 | <100 | <100 | <100 | 2.1 | <0.30   | <0.40   | <0.30   | <0.40     | <0.20     | <0.20                           | <0.40 | <0.17 |  |  |
| 11-Aug-22 | <0.5  | <0.5 | <0.5  | <1.1  | <25 | <50  | <400 | <400 | <1  | <0.5    | <0.5    | <0.5    | <0.5      | <0.5      | <0.5                            | <0.5  | <0.2  |  |  |



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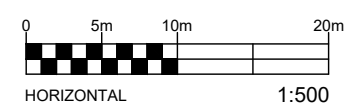
|                      |   |                                |
|----------------------|---|--------------------------------|
| DATE<br>OCTOBER 2022 | CLIENT:<br>PHASE TWO ENVIRONMENTAL SITE ASSESSMENT<br>770 & 774 BRONSON AVENUE + 557 CAMBRIDGE STREET, OTTAWA, ON | project no.<br>OTT-22019409-A0 |
| DESIGN<br>LW         | CHECKED<br>MM   | scale<br>1:500                 |
| DRAWN BY<br>AS       | TITLE:<br>GROUNDWATER ANALYTICAL RESULTS – PHC & VOC  | FIG 13                         |

Filename: E:\OTT-22019409-A0\_60\_Execution\65 Drawings\22019409-A0\_Ph-2.dwg  
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**LEGEND**

- PROPERTY BOUNDARY
- BOREHOLE NUMBER AND LOCATION (WSP, 2016)
- NESTED MONITORING WELL NUMBER AND LOCATION (WSP, 2016)
- BOREHOLE / MONITORING WELL NUMBER AND LOCATION (GOLDER, 2015)
- GROUNDWATER SAMPLE EXCEEDS TABLE 7 SCS
- GROUNDWATER SAMPLE MEETS TABLE 7 SCS
- LOCATION NOT SAMPLED
- (72.59) GROUNDWATER ELEVATION FROM MARCH 1, 2016 (WSP) - SHALLOW
- (70.73) GROUNDWATER ELEVATION FROM MARCH 1, 2016 (WSP) - DEEP
- (71.83) GROUNDWATER ELEVATION FROM MARCH 27, 2016 (GOLDER)



| Golder    |       |       |       |       |       |       |         |       |       |       |       |       |         | Screen Interval 4.1 to 5.6 mbgs |       |       |       |
|-----------|-------|-------|-------|-------|-------|-------|---------|-------|-------|-------|-------|-------|---------|---------------------------------|-------|-------|-------|
| BH15-1    | Ace   | AcI   | An    | B(a)A | B(a)P | B(b)F | B(ghi)P | B(k)F | C     | DA    | Fl    | F     | I(123)P | T-MN                            | N     | P     | Py    |
| 27-Mar-15 | <0.20 | <0.20 | <0.10 | <0.20 | <0.01 | <0.10 | <0.20   | <0.10 | <0.10 | <0.20 | <0.20 | <0.20 | <0.20   | <0.20                           | <0.20 | <0.10 | <0.20 |
| 11-Aug-22 | <0.05 | <0.05 | <0.05 | <0.05 | 0.012 | <0.05 | <0.05   | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05   | <1                              | <0.05 | <0.05 | <0.05 |

| Golder    |       |       |       |       |       |       |         |       |       |       |       |       |         | Screen Interval 4.4 to 5.9 mbgs |       |       |       |
|-----------|-------|-------|-------|-------|-------|-------|---------|-------|-------|-------|-------|-------|---------|---------------------------------|-------|-------|-------|
| BH15-2    | Ace   | AcI   | An    | B(a)A | B(a)P | B(b)F | B(ghi)P | B(k)F | C     | DA    | Fl    | F     | I(123)P | T-MN                            | N     | P     | Py    |
| 27-Mar-16 | <0.20 | <0.20 | <0.10 | <0.20 | <0.01 | <0.10 | <0.20   | <0.10 | <0.10 | <0.20 | <0.20 | <0.20 | <0.20   | 0.38                            | 0.36  | <0.10 | <0.20 |
| 11-Aug-22 | <0.05 | <0.05 | <0.05 | <0.05 | <0.01 | <0.05 | <0.05   | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05   | <1                              | <0.05 | <0.05 | <0.05 |

| Golder    |       |       |       |       |       |       |         |       |       |       |       |       |         | Screen Interval 4.4 to 6.0 mbgs |       |       |       |
|-----------|-------|-------|-------|-------|-------|-------|---------|-------|-------|-------|-------|-------|---------|---------------------------------|-------|-------|-------|
| BH15-3    | Ace   | AcI   | An    | B(a)A | B(a)P | B(b)F | B(ghi)P | B(k)F | C     | DA    | Fl    | F     | I(123)P | T-MN                            | N     | P     | Py    |
| 27-Mar-15 | <0.20 | <0.20 | <0.10 | <0.20 | <0.01 | <0.10 | <0.20   | <0.10 | <0.10 | <0.20 | <0.20 | <0.20 | <0.20   | <0.20                           | <0.10 | <0.20 |       |
| 11-Aug-22 | <0.05 | <0.05 | <0.05 | <0.05 | <0.01 | <0.05 | <0.05   | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05   | <1                              | <0.05 | <0.05 | <0.05 |

| Golder    |       |       |       |       |       |       |         |       |       |       |       |       |         | Screen Interval 4.4 to 6.0 mbgs |       |       |       |
|-----------|-------|-------|-------|-------|-------|-------|---------|-------|-------|-------|-------|-------|---------|---------------------------------|-------|-------|-------|
| BH15-4    | Ace   | AcI   | An    | B(a)A | B(a)P | B(b)F | B(ghi)P | B(k)F | C     | DA    | Fl    | F     | I(123)P | T-MN                            | N     | P     | Py    |
| 27-Mar-15 | <0.20 | <0.20 | <0.10 | <0.20 | <0.01 | <0.10 | <0.20   | <0.10 | <0.10 | <0.20 | <0.20 | <0.20 | <0.20   | 1.5                             | 0.70  | <0.10 | <0.20 |
| 11-Aug-22 | <0.05 | <0.05 | <0.05 | <0.05 | <0.01 | <0.05 | <0.05   | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05   | <1                              | <0.05 | <0.05 | <0.05 |

| Golder          |       |       |       |       |       |       |         |       |       |       |       |       |         | Screen Interval 7.8 to 15.3 mbgs |       |       |       |
|-----------------|-------|-------|-------|-------|-------|-------|---------|-------|-------|-------|-------|-------|---------|----------------------------------|-------|-------|-------|
| BH15-5          | Ace   | AcI   | An    | B(a)A | B(a)P | B(b)F | B(ghi)P | B(k)F | C     | DA    | Fl    | F     | I(123)P | T-MN                             | N     | P     | Py    |
| 27-Mar-15       | <0.05 | <0.05 | <0.05 | <0.05 | <0.01 | <0.05 | <0.05   | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05   | <1                               | <0.05 | <0.05 | <0.05 |
| 11-Aug-22 (Dup) | <0.05 | <0.05 | <0.05 | <0.05 | <0.01 | <0.05 | <0.05   | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05   | <1                               | <0.05 | <0.05 | <0.05 |

| WSP             |        |        |        |        |        |       |         |        |        |        |        |        |         | o 4.0 mbgs |        |        |        |
|-----------------|--------|--------|--------|--------|--------|-------|---------|--------|--------|--------|--------|--------|---------|------------|--------|--------|--------|
| BH15-2A         | Ace    | AcI    | An     | B(a)A  | B(a)P  | B(b)F | B(ghi)P | B(k)F  | C      | DA     | Fl     | F      | I(123)P | T-MN       | N      | P      | Py     |
| 19-Jan-16       | <0.050 | <0.050 | <0.050 | <0.050 | <0.010 | <0.10 | <0.050  | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050  | <0.1       | <0.050 | <0.030 | <0.050 |
| 19-Jan-16 (Dup) | <0.050 | <0.050 | <0.050 | <0.050 | <0.010 | <0.10 | <0.050  | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050  | <0.1       | <0.050 | <0.030 | <0.050 |

| WSP             |        |        |        |        |        |       |         |        |        |        |        |        |         | o 7.8 mbgs |        |        |        |
|-----------------|--------|--------|--------|--------|--------|-------|---------|--------|--------|--------|--------|--------|---------|------------|--------|--------|--------|
| BH15-2B         | Ace    | AcI    | An     | B(a)A  | B(a)P  | B(b)F | B(ghi)P | B(k)F  | C      | DA     | Fl     | F      | I(123)P | T-MN       | N      | P      | Py     |
| 19-Jan-16       | <0.050 | <0.050 | <0.050 | <0.050 | <0.010 | <0.10 | <0.050  | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050  | <0.1       | <0.050 | <0.030 | <0.050 |
| 19-Jan-16 (Dup) | <0.050 | <0.050 | <0.050 | <0.050 | <0.010 | <0.10 | <0.050  | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050  | <0.1       | <0.050 | <0.030 | <0.050 |

| WSP       |        |        |        |        |        |       |         |        |        |        |        |        |         | o 2.6 mbgs |        |      |        |
|-----------|--------|--------|--------|--------|--------|-------|---------|--------|--------|--------|--------|--------|---------|------------|--------|------|--------|
| BH15-3A   | Ace    | AcI    | An     | B(a)A  | B(a)P  | B(b)F | B(ghi)P | B(k)F  | C      | DA     | Fl     | F      | I(123)P | T-MN       | N      | P    | Py     |
| 19-Jan-16 | <0.050 | <0.050 | <0.050 | <0.050 | <0.010 | <0.10 | <0.050  | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050  | <0.1       | <0.050 | 0.17 | <0.050 |

| WSP       |        |        |        |        |        |       |         |        |        |        |        |        |         | o 7.8 mbgs |       |        |        |
|-----------|--------|--------|--------|--------|--------|-------|---------|--------|--------|--------|--------|--------|---------|------------|-------|--------|--------|
| BH15-3B   | Ace    | AcI    | An     | B(a)A  | B(a)P  | B(b)F | B(ghi)P | B(k)F  | C      | DA     | Fl     | F      | I(123)P | T-MN       | N     | P      | Py     |
| 19-Jan-16 | <0.050 | <0.050 | <0.050 | <0.050 | <0.010 | <0.10 | <0.050  | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050  | 0.10       | 0.050 | <0.030 | <0.050 |

| WSP      |        |        |       |       |       |       |         |       |      |        |      |        |         | o 3.7 mbgs |        |      |     |
|----------|--------|--------|-------|-------|-------|-------|---------|-------|------|--------|------|--------|---------|------------|--------|------|-----|
| BH15-4A  | Ace    | AcI    | An    | B(a)A | B(a)P | B(b)F | B(ghi)P | B(k)F | C    | DA     | Fl   | F      | I(123)P | T-MN       | N      | P    | Py  |
| 1-Mar-16 | <0.050 | <0.050 | 0.059 | 0.16  | 0.18  | 0.24  | 0.12    | 0.087 | 0.15 | <0.050 | 0.35 | <0.050 | 0.13    | <0.71      | <0.050 | 0.99 | 0.1 |

| WSP      |        |        |        |        |       |       |         |        |        |        |      |        |         | o 7.4 mbgs |        |        |     |
|----------|--------|--------|--------|--------|-------|-------|---------|--------|--------|--------|------|--------|---------|------------|--------|--------|-----|
| BH15-4B  | Ace    | AcI    | An     | B(a)A  | B(a)P | B(b)F | B(ghi)P | B(k)F  | C      | DA     | Fl   | F      | I(123)P | T-MN       | N      | P      | Py  |
| 1-Mar-16 | <0.050 | <0.050 | <0.050 | <0.050 | 0.043 | 0.055 | <0.050  | <0.050 | <0.050 | <0.050 | 0.12 | <0.050 | <0.050  | <0.1       | <0.050 | <0.030 | 0.1 |

| WSP      |        |        |        |        |       |       |         |        |        |        |        |        |         | o 3.7 mbgs |        |        |        |
|----------|--------|--------|--------|--------|-------|-------|---------|--------|--------|--------|--------|--------|---------|------------|--------|--------|--------|
| BH15-6A  | Ace    | AcI    | An     | B(a)A  | B(a)P | B(b)F | B(ghi)P | B(k)F  | C      | DA     | Fl     | F      | I(123)P | T-MN       | N      | P      | Py     |
| 1-Mar-16 | <0.050 | <0.050 | <0.050 | <0.050 | 0.043 | 0.055 | <0.050  | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050  | <0.1       | <0.050 | <0.030 | <0.050 |

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



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**DATE:** OCTOBER 2022

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

**DESIGN:** LW    **CHECKED:** MM

**DRAWN BY:** AS

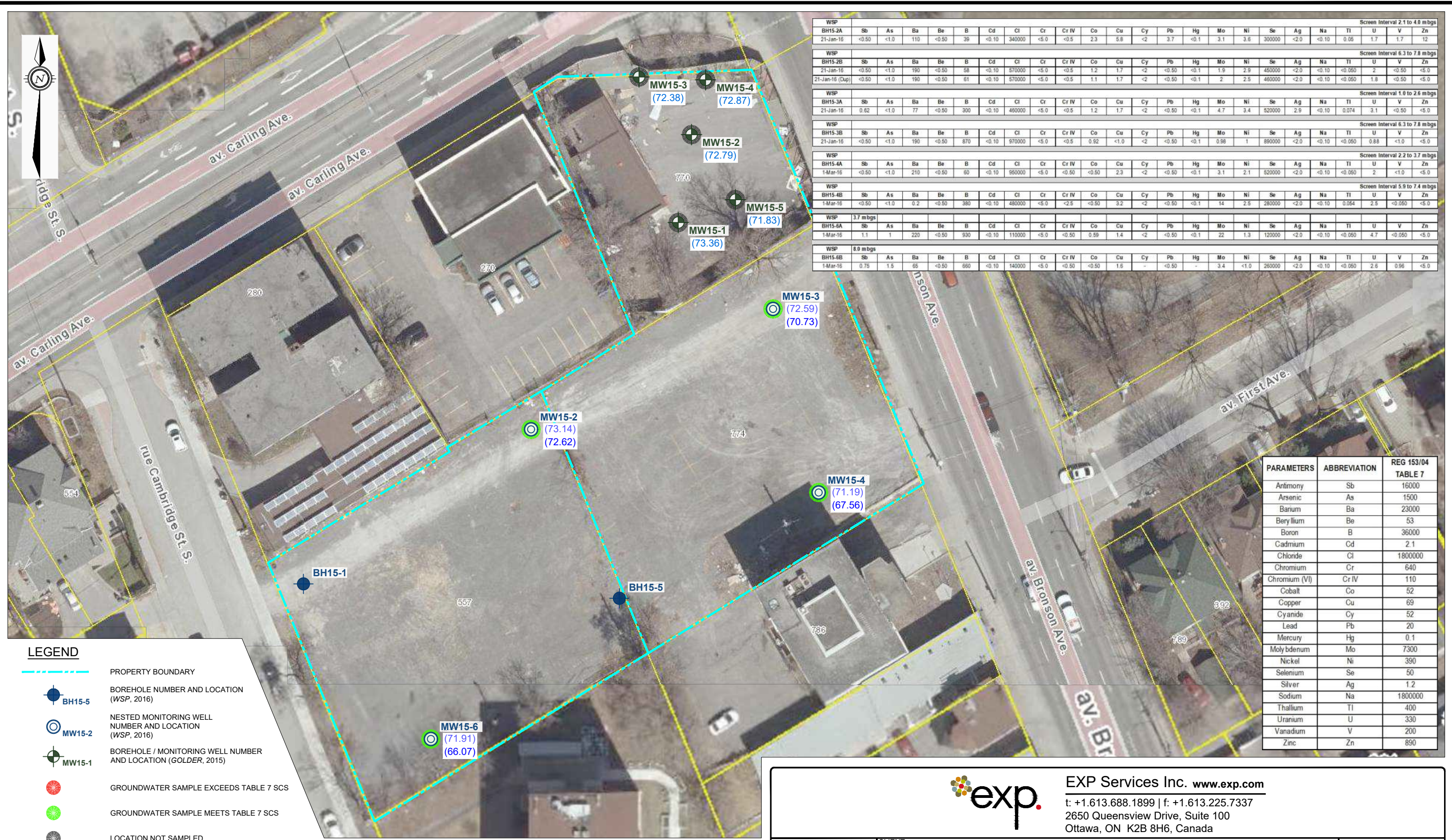
**TITLE:** GROUNDWATER ANALYTICAL RESULTS – PAH

**project no.:** OTT-22019409-A0

**scale:** 1:500

**FIG 14**

Filename: E:\OTT-22019409-A0\_60\_Execution\65 Drawings\22019409-A0\_Ph-2.dwg  
 Last Saved: Oct 6, 2022 12:47 PM  
 Plotted by: SeverA  
 Last Plotted: Oct 6, 2022 12:47 PM

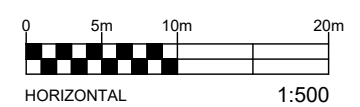



| WSP                             | Sb    | As   | Ba  | Be    | B   | Cd    | Cl     | Cr   | Cr IV | Co    | Cu   | Cy | Pb    | Hg   | Mo   | Ni   | Se     | Ag   | Na    | Tl     | U    | V      | Zn   |
|---------------------------------|-------|------|-----|-------|-----|-------|--------|------|-------|-------|------|----|-------|------|------|------|--------|------|-------|--------|------|--------|------|
| Screen Interval 2.1 to 4.6 mbgs |       |      |     |       |     |       |        |      |       |       |      |    |       |      |      |      |        |      |       |        |      |        |      |
| BH15-2A                         | <0.50 | <1.0 | 110 | <0.50 | 39  | <0.10 | 340000 | <5.0 | <0.5  | 2.3   | 5.8  | <2 | 3.7   | <0.1 | 3.1  | 3.6  | 300000 | <2.0 | <0.10 | 0.05   | 1.7  | 1.7    | 12   |
| Screen Interval 6.3 to 7.8 mbgs |       |      |     |       |     |       |        |      |       |       |      |    |       |      |      |      |        |      |       |        |      |        |      |
| BH15-2B                         | <0.50 | <1.0 | 190 | <0.50 | 58  | <0.10 | 570000 | <5.0 | <0.5  | 1.2   | 1.7  | <2 | <0.50 | <0.1 | 1.9  | 2.9  | 450000 | <2.0 | <0.10 | <0.050 | 2    | <0.50  | <5.0 |
| Screen Interval 1.0 to 2.6 mbgs |       |      |     |       |     |       |        |      |       |       |      |    |       |      |      |      |        |      |       |        |      |        |      |
| BH15-3A                         | 0.62  | <1.0 | 77  | <0.50 | 300 | <0.10 | 460000 | <5.0 | <0.5  | 1.2   | 1.7  | <2 | <0.50 | <0.1 | 4.7  | 3.4  | 520000 | 2.9  | <0.10 | 0.074  | 3.1  | <0.50  | <5.0 |
| Screen Interval 6.3 to 7.8 mbgs |       |      |     |       |     |       |        |      |       |       |      |    |       |      |      |      |        |      |       |        |      |        |      |
| BH15-3B                         | <0.50 | <1.0 | 190 | <0.50 | 870 | <0.10 | 970000 | <5.0 | <0.5  | 0.92  | <1.0 | <2 | <0.50 | <0.1 | 0.98 | 1    | 890000 | <2.0 | <0.10 | <0.050 | 0.88 | <1.0   | <5.0 |
| Screen Interval 2.2 to 3.7 mbgs |       |      |     |       |     |       |        |      |       |       |      |    |       |      |      |      |        |      |       |        |      |        |      |
| BH15-4A                         | <0.50 | <1.0 | 210 | <0.50 | 60  | <0.10 | 960000 | <5.0 | <0.50 | <0.50 | 2.3  | <2 | <0.50 | <0.1 | 3.1  | 2.1  | 520000 | <2.0 | <0.10 | <0.050 | 2    | <1.0   | <5.0 |
| Screen Interval 5.9 to 7.4 mbgs |       |      |     |       |     |       |        |      |       |       |      |    |       |      |      |      |        |      |       |        |      |        |      |
| BH15-4B                         | <0.50 | <1.0 | 0.2 | <0.50 | 380 | <0.10 | 480000 | <5.0 | <2.5  | <0.50 | 3.2  | <2 | <0.50 | <0.1 | 14   | 2.5  | 280000 | <2.0 | <0.10 | 0.054  | 2.5  | <0.050 | <5.0 |
| Screen Interval 3.7 mbgs        |       |      |     |       |     |       |        |      |       |       |      |    |       |      |      |      |        |      |       |        |      |        |      |
| BH15-6A                         | 1.1   | 1    | 220 | <0.50 | 930 | <0.10 | 110000 | <5.0 | <0.50 | 0.59  | 1.4  | <2 | <0.50 | <0.1 | 22   | 1.3  | 120000 | <2.0 | <0.10 | <0.050 | 4.7  | <0.050 | <5.0 |
| Screen Interval 8.0 mbgs        |       |      |     |       |     |       |        |      |       |       |      |    |       |      |      |      |        |      |       |        |      |        |      |
| BH15-6B                         | 0.75  | 1.5  | 65  | <0.50 | 660 | <0.10 | 140000 | <5.0 | <0.50 | <0.50 | 1.6  | -  | <0.50 | -    | 3.4  | <1.0 | 260000 | <2.0 | <0.10 | <0.050 | 2.6  | 0.96   | <5.0 |

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

**LEGEND**

- PROPERTY BOUNDARY
- BH15-5 BOREHOLE NUMBER AND LOCATION (WSP, 2016)
- MW15-2 NESTED MONITORING WELL NUMBER AND LOCATION (WSP, 2016)
- MW15-1 BOREHOLE / MONITORING WELL NUMBER AND LOCATION (GOLDER, 2015)
- GROUNDWATER SAMPLE EXCEEDS TABLE 7 SCS
- GROUNDWATER SAMPLE MEETS TABLE 7 SCS
- LOCATION NOT SAMPLED
- (72.59) GROUNDWATER ELEVATION FROM MARCH 1, 2016 (WSP) - SHALLOW
- (70.73) GROUNDWATER ELEVATION FROM MARCH 1, 2016 (WSP) - DEEP
- (71.83) GROUNDWATER ELEVATION FROM MARCH 27, 2016 (GOLDER)





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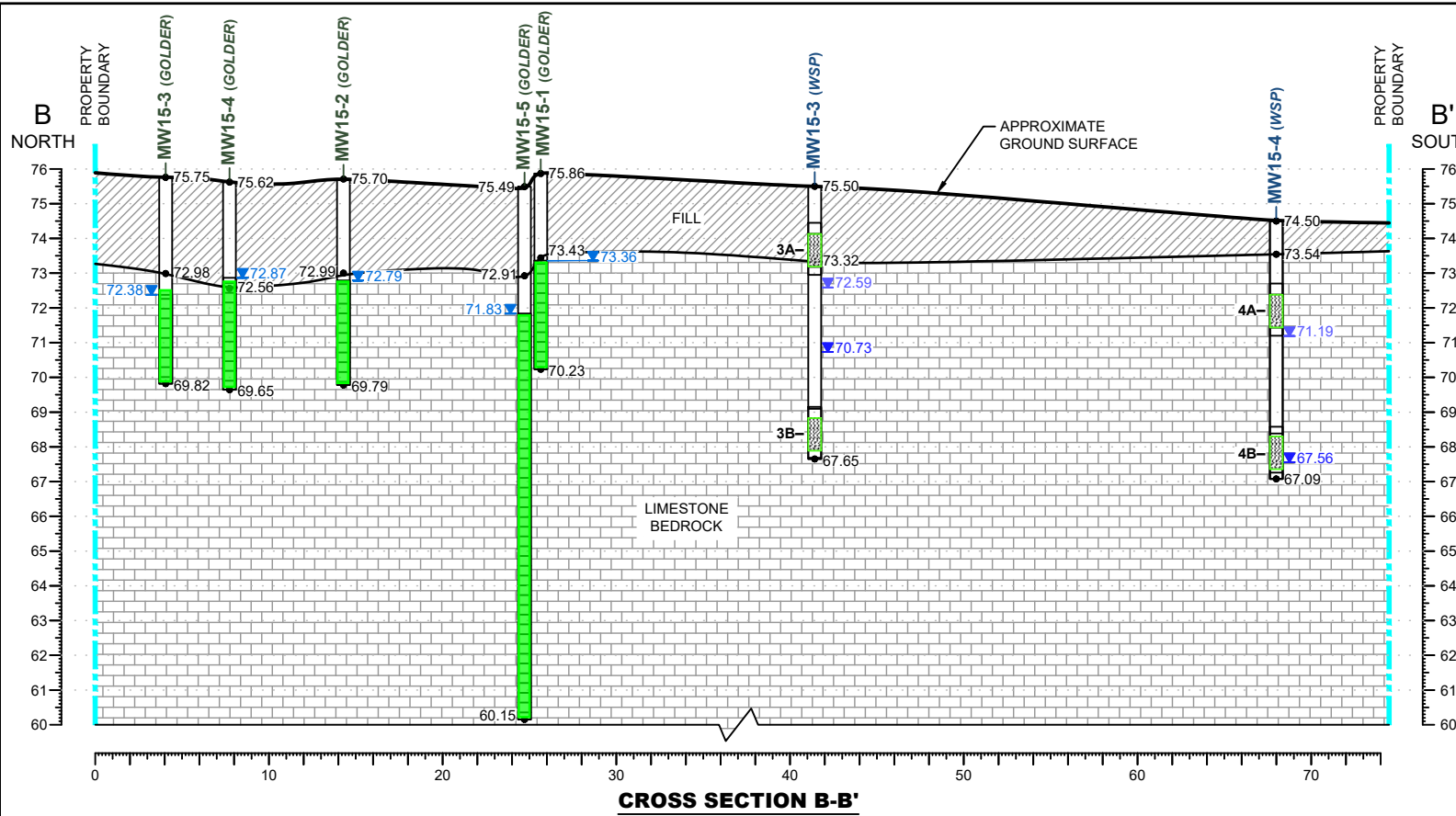
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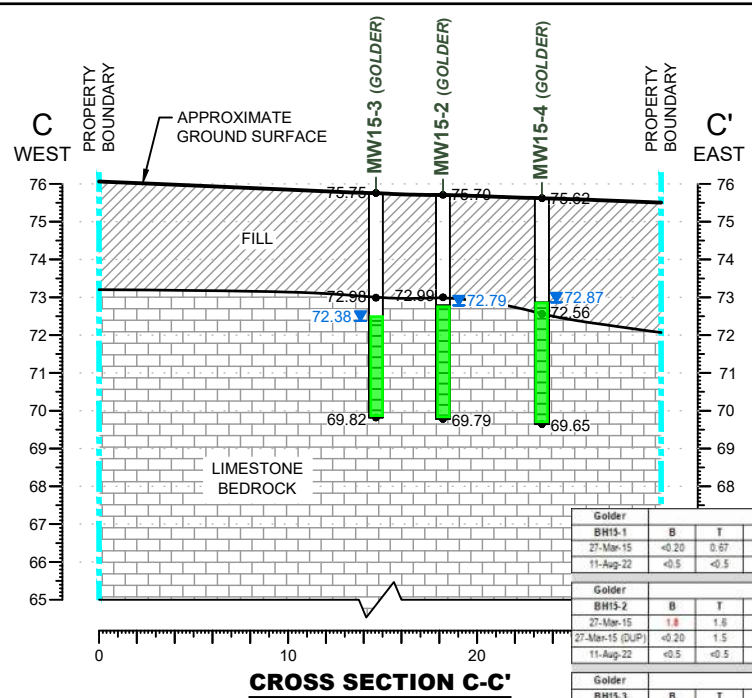
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|          |              |  |  |             |                 |
|----------|--------------|--|--|-------------|-----------------|
| DATE     | OCTOBER 2022 | CLIENT:  | PHASE TWO ENVIRONMENTAL SITE ASSESSMENT<br>770 & 774 BRONSON AVENUE + 557 CAMBRIDGE STREET, OTTAWA, ON | project no. | OTT-22019409-A0 |
| DESIGN   | LW           | CHECKED  | MM   | scale       | 1:500           |
| DRAWN BY | AS           | <b>GROUNDWATER ANALYTICAL RESULTS – INORGANICS</b> |  |             | <b>FIG 15</b>   |

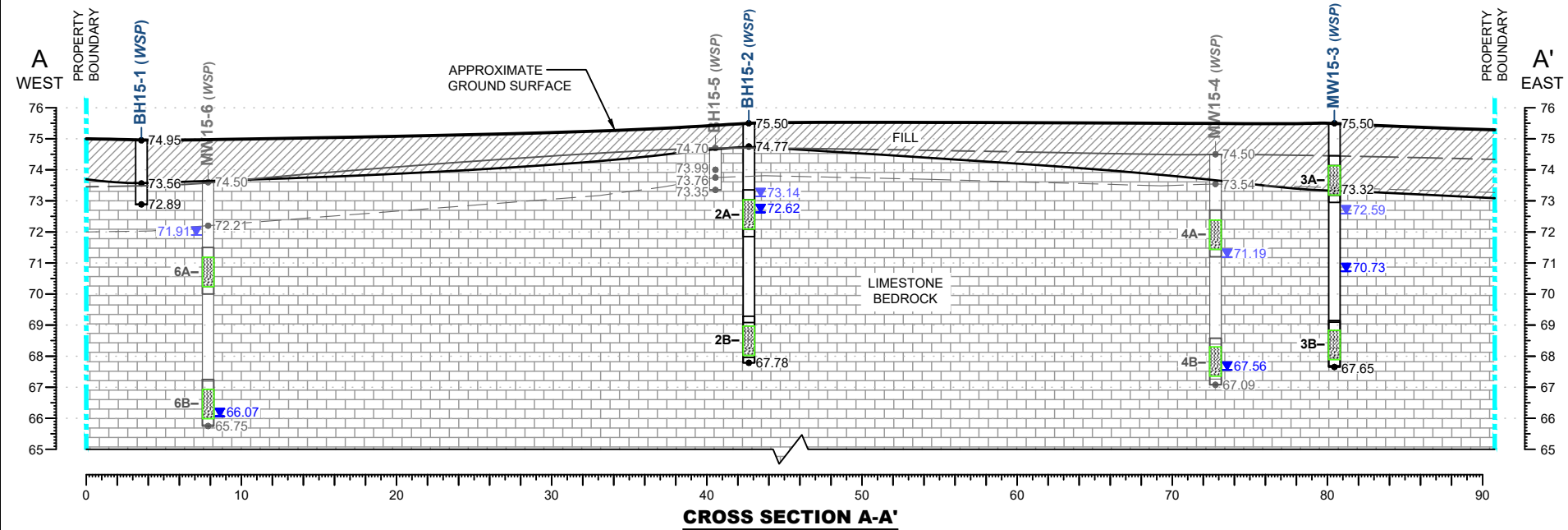
Filename: E:\OTT-22019409-A0\_60\_Execution\65 Drawings\22019409-A0\_Ph-2.dwg  
 Last Saved: Oct 6, 2022 12:47 PM Plotted by: Severa



CROSS SECTION B-B'



CROSS SECTION C-C'

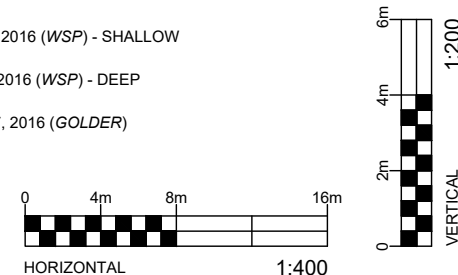


CROSS SECTION A-A'

**LEGEND**

- PROPERTY BOUNDARY
- GROUNDWATER SAMPLE EXCEEDS TABLE 7 SCS
- GROUNDWATER SAMPLE MEETS TABLE 7 SCS
- SCREEN NAME AND LOCATION/DEPTH (WSP)

72.59 ▼ GROUNDWATER ELEVATION FROM MARCH 1, 2016 (WSP) - SHALLOW  
 70.73 ▼ GROUNDWATER ELEVATION FROM MARCH 1, 2016 (WSP) - DEEP  
 71.83 ▼ GROUNDWATER ELEVATION FROM MARCH 27, 2016 (GOLDER)



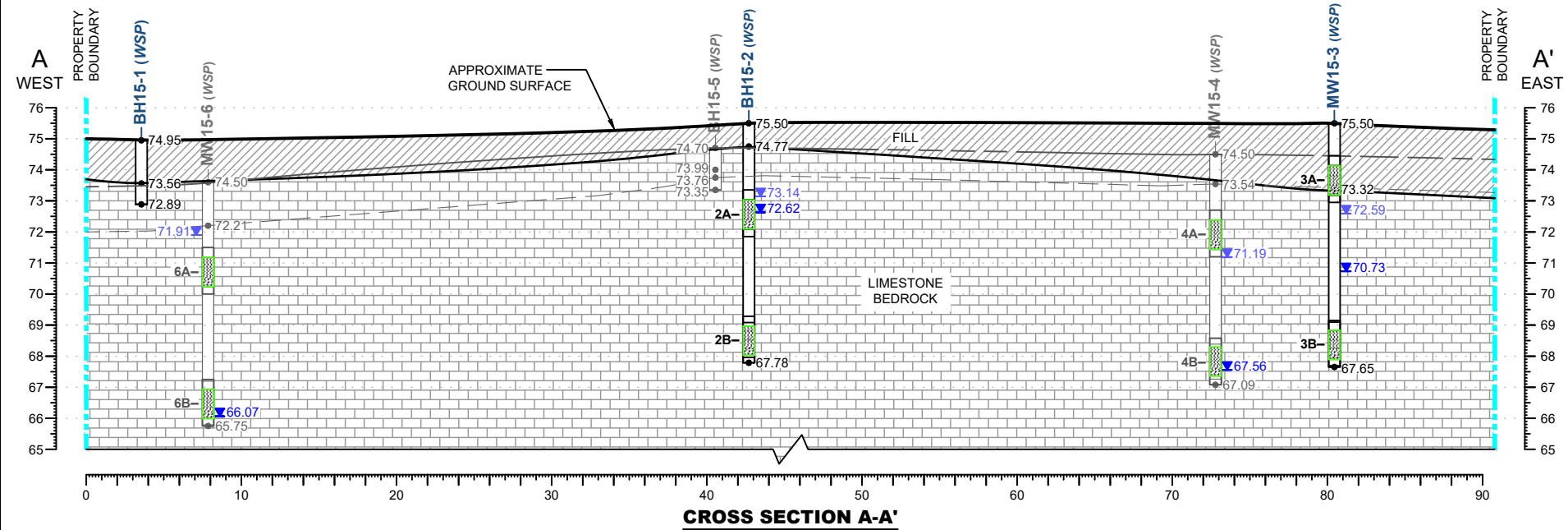
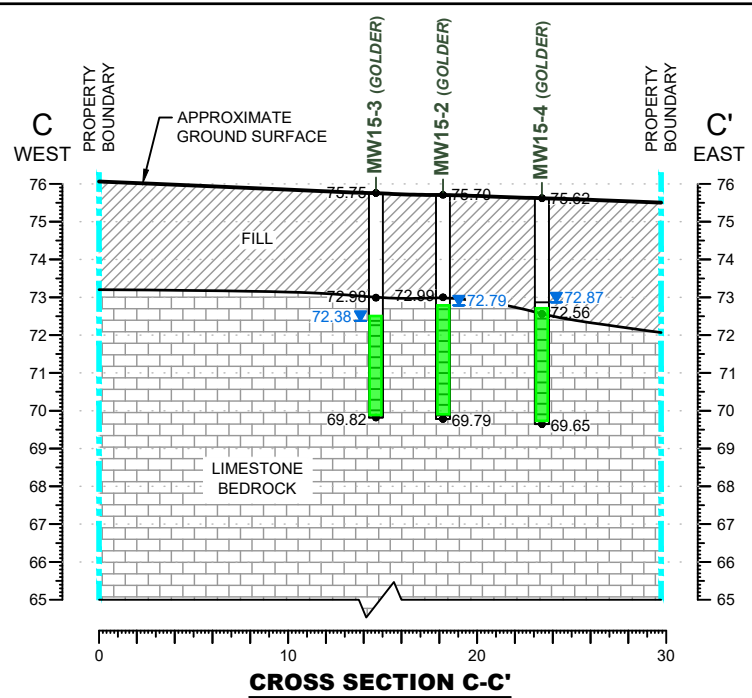
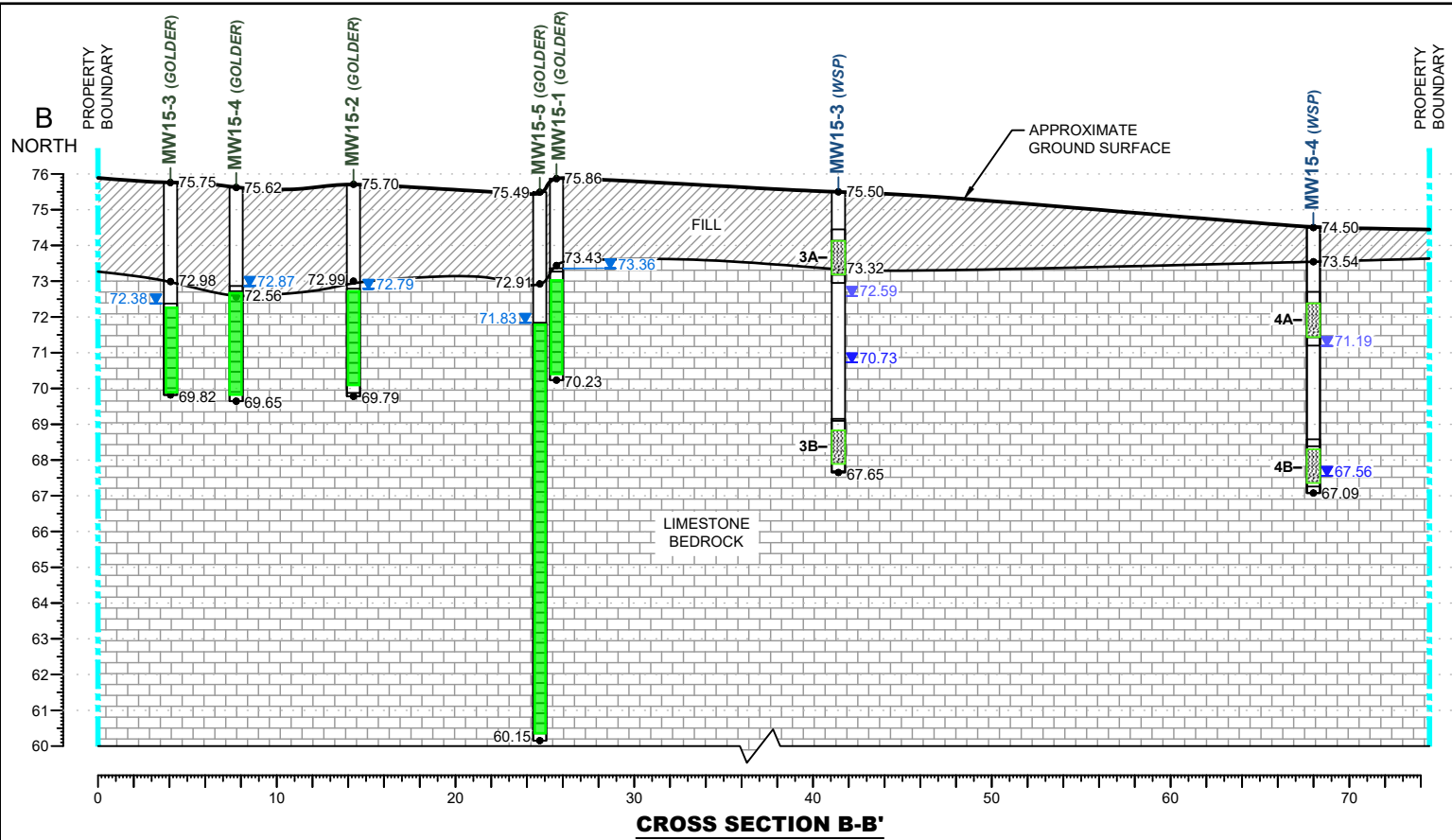
| PARAMETERS                 | ABBREVIATION | REG 153/04 TABLE 7 |
|----------------------------|--------------|--------------------|
| Benzene                    | B            | 0.5                |
| Toluene                    | T            | 320                |
| Ethylbenzene               | E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

| Golder    | BH15-1 | Screen Interval 4.1 to 3.6 mbgs |      |       |       |     |      |      |      |     |         |         |         |           |           |       |       |       |       |
|-----------|--------|---------------------------------|------|-------|-------|-----|------|------|------|-----|---------|---------|---------|-----------|-----------|-------|-------|-------|-------|
|           |        | B                               | T    | E     | X     | F1  | F2   | F3   | F4   | CF  | 1,1-DCA | 1,2-DCA | 1,1-DCE | c-1,2-DCE | t-1,2-DCE | PCE   | TCE   | VC    |       |
| 27-Mar-15 |        | +0.20                           | 0.67 | +0.10 | +0.20 | <25 | <100 | <100 | <100 | 2.1 | +0.50   | +0.20   | +0.20   | +0.20     | +0.20     | +0.20 | +0.20 | +0.20 | +0.17 |
| 11-Aug-22 |        | +0.5                            | +0.5 | +0.5  | +1.1  | <25 | <50  | <400 | <400 | <1  | +0.5    | +0.5    | +0.5    | +0.5      | +0.5      | +0.5  | +0.5  | +0.5  | +0.2  |

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|                           |  |   |  |                                       |
|---------------------------|--|---|--|---------------------------------------|
| DATE: <b>OCTOBER 2022</b> |  | CLIENT: <b>PHASE TWO ENVIRONMENTAL SITE ASSESSMENT</b>                    |  | PROJECT NO.: <b>OTT-22019409-A0</b>   |
| DESIGN: <b>LW</b>         |  | CHECKED: <b>MM</b>  |  | SCALE: <b>HORIZ 1:400, VERT 1:200</b> |
| DRAWN BY: <b>AS</b>       |  | TITLE: <b>GROUNDWATER CROSS SECTIONS A-A', B-B', C-C' - PHC &amp; VOC</b> |  | <b>FIG 16</b>                         |

Filename: E:\OTT-22019409-A0\_60\_Execution\65 Drawings\22019409-A0\_Ph-2.dwg  
 Last Saved: Oct 6, 2022 12:47 PM  
 Plotted by: Severa



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

| Golder    |       | Screen Interval 4.1 to 5.6 mbgs |       |       |       |       |         |       |       |       |       |       |         |       |       |       |       |
|-----------|-------|---------------------------------|-------|-------|-------|-------|---------|-------|-------|-------|-------|-------|---------|-------|-------|-------|-------|
| BH15-1    | Ace   | AcI                             | An    | B(a)A | B(a)P | B(b)F | B(ghi)P | B(k)F | C     | DA    | Fl    | F     | I(123)P | T-MN  | N     | P     | Py    |
| 27-Mar-15 | <0.20 | <0.20                           | <0.10 | <0.20 | <0.01 | <0.10 | <0.20   | <0.10 | <0.10 | <0.20 | <0.20 | <0.20 | <0.20   | <0.20 | <0.20 | <0.10 | <0.20 |
| 11-Aug-22 | <0.05 | <0.05                           | <0.05 | <0.05 | 0.012 | <0.05 | <0.05   | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05   | <0.05 | <1    | <0.05 | <0.05 |

**LEGEND**

- PROPERTY BOUNDARY
- GROUNDWATER SAMPLE EXCEEDS TABLE 7 SCS
- GROUNDWATER SAMPLE MEETS TABLE 7 SCS
- SCREEN NAME AND LOCATION/DEPTH (WSP)

72.59 ▼ GROUNDWATER ELEVATION FROM MARCH 1, 2016 (WSP) - SHALLOW  
 70.73 ▼ GROUNDWATER ELEVATION FROM MARCH 1, 2016 (WSP) - DEEP  
 71.83 ▼ GROUNDWATER ELEVATION FROM MARCH 27, 2016 (GOLDER)

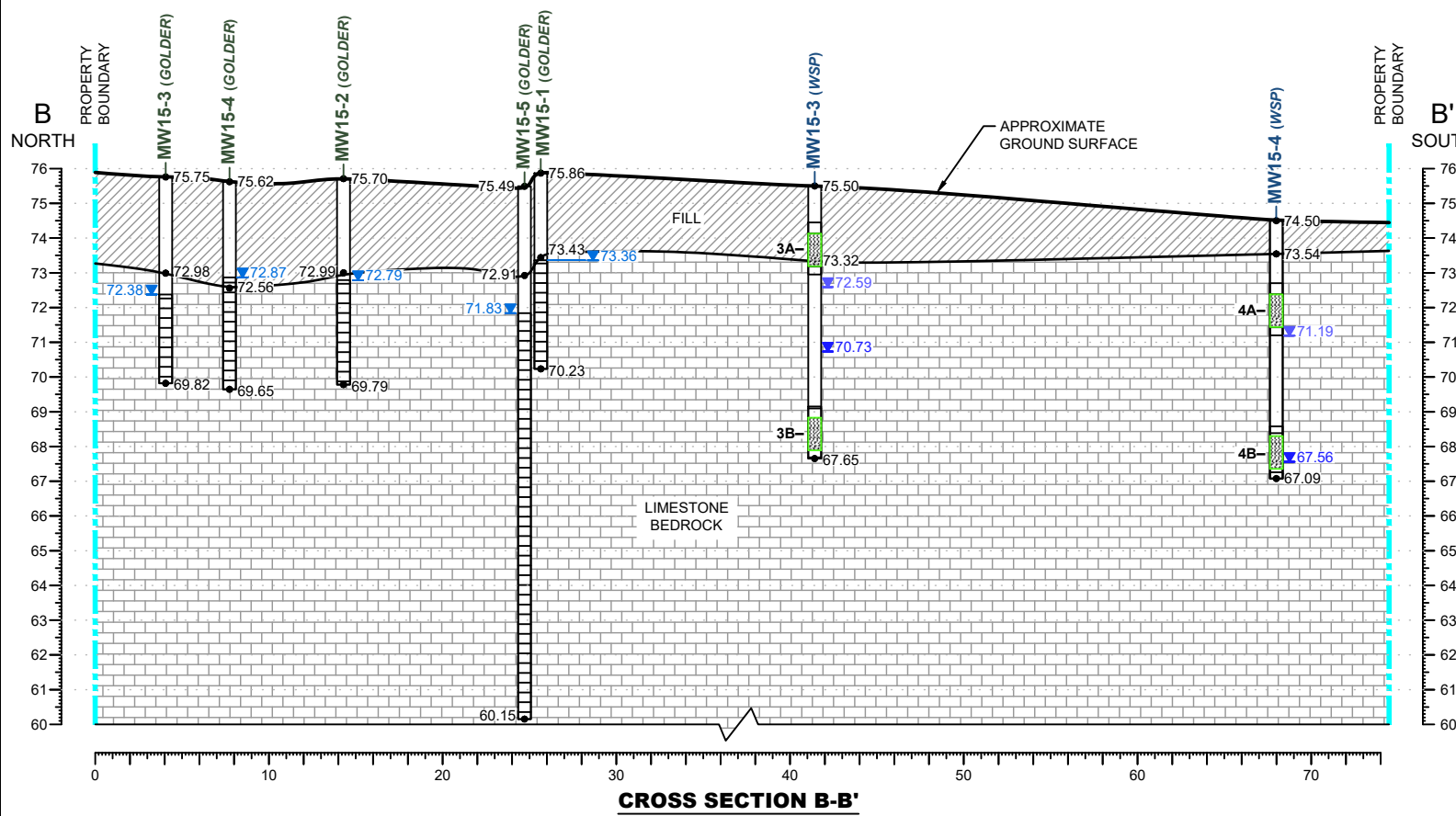
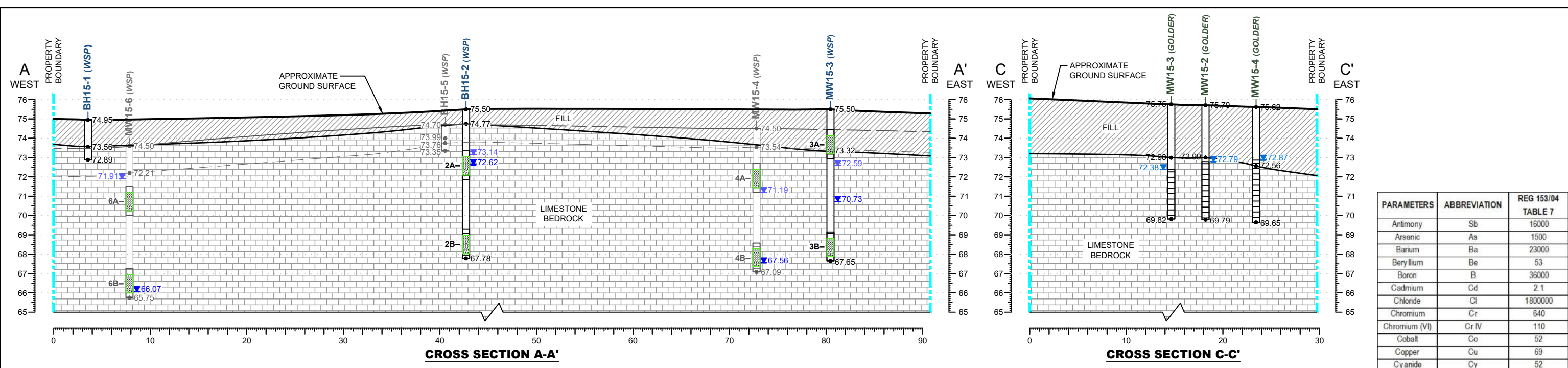
HORIZONTAL: 0 4m 8m 16m 1:400  
 VERTICAL: 0 2m 4m 6m 1:200

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 Ottawa, ON K2B 8H6, Canada

DATE: OCTOBER 2022  
 CLIENT: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT  
 770 & 774 BRONSON AVENUE + 557 CAMBRIDGE STREET, OTTAWA, ON  
 TITLE: GROUNDWATER CROSS SECTIONS A-A', B-B', C-C' – PAH  
 project no.: OTT-22019409-A0  
 scale: HORIZ 1:400, VERT 1:200  
**FIG 17**



Filename: E:\OTT-22019409-A0\_60\_Execution\65 Drawings\22019409-A0\_Ph-2.dwg  
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 Plotted by: Severa



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

| WSP                              | Sb    | As   | Ba  | Be    | B   | Cd    | Cl     | Cr   | Cr IV | Co    | Cu   | Cy | Pb    | Hg   | Mo   | Ni   | Se     | Ag   | Na    | Tl     | U    | V      | Zn   |  |
|----------------------------------|-------|------|-----|-------|-----|-------|--------|------|-------|-------|------|----|-------|------|------|------|--------|------|-------|--------|------|--------|------|--|
| Screen Interval 2.1 to 4.0 m bgs |       |      |     |       |     |       |        |      |       |       |      |    |       |      |      |      |        |      |       |        |      |        |      |  |
| BH15-2A                          | <0.50 | <1.0 | 110 | <0.50 | 39  | <0.10 | 340000 | <5.0 | <0.5  | 2.3   | 5.8  | <2 | 3.7   | <0.1 | 3.1  | 3.6  | 300000 | <2.0 | <0.10 | 0.05   | 1.7  | 1.7    | 12   |  |
| Screen Interval 6.3 to 7.8 m bgs |       |      |     |       |     |       |        |      |       |       |      |    |       |      |      |      |        |      |       |        |      |        |      |  |
| BH15-2B                          | <0.50 | <1.0 | 190 | <0.50 | 58  | <0.10 | 570000 | <5.0 | <0.5  | 1.2   | 1.7  | <2 | <0.50 | <0.1 | 1.9  | 2.9  | 450000 | <2.0 | <0.10 | <0.050 | 2    | <0.50  | <5.0 |  |
| Screen Interval 1.0 to 2.6 m bgs |       |      |     |       |     |       |        |      |       |       |      |    |       |      |      |      |        |      |       |        |      |        |      |  |
| BH15-3A                          | 0.62  | <1.0 | 77  | <0.50 | 300 | <0.10 | 460000 | <5.0 | <0.5  | 1.2   | 1.7  | <2 | <0.50 | <0.1 | 4.7  | 3.4  | 520000 | 2.9  | <0.10 | 0.074  | 3.1  | <0.50  | <5.0 |  |
| Screen Interval 6.3 to 7.8 m bgs |       |      |     |       |     |       |        |      |       |       |      |    |       |      |      |      |        |      |       |        |      |        |      |  |
| BH15-3B                          | <0.50 | <1.0 | 190 | <0.50 | 870 | <0.10 | 570000 | <5.0 | <0.5  | 0.92  | <1.0 | <2 | <0.50 | <0.1 | 0.96 | 1    | 890000 | <2.0 | <0.10 | <0.050 | 0.88 | <1.0   | <5.0 |  |
| Screen Interval 2.2 to 3.7 m bgs |       |      |     |       |     |       |        |      |       |       |      |    |       |      |      |      |        |      |       |        |      |        |      |  |
| BH15-4A                          | <0.50 | <1.0 | 210 | <0.50 | 60  | <0.10 | 950000 | <5.0 | <0.50 | <0.50 | 2.3  | <2 | <0.50 | <0.1 | 3.1  | 2.1  | 520000 | <2.0 | <0.10 | <0.050 | 2    | <1.0   | <5.0 |  |
| Screen Interval 5.9 to 7.4 m bgs |       |      |     |       |     |       |        |      |       |       |      |    |       |      |      |      |        |      |       |        |      |        |      |  |
| BH15-4B                          | <0.50 | <1.0 | 0.2 | <0.50 | 380 | <0.10 | 480000 | <5.0 | <2.5  | <0.50 | 3.2  | <2 | <0.50 | <0.1 | 14   | 2.5  | 280000 | <2.0 | <0.10 | 0.054  | 2.5  | <0.050 | <5.0 |  |
| Screen Interval 3.7 m bgs        |       |      |     |       |     |       |        |      |       |       |      |    |       |      |      |      |        |      |       |        |      |        |      |  |
| BH15-6A                          | 1.1   | 1    | 220 | <0.50 | 930 | <0.10 | 110000 | <5.0 | <0.50 | 0.59  | 1.4  | <2 | <0.50 | <0.1 | 22   | 1.3  | 120000 | <2.0 | <0.10 | <0.050 | 4.7  | <0.050 | <5.0 |  |
| Screen Interval 8.0 m bgs        |       |      |     |       |     |       |        |      |       |       |      |    |       |      |      |      |        |      |       |        |      |        |      |  |
| BH15-6B                          | 0.75  | 1.5  | 65  | <0.50 | 680 | <0.10 | 140000 | <5.0 | <0.50 | <0.50 | 1.6  | -  | <0.50 | -    | 3.4  | <1.0 | 250000 | <2.0 | <0.10 | <0.050 | 2.6  | 0.96   | <5.0 |  |

**LEGEND**

- PROPERTY BOUNDARY
- GROUNDWATER SAMPLE EXCEEDS TABLE 7 SCS
- GROUNDWATER SAMPLE MEETS TABLE 7 SCS
- SCREEN NAME AND LOCATION/DEPTH (WSP)

72.59 ▼ GROUNDWATER ELEVATION FROM MARCH 1, 2016 (WSP) - SHALLOW

70.73 ▼ GROUNDWATER ELEVATION FROM MARCH 1, 2016 (WSP) - DEEP

71.83 ▼ GROUNDWATER ELEVATION FROM MARCH 27, 2016 (GOLDER)

HORIZONTAL 1:400

VERTICAL 1:200

**exp** EXP Services Inc. www.exp.com

t: +1.613.688.1899 | f: +1.613.225.7337  
 2650 Queensview Drive, Suite 100  
 Ottawa, ON K2B 8H6, Canada

DATE: OCTOBER 2022  
 CLIENT: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT  
 770 & 774 BRONSON AVENUE + 557 CAMBRIDGE STREET, OTTAWA, ON

DESIGN: LW CHECKED: MM  
 TITLE: GROUNDWATER CROSS SECTIONS A-A', B-B', C-C' - INORGANICS

DRAWN BY: AS

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

**FIG 18**

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*Phase Two Environmental Site Assessment  
770 and 774 Bronson Avenue and 557 Cambridge Street, Ottawa, Ontario*

*OTT-22019409-A0*

*October 6, 2022*

## **Appendix B: Survey Plan**

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

Surveyed by Annis, O'Sullivan, Vollebek Ltd.



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

Surveyor's Certificate

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

Date 21/15 V. Andrew Sharp Ontario Land Surveyor

Notes & Legend

- Denotes: Fire Hydrant, Overhead Wires, Catch Basin, Anchor, Utility Pole, Location of Elevations, etc.

Bearings are grid bearings, derived from the westerly limit of Bronson Avenue, shown to be 102°59'20"W on Plan 48-27771 and are referred to the Central Meridian of MTM Zone 9 (76°30' West Longitude) NAD-83 (original).

ASSOCIATION OF ONTARIO LAND SURVEYORS PLAN SUBMISSION FORM 1955645 THIS PLAN IS NOT VALID UNLESS IT IS AN EMBOSSED ORIGINAL COPY ISSUED BY THE SURVEYOR

SITE AREA = 3628 m²

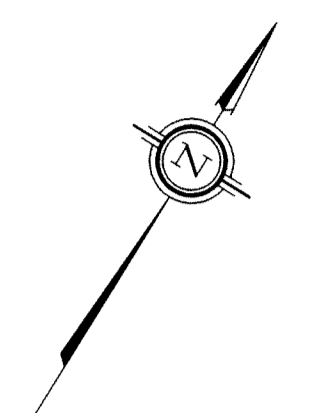
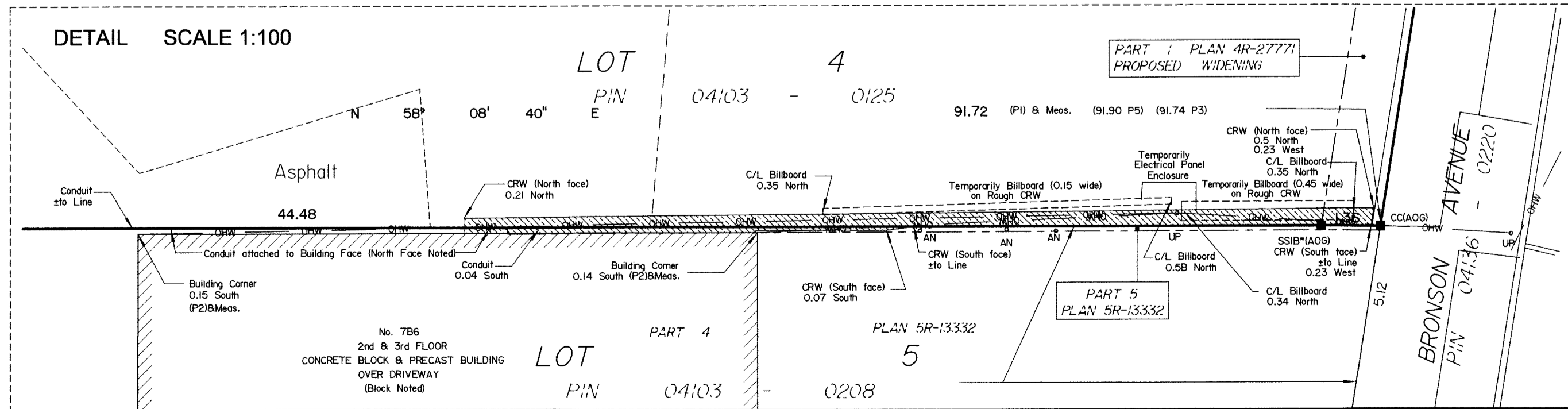
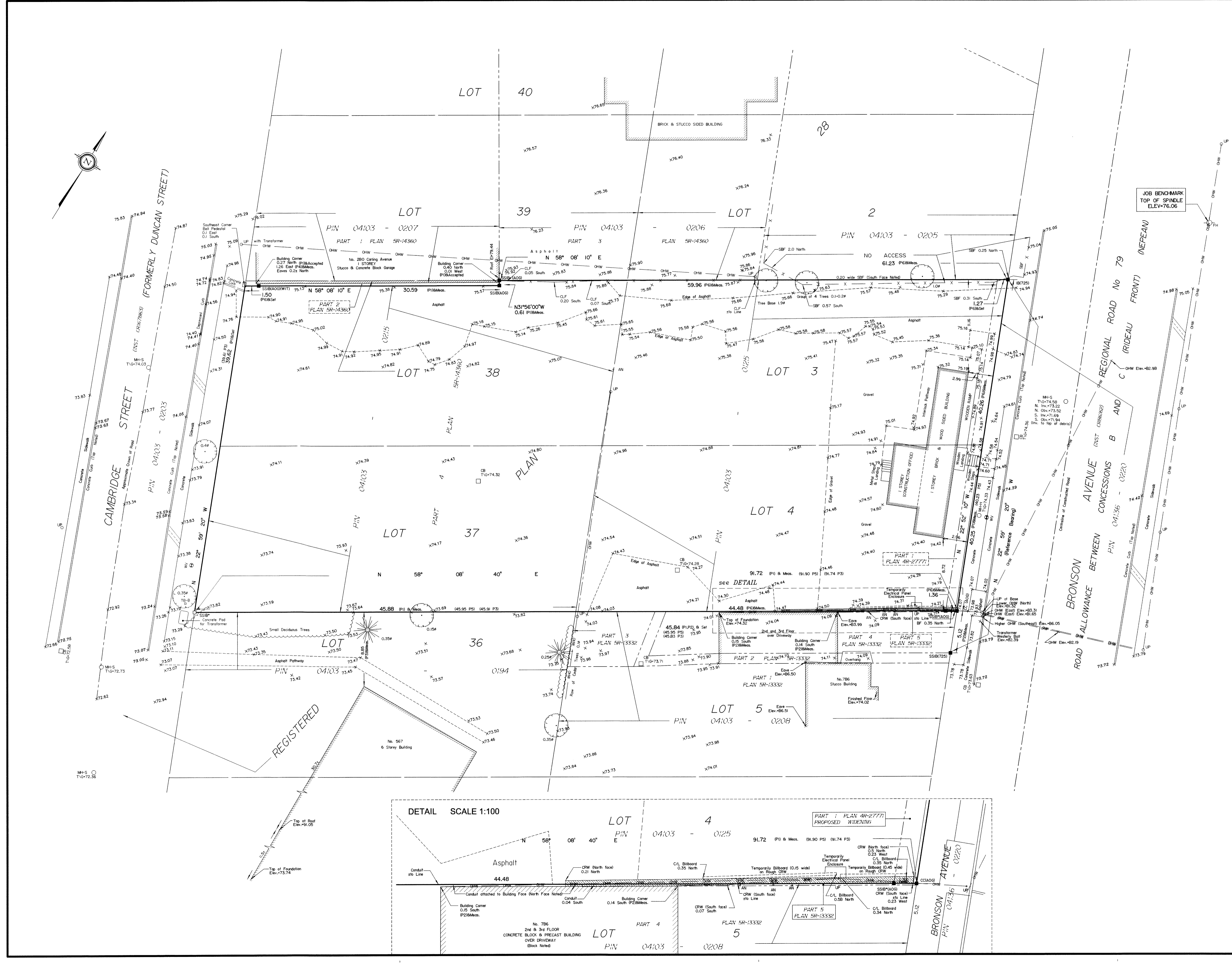
ELEVATION NOTES

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

UTILITY NOTES

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

ANNIS, O'SULLIVAN, VOLLEBEK LTD. 14 Concourse Gate, Suite 500 Nepean, Ont. K2E 7S6 Phone: (613) 727-0850 / Fax: (613) 727-1079



Vertical text on the far left edge of the page.

EXP Services Inc.

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*Phase Two Environmental Site Assessment  
770 and 774 Bronson Avenue and 557 Cambridge Street, Ottawa, Ontario*

*OTT-22019409-A0*

*October 6, 2022*

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

**TABLE A-1  
SAMPLING AND ANALYSIS PLAN  
770 Bronson Avenue**

| Area of Potential Environmental Concern  | Rationale  | Location  | Borehole Location ID | Well Installed (Y/N) | Depth  | Soil Samples   | Groundwater Samples   |
|--|--|---|----------------------|----------------------|--|--|---|
| APEC 1 (a)- Automotive Service Garage, oil water separator and hydraulic hoist                 | Borehole completed with a monitoring well to assess potential soil and groundwater impacts related to the service garage | To be located south of the garage building (depending on the results of the utility locates)    | BH15-1               | Y                    | Bottom of screen (1.5 m screen) in all monitoring wells will be located approximately 1 m below apparent water table | All soil samples will be analyzed for petroleum hydrocarbons F1-F4, VOCs and PAHs. Provided the soil recovery allows, two soil samples from each borehole will be submitted for analysis. One soil sample will be selected to represent "worst case" concentrations based on field screening. The second soil sample will be selected to vertically delineate the extent of contamination. One duplicate soil sample will be submitted for quality assurance purposes. | All groundwater samples will be analyzed for petroleum hydrocarbons F1-F4, VOCs and PAHs. One groundwater sample from each well will be submitted for analysis and one duplicate groundwater sample will be submitted for quality assurance purposes. |
|  | Borehole completed with a monitoring well to assess potential soil and groundwater impacts related to the service garage | To be located east of the garage service bays (depending on the results of the utility locates) | BH15-2               | Y                    |  |  |   |
| APEC 1(b) - Three former underground storage tanks (USTs) used to store gasoline and/or diesel | Borehole completed with a monitoring well to assess potential soil and groundwater impacts related to the USTs           | To be located south of the former USTs and/or within the USTs reported by the Site owner        | BH15-2               | Y                    |  |  |   |
|  | Borehole completed with a monitoring well to assess potential soil and groundwater impacts related to the USTs           | Located to the east of the former USTs as identified on the FIPs                                | BH15-3               | Y                    |  |  |   |
|  | Borehole completed with a monitoring well to assess potential soil and groundwater impacts related to the USTs           | Located to the within/west of the former USTs as reported by the FIPs                           | BH15-4               | Y                    |  |  |   |
|  | Borehole completed for geotechnical investigation.   | Located west of former USTs as reported by the Site owner.                                      | BH15-5               | Y                    | Borehole to be drilled to base of proposed building and well to be installed to evaluate deeper bedrock permeability | Sample soil and bedrock for geotechnical purposes, document any environmental impacts.   | None proposed unless required for subsequent vertical delineation.  |

Notes:  
All drilling and sampling to be completed in accordance with Golder Standard Operating Procedures.

December 23, 2015

Fraser Smith  
Assistant Vice President  
Textbook Student Suites  
51-A Caldari Road, Unit 1 M  
Vaughan, Ontario L4K 4G3

**Confidential**

Sent via email: [fraser@textbooksuites.com](mailto:fraser@textbooksuites.com)

**Subject: Phase One and Phase Two Environmental Site Assessments  
and Record of Site Condition (Rev2)  
744 Bronson Avenue  
Ottawa, Ontario**

Dear Mr. Fraser Smith,

WSP Canada Inc. (WSP) is pleased to provide our work program and cost estimate to complete a Phase One Environmental Site Assessment (ESA) and a Phase Two ESA for the above noted site.

We understand that a Record of Site Condition (RSC) for the Site may be filed at a later date, and, as such, the Phase Two ESA will be completed to the *Ontario Regulation 153/04* standards to support the filling of a RSC.

The Phase Two ESA cost is an estimate based on our experience with similar facilities in a commercial/industrial setting with fractured bedrock less than 2 m below ground surface (mbgs). If required, a more detailed cost estimate can be prepared after the background review and site visit have been conducted as part of the Phase One ESAs.

During a site visit early in November 2015, it was determined that only one (i.e., FG-1) of the three historical monitoring wells installed on the subject Site had survive the demolition activities. The historical borehole locations are shown on the attached **Figure 1**. As a result groundwater monitoring and sampling of this single monitoring well will be included in the proposed Phase Two ESA.

## **1.1 PHASE ONE ENVIRONMENTAL SITE ASSESSMENTS**

A Phase One ESA will be carried out to assess if current and/or former activities/operations at the site and/or adjacent properties have adversely affected the site from an environmental perspective. The purpose of the records review, inspection and interviews is to establish the development history of the site and identify issues of actual and/or potential environmental concerns, if any, related to historical and current land use.

---

WSP Canada Inc.  
294 Rink Street, Suite 103  
Peterborough, ON K9J 2K2

Phone: 705-743-6850  
Fax: 705-743-6854  
[www.wspgroup.com](http://www.wspgroup.com)

The Phase One ESA will include the following tasks:

- **Project initiation and communications.** Discussions will be held with the property owner to obtain background information for the site. This will include review of site plans, drawings, surveys, previous reports and other information which may be available. In addition, arrangements will be made for the Site inspection visit. We understand that the work being completed is confidential in nature. Our team has conducted ESAs for various clients in a similar situation. WSP will work with the client to ensure that the confidential nature of our investigations is maintained during any on-site activities. This will be accomplished by establishing a designated on-site contact and developing a communications plan for interacting with staff at the site.
- **Review of background and historical information.** A records review will be conducted to obtain background and historical information for the site. This will include a review of the EcoLog ERIS System. The review will generally include the following items:
  - Aerial photographs of the Site and surrounding areas for several different eras typically from the 1950s, 1960s and 1980s. Newer aerial photography and satellite imagery will also be obtained from on-line sources, as available.
  - Local topographic and drainage maps.
  - Ontario Ministry of the Environment and Climate Change well records.
  - Geological and hydrogeological mapping available for the area.
  - City directories and other information sources to assess past and present occupants of the site and surrounding areas.
  - Fire insurance plans, if any.
  - Registries with respect to underground storage tanks, waste disposal sites, waste generator information for the site and surrounding areas.
  - Information regarding Municipal and Provincial compliance issues on the site and surrounding areas. This will include a search of the Ontario Ministry of the Environment and Climate Change Brownfield site registry (Records of Site Condition).
  - Any internal documentation available from the owner regarding previous site history and site operations.
- **Site inspection.** A detailed site inspection will be conducted. The inspection will include portions of the Site where access is permitted and can be safely conducted. The site will be inspected for evidence of activities which may result in potential impact to soil and ground water. These include evidence of historical storage tanks, industrial operations, and materials handling and storage. A cursory evaluation of adjacent properties will also be completed.

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- **Interviews.** Person(s) knowledgeable of the development history at the site and surrounding areas will be interviewed, if available. Interviews also verify the information collected as part of the records review and the site visit.
- **Development of a Conceptual Site Model (CSM).** The work program will document the Potential Contaminating Activities on the site and on properties that fall within a 250 m radius of the site. This will include the determination of the likelihood that one or more contaminants have affected any land or water on, in, or under the Phase One site.
- **Report preparation.** A Phase One ESA report will be prepared following completion of the above-noted work. The report will provide a summary of the information gathered during the study. The report will identify Areas of Potential Environmental Concern with respect to the site.

## 1.2 PHASE TWO ENVIRONMENTAL SITE ASSESSMENTS

A Phase Two ESA work plan has been prepared based on the typical drilling and laboratory requirements for similar properties in an industrial/commercial setting and based on our past experience. The assumptions used in the cost estimate are included in the described work plan below. The environmental concerns identified during the Phase One ESA may indicate that additional or less drilling/laboratory analysis is required. As such, WSP would need to make modifications to the work plan and cost estimate. The Phase Two ESA will include the following:

- Preparation of a site-specific health and safety plan to be used by WSP's field staff during the proposed field activities.
- Clearance of public and private underground utilities and services prior to commencement of drilling activities.
- The advancement of two boreholes to refusal on bedrock and four nested boreholes across each site to a termination depth of approximately 3 mbgs (10' ) for the shallow boreholes and 7.6 mbgs (25') for the deeper boreholes. The currently proposed borehole locations are presented on the attached **Figure 1** and the proposed potential work to be completed at each proposed borehole location has been summarized on the attached **Table 1**.
- The soil profile of each borehole will be logged in the field and screened for total organic vapours with a photoionization detector (PID) and/or a combustible gas detector (CGD).
- The installation of groundwater monitoring wells in all of the boreholes at the site to assess groundwater quality, assess groundwater flow direction, and vertical gradients.
- The wells will be surveyed to a local benchmark to determine groundwater flow direction.
- Submission of worst-case soil samples, based on field screening and visual/olfactory observations, to an accredited laboratory for testing of potential contaminants of concern (PCOCs) related to each of the APECs identified in the Phase One ESA. We have assumed that the PCOCs will include metals and inorganics (M&I), petroleum hydrocarbons (PHCs F1-F4), volatile organic compounds (VOCs), and polycyclic aromatic hydrocarbons (PAHs). Six borehole locations with soil samples to be submitted for each of four parameter sets resulting in a total of 24 soil analytical results.



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- The groundwater wells will be developed to remove drilling fluid from the bedrock coring process. Prior to collecting the groundwater samples these wells will be purged and then sampled. A groundwater sample from each of the 8 new wells plus one existing well for a total of 9 groundwater sample locations submitted to the laboratory for analysis of the all four PCOCs for a total of 36 groundwater analytical results.
- A second round of groundwater sampling will be conducted approximately 3 months after the first round, if required.
- In situ permeability testing of three of the shallow wells and three of the deeper wells will be completed as soon as possible after installation of the monitoring wells.
- For quality assurance/quality control (QA/QC) purposes, one blind duplicate sample per medium sampled (i.e., soil and groundwater) will be submitted for laboratory analysis of the full suite of parameters noted above for each site (i.e., one blind field duplicate for each set of parameter so four blind field soil duplicates and eight blind field groundwater duplicates). In addition two trip blanks (i.e., one per event) tested for VOCs in groundwater will also be submitted for QA/QC purposes.
- Completion of a Phase Two ESA report. The report will present the results of the investigation and provide recommendations regarding the extent of environmental impact to the soil and groundwater at each site. It is proposed to complete a standalone report for each of the five sites.

Standard field procedures and protocols will be followed to prevent cross-contamination during drilling and sampling. The groundwater samples for metals will be field-filtered using a disposable inline 0.45 micron filter.

Excess soil from the drilling and purge water from the wells will be placed into drums and left at the Site following the completion of the Phase Two ESA. Upon receipt of the analytical results, WSP can arrange for the appropriate disposal of these materials on a time and materials basis to be billed to the project. At this time, costs have not been included in this proposal for waste characterization analyses or off-Site disposal activities. Typical waste disposal cost is approximately \$450 to \$550 per drum of non-hazardous waste in addition to waste characterization and field monitoring costs.

Also, this cost estimate does not include the cost to decommission the monitoring wells, which is required to be completed by a licenced well drilling contractor when the wells are no longer in use or required. Costs for completing a formal site survey, if required, are not included in this proposal at this time.

The Phase Two ESA cost estimate does not include any cost for a ground penetrating radar or electromagnetic survey, which may be required if there are suspected underground storage tanks which have not been removed from the Site.

The soil and groundwater chemical results will be compared to the applicable standards set out in *Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act* (MOECC, 2011). Of note, the investigation will confirm the presence/absence of contaminants in the subsurface materials at the samples locations of the site. Detailed

contamination delineation, waste characterization testing and disposal, repair of damaged underground utilities and site restorations are not included in the scope of work. Evaluation of environmental concerns beyond the areas of concern or the site boundaries is outside the scope of work.

### 1.3 RECORD OF SITE CONDITION

Upon the completion of the Phase 1 and Phase 2 ESAs, if **Site** remediation work is practicable then approximately six months after the remediation work has been completed and the two quarterly post-remediation groundwater sampling event have been completed, then WSP can prepare and submit Record of Site Condition (RSC) documentation to the Ministry of the Environment and Climate Change (MOECC) in accordance with the *O. Reg. 153/04 (as amended)*. This includes submission of reports and tabular electronic test data and related **Site** documentation for the subject property.

Prepared responses to address requests for additional information from MOECC to approve the RSC will be discussed with the Client before we proceed. Costs for any additional work, if necessary, are not included and required lawyer documents subject to advisement. It should be noted that a RSC can take several months to receive final MOECC approval.

It is assumed that the Client will provide the following documentation:

- certificate of status for the current property owner (within 30 days of submission),
- copy of the deed, transfer or parcel register,
- letter from your lawyer confirming the legal description of the RSC property,
- legal survey signed and dated by an OLS, and
- owner's declaration.

### 1.4 TEAM MEMBERS

WSP will provide an experienced team for completion of this assignment. The team will be comprised of senior and intermediate environmental engineers and scientists who have completed similar assignments. The work will be overseen by Mr. Philip Romeril, a senior environmental engineer and QP<sub>ESA</sub> with WSP with over 30 years of experience. Project management, fieldwork coordination and reporting will be completed by Ms. Lisa Gardiner. Both Mr. Romeril and Ms. Gardiner are situated in WSP's Peterborough office. The site investigation work will be completed by Kathryn Maton from WSP's Ottawa office.



EXP Services Inc.

*Katasa Groupe*

*Phase Two Environmental Site Assessment  
770 and 774 Bronson Avenue and 557 Cambridge Street, Ottawa, Ontario*

*OTT-22019409-A0*

*October 6, 2022*

## Appendix D: Borehole Logs



# BOREHOLE DRILLING RECORD : BH15-1

Prepared by: **Kathryn Maton**  
 Reviewed by: **Phil Romeril**

Date (Start): **1/11/2016**  
 Date (End): **1/11/2016**

Project Name: **Phase Two Environmental Site Assessment**  
 Site: **774 Bronson Avenue and 557 Cambridge Street South, Ottawa, Ontario**  
 Sector:  
 Client: **Textbook Student Suites**

Project Number: **151-13503-00**  
 Geographic Coordinates: X = 445171 mE  
 Y = 5027646 mN  
 Surface Elevation: **75 m (Approximate)**  
 Top of PVC Elevation:

Drilling Company: **Downing Estate Drilling Ltd.**  
 Drilling Equipment: **CME 55**  
 Drilling Method: **Auger**  
 Borehole Diameter: **200 mm**  
 Drilling Fluid: **None**  
 Sampling Method: **Split Spoon**

ODOUR  
 F - Light  
 M - Medium  
 P - Persistent  
 VISUAL  
 D - Disseminated Product  
 S - Saturated with Product

SAMPLE TYPE  
 DC - Diamond Corer  
 SS - Split Spoon  
 MA - Manual Auger  
 TR - Trowel  
 ST - Shelby Tube  
 TU - DT32 Liner

CHEMICAL ANALYSIS  
 PCB Poly-Chlorinated Biphenyls  
 BTEX Benzene, Toluene, Ethylbenzene, Xylene  
 Inorg. C. Inorganic Compounds  
 Phenol. C. Phenolic Compounds  
 VOC Volatil Organic Compounds (MAH & CAH)  
 MAH Monocyclic Aromatic Hydrocarbons  
 PAH Polycyclic Aromatic Hydrocarbons  
 PH C<sub>10</sub>-C<sub>28</sub> Petroleum Hydrocarbons C<sub>10</sub>-C<sub>28</sub>  
 PH F1-F4 Petroleum Hydrocarbons F1-F4 (C<sub>10</sub>-C<sub>32</sub>)  
 Metals Arsenic, Barium, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Silver, Tin, Zinc.  
 HWR Leachate Tests (Haz. Waste Reg.)  
 CAH Chlorinated Aliphatic Hydrocarbons

Water Level Free Phase

Projet : PHASE II ESA - 774 BRONSON AVE.GPJ Type rapport : WSP\_EN\_WELL-ENV/IRONMENTAL Data Template : WSP\_TEMPLATE\_GEOTECH.GDT 2/19/2016

| DEPTH ELEVATION (m) | GEOLOGY / LITHOLOGY |  | OBSERVATIONS              |       |   |   |        | SAMPLES     |                    |                            |                                  | MONITORING WELL |           |         |             |         |
|---------------------|---------------------|--|---------------------------|-------|---|---|--------|-------------|--------------------|----------------------------|----------------------------------|-----------------|-----------|---------|-------------|---------|
|                     | LITHOLOGY           | DESCRIPTION  | VAPOR CONC (ppm OR % LIE) | ODOUR |   |   | VISUAL | SAMPLE TYPE | % RECUPERATION     | N (Blow/6")                | NUMBER                           | ANALYSIS        | DUPLICATE | DIAGRAM | DESCRIPTION | REMARKS |
|                     |                     |  |                           | F     | M | P |        |             |                    |                            |                                  |                 |           |         |             |         |
|                     |                     | Ground surface.  |                           |       |   |   |        |             |                    |                            |                                  |                 |           |         |             |         |
| 0.05                |                     | ASPHALT  |                           |       |   |   |        |             |                    |                            |                                  |                 |           |         |             |         |
| 74.95               |                     |  | 1.6                       |       |   |   |        |             |                    |                            |                                  |                 |           |         |             |         |
| 0.15                |                     | FILL, crushed limestone gravel and sand  |                           |       |   |   |        |             |                    |                            |                                  |                 |           |         |             |         |
| 74.85               |                     |  | 1.2                       |       |   |   | SS     | 40          | 12<br>14<br>7      | BH15-1<br>1<br>BH15-1<br>2 | PHCs F1-F4<br>BTEX<br>PAH<br>VOC |                 |           |         |             |         |
|                     |                     | FILL, sand and crushed limestone gravel, with some asphalt and pieces of brick, compact, dry, grey |                           |       |   |   |        |             |                    |                            |                                  |                 |           |         |             |         |
| 0.5                 |                     |  | 1.3                       |       |   |   | SS     | 50          | 5<br>5<br>25<br>30 | BH15-1<br>3                |                                  |                 |           |         |             | 0.5     |
| 1.0                 |                     |  |                           |       |   |   |        |             |                    |                            |                                  |                 |           |         |             |         |
| 1.22                |                     |  |                           |       |   |   |        |             |                    |                            |                                  |                 |           |         |             |         |
| 73.78               |                     | GRAVEL, shale fragments  | 2.1                       |       |   |   | SS     | 37          | 39<br>50<br>50-5"  | BH15-1<br>4                |                                  |                 |           |         |             | 1.0     |
| 1.42                |                     |  |                           |       |   |   |        |             |                    |                            |                                  |                 |           |         |             |         |
| 73.56               |                     | BEDROCK, shale   | 6.1                       |       |   |   |        |             |                    | BH15-1<br>5                |                                  |                 |           |         |             | 1.5     |
|                     |                     | BEDROCK, limestone with black shale partings   |                           |       |   |   |        |             |                    |                            |                                  |                 |           |         |             |         |
| 2.0                 |                     |  |                           |       |   |   | SS     | 0           | 50-1"              |                            |                                  |                 |           |         |             |         |
| 2.11                |                     | Auger Refusal at 2.11 mbgs   |                           |       |   |   |        |             |                    |                            |                                  |                 |           |         |             |         |
| 72.89               |                     | End of borehole at 2.11 m.   |                           |       |   |   |        |             |                    |                            |                                  |                 |           |         |             |         |
| 2.5                 |                     |  |                           |       |   |   |        |             |                    |                            |                                  |                 |           |         |             |         |
| 3.0                 |                     |  |                           |       |   |   |        |             |                    |                            |                                  |                 |           |         |             |         |



# BOREHOLE DRILLING RECORD : BH15-2

Prepared by: **Kathryn Maton**  
 Reviewed by: **Phil Romeril**

Date (Start): **1/11/2016**  
 Date (End): **1/13/2016**

Project Name: **Phase Two Environmental Site Assessment**  
 Site: **774 Bronson Avenue and 557 Cambridge Street South, Ottawa, Ontario**  
 Sector:  
 Client: **Textbook Student Suites**

Project Number: **151-13503-00**  
 Geographic Coordinates: X = 445204 mE  
 Y = 5027668 mN  
 Surface Elevation: **75.6 m (Approximate)**  
 Top of PVC Elevation: **76.62 m (Approximate)**

|  |  |  |  |  |
|--|--|--|--|--|
| Drilling Company: Downing Estate Drilling Ltd. | ODOUR<br>F - Light<br>M - Medium<br>P - Persistent               | SAMPLE TYPE<br>DC - Diamond Corer<br>SS - Split Spoon<br>MA - Manual Auger<br>TR - Trowel<br>ST - Shelby Tube<br>TU - DT32 Liner | CHEMICAL ANALYSIS<br>PCB Poly-Chlorinated Biphenyls<br>BTEX Benzene, Toluene, Ethylbenzene, Xylene<br>Inorg. C. Inorganic Compounds<br>Phenol. C. Phenolic Compounds<br>VOC Volatil Organic Compounds (MAH & CAH)<br>Diox. & Fur. Dioxins & Furans<br>CAH Chlorinated Aliphatic Hydrocarbons | MAH Monocyclic Aromatic Hydrocarbons<br>PAH Polycyclic Aromatic Hydrocarbons<br>PH C <sub>10</sub> -C <sub>30</sub> Petroleum Hydrocarbons C <sub>10</sub> -C <sub>30</sub><br>PH F1-F4 Petroleum Hydrocarbons F1-F4 (C <sub>10</sub> -C <sub>30</sub> )<br>Metals Arsenic, Barium, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Silver, Tin, Zinc.<br>HWR Leachate Tests (Haz. Waste Reg.) |
| Drilling Equipment: CME 55                     | VISUAL<br>D - Disseminated Product<br>S - Saturated with Product | Water Level  | Free Phase   |  |

Project : PHASE II ESA - 774 BRONSON AVE.GPJ Type rapport : WSP\_EN\_WELL-ENVIRONMENTAL\_Data Template . WSP\_TEMPLATE\_GEO TECH.GDT 29/09/2016

| DEPTH ELEVATION (m) | GEOLOGY / LITHOLOGY |   | OBSERVATIONS               |       |   |   |   | SAMPLES |             |                |             | MONITORING WELL |                                   | REMARKS |           |         |             |
|---------------------|---------------------|---|----------------------------|-------|---|---|---|---------|-------------|----------------|-------------|-----------------|-----------------------------------|---------|-----------|---------|-------------|
|                     | LITHOLOGY           | DESCRIPTION   | VAPOR CONC. (ppm OR % LIE) | ODOUR |   |   |   |         | SAMPLE TYPE | % RECUPERATION | N (Blow/6") | NUMBER          | ANALYSIS                          |         | DUPLICATE | DIAGRAM | DESCRIPTION |
|                     |                     |   |                            | F     | M | P | D | S       |             |                |             |                 |                                   |         |           |         |             |
| 0.45                |                     | Ground surface.   |                            |       |   |   |   |         |             |                |             |                 |                                   |         |           |         |             |
| 0.5                 |                     | ASPHALT   |                            |       |   |   |   |         |             |                |             |                 |                                   |         |           |         |             |
| 75.45               |                     | FILL, crushed limestone gravel and sand   | 8.5                        |       |   |   |   |         |             | 18             | 7           | BH15-2          |                                   |         |           | 0.5     |             |
| 0.83                |                     | FILL, sandy silt and crushed limestone gravel with trace clay, compact, saturated, brown, black crystal material observed | 13.8                       |       |   |   |   |         |             | 12             | 6           | BH15-2          | PHCs F1-F4<br>VOC<br>PAHs<br>BTEX |         |           | 1.0     |             |
| 74.77               |                     | BEDROCK, limestone with black shale partings<br><i>Auger Refusal at 1.14 mbgs, HQ Coring begins</i>                       |                            |       |   |   |   |         |             | 100            | 50-3"       |                 |                                   |         |           | 1.5     |             |
| 1.0                 |                     |   |                            |       |   |   |   |         |             | 100            |             |                 |                                   |         |           | 2.0     |             |
| 1.5                 |                     |   |                            |       |   |   |   |         |             | 100            |             |                 |                                   |         |           | 2.5     |             |
| 2.0                 |                     |   |                            |       |   |   |   |         |             | 100            |             |                 |                                   |         |           | 3.0     |             |
| 2.5                 |                     |   |                            |       |   |   |   |         |             | 100            |             |                 |                                   |         |           | 3.5     |             |
| 3.0                 |                     |   |                            |       |   |   |   |         |             | 100            |             |                 |                                   |         |           | 4.0     |             |
| 3.5                 |                     |   |                            |       |   |   |   |         |             | 100            |             |                 |                                   |         |           | 4.5     |             |
| 4.0                 |                     |   |                            |       |   |   |   |         |             | 100            |             |                 |                                   |         |           | 5.0     |             |
| 4.5                 |                     |   |                            |       |   |   |   |         |             | 100            |             |                 |                                   |         |           | 5.5     |             |
| 5.0                 |                     |   |                            |       |   |   |   |         |             | 100            |             |                 |                                   |         |           | 6.0     |             |
| 5.5                 |                     |   |                            |       |   |   |   |         |             | 100            |             |                 |                                   |         |           | 6.5     |             |
| 6.0                 |                     |   |                            |       |   |   |   |         |             | 100            |             |                 |                                   |         |           | 7.0     |             |
| 6.5                 |                     |   |                            |       |   |   |   |         |             | 100            |             |                 |                                   |         |           | 7.5     |             |
| 7.0                 |                     |   |                            |       |   |   |   |         |             | 100            |             |                 |                                   |         |           | 8.0     |             |
| 7.5                 |                     |   |                            |       |   |   |   |         |             | 100            |             |                 |                                   |         |           | 8.5     |             |
| 7.82                |                     | End of borehole at 7.82 m.  |                            |       |   |   |   |         |             |                |             |                 |                                   |         |           |         |             |
| 67.78               |                     |   |                            |       |   |   |   |         |             |                |             |                 |                                   |         |           |         |             |



# BOREHOLE DRILLING RECORD : BH15-3A

Prepared by: **Kathryn Maton**  
 Reviewed by: **Phil Romeril**

Date (Start): **1/11/2016**  
 Date (End): **1/12/2016**

**Project Name: Phase Two Environmental Site Assessment**  
**Site: 774 Bronson Avenue and 557 Cambridge Street South, Ottawa, Ontario**  
**Sector:**  
**Client: Textbook Student Suites**

**Project Number: 151-13503-00**  
**Geographic Coordinates: X = 445240 mE  
 Y = 5027685 mN**  
**Surface Elevation: 75.5 m (Approximate)**  
**Top of PVC Elevation: 76.53 m (Approximate)**

**Drilling Company: Downing Estate Drilling Ltd.**  
**Drilling Equipment: CME 55**  
**Drilling Method: Auger / HQ Casing**  
**Borehole Diameter: 200 mm**  
**Drilling Fluid: Municipal Water**  
**Sampling Method: Split Spoon**

**ODOUR**  
 F - Light  
 M - Medium  
 P - Persistent  
  
**VISUAL**  
 D - Disseminated Product  
 S - Saturated with Product

**SAMPLE TYPE**  
 DC - Diamond Corer  
 SS - Split Spoon  
 MA - Manual Auger  
 TR - Trowel  
 ST - Shelby Tube  
 TU - DT32 Liner

**CHEMICAL ANALYSIS**  
 PCB Poly-Chlorinated Biphenyls  
 BTEX Benzene, Toluene, Ethylbenzene, Xylene  
 Inorg. C. Inorganic Compounds  
 Phenol. C. Phenolic Compounds  
 VOC Volatil Organic Compounds (MAH & CAH)  
 Dix. & Fur. Dioxins & Furans  
 CAH Chlorinated Aliphatic Hydrocarbons  
 MAH Monocyclic Aromatic Hydrocarbons  
 PAH Polycyclic Aromatic Hydrocarbons  
 PH C<sub>10</sub>-C<sub>28</sub> Petroleum Hydrocarbons C<sub>10</sub>-C<sub>28</sub>  
 PH F1-F4 Petroleum Hydrocarbons F1-F4 (C<sub>10</sub>-C<sub>30</sub>)  
 Metals Arsenic, Barium, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Silver, Tin, Zinc.  
 HWR Leachate Tests (Haz. Waste Reg.)

▽ Water Level      ▼ Free Phase

Project : PHASE II ESA - 774 BRONSON AVE.GPJ Type rapport : WSP\_EN\_WELL-ENVIRONMENTAL Data Template : WSP\_TEMPLATE\_GEOTECH.GDT 2/9/2016

| DEPTH ELEVATION (m) | GEOLOGY / LITHOLOGY |  | OBSERVATIONS              |       |   | SAMPLES |        |             |                     | MONITORING WELL |   |          |           |         |             |         |
|---------------------|---------------------|--|---------------------------|-------|---|---------|--------|-------------|---------------------|-----------------|---|----------|-----------|---------|-------------|---------|
|                     | LITHOLOGY           | DESCRIPTION  | VAPOR CONC (ppm OR % LIE) | ODOUR |   |         | VISUAL | SAMPLE TYPE | % RECUPERATION      | N (Blow/s')     | NUMBER  | ANALYSIS | DUPLICATE | DIAGRAM | DESCRIPTION | REMARKS |
|                     |                     |  |                           | F     | M | P       |        |             |                     |                 |   |          |           |         |             |         |
| 75.50               |                     | Ground surface.  |                           |       |   |         |        |             |                     |                 |   |          |           |         |             |         |
| 75.37               |                     | TOPSOIL  | 15.2                      |       |   |         | SS     | 37          | 11                  | BH15-3A 1       |   |          |           |         |             |         |
| 75.37               |                     | FILL, Black carbon ashes   | 12                        |       |   |         |        |             |                     | BH15-3A 2       |   |          |           |         |             |         |
|                     |                     | FILL, silty sand, dry to moist, compact, brown                           |                           |       |   |         |        |             |                     |                 |   |          |           |         |             |         |
| 0.5                 |                     |  | 12                        |       |   |         | SS     | 12          | 2<br>14<br>50-3"    | BH15-3A 3       |   |          |           |         |             |         |
|                     |                     | ← becoming saturated   |                           |       |   |         |        |             |                     |                 |   |          |           |         |             |         |
| 1.5                 |                     |  | 13.1                      |       |   |         | SS     | 64          | 7<br>14<br>22<br>31 | BH15-3A 4       | PHCs F1-F4<br>BTEX<br>VOC<br>PAH<br>Duplicate |          |           |         |             |         |
| 1.75                |                     |  |                           |       |   |         |        |             |                     |                 |   |          |           |         |             |         |
| 1.82                |                     | FILL, crushed limestone gravel and sand                                  |                           |       |   |         |        |             |                     |                 |   |          |           |         |             |         |
| 1.82                |                     | FILL, silty sand and crushed limestone gravel, saturated, compact, brown | 21.3                      |       |   |         | SS     | 29          | 37<br>35<br>50-2"   | BH15-3A 5       |   |          |           |         |             |         |
| 2.0                 |                     |  |                           |       |   |         |        |             |                     |                 |   |          |           |         |             |         |
| 2.18                |                     | BEDROCK, limestone with black shale partings                             |                           |       |   |         |        |             |                     |                 |   |          |           |         |             |         |
| 2.18                |                     |  |                           |       |   |         |        |             |                     |                 |   |          |           |         |             |         |
| 2.56                |                     | Auger Refusal at 2.56 mbgs   |                           |       |   |         |        |             |                     |                 |   |          |           |         |             |         |
| 2.56                |                     | End of borehole at 2.56 m.   |                           |       |   |         |        |             |                     |                 |   |          |           |         |             |         |
| 2.56                |                     |  |                           |       |   |         |        |             |                     |                 |   |          |           |         |             |         |
| 3.0                 |                     |  |                           |       |   |         |        |             |                     |                 |   |          |           |         |             |         |



BOREHOLE DRILLING RECORD : BH15-3B

Prepared by: Kathryn Maton  
Reviewed by: Phil Romeril

Date (Start): 1/11/2016  
Date (End): 1/12/2016

Project Name: Phase Two Environmental Site Assessment  
Site: 774 Bronson Avenue and 557 Cambridge Street South, Ottawa, Ontario  
Sector:  
Client: Textbook Student Suites

Project Number: 151-13503-00  
Geographic Coordinates: X = 445240 mE  
Y = 5027685 mN  
Surface Elevation: 75.5 m (Approximate)  
Top of PVC Elevation: 77.468 m (Approximate)

|                     |                              |                            |                    |                   |  |
|---------------------|------------------------------|----------------------------|--------------------|-------------------|--|
| Drilling Company:   | Downing Estate Drilling Ltd. | ODOUR                      | SAMPLE TYPE        | CHEMICAL ANALYSIS |  |
| Drilling Equipment: | CME 55                       | F - Light                  | DC - Diamond Corer | PCB               | Poly-Chlorinated Biphenyls   |
| Drilling Method:    | Auger / HQ Casing            | M - Medium                 | SS - Split Spoon   | BTEX              | Benzene, Toluene, Ethylbenzene, Xylene   |
| Borehole Diameter:  | 200 mm / 96 mm               | P - Persistent             | MA - Manual Auger  | Inorg. C.         | Inorganic Compounds  |
| Drilling Fluid:     | Municipal Water              | VISUAL                     | TR - Trowel        | Phenol. C.        | Phenolic Compounds   |
| Sampling Method:    | Diamond Corer                | D - Disseminated Product   | ST - Shelby Tube   | VOC               | Volatil Organic Compounds (MAH & CAH)  |
|                     |                              | S - Saturated with Product | TU - DT32 Liner    | Diox. & Fur.      | Dioxins & Furans   |
|                     |                              |                            |                    | CAH               | Chlorinated Aliphatic Hydrocarbons   |
|                     |                              |                            |                    |                   | MAH Monocyclic Aromatic Hydrocarbons   |
|                     |                              |                            |                    |                   | PAH Polycyclic Aromatic Hydrocarbons   |
|                     |                              |                            |                    |                   | PH C <sub>10</sub> -C <sub>26</sub> Petroleum Hydrocarbons C <sub>10</sub> -C <sub>26</sub>                        |
|                     |                              |                            |                    |                   | PH F1-F4 Petroleum Hydrocarbons F1-F4 (C <sub>10</sub> -C <sub>26</sub> )  |
|                     |                              |                            |                    |                   | Metals Arsenic, Barium, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Silver, Tin, Zinc. |
|                     |                              |                            |                    |                   | HWR Leachate Tests (Haz. Waste Reg.)   |

| DEPTH ELEVATION (m) | GEOLOGY / LITHOLOGY |  | OBSERVATIONS               |       |        |             | SAMPLES    |             |        |          | MONITORING WELL |         | REMARKS |             |
|---------------------|---------------------|--|----------------------------|-------|--------|-------------|------------|-------------|--------|----------|-----------------|---------|---------|-------------|
|                     | LITHOLOGY           | DESCRIPTION                                    | VAPOR CONC. (ppm OR % LIE) | ODOUR | VISUAL | SAMPLE TYPE | % RECOVERY | N (Blow/6") | NUMBER | ANALYSIS | DUPLICATE       | DIAGRAM |         | DESCRIPTION |
| 75.50               |                     | Ground surface.                                |                            |       |        |             |            |             |        |          |                 |         |         |             |
| 0.5                 | [Diagonal Hatching] | FILL, see soil description on BH15-3A          |                            |       |        |             |            |             |        |          |                 |         |         |             |
| 1.0                 | [Diagonal Hatching] |  |                            |       |        |             |            |             |        |          |                 |         |         |             |
| 1.5                 | [Diagonal Hatching] |  |                            |       |        |             |            |             |        |          |                 |         |         |             |
| 2.0                 | [Diagonal Hatching] | ← Casing refusal at 1.8 mbgs, HQ coring begins |                            |       |        | DC 100      |            |             |        |          |                 |         |         | RQD = 55    |
| 2.18                | [Diagonal Hatching] | BEDROCK, limestone with black shale partings   |                            |       |        | DC 100      |            |             |        |          |                 |         |         | RQD = 92    |
| 73.32               | [Diagonal Hatching] |  |                            |       |        | DC 100      |            |             |        |          |                 |         |         | RQD = 98    |
| 3.0                 | [Diagonal Hatching] |  |                            |       |        | DC 100      |            |             |        |          |                 |         |         | RQD = 94    |
| 4.5                 | [Diagonal Hatching] |  |                            |       |        | DC 100      |            |             |        |          |                 |         |         | RQD = 98    |
| 5.0                 | [Diagonal Hatching] |  |                            |       |        |             |            |             |        |          |                 |         |         |             |
| 5.5                 | [Diagonal Hatching] |  |                            |       |        |             |            |             |        |          |                 |         |         |             |
| 6.0                 | [Diagonal Hatching] |  |                            |       |        |             |            |             |        |          |                 |         |         |             |
| 6.5                 | [Diagonal Hatching] |  |                            |       |        |             |            |             |        |          |                 |         |         |             |
| 7.0                 | [Diagonal Hatching] |  |                            |       |        |             |            |             |        |          |                 |         |         |             |
| 7.5                 | [Diagonal Hatching] |  |                            |       |        |             |            |             |        |          |                 |         |         |             |
| 7.85                | [Diagonal Hatching] | End of borehole at 7.85 m.                     |                            |       |        |             |            |             |        |          |                 |         |         |             |
| 8.0                 | [Diagonal Hatching] |  |                            |       |        |             |            |             |        |          |                 |         |         |             |
| 8.5                 | [Diagonal Hatching] |  |                            |       |        |             |            |             |        |          |                 |         |         |             |

Project : PHASE II ESA - 774 BRONSON AVE.GPJ Type rapport : WSP\_EN\_WELL-ENVIRONMENTAL Data Template - WSP\_TEMPLATE\_GEOTECH.GDT 2/9/2016

← Screen  
 Diam.: 51 mm  
 Open.: 0.25 mm  
 Length: 1.52 m

← Sand

← PVC Slotted Pipe





# BOREHOLE DRILLING RECORD : BH15-4

Prepared by: **Kathryn Maton**  
 Reviewed by: **Phil Romeril**

Date (Start): **1/11/2016**  
 Date (End): **1/13/2016**

**Project Name:** Phase Two Environmental Site Assessment  
**Site:** 774 Bronson Avenue and 557 Cambridge Street South, Ottawa, Ontario  
**Sector:**  
**Client:** Textbook Student Suites

**Project Number:** **151-13503-00**  
**Geographic Coordinates:** X = 445246 mE  
 Y = 5027658 mN  
**Surface Elevation:** 74.5 m (Approximate)  
**Top of PVC Elevation:** 75.53 m (Approximate)

**Drilling Company:** Downing Estate Drilling Ltd.  
**Drilling Equipment:** CME 55  
**Drilling Method:** Auger / HQ Casing  
**Borehole Diameter:** 200 mm / 96 mm  
**Drilling Fluid:** Municipal Water  
**Sampling Method:** Split Spoon

**ODOUR**  
 F - Light  
 M - Medium  
 P - Persistent  
  
**VISUAL**  
 D - Disseminated Product  
 S - Saturated with Product

**SAMPLE TYPE**  
 DC - Diamond Corer  
 SS - Split Spoon  
 MA - Manual Auger  
 TR - Trowel  
 ST - Shelby Tube  
 TU - DT32 Liner

**CHEMICAL ANALYSIS**  
 PCB Poly-Chlorinated Biphenyls  
 BTEX Benzene, Toluene, Ethylbenzene, Xylene  
 Inorg. C. Inorganic Compounds  
 Phenol. C. Phenolic Compounds  
 VOC Volatile Organic Compounds (MAH & CAH)  
 Dix. & Fur. Dioxins & Furans  
 CAH Chlorinated Aliphatic Hydrocarbons  
 MAH Monocyclic Aromatic Hydrocarbons  
 PAH Polycyclic Aromatic Hydrocarbons  
 PH C<sub>10</sub>-C<sub>28</sub> Petroleum Hydrocarbons C<sub>10</sub>-C<sub>28</sub>  
 PH F1-F4 Petroleum Hydrocarbons F1-F4 (C<sub>10</sub>-C<sub>28</sub>)  
 Metals Arsenic, Barium, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Silver, Tin, Zinc.  
 HWR Leachate Tests (Haz. Waste Reg.)

Water Level      Free Phase

| DEPTH ELEVATION (m) | GEOLOGY / LITHOLOGY |   | OBSERVATIONS               |       |   |   |        | SAMPLES     |                |             |          | MONITORING WELL       |           | REMARKS |          |             |
|---------------------|---------------------|---|----------------------------|-------|---|---|--------|-------------|----------------|-------------|----------|-----------------------|-----------|---------|----------|-------------|
|                     | LITHOLOGY           | DESCRIPTION   | VAPOR CONC. (ppm OR % LIE) | ODOUR |   |   | VISUAL | SAMPLE TYPE | % RECUPERATION | N (Blow/ft) | NUMBER   | ANALYSIS              | DUPLICATE |         | DIAGRAM  | DESCRIPTION |
|                     |                     |   |                            | F     | M | P |        |             |                |             |          |                       |           |         |          |             |
| 0.12                |                     | Ground surface.   |                            |       |   |   |        |             |                |             |          |                       |           |         |          |             |
| 74.38               |                     | FILL, crushed limestone gravel  | 11.9                       |       |   |   |        | SS          | 37             | 3           | BH15-4 1 | Metals and Inorganics |           |         |          |             |
| 0.5                 |                     | FILL, silty sand and crushed limestone gravel   |                            |       |   |   |        | SS          | 46             | 4           | BH15-4 2 |                       |           |         |          |             |
| 0.96                |                     |   | 13                         |       |   |   |        |             |                | 50-2"       |          |                       |           |         |          |             |
| 73.54               |                     | BEDROCK, limestone with black shale partings<br><i>Auger Refusal at 1.29 mbgs, HQ coring begins</i> |                            |       |   |   |        | DC          | 100            |             |          |                       |           |         | RQD = 92 |             |
| 1.5                 |                     |   |                            |       |   |   |        |             |                |             |          |                       |           |         |          |             |
| 2.0                 |                     |   |                            |       |   |   |        |             |                |             |          |                       |           |         |          |             |
| 2.5                 |                     |   |                            |       |   |   |        |             |                |             |          |                       |           |         |          |             |
| 3.0                 |                     |   |                            |       |   |   |        | DC          | 100            |             |          |                       |           |         | RQD = 96 |             |
| 3.5                 |                     |   |                            |       |   |   |        |             |                |             |          |                       |           |         |          |             |
| 4.0                 |                     |   |                            |       |   |   |        |             |                |             |          |                       |           |         |          |             |
| 4.5                 |                     |   |                            |       |   |   |        | DC          | 100            |             |          |                       |           |         | RQD = 78 |             |
| 5.0                 |                     |   |                            |       |   |   |        |             |                |             |          |                       |           |         |          |             |
| 5.5                 |                     |   |                            |       |   |   |        |             |                |             |          |                       |           |         |          |             |
| 6.0                 |                     |   |                            |       |   |   |        | DC          | 100            |             |          |                       |           |         | RQD = 93 |             |
| 6.5                 |                     |   |                            |       |   |   |        |             |                |             |          |                       |           |         |          |             |
| 7.0                 |                     |   |                            |       |   |   |        |             |                |             |          |                       |           |         |          |             |
| 7.39                |                     |   |                            |       |   |   |        |             |                |             |          |                       |           |         |          |             |
| 67.09               |                     | End of borehole at 7.41 m.  |                            |       |   |   |        |             |                |             |          |                       |           |         |          |             |

Projet: PHASE II ESA - 774 BRONSON AVE.GPJ Type rapport: WSP\_EN\_WELL-ENVIRONMENTAL Data Template: WSP\_TEMPLATE\_GEOTECH.GDT 2/9/2016



# BOREHOLE DRILLING RECORD : BH15-5

Prepared by: **Kathryn Maton**  
 Reviewed by: **Phil Romeril**

Date (Start): **1/11/2016**  
 Date (End): **1/11/2016**

Project Name: **Phase Two Environmental Site Assessment**  
 Site: **774 Bronson Avenue and 557 Cambridge Street South, Ottawa, Ontario**  
 Sector:  
 Client: **Textbook Student Suites**

Project Number: **151-13503-00**  
 Geographic Coordinates: X = 445217 mE  
 Y = 5027643 mN  
 Surface Elevation:  
 Top of PVC Elevation: **74.7 m (Approximate)**

|   |  |  |  |   |
|---|--|--|--|---|
| Drilling Company: <b>Downing Estate Drilling Ltd.</b> | ODOUR<br>F - Light<br>M - Medium<br>P - Persistent               | SAMPLE TYPE<br>DC - Diamond Corer<br>SS - Split Spoon<br>MA - Manual Auger<br>TR - Trowel<br>ST - Shelby Tube<br>TU - DT32 Liner | CHEMICAL ANALYSIS<br>PCB Poly-Chlorinated Biphenyls<br>BTEX Benzene, Toluene, Ethylbenzene, Xylene<br>Inorg. C. Inorganic Compounds<br>Phenol. C. Phenolic Compounds<br>VOC Volatil Organic Compounds (MAH & CAH)<br>Diox. & Fur. Dioxins & Furans<br>CAH Chlorinated Aliphatic Hydrocarbons | MAH Monocyclic Aromatic Hydrocarbons<br>PAH Polycyclic Aromatic Hydrocarbons<br>PH C <sub>10</sub> -C <sub>25</sub> Petroleum Hydrocarbons C <sub>10</sub> -C <sub>25</sub><br>PH F1-F4 Petroleum Hydrocarbons F1-F4 (C <sub>12</sub> -C <sub>22</sub> )<br>Metals Arsenic, Barium, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Silver, Tin, Zinc<br>HWR Leachate Tests (Haz. Waste Reg.) |
| Drilling Equipment: <b>CME 55</b>                     | VISUAL<br>D - Disseminated Product<br>S - Saturated with Product |  |  |   |
| Drilling Method: <b>Auger</b>                         |  |  |  |   |
| Borehole Diameter: <b>200 mm</b>                      |  |  |  |   |
| Drilling Fluid: <b>None</b>                           |  |  |  |   |
| Sampling Method: <b>Split Spoon</b>                   |  |  |  |   |

Water Level Free Phase

Project : PHASE II ESA - 774 BRONSON AVE.GPJ Type rapport : WSP\_EN\_WELL-ENVIRONMENTAL Oata Template : WSP\_TEMPLATE\_GEOTECH.GDT 2/9/2016

| DEPTH ELEVATION (m) | GEOLOGY / LITHOLOGY |  | OBSERVATIONS               |       |   |   |        | SAMPLES     |            |                   |                         | MONITORING WELL       |           | REMARKS |         |             |
|---------------------|---------------------|--|----------------------------|-------|---|---|--------|-------------|------------|-------------------|-------------------------|-----------------------|-----------|---------|---------|-------------|
|                     | LITHOLOGY           | DESCRIPTION  | VAPOR CONC. (ppm OR % LIE) | ODOUR |   |   | VISUAL | SAMPLE TYPE | % RECOVERY | N (Blow/6")       | NUMBER                  | ANALYSIS              | DUPLICATE |         | DIAGRAM | DESCRIPTION |
|                     |                     |  |                            | F     | M | P |        |             |            |                   |                         |                       |           |         |         |             |
|                     |                     | Ground surface.  |                            |       |   |   |        |             |            |                   |                         |                       |           |         |         |             |
| 74.70               |                     | TOP SOIL   | 8                          |       |   |   |        | SS          | 50         | 2<br>10<br>7<br>4 | BH15-5-1<br>1           |                       |           |         |         |             |
| 0.15                |                     | FILL, pieces of asphalt  | 1.3                        |       |   |   |        |             |            |                   | BH15-5-2<br>(0.15-0.17) | Metals and Inorganics |           |         |         |             |
| 74.53               |                     | FILL, sand and crushed limestone gravel with trace pieces of brick | 1.2                        |       |   |   |        |             |            |                   | BH15-5-3<br>2           |                       |           |         |         |             |
| 0.5                 |                     |  |                            |       |   |   |        |             |            |                   |                         |                       |           |         | 0.5     |             |
| 0.61                |                     | FILL, topsoil with some pieces of wood, compact, moist, dark brown | 1.3                        |       |   |   |        | SS          | 41         | 4<br>32<br>50-1"  | BH15-5-4<br>3           |                       |           |         |         |             |
| 74.09               |                     | GRAVEL and sand  | 1                          |       |   |   |        |             |            |                   | BH15-5-5<br>4           |                       |           |         |         |             |
| 0.71                |                     |  |                            |       |   |   |        |             |            |                   |                         |                       |           |         |         |             |
| 73.99               |                     | BEDROCK, limestone with black shale partings                       |                            |       |   |   |        |             |            |                   |                         |                       |           |         | 1.0     |             |
| 0.94                |                     |  |                            |       |   |   |        |             |            |                   |                         |                       |           |         |         |             |
| 73.76               |                     |  |                            |       |   |   |        |             |            |                   |                         |                       |           |         |         |             |
| 1.35                |                     | Auger Refusal at 1.35 mbgs   |                            |       |   |   |        |             |            |                   |                         |                       |           |         |         |             |
| 73.35               |                     | End of borehole at 1.35 m.   |                            |       |   |   |        |             |            |                   |                         |                       |           |         | 1.5     |             |
| 1.5                 |                     |  |                            |       |   |   |        |             |            |                   |                         |                       |           |         |         |             |
| 2.0                 |                     |  |                            |       |   |   |        |             |            |                   |                         |                       |           |         | 2.0     |             |
| 2.5                 |                     |  |                            |       |   |   |        |             |            |                   |                         |                       |           |         | 2.5     |             |
| 3.0                 |                     |  |                            |       |   |   |        |             |            |                   |                         |                       |           |         | 3.0     |             |



# BOREHOLE DRILLING RECORD : BH15-6

Prepared by: **Kathryn Maton**  
 Reviewed by: **Phil Romeril**

Date (Start): **1/11/2016**  
 Date (End): **1/13/2016**

Project Name: **Phase Two Environmental Site Assessment**  
 Site: **774 Bronson Avenue and 557 Cambridge Street South, Ottawa, Ontario**  
 Sector:  
 Client: **Textbook Student Suites**

Project Number: **151-13503-00**  
 Geographic Coordinates: X = 445189 mE  
 Y = 5027623 mN  
 Surface Elevation: **73.7 m (Approximate)**  
 Top of PVC Elevation: **74.705 m (Approximate)**

|  |  |  |  |  |
|--|--|--|--|--|
| Drilling Company: Downing Estate Drilling Ltd. | ODOUR<br>F - Light<br>M - Medium<br>P - Persistent               | SAMPLE TYPE<br>DC - Diamond Corer<br>SS - Split Spoon<br>MA - Manual Auger<br>TR - Trowel<br>ST - Shelby Tube<br>TU - DT32 Liner | CHEMICAL ANALYSIS<br>PCB Poly-Chlorinated Biphenyls<br>BTEX Benzene, Toluene, Ethylbenzene, Xylene<br>Inorg. C. Inorganic Compounds<br>Phenol. C. Phenolic Compounds<br>VOC Volatil Organic Compounds (MAH & CAH)<br>Diox. & Fur. Dioxins & Furans<br>CAH Chlorinated Aliphatic Hydrocarbons | MAH Monocyclic Aromatic Hydrocarbons<br>PAH Polycyclic Aromatic Hydrocarbons<br>PH C <sub>10</sub> -C <sub>18</sub> Petroleum Hydrocarbons C <sub>10</sub> -C <sub>28</sub><br>PH F1-F4 Petroleum Hydrocarbons F1-F4 (C <sub>10</sub> -C <sub>36</sub> )<br>Metals Arsenic, Barium, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Silver, Tin, Zinc.<br>Leachate Tests (Haz. Waste Reg.) |
| Drilling Equipment: CME 55                     | VISUAL<br>D - Disseminated Product<br>S - Saturated with Product |  |  |  |
| Drilling Method: Auger / HQ Casing             |  |  |  |  |
| Borehole Diameter: 200 mm / 96 mm              |  |  |  |  |
| Drilling Fluid: Municipal Water                |  |  |  |  |
| Sampling Method: Split Spoon                   |  |  |  |  |

Water Level:  Free Phase:

| DEPTH ELEVATION (m) | GEOLOGY / LITHOLOGY   |   | OBSERVATIONS               |       |   |   |             | SAMPLES        |             |                                 |          | MONITORING WELL |   | REMARKS   |             |
|---------------------|---|---|----------------------------|-------|---|---|-------------|----------------|-------------|---------------------------------|----------|-----------------|---|-----------|-------------|
|                     | LITHOLOGY   | DESCRIPTION   | VAPOR CONC. (ppm OR % LIE) | ODOUR |   |   | SAMPLE TYPE | % RECUPERATION | N (Blow/6") | NUMBER                          | ANALYSIS | DUPLICATE       | DIAGRAM   |           | DESCRIPTION |
|                     |   |   |                            | F     | M | P |             |                |             |                                 |          |                 |   |           |             |
| 0.11                |   | Ground surface.   |                            |       |   |   |             |                |             |                                 |          |                 |   |           |             |
| 73.59               | FILL, top soil, with some pieces of brick, dry, compact, dark brown |   | 11.1                       |       |   |   | SS          | 39             | 3           | BH15-6                          |          |                 | SCREEN<br>Diam.: 31 mm<br>Open.: 0.25 m<br>Length: 1.52 m |           |             |
| 13.8                |   |   |                            |       |   |   |             | 14             | 1           | Metals and Inorganics Duplicate |          |                 |   |           |             |
| 73.09               |   | FILL, crushed limestone gravel and sand, dry, compact, brown-grey becoming silty with trace pieces of brick, saturated, brown | 12.1                       |       |   |   | SS          | 25             | 14          | 2                               |          |                 |   |           |             |
| 50.2                |   |   |                            |       |   |   |             |                | 3           |                                 |          |                 |   |           |             |
| 1.49                |   | Auger Refusal at 1.52 mbgs, HQ Coring begins  | 11.9                       |       |   |   | DC          | 27             |             |                                 |          |                 |   |           |             |
| 72.21               |   |   |                            |       |   |   | SS          | 16             | 11          | BH15-6                          |          |                 |   |           |             |
| 2.0                 |   | BEDROCK, limestone and black shale partings   |                            |       |   |   | DC          | 92             | 50-1        | 4                               |          |                 |   |           |             |
| 3.0                 |   |   |                            |       |   |   |             |                |             |                                 |          |                 |   | RQD = 63  |             |
| 4.0                 |   |   |                            |       |   |   |             |                |             |                                 |          |                 |   |           |             |
| 5.0                 |   |   |                            |       |   |   |             |                |             |                                 |          |                 |   |           |             |
| 6.0                 |   |   |                            |       |   |   |             |                |             |                                 |          |                 |   | RQD = 100 |             |
| 7.0                 |   |   |                            |       |   |   |             |                |             |                                 |          |                 |   |           |             |
| 8.0                 |   |   |                            |       |   |   |             |                |             |                                 |          |                 |   |           |             |
| 7.95                |   | End of borehole at 7.95 m.  |                            |       |   |   |             |                |             |                                 |          |                 |   |           |             |
| 65.75               |   |   |                            |       |   |   |             |                |             |                                 |          |                 |   |           |             |
| 7.0                 |   |   |                            |       |   |   |             |                |             |                                 |          |                 |   | RQD = 76  |             |
| 5.0                 |   |   |                            |       |   |   |             |                |             |                                 |          |                 |   |           |             |
| 6.0                 |   |   |                            |       |   |   |             |                |             |                                 |          |                 |   |           |             |
| 6.0                 |   |   |                            |       |   |   |             |                |             |                                 |          |                 |   | RQD = 90  |             |
| 6.5                 |   |   |                            |       |   |   |             |                |             |                                 |          |                 |   |           |             |
| 7.0                 |   |   |                            |       |   |   |             |                |             |                                 |          |                 |   |           |             |
| 7.5                 |   |   |                            |       |   |   |             |                |             |                                 |          |                 |   |           |             |
| 7.5                 |   |   |                            |       |   |   |             |                |             |                                 |          |                 |   | RQD = 75  |             |

Project: PHASE II ESA - 774 BRONSON AVE.GPJ Type rapport: WSP\_EN\_WELL-ENV/IRONMENTAL Data Template: WSP\_TEMPLATE\_GEOTECH.GDT 2/9/2016



PROJECT: 1525987

# RECORD OF DRILLHOLE: 15-1

SHEET 2 OF 2

LOCATION: N 5027695.2 ;E 445226.2

DRILLING DATE: March 25, 2015

DATUM: Geodetic

INCLINATION: -90° AZIMUTH: ---

DRILL RIG:

DRILLING CONTRACTOR: Marathon Drilling

| DEPTH SCALE METRES | DRILLING RECORD      | DESCRIPTION  | SYMBOLIC LOG | ELEV. DEPTH (m) | RUN No. | COLOUR FLUSH | RECOVERY     |              | FRACT. INDEX PER 0.25 m | DISCONTINUITY DATA | HYDRAULIC CONDUCTIVITY |          |                    | Diameter Point Load Index (MPa) | RMC -Q' AVG.                                      |             |          |          |
|--------------------|----------------------|--|--------------|-----------------|---------|--------------|--------------|--------------|-------------------------|--------------------|------------------------|----------|--------------------|---------------------------------|---|-------------|----------|----------|
|                    |                      |  |              |                 |         |              | TOTAL CORE % | SOLID CORE % |                         |                    | R.Q.D. %               | B Angle  | DIP w/ZL CORE AXIS |                                 |   | K, cm/sec   | Ja       | Jb       |
|                    |                      |  |              |                 |         |              | 88888888     | 88888888     |                         |                    | 88888888               | 88888888 | 88888888           |                                 |   | 88888888    | 88888888 | 88888888 |
|                    |                      | BEDROCK SURFACE  |              | 73.43           |         |              |              |              |                         |                    |                        |          |                    |                                 |   |             |          |          |
| 3                  | Rotary Drill NQ Core | Fresh, thinly to medium bedded, grey, fine grained, non-porous LIMESTONE BEDROCK, with partings to thin interbeds of black shale |              | 2.43            | 1       |              |              |              |                         |                    |                        |          |                    |                                 | Bentonite Seal                                    |             |          |          |
| 4                  |                      |  |              |                 |         |              |              |              |                         |                    |                        |          |                    |                                 |   | Silica Sand |          |          |
| 5                  |                      |  |              |                 | 2       |              |              |              |                         |                    |                        |          |                    |                                 | 38 mm Diam. PVC #10 Slot Screen                   |             |          |          |
| 6                  |                      | End of Drillhole   |              | 70.23           |         |              |              |              |                         |                    |                        |          |                    |                                 | W.L. in Screen at Elev. 73.36 m on March 27, 2015 |             |          |          |
| 7                  |                      |  |              | 5.63            |         |              |              |              |                         |                    |                        |          |                    |                                 |   |             |          |          |
| 8                  |                      |  |              |                 |         |              |              |              |                         |                    |                        |          |                    |                                 |   |             |          |          |
| 9                  |                      |  |              |                 |         |              |              |              |                         |                    |                        |          |                    |                                 |   |             |          |          |
| 10                 |                      |  |              |                 |         |              |              |              |                         |                    |                        |          |                    |                                 |   |             |          |          |
| 11                 |                      |  |              |                 |         |              |              |              |                         |                    |                        |          |                    |                                 |   |             |          |          |
| 12                 |                      |  |              |                 |         |              |              |              |                         |                    |                        |          |                    |                                 |   |             |          |          |

MIS-RCK 004 1525987.GPJ GAL-MISS.GDT 08/21/15 JM

DEPTH SCALE

1 : 50



LOGGED: JD

CHECKED: TMS

PROJECT: 1525987

# RECORD OF DRILLHOLE: 15-2

SHEET 2 OF 2

LOCATION: N 5027707.7 ;E 445228.3

DRILLING DATE: March 24, 2015

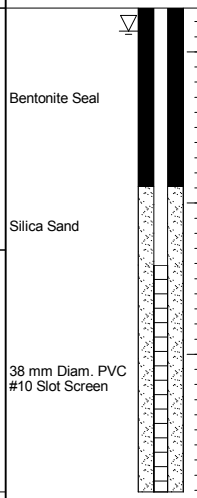
DATUM: Geodetic

INCLINATION: -90° AZIMUTH: ---

DRILL RIG:

DRILLING CONTRACTOR: Marathon Drilling

| DEPTH SCALE METRES | DRILLING RECORD         | DESCRIPTION  | SYMBOLIC LOG | ELEV. DEPTH (m) | RUN No. | COLOUR FLUSH | RECOVERY     |              | FRACT. INDEX PER 0.25 m | DISCONTINUITY DATA | HYDRAULIC CONDUCTIVITY |          |                    | Diametral Point Load Index (MPa) | RMC -Q' AVG. |           |          |          |
|--------------------|-------------------------|--|--------------|-----------------|---------|--------------|--------------|--------------|-------------------------|--------------------|------------------------|----------|--------------------|----------------------------------|--------------|-----------|----------|----------|
|                    |                         |  |              |                 |         |              | TOTAL CORE % | SOLID CORE % |                         |                    | R.Q.D. %               | B Angle  | DIP w/ZL CORE AXIS |                                  |              | K, cm/sec | Ja       | Jb       |
|                    |                         |  |              |                 |         |              | 88888888     | 88888888     |                         |                    | 88888888               | 88888888 | 88888888           |                                  |              | 88888888  | 88888888 | 88888888 |
|                    |                         | BEDROCK SURFACE  |              | 72.99           |         |              |              |              |                         |                    |                        |          |                    |                                  |              |           |          |          |
| 3                  | Rotary Drill<br>NQ Core | Fresh, thinly to medium bedded, grey, fine grained, non-porous LIMESTONE BEDROCK, with partings to thin interbeds of black shale |              | 2.71            | 1       | 100          |              |              |                         |                    |                        |          |                    |                                  |              |           |          |          |
| 4                  |                         |  |              |                 |         |              |              |              |                         |                    |                        |          |                    |                                  |              |           |          |          |
| 5                  |                         |  |              |                 | 2       | 85           |              |              |                         |                    |                        |          |                    |                                  |              |           |          |          |
| 6                  |                         | End of Drillhole   |              | 69.79           |         |              |              |              |                         |                    |                        |          |                    |                                  |              |           |          |          |
|                    |                         |  |              | 5.91            |         |              |              |              |                         |                    |                        |          |                    |                                  |              |           |          |          |



W.L. in Screen at Elev. 72.79 m on March 27, 2015

MIS-RCK 004 1525987.GPJ GAL-MISS.GDT 08/21/15 JM

DEPTH SCALE

1 : 50



LOGGED: JD

CHECKED: TMS

PROJECT: 1525987

# RECORD OF DRILLHOLE: 15-3

SHEET 2 OF 2

LOCATION: N 5027716.1 ; E 445220.9

DRILLING DATE: March 24, 2015

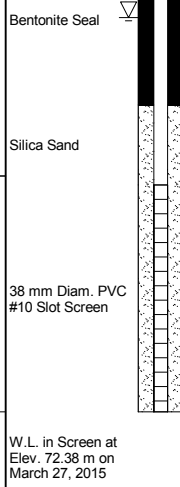
DATUM: Geodetic

INCLINATION: -90° AZIMUTH: ---

DRILL RIG:

DRILLING CONTRACTOR: Marathon Drilling

| DEPTH SCALE METRES | DRILLING RECORD         | DESCRIPTION  | SYMBOLIC LOG | ELEV. DEPTH (m) | RUN No. | COLOUR FLUSH | RECOVERY     |              | FRACT. INDEX PER 0.25 m | DISCONTINUITY DATA |                              |                     | HYDRAULIC CONDUCTIVITY       |           |    | Diametral Point Load Index (MPa) | RMC -Q' AVG. |    |
|--------------------|-------------------------|--|--------------|-----------------|---------|--------------|--------------|--------------|-------------------------|--------------------|------------------------------|---------------------|------------------------------|-----------|----|----------------------------------|--------------|----|
|                    |                         |  |              |                 |         |              | TOTAL CORE % | SOLID CORE % |                         | R.Q.D. %           | TYPE AND SURFACE DESCRIPTION |                     |                              | K, cm/sec |    |                                  |              |    |
|                    |                         |  |              |                 |         |              | 88888888     | 88888888     |                         | 88888888           | B Angle                      | DIP w/ ZL CORE AXIS | TYPE AND SURFACE DESCRIPTION | Joon      | Jr |                                  |              | Ja |
|                    |                         | BEDROCK SURFACE  |              | 72.98           |         |              |              |              |                         |                    |                              |                     |                              |           |    |                                  |              |    |
| 3                  |                         | Fresh, thinly to medium bedded, grey, fine grained, non-porous LIMESTONE BEDROCK, with partings to thin interbeds of black shale |              | 2.77            | 1       | 86           |              |              |                         |                    |                              |                     |                              |           |    |                                  |              |    |
| 4                  | Rotary Drill<br>NQ Core |  |              |                 |         |              |              |              |                         |                    |                              |                     |                              |           |    |                                  |              |    |
| 5                  |                         |  |              |                 | 2       |              |              |              |                         |                    |                              |                     |                              |           |    |                                  |              |    |
| 6                  |                         | End of Drillhole   |              | 69.82<br>5.93   |         |              |              |              |                         |                    |                              |                     |                              |           |    |                                  |              |    |
| 7                  |                         |  |              |                 |         |              |              |              |                         |                    |                              |                     |                              |           |    |                                  |              |    |
| 8                  |                         |  |              |                 |         |              |              |              |                         |                    |                              |                     |                              |           |    |                                  |              |    |
| 9                  |                         |  |              |                 |         |              |              |              |                         |                    |                              |                     |                              |           |    |                                  |              |    |
| 10                 |                         |  |              |                 |         |              |              |              |                         |                    |                              |                     |                              |           |    |                                  |              |    |
| 11                 |                         |  |              |                 |         |              |              |              |                         |                    |                              |                     |                              |           |    |                                  |              |    |
| 12                 |                         |  |              |                 |         |              |              |              |                         |                    |                              |                     |                              |           |    |                                  |              |    |



MIS-RCK 004 1525987.GPJ\_GAL-MISS.GDT\_08/21/15 JM



PROJECT: 1525987

# RECORD OF DRILLHOLE: 15-4

SHEET 2 OF 2

LOCATION: N 5027715.5 ; E 445230.4

DRILLING DATE: March 24, 2015

DATUM: Geodetic

INCLINATION: -90° AZIMUTH: ---

DRILL RIG:

DRILLING CONTRACTOR: Marathon Drilling

| DEPTH SCALE METRES | DRILLING RECORD          | DESCRIPTION   | SYMBOLIC LOG | ELEV. DEPTH (m) | RUN No. | COLOUR FLUSH | RECOVERY     |              |          | FRACT. INDEX PER 0.25 m | DISCONTINUITY DATA |      |                      |      | HYDRAULIC CONDUCTIVITY |      |   | Diameter Point Load Index (MPa) | RMC -Q' AVG. |
|--------------------|--------------------------|---|--------------|-----------------|---------|--------------|--------------|--------------|----------|-------------------------|--------------------|------|----------------------|------|------------------------|------|---|---------------------------------|--------------|
|                    |                          |   |              |                 |         |              | TOTAL CORE % | SOLID CORE % | R.Q.D. % |                         | B Angle            |      | DIP w.r.t. CORE AXIS |      | K, cm/sec              |      |   |                                 |              |
|                    |                          |   |              |                 |         |              | 88888888     | 88888888     | 88888888 |                         | 0 90               | 0 90 | 0 90                 | 0 90 | 0 90                   | 0 90 | 0 90  |                                 |              |
|                    |                          | BEDROCK SURFACE   |              | 72.56           |         |              |              |              |          |                         |                    |      |                      |      |                        |      |   |                                 |              |
|                    |                          | Fresh, thinly to medium bedded, grey, fine grained, non-porous LIMESTONE BEDROCK, with partings and thin interbeds of black shale |              | 3.06            |         |              |              |              |          |                         |                    |      |                      |      |                        |      |   |                                 |              |
| 4                  | Rotary Drill<br>N/C Core |   |              |                 | 1       | 95           |              |              |          |                         |                    |      |                      |      |                        |      | Bentonite Seal                                    |                                 |              |
| 5                  |                          |   |              |                 | 2       | 80           |              |              |          |                         |                    |      |                      |      |                        |      | Silica Sand                                       |                                 |              |
| 6                  |                          | End of Drillhole  |              | 69.65<br>5.97   |         |              |              |              |          |                         |                    |      |                      |      |                        |      | 38 mm Diam. PVC #10 Slot Screen                   |                                 |              |
|                    |                          |   |              |                 |         |              |              |              |          |                         |                    |      |                      |      |                        |      | W.L. in Screen at Elev. 72.87 m on March 27, 2015 |                                 |              |

MIS-RCK 004 1525987.GPJ GAL-MISS.GDT 08/21/15 JM

DEPTH SCALE

1 : 50



LOGGED: JD

CHECKED: TMS



PROJECT: 1525987  
 LOCATION: N 5027698.4 ; E 445234.4  
 INCLINATION: -90° AZIMUTH: ---

# RECORD OF DRILLHOLE: 15-5

DRILLING DATE: June 19, 2015  
 DRILL RIG: CME 55  
 DRILLING CONTRACTOR: Marathon Drilling

SHEET 2 OF 3  
 DATUM: Geodetic

| DEPTH SCALE METRES | DRILLING RECORD | DESCRIPTION  | SYMBOLIC LOG | ELEV. DEPTH (m) | RUN No. | COLOUR FLUSH | RECOVERY     |              |          | FRACT. INDEX PER 0.25 m | B Angle | DISCONTINUITY DATA   |                              |      | HYDRAULIC CONDUCTIVITY K, cm/sec | Diametral Point Load Index (MPa) | RMC -Q' AVG. |    |    |
|--------------------|-----------------|--|--------------|-----------------|---------|--------------|--------------|--------------|----------|-------------------------|---------|----------------------|------------------------------|------|----------------------------------|----------------------------------|--------------|----|----|
|                    |                 |  |              |                 |         |              | TOTAL CORE % | SOLID CORE % | R.Q.D. % |                         |         | DIP w.r.t. CORE AXIS | TYPE AND SURFACE DESCRIPTION | Joon |                                  |                                  |              | Jr | Ja |
|                    |                 |  |              |                 |         |              | 88888888     | 88888888     | 88888888 |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 | BEDROCK SURFACE  |              | 72.91           |         |              |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 | Fresh, thinly to medium bedded, grey, fine grained, non-porous LIMESTONE BEDROCK, with partings to thin interbeds of black shale |              | 2.58            | 1       | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
| 3                  |                 |  |              |                 | 2       | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
| 4                  |                 |  |              |                 | 3       | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
| 5                  |                 |  |              |                 | 4       | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
| 6                  |                 |  |              |                 | 5       | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
| 7                  |                 |  |              |                 | 6       | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
| 8                  |                 |  |              |                 | 7       | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
| 9                  |                 |  |              |                 | 8       | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
| 10                 |                 |  |              |                 | 9       | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
| 11                 |                 | - Broken core from 10.85 m to 10.90 m  |              |                 | 10      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
| 12                 |                 | - Broken core from 11.35 m to 11.38 m  |              |                 | 11      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 12      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 13      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 14      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 15      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 16      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 17      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 18      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 19      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 20      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 21      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 22      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 23      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 24      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 25      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 26      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 27      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 28      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 29      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 30      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 31      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 32      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 33      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 34      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 35      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 36      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 37      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 38      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 39      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 40      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 41      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 42      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 43      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 44      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 45      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 46      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 47      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 48      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 49      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |
|                    |                 |  |              |                 | 50      | 100          |              |              |          |                         |         |                      |                              |      |                                  |                                  |              |    |    |

CONTINUED NEXT PAGE

Peltonite and Cement Grout

MIS-RCK 004 1525987.GPJ GAL-MISS.GDT 08/21/15 JM

DEPTH SCALE  
1 : 50



LOGGED: HEC  
CHECKED: TMS

PROJECT: 1525987

# RECORD OF DRILLHOLE: 15-5

SHEET 3 OF 3

LOCATION: N 5027698.4 ; E 445234.4

DRILLING DATE: June 19, 2015

DATUM: Geodetic

INCLINATION: -90°    AZIMUTH: ---

DRILL RIG: CME 55

DRILLING CONTRACTOR: Marathon Drilling

| DEPTH SCALE<br>METRES | DRILLING RECORD         | DESCRIPTION  | SYMBOLIC LOG                | ELEV.<br>DEPTH<br>(m) | RUN No. | COLOUR<br>FLUSH | RECOVERY        |                 | FRACT.<br>INDEX<br>PER<br>0.25 m | DISCONTINUITY DATA |         |                          | HYDRAULIC<br>CONDUCTIVITY       |       |       |       | Diametral<br>Point Load<br>Index<br>(MPa) | RMC<br>-Q<br>AVG. |           |
|-----------------------|-------------------------|--|-----------------------------|-----------------------|---------|-----------------|-----------------|-----------------|----------------------------------|--------------------|---------|--------------------------|---------------------------------|-------|-------|-------|---|-------------------|-----------|
|                       |                         |  |                             |                       |         |                 | TOTAL<br>CORE % | SOLID<br>CORE % |                                  | R.Q.D.<br>%        | B Angle | DIP w/ZL<br>CORE<br>AXIS | TYPE AND SURFACE<br>DESCRIPTION | Joon  | Jr    | Ja    |   |                   | K, cm/sec |
|                       |                         |  |                             |                       |         |                 | ●●●●●           | ●●●●●           |                                  | ●●●●●              | ●●●●●   | ●●●●●                    | ●●●●●                           | ●●●●● | ●●●●● | ●●●●● |   |                   | ●●●●●     |
| 13                    | Rotary Drill<br>NQ Core | --- CONTINUED FROM PREVIOUS PAGE ---<br>Fresh, thinly to medium bedded, grey, fine grained, non-porous LIMESTONE BEDROCK, with partings to thin interbeds of black shale | [Symbolic Log: Limestone]   | 60.15                 | 8       | 100             | ●●●●●           | ●●●●●           | ●●●●●                            | ●●●●●              | ●●●●●   | ●●●●●                    | ●●●●●                           | ●●●●● | ●●●●● | ●●●●● | ●●●●●                                     |                   |           |
| 14                    |                         | End of Drillhole   | [Symbolic Log: Silica Sand] | 15.34                 | 9       | 100             | ●●●●●           | ●●●●●           | ●●●●●                            | ●●●●●              | ●●●●●   | ●●●●●                    | ●●●●●                           | ●●●●● | ●●●●● | ●●●●● | ●●●●●                                     |                   |           |
| 15                    |                         | End of Drillhole   |                             |                       |         |                 |                 |                 |                                  | ●●●●●              | ●●●●●   | ●●●●●                    | ●●●●●                           | ●●●●● | ●●●●● | ●●●●● | ●●●●●                                     |                   |           |
| 16                    |                         | End of Drillhole   |                             |                       |         |                 |                 |                 |                                  |                    |         |                          |                                 |       |       |       |   |                   |           |
| 17                    |                         | End of Drillhole   |                             |                       |         |                 |                 |                 |                                  |                    |         |                          |                                 |       |       |       |   |                   |           |
| 18                    |                         | End of Drillhole   |                             |                       |         |                 |                 |                 |                                  |                    |         |                          |                                 |       |       |       |   |                   |           |
| 19                    |                         | End of Drillhole   |                             |                       |         |                 |                 |                 |                                  |                    |         |                          |                                 |       |       |       |   |                   |           |
| 20                    |                         | End of Drillhole   |                             |                       |         |                 |                 |                 |                                  |                    |         |                          |                                 |       |       |       |   |                   |           |
| 21                    |                         | End of Drillhole   |                             |                       |         |                 |                 |                 |                                  |                    |         |                          |                                 |       |       |       |   |                   |           |
| 22                    |                         | End of Drillhole   |                             |                       |         |                 |                 |                 |                                  |                    |         |                          |                                 |       |       |       |   |                   |           |

Silica Sand

50 mm Diam. PVC #10 Slot Screen

W.L. in Screen at Elev. 71.83 m on August 20, 2015

MIS-RCK 004 1525987.GPJ GAL-MISS.GDT 08/21/15 JM



PROJECT: 1525987

# RECORD OF BOREHOLE: 15-1

SHEET 1 OF 2

LOCATION: N 5027695.2 ;E 445226.2

BORING DATE: March 25, 2015

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

| DEPTH SCALE METRES | BORING METHOD                             | SOIL PROFILE   |             | SAMPLES         |        | DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m |             |                |  | HYDRAULIC CONDUCTIVITY, k, cm/s |         |                       |   | ADDITIONAL LAB. TESTING | PIEZOMETER OR STANDPIPE INSTALLATION |                    |    |
|--------------------|---|--|-------------|-----------------|--------|--|-------------|----------------|--|---------------------------------|---------|-----------------------|---|-------------------------|--------------------------------------|--------------------|----|
|                    |   | DESCRIPTION  | STRATA PLOT | ELEV. DEPTH (m) | NUMBER | TYPE                                       | BLOWS/0.30m | SHEAR STRENGTH |  |                                 |         | WATER CONTENT PERCENT |   |                         |                                      |                    |    |
|                    |   |  |             |                 |        |  |             | Cu, kPa        |  | nat V. rem V.                   | + ⊕ - ⊙ | Wp                    | W |                         |                                      | Wi                 | Wi |
| 0                  | Power Auger<br>200 mm Diam. (Hollow Stem) | GROUND SURFACE   |             | 75.86           |        |  |             |                |  |                                 |         |                       |   |                         |                                      |                    |    |
|                    |   | ASPHALTIC CONCRETE   |             | 0.00            |        |  |             |                |  |                                 |         |                       |   |                         |                                      |                    |    |
|                    |   | FILL - (GW/SW) SAND and GRAVEL;<br>grey brown; non-cohesive, moist,<br>compact to very dense |             | 0.10            | 1      | SS   | 36          |                |  |                                 |         |                       |   |                         |                                      | Flush Mount Casing |    |
| 1                  |   | - Black staining from 0.25 m to 0.46 m   |             |                 | 2      | SS   | 21          |                |  |                                 |         |                       |   |                         |                                      |                    |    |
| 2                  |   |  |             |                 | 3      | SS   | 13          |                |  |                                 |         |                       |   |                         |                                      |                    |    |
|                    |   |  |             | 4               | SS     | >50  |             |                |  |                                 |         |                       |   |                         | Bentonite Seal                       |                    |    |
|                    |   |  |             | 73.43           |        |  |             |                |  |                                 |         |                       |   |                         |                                      |                    |    |
|                    |   | Borehole continued on RECORD OF DRILLHOLE 15-1   |             | 2.43            |        |  |             |                |  |                                 |         |                       |   |                         |                                      |                    |    |
| 3                  |   |  |             |                 |        |  |             |                |  |                                 |         |                       |   |                         |                                      |                    |    |
| 4                  |   |  |             |                 |        |  |             |                |  |                                 |         |                       |   |                         |                                      |                    |    |
| 5                  |   |  |             |                 |        |  |             |                |  |                                 |         |                       |   |                         |                                      |                    |    |
| 6                  |   |  |             |                 |        |  |             |                |  |                                 |         |                       |   |                         |                                      |                    |    |
| 7                  |   |  |             |                 |        |  |             |                |  |                                 |         |                       |   |                         |                                      |                    |    |
| 8                  |   |  |             |                 |        |  |             |                |  |                                 |         |                       |   |                         |                                      |                    |    |
| 9                  |   |  |             |                 |        |  |             |                |  |                                 |         |                       |   |                         |                                      |                    |    |
| 10                 |   |  |             |                 |        |  |             |                |  |                                 |         |                       |   |                         |                                      |                    |    |

MIS-BHS 001 1525987.GPJ GAL-MIS.GDT 08/21/15 JM

DEPTH SCALE

1 : 50



LOGGED: JD

CHECKED: TMS

PROJECT: 1525987

# RECORD OF BOREHOLE: 15-2

SHEET 1 OF 2

LOCATION: N 5027707.7 ;E 445228.3

BORING DATE: March 24, 2015

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

| DEPTH SCALE METRES | BORING METHOD                             | SOIL PROFILE   |              | SAMPLES         |        | DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m |                        |  |                     | HYDRAULIC CONDUCTIVITY, k, cm/s |   |  |    | ADDITIONAL LAB. TESTING | PIEZOMETER OR STANDPIPE INSTALLATION |                    |
|--------------------|---|--|--------------|-----------------|--------|--|------------------------|--|---------------------|---------------------------------|---|--|----|-------------------------|--------------------------------------|--------------------|
|                    |   | DESCRIPTION  | STRAATA PLOT | ELEV. DEPTH (m) | NUMBER | TYPE                                       | BLOWS/0.30m            |  |                     |                                 | WATER CONTENT PERCENT   |  |    |                         |                                      |                    |
|                    |   |  |              |                 |        |  | SHEAR STRENGTH Cu, kPa |  | nat V. + rem V. ⊕ ⊙ |                                 | 10 <sup>-6</sup> 10 <sup>-5</sup> 10 <sup>-4</sup> 10 <sup>-3</sup> |  | Wp |                         |                                      | W                  |
| 0                  | Power Auger<br>200 mm Diam. (Hollow Stem) | GROUND SURFACE   |              | 75.70           |        |  |                        |  |                     |                                 |   |  |    |                         |                                      |                    |
|                    |   | ASPHALTIC CONCRETE   |              | 0.00            |        |  |                        |  |                     |                                 |   |  |    |                         |                                      |                    |
|                    |   | FILL - (GW/SW) SAND and GRAVEL;<br>grey brown; non-cohesive, moist,<br>compact to very dense |              | 0.10            | 1      | SS   | 58                     |  |                     |                                 |   |  |    |                         |                                      | Flush Mount Casing |
| 1                  |   |  |              |                 | 2      | SS   | 68                     |  |                     |                                 |   |  |    |                         |                                      |                    |
| 2                  |   |  |              |                 | 3      | SS   | 70                     |  |                     |                                 |   |  |    |                         |                                      |                    |
|                    |   |  |              | 4               | SS     | 25   |                        |  |                     |                                 |   |  |    |                         | Bentonite Seal                       |                    |
|                    |   |  |              | 5               | SS     | >50  |                        |  |                     |                                 |   |  |    |                         |                                      |                    |
| 3                  |   | Borehole continued on RECORD OF DRILLHOLE 15-2   |              | 72.99<br>2.71   |        |  |                        |  |                     |                                 |   |  |    |                         |                                      |                    |
| 4                  |   |  |              |                 |        |  |                        |  |                     |                                 |   |  |    |                         |                                      |                    |
| 5                  |   |  |              |                 |        |  |                        |  |                     |                                 |   |  |    |                         |                                      |                    |
| 6                  |   |  |              |                 |        |  |                        |  |                     |                                 |   |  |    |                         |                                      |                    |
| 7                  |   |  |              |                 |        |  |                        |  |                     |                                 |   |  |    |                         |                                      |                    |
| 8                  |   |  |              |                 |        |  |                        |  |                     |                                 |   |  |    |                         |                                      |                    |
| 9                  |   |  |              |                 |        |  |                        |  |                     |                                 |   |  |    |                         |                                      |                    |
| 10                 |   |  |              |                 |        |  |                        |  |                     |                                 |   |  |    |                         |                                      |                    |

MIS-BHS 001 1525987.GPJ GAL-MIS.GDT 08/21/15 JM

DEPTH SCALE

1 : 50



LOGGED: JD

CHECKED: TMS

PROJECT: 1525987

# RECORD OF BOREHOLE: 15-3

SHEET 1 OF 2

LOCATION: N 5027716.1 ;E 445220.9

BORING DATE: March 24, 2015

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

| DEPTH SCALE METRES | BORING METHOD                             | SOIL PROFILE   |             | SAMPLES         |        | DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m |                        |    |    | HYDRAULIC CONDUCTIVITY, k, cm/s |                       |                  |                  | ADDITIONAL LAB. TESTING | PIEZOMETER OR STANDPIPE INSTALLATION |                    |
|--------------------|---|--|-------------|-----------------|--------|--|------------------------|----|----|---------------------------------|-----------------------|------------------|------------------|-------------------------|--------------------------------------|--------------------|
|                    |   | DESCRIPTION  | STRATA PLOT | ELEV. DEPTH (m) | NUMBER | TYPE                                       | SHEAR STRENGTH Cu, kPa |    |    |                                 | WATER CONTENT PERCENT |                  |                  |                         |                                      |                    |
|                    |   |  |             |                 |        |  | 20                     | 40 | 60 | 80                              | 10 <sup>-6</sup>      | 10 <sup>-5</sup> | 10 <sup>-4</sup> |                         |                                      | 10 <sup>-3</sup>   |
| 0                  | Power Auger<br>200 mm Diam. (Hollow Stem) | GROUND SURFACE   |             | 75.75           |        |  |                        |    |    |                                 |                       |                  |                  |                         |                                      |                    |
|                    |   | ASPHALTIC CONCRETE   |             | 0.00            |        |  |                        |    |    |                                 |                       |                  |                  |                         |                                      |                    |
|                    |   | FILL - (GW/SW) SAND and GRAVEL;<br>grey brown; non-cohesive, moist,<br>compact to very dense |             | 0.10            | 1      | SS   | 69                     |    |    |                                 |                       |                  |                  |                         |                                      | Flush Mount Casing |
| 1                  |   |  |             |                 | 2      | SS   | 93                     |    |    |                                 |                       |                  |                  |                         |                                      |                    |
|                    |   |  |             |                 | 3      | SS   | 11                     |    |    |                                 |                       |                  |                  |                         |                                      |                    |
| 2                  |   |  |             | 4               | SS     | 13   |                        |    |    |                                 |                       |                  |                  |                         | Bentonite Seal                       |                    |
|                    |   |  |             | 5               | SS     | >50  |                        |    |    |                                 |                       |                  |                  |                         |                                      |                    |
| 3                  |   | Borehole continued on RECORD OF DRILLHOLE 15-3   |             | 72.98           |        |  |                        |    |    |                                 |                       |                  |                  |                         |                                      |                    |
|                    |   |  |             | 2.77            |        |  |                        |    |    |                                 |                       |                  |                  |                         |                                      |                    |

MIS-BHS 001 1525987.GPJ GAL-MIS.GDT 08/21/15 JM

DEPTH SCALE

1 : 50



LOGGED: JD

CHECKED: TMS

PROJECT: 1525987

# RECORD OF BOREHOLE: 15-4

SHEET 1 OF 2

LOCATION: N 5027715.5 ; E 445230.4

BORING DATE: March 24, 2015

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

| DEPTH SCALE METRES | BORING METHOD                             | SOIL PROFILE   |             | SAMPLES         |        | DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m |             |                |  | HYDRAULIC CONDUCTIVITY, k, cm/s |           |                       |  | ADDITIONAL LAB. TESTING | PIEZOMETER OR STANDPIPE INSTALLATION |                    |    |
|--------------------|---|--|-------------|-----------------|--------|--|-------------|----------------|--|---------------------------------|-----------|-----------------------|--|-------------------------|--------------------------------------|--------------------|----|
|                    |   | DESCRIPTION  | STRATA PLOT | ELEV. DEPTH (m) | NUMBER | TYPE                                       | BLOWS/0.30m | SHEAR STRENGTH |  |                                 |           | WATER CONTENT PERCENT |  |                         |                                      |                    |    |
|                    |   |  |             |                 |        |  |             | Cu, kPa        |  | nat V. + rem V. ⊕               | Q - U - ○ | Wp                    |  |                         |                                      | W                  | WI |
| 0                  | Power Auger<br>200 mm Diam. (Hollow Stem) | GROUND SURFACE   |             | 75.62           |        |  |             |                |  |                                 |           |                       |  |                         |                                      |                    |    |
|                    |   | ASPHALTIC CONCRETE   |             | 0.00            |        |  |             |                |  |                                 |           |                       |  |                         |                                      |                    |    |
|                    |   | FILL - (SW) gravelly SAND; grey with dark grey staining; non-cohesive, moist, very dense           |             | 0.10            | 1      | SS   | >50         |                |  |                                 |           |                       |  |                         |                                      | Flush Mount Casing |    |
|                    |   | FILL - (GW/SW) SAND and GRAVEL, trace silt; grey brown; non-cohesive, moist, compact to very dense |             | 0.25            |        |  |             |                |  |                                 |           |                       |  |                         |                                      |                    |    |
| 1                  |   |  |             |                 |        | 2  | SS          | 25             |  |                                 |           |                       |  |                         |                                      |                    |    |
| 2                  |   |  |             |                 |        | 3  | SS          | 17             |  |                                 |           |                       |  |                         |                                      |                    |    |
| 3                  |   |  |             |                 | 4      | SS   | 10          |                |  |                                 |           |                       |  |                         | Bentonite Seal                       |                    |    |
|                    |   |  |             |                 | 5      | SS   | >50         |                |  |                                 |           |                       |  |                         |                                      |                    |    |
| 3                  |   | Borehole continued on RECORD OF DRILLHOLE 15-4   |             | 72.56<br>3.06   |        |  |             |                |  |                                 |           |                       |  |                         |                                      |                    |    |
| 4                  |   |  |             |                 |        |  |             |                |  |                                 |           |                       |  |                         |                                      |                    |    |
| 5                  |   |  |             |                 |        |  |             |                |  |                                 |           |                       |  |                         |                                      |                    |    |
| 6                  |   |  |             |                 |        |  |             |                |  |                                 |           |                       |  |                         |                                      |                    |    |
| 7                  |   |  |             |                 |        |  |             |                |  |                                 |           |                       |  |                         |                                      |                    |    |
| 8                  |   |  |             |                 |        |  |             |                |  |                                 |           |                       |  |                         |                                      |                    |    |
| 9                  |   |  |             |                 |        |  |             |                |  |                                 |           |                       |  |                         |                                      |                    |    |
| 10                 |   |  |             |                 |        |  |             |                |  |                                 |           |                       |  |                         |                                      |                    |    |

MIS-BHS 001 1525987.GPJ GAL-MIS.GDT 08/21/15 JM

DEPTH SCALE

1 : 50



LOGGED: JD

CHECKED: TMS

PROJECT: 1525987

# RECORD OF BOREHOLE: 15-5

SHEET 1 OF 3

LOCATION: N 5027698.4 ;E 445234.4

BORING DATE: June 19, 2015

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

| DEPTH SCALE METRES | BORING METHOD                             | SOIL PROFILE   |             | SAMPLES         |        | DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m |                        |     |                     | HYDRAULIC CONDUCTIVITY, k, cm/s |   |  |    | ADDITIONAL LAB. TESTING | PIEZOMETER OR STANDPIPE INSTALLATION |              |
|--------------------|---|--|-------------|-----------------|--------|--|------------------------|-----|---------------------|---------------------------------|---|--|----|-------------------------|--------------------------------------|--------------|
|                    |   | DESCRIPTION  | STRATA PLOT | ELEV. DEPTH (m) | NUMBER | TYPE                                       | BLOWS/0.30m            |     |                     |                                 | WATER CONTENT PERCENT   |  |    |                         |                                      |              |
|                    |   |  |             |                 |        |  | SHEAR STRENGTH Cu, kPa |     | nat V. + rem V. ⊕ ⊙ |                                 | 10 <sup>-6</sup> 10 <sup>-5</sup> 10 <sup>-4</sup> 10 <sup>-3</sup> |  | Wp |                         |                                      | W            |
| 0                  | Power Auger<br>200 mm Diam. (Hollow Stem) | GROUND SURFACE   |             | 75.49           |        |  |                        |     |                     |                                 |   |  |    |                         |                                      |              |
|                    |   | ASPHALTIC CONCRETE   |             | 0.00            |        |  |                        |     |                     |                                 |   |  |    |                         |                                      |              |
|                    |   | FILL - (SW) gravelly SAND, angular; grey (PAVEMENT STRUCTURE)                                |             | 0.10            |        |  |                        |     |                     |                                 |   |  |    |                         |                                      |              |
|                    |   | FILL - (SW) gravelly SAND; brown, contains cobbles; non-cohesive, moist, dense to very dense |             | 75.18           |        | 1  | SS                     | 61  |                     |                                 |   |  |    |                         |                                      | Cement Grout |
| 1                  |   |  |             | 0.31            |        | 2  | SS                     | >50 |                     |                                 |   |  |    |                         |                                      |              |
| 2                  |   |  |             | 73.20           |        | 3  | SS                     | 32  |                     |                                 |   |  |    |                         |                                      |              |
|                    |   | (SM) SILTY SAND, trace gravel; brown, contains organic matter; non-cohesive, wet, very dense |             | 2.29            |        | 4  | SS                     | >50 |                     |                                 |   |  |    |                         |                                      |              |
|                    |   | Borehole continued on RECORD OF DRILLHOLE 15-5   |             | 72.91           |        |  |                        |     |                     |                                 |   |  |    |                         |                                      |              |
| 3                  |   |  |             | 2.58            |        |  |                        |     |                     |                                 |   |  |    |                         |                                      |              |
| 4                  |   |  |             |                 |        |  |                        |     |                     |                                 |   |  |    |                         |                                      |              |
| 5                  |   |  |             |                 |        |  |                        |     |                     |                                 |   |  |    |                         |                                      |              |
| 6                  |   |  |             |                 |        |  |                        |     |                     |                                 |   |  |    |                         |                                      |              |
| 7                  |   |  |             |                 |        |  |                        |     |                     |                                 |   |  |    |                         |                                      |              |
| 8                  |   |  |             |                 |        |  |                        |     |                     |                                 |   |  |    |                         |                                      |              |
| 9                  |   |  |             |                 |        |  |                        |     |                     |                                 |   |  |    |                         |                                      |              |
| 10                 |   |  |             |                 |        |  |                        |     |                     |                                 |   |  |    |                         |                                      |              |

MIS-BHS 001 1525987.GPJ GAL-MIS.GDT 08/21/15 JM

DEPTH SCALE

1 : 50



LOGGED: HEC

CHECKED: TMS

EXP Services Inc.

*Katasa Groupe*

*Phase Two Environmental Site Assessment  
770 and 774 Bronson Avenue and 557 Cambridge Street, Ottawa, Ontario*

*OTT-22019409-A0*

*October 6, 2022*

## **Appendix E: Analytical Summary Tables**





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

| OTT-22019409-A0                |          |   | 770 Bronson Avenue |             |             |             |             |             |             | 557 Cambridge Street and 774 Bronson Avenue |              |              |                                     |              |
|--------------------------------|----------|---|--------------------|-------------|-------------|-------------|-------------|-------------|-------------|---|--------------|--------------|-------------------------------------|--------------|
| Parameter                      | Units    | MECP Table 7 <sup>1</sup><br><br>Orange | BH15-1 SA1         | BH15-1 SA4  | BH15-2 SA1  | BH15-2 SA3  | BH-3 SA1    | BH-3 SA3    | BH15-4 SA3  | BH15-1-2                                    | BH15-2-2     | BH15-3-4     | BH-15-3-104<br>(Duplicate BH15-3-4) |              |
| Sampling Date                  |          |   | 24-Mar-2015        | 24-Mar-2015 | 24-Mar-2015 | 24-Mar-2015 | 24-Mar-2015 | 24-Mar-2015 | 24-Mar-2015 | 24-Mar-2015                                 | 11-Jan-2016  | 11-Jan-2016  | 11-Jan-2016                         | 11-Jan-2016  |
| Sample Depth (mbgs)            |          |   | 0.1 to 0.7         | 2.0 to 2.4  | 0.1 to 0.7  | 1.4 to 2.0  | 0.1 to 0.7  | 1.4 to 2.0  | 1.4 to 2.0  | 1.4 to 2.0                                  | 0.15 to 0.61 | 0.61 to 0.83 | 1.22 to 1.83                        | 1.22 to 1.83 |
| Lab                            |          |   | AGAT               | AGAT        | AGAT        | AGAT        | AGAT        | AGAT        | AGAT        | AGAT  | Maxxam       | Maxxam       | Maxxam                              | Maxxam       |
| Parcel Certificate of Analysis |          |   | 15T957961          | 15T957961   | 15T957961   | 15T957961   | 15T957961   | 15T957961   | 15T957961   | 15T957961                                   | B605611      | B605611      | B605611                             | B605611      |
| <b>Semi-Volatiles</b>          |          |   |                    |             |             |             |             |             |             |   |              |              |                                     |              |
| Acenaphthene                   | ug/g dry | 7.9                                     | <0.05              | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | 0.1   | <0.0050      | <0.0050      | <0.0050                             |              |
| Acenaphthylene                 | ug/g dry | 0.15                                    | <0.05              | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | 0.066                                       | <0.0050      | <0.0050      | <0.0050                             |              |
| Anthracene                     | ug/g dry | 0.67                                    | <0.05              | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | 0.23  | <0.0050      | <0.0050      | <0.0050                             |              |
| Benzo[a]anthracene             | ug/g dry | 0.5                                     | <0.05              | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | 0.72  | <0.0050      | <0.0050      | 0.02                                |              |
| Benzo[a]pyrene                 | ug/g dry | 0.3                                     | <0.05              | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | 0.78  | <0.0050      | <0.0050      | 0.02                                |              |
| Benzo[b]fluoranthene           | ug/g dry | 0.78                                    | <0.05              | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | 1.1   | <0.010       | <0.010       | 0.035                               |              |
| Benzo[g,h,i]perylene           | ug/g dry | 6.6                                     | <0.05              | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | 0.42  | <0.0050      | <0.0050      | 0.015                               |              |
| Benzo[k]fluoranthene           | ug/g dry | 0.78                                    | <0.05              | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | 0.41  | <0.0050      | <0.0050      | 0.0099                              |              |
| Chrysene                       | ug/g dry | 7                                       | <0.05              | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | 0.71  | <0.0050      | <0.0050      | 0.02                                |              |
| Dibenzo[a,h]anthracene         | ug/g dry | 0.1                                     | <0.05              | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | 0.13  | <0.0050      | <0.0050      | <0.0050                             |              |
| Fluoranthene                   | ug/g dry | 0.69                                    | <0.05              | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | 1.9   | 0.0095       | 0.0084       | 0.035                               |              |
| Fluorene                       | ug/g dry | 62                                      | <0.05              | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | 0.11  | <0.0050      | <0.0050      | <0.0050                             |              |
| Indeno[1,2,3-cd]pyrene         | ug/g dry | 0.38                                    | <0.05              | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | 0.44  | <0.0050      | <0.0050      | 0.0099                              |              |
| Methylnaphthalene (1&2)        | ug/g dry | 0.99                                    | <0.05              | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | 0.037                                       | <0.0071      | <0.0071      | <0.0071                             |              |
| Naphthalene                    | ug/g dry | 0.6                                     | <0.05              | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | 0.022                                       | <0.0050      | <0.0050      | <0.0050                             |              |
| Phenanthrene                   | ug/g dry | 6.2                                     | <0.05              | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | 1.1   | <0.0050      | <0.0050      | 0.02                                |              |
| Pyrene                         | ug/g dry | 78                                      | <0.05              | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | 1.3   | 0.0095       | 0.0084       | 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 7 Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional Property Use (coarse textured soils)

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

NV No Value

N/A Not Applicable

- Parameter not analyzed

m bgs Metres below ground surface

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

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

| Parameter                 | Units    | MECP Table 7 <sup>2</sup> | 557 Cambridge Street and 774 Bronson Avenue |             |             |                                   |
|---------------------------|----------|---------------------------|---|-------------|-------------|-----------------------------------|
|                           |          |                           | BH15-4-1                                    | BH15-5-2    | BH15-6-2    | BH-6-102<br>(Duplicate of BH-6-2) |
| Sampling Date             |          |                           | 11-Jan-2016                                 | 11-Jan-2016 | 11-Jan-2016 | 11-Jan-2016                       |
| Sample Depth (mbgs)       |          |                           | 0.0 to 0.6                                  | 0.2 to 0.6  | 0.1 to 0.6  | 0.1 to 0.6                        |
| Lab                       |          | Orange                    | Maxxam                                      | Maxxam      | Maxxam      | Maxxam                            |
| Certificate of Analysis   |          |                           | B605611                                     | B605611     | B605611     | B605611                           |
| <b>Metals</b>             |          |                           |   |             |             |                                   |
| Antimony                  | ug/g dry | 7.5                       | 0.63  | 1           | 0.92        | 1                                 |
| Arsenic                   | ug/g dry | 18                        | 15  | 3.1         | 2.7         | 3.6                               |
| Barium                    | ug/g dry | 390                       | 160   | 130         | 110         | 130                               |
| Beryllium                 | ug/g dry | 4                         | 0.52  | 0.5         | 0.28        | 0.33                              |
| Boron                     | ug/g dry | 120                       | 7.2   | 17          | <5.0        | <5.0                              |
| Cadmium                   | ug/g dry | 1.2                       | 0.3   | 0.19        | 0.22        | 0.29                              |
| Chromium                  | ug/g dry | 160                       | 24  | 48          | 16          | 19                                |
| Chromium (VI)             | ug/g dry | 8                         | <0.2  | -           | -           | -                                 |
| Cobalt                    | ug/g dry | 22                        | 6.8   | 11          | 4.4         | 5.1                               |
| Copper                    | ug/g dry | 140                       | 28  | 17.0        | 24          | 22                                |
| Lead                      | ug/g dry | 120                       | 140   | 63          | 190         | 210                               |
| Mercury                   | ug/g dry | 0.27                      | 0.39  | <0.050      | 0.076       | 0.13                              |
| Molybdenum                | ug/g dry | 6.9                       | 1.8   | 0.77        | 1           | 1.1                               |
| Nickel                    | ug/g dry | 100                       | 15  | 140         | 11          | 11.0                              |
| Selenium                  | ug/g dry | 2.4                       | 0.72  | <0.50       | <0.50       | <0.50                             |
| Silver                    | ug/g dry | 20                        | <0.20                                       | <0.20       | <0.20       | <0.20                             |
| Thallium                  | ug/g dry | 1                         | 0.19  | 0.085       | 0.1         | 0.12                              |
| Uranium                   | ug/g dry | 23                        | 0.49  | 3.8         | 0.49        | 100                               |
| Vanadium                  | ug/g dry | 86                        | 34  | 30          | 17          | 20                                |
| Zinc                      | ug/g dry | 340                       | 120   | 97          | 170         | 190                               |
| <b>General Inorganics</b> |          |                           |   |             |             |                                   |
| Cyanide, free             | ug/g dry | 0.051                     | 0.09  | -           | -           | -                                 |
| Conductivity              | mS/cm    | 0.7                       | 0.38  | 0.48        | 0.54        | 0.46                              |
| SAR                       | -        | 5                         | 0.67  | 0.7         | 0.16        | 0.16                              |
| pH                        | pH Units | 5 to 9                    | 8.25  | 8.22        | -           | -                                 |

**NOTES:**

- 1 Ontario Ministry of Environment, Conservation and Parks (MECP), Soil, Groundwater and Sediment Standards for use under Part XV.1 of the Environmental Protection Act, April 2011, Table 7 Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition for
- ND Non-detectable results are shown as "< (RDL)" where RDL represents the reporting detection limit.
- NV No Value
- N/A Not Applicable
- Parameter not analyzed
- m bgs Metres below ground surface
- Indicates soil exceedance of MECP Table 7 generic site condition standard for coarse textured soil and residential/parkland/institutional property use





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

| Parameter                                | Units | MECP Table 7 <sup>2</sup> | BH15-6A     | BH15-6B     | BH15-6B     | BH15-6B     | Trip Blank  | Trip Blank  |
|--|-------|---------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Sampling Date                            |       |                           | 23-Feb-2016 | 21-Jan-2016 | 15-Feb-2016 | 23-Feb-2016 | 19-Jan-2016 | 23-Feb-2016 |
| Screen Depth (mbgs)                      |       | Dark Orange               | 2.1 to 3.7  | 6.4 to 8.0  | 6.4 to 8.0  | 6.4 to 8.0  | N/A         | N/A         |
| Lab                                      |       |                           | Maxxam      | Maxxam      | Maxxam      | Maxxam      | Maxxam      | Maxxam      |
| Certificate of Analysis                  |       |                           | B636643     | B614405     | B631126     | B636643     | B614405     | B636643     |
| <b>Volatile Organic Compounds</b>        |       |                           |             |             |             |             |             |             |
| Acetone                                  | ug/L  | 10000                     | <10         | -           | <10         | <10         | <10         | <10         |
| Benzene                                  | ug/L  | 0.5                       | <0.20       | -           | <0.20       | <0.20       | <0.20       | <0.20       |
| Bromodichloromethane                     | ug/L  | 67000                     | <0.50       | -           | <0.50       | <0.50       | <0.50       | <0.50       |
| Bromoform                                | ug/L  | 5                         | <1.0        | -           | <1.0        | <1.0        | <1.0        | <1.0        |
| Bromomethane                             | ug/L  | 0.89                      | <0.50       | -           | <0.50       | <0.50       | <0.50       | <0.50       |
| Carbon Tetrachloride                     | ug/L  | 0.2                       | <0.20       | -           | <0.20       | <0.20       | <0.20       | <0.20       |
| Chlorobenzene                            | ug/L  | 140                       | <0.20       | -           | <0.20       | <0.20       | <0.20       | <0.20       |
| Chloroform                               | ug/L  | 2                         | 1           | -           | 3           | 1.3         | <0.20       | <0.20       |
| Dibromochloromethane                     | ug/L  | 65000                     | <0.50       | -           | <0.50       | <0.50       | <0.50       | <0.50       |
| Dichlorodifluoromethane                  | ug/L  | 3500                      | <1.0        | -           | <1.0        | <1.0        | <1.0        | <1.0        |
| 1,2-Dichlorobenzene                      | ug/L  | 150                       | <0.50       | -           | <0.50       | <0.50       | <0.50       | <0.50       |
| 1,3-Dichlorobenzene                      | ug/L  | 7600                      | <0.50       | -           | <0.50       | <0.50       | <0.50       | <0.50       |
| 1,4-Dichlorobenzene                      | ug/L  | 0.5                       | <0.50       | -           | <0.50       | <0.50       | <0.50       | <0.50       |
| 1,1-Dichloroethane                       | ug/L  | 11                        | <0.20       | -           | <0.20       | <0.20       | <0.20       | <0.20       |
| 1,2-Dichloroethane                       | ug/L  | 0.5                       | <0.50       | -           | <0.50       | <0.50       | <0.50       | <0.50       |
| 1,1-Dichloroethylene                     | ug/L  | 0.5                       | <0.20       | -           | <0.20       | <0.20       | <0.20       | <0.20       |
| cis-1,2-Dichloroethylene                 | ug/L  | 1.6                       | <0.50       | -           | <0.50       | <0.50       | <0.50       | <0.50       |
| trans-1,2-Dichloroethylene               | ug/L  | 1.6                       | <0.50       | -           | <0.50       | <0.50       | <0.50       | <0.50       |
| 1,2-Dichloropropane                      | ug/L  | 0.58                      | <0.20       | -           | <0.20       | <0.20       | <0.20       | <0.20       |
| cis-1,3-Dichloropropylene                | ug/L  | NV                        | <0.30       | -           | <0.30       | <0.30       | <0.30       | <0.30       |
| trans-1,3-Dichloropropylene              | ug/L  | NV                        | <0.40       | -           | <0.40       | <0.40       | <0.40       | <0.40       |
| 1,3-Dichloropropene, total               | ug/L  | 0.5                       | <0.50       | -           | <0.50       | <0.50       | <0.50       | <0.50       |
| Ethylbenzene                             | ug/L  | 54                        | <0.20       | -           | <0.20       | <0.20       | <0.20       | <0.20       |
| Ethylene dibromide (dibromoethane, 1,2-) | ug/L  | 0.2                       | <0.20       | -           | <0.20       | <0.20       | <0.20       | <0.20       |
| Hexane                                   | ug/L  | 5                         | <1.0        | -           | <1.0        | <1.0        | <1.0        | <1.0        |
| Methyl Ethyl Ketone (2-Butanone)         | ug/L  | 21000                     | <10         | -           | <10         | <10         | <10         | <10         |
| Methyl Isobutyl Ketone                   | ug/L  | 5200                      | <5.0        | -           | <5.0        | <5.0        | <5.0        | <5.0        |
| Methyl tert-butyl ether                  | ug/L  | 15                        | <0.50       | -           | <0.50       | <0.50       | <0.50       | <0.50       |
| Methylene Chloride                       | ug/L  | 26                        | <2.0        | -           | <2.0        | <2.0        | -           | <2.0        |
| Styrene                                  | ug/L  | 43                        | <0.50       | -           | <0.50       | <0.50       | <0.50       | <0.50       |
| 1,1,1,2-Tetrachloroethane                | ug/L  | 1.1                       | <0.50       | -           | <0.50       | <0.50       | <0.50       | <0.50       |
| 1,1,1,2-Tetrachloroethane                | ug/L  | 0.5                       | <0.50       | -           | <0.50       | <0.50       | <0.50       | <0.50       |
| Tetrachloroethylene                      | ug/L  | 0.5                       | <0.20       | -           | <0.20       | <0.20       | <0.20       | <0.20       |
| Toluene                                  | ug/L  | 320                       | <0.20       | -           | <0.20       | <0.20       | <0.20       | <0.20       |
| 1,1,1-Trichloroethane                    | ug/L  | 23                        | <0.20       | -           | <0.20       | <0.20       | <0.20       | <0.20       |
| 1,1,2-Trichloroethane                    | ug/L  | 0.5                       | <0.50       | -           | <0.50       | <0.50       | <0.50       | <0.50       |
| Trichloroethylene                        | ug/L  | 0.5                       | <0.20       | -           | <0.20       | <0.20       | <0.20       | <0.20       |
| Trichlorofluoromethane                   | ug/L  | 2000                      | <0.50       | -           | <0.50       | <0.50       | <0.50       | <0.50       |
| Vinyl Chloride                           | ug/L  | 0.50                      | <0.20       | -           | <0.20       | <0.20       | <0.20       | <0.20       |
| m/p-Xylene                               | ug/L  | NV                        | <0.20       | -           | <0.20       | <0.20       | <0.20       | <0.20       |
| o-Xylene                                 | ug/L  | NV                        | <0.20       | -           | <0.20       | <0.20       | <0.20       | <0.20       |
| Xylenes, total                           | ug/L  | 72                        | <0.20       | -           | <0.20       | <0.20       | <0.20       | <0.20       |
| <b>Petroleum Hydrocarbons</b>            |       |                           |             |             |             |             |             |             |
| F1 PHC (C6 - C10) - BTEX*                | ug/L  | 420                       | -           | <25         | -           | -           | -           | -           |
| F2 PHC (C10-C16)                         | ug/L  | 150                       | -           | <100        | -           | -           | -           | -           |
| F3 PHC (C16-C34)                         | ug/L  | 500                       | -           | <200        | -           | -           | -           | -           |
| F4 PHC (C34-C50)**                       | ug/L  | 500                       | -           | <200        | -           | -           | -           | -           |

**NOTES:**

1 Ontario Ministry of Environment, Conservation and Parks (MECP), Soil, Groundwater and Sediment Standards for use under Part XV.1 of the Environmental Protection Act, April 2011, Table 7 Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional Property Use (coarse textured soils)

\* F1 fraction does not include BTEX.

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

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

NV No Value

N/A Not Applicable

- Parameter not analyzed

m bgs Metres below ground surface

Dark Orange Indicates groundwater exceedance of MECP Table 7 generic site condition standard for c

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

| Parameter               | Units | MECP Table 7 <sup>2</sup> | 770 Bronson Avenue |             |             |             |             |             |             |               |                                      |             | 557 Cambridge Street and 774 Bronson Avenue |   |                  |             |            |            |             |
|-------------------------|-------|---------------------------|--------------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------|--------------------------------------|-------------|---|---|------------------|-------------|------------|------------|-------------|
|                         |       |                           | 15-1               | MW15-1      | 15-2        | MW15-2      | 15-3        | MW15-3      | 15-4        | MW15-5        | Dup 1<br>(Field Duplicate<br>MW15-5) | BH15-2A     | BH15-2B                                     | BH15-102B<br>(Field Duplicate<br>BH15-102B) | BH15-3A          | BH15-3B     | BH15-4A    | BH15-4B    | BH15-6A     |
| Sampling Date           |       | Dark Orange               | 27-Mar-2015        | 11-Aug-2022 | 27-Mar-2015 | 11-Aug-2022 | 27-Mar-2015 | 11-Aug-2022 | 27-Mar-2015 | 11-Aug-2022   | 11-Aug-2022                          | 19-Jan-2016 | 19-Jan-2016                                 | 19-Jan-2016                                 | January 21, 2016 | 19-Jan-2016 | 1-Mar-2016 | 1-Mar-2016 | 21-Jan-2016 |
| Screen Depth (mbgs)     |       |                           | 4.1 to 5.6         | 4.1 to 5.6  | 4.4 to 5.9  | 4.4 to 5.9  | 4.4 to 5.9  | 4.4 to 5.9  | 4.4 to 6.0  | 7.82 to 15.34 | 7.82 to 15.34                        | 2.1 to 4.0  | 6.3 to 7.8                                  | 6.3 to 7.8                                  | 1.0 to 2.6       | 6.3 to 7.85 | 2.2 to 3.7 | 5.9 to 7.4 | 2.1 to 3.7  |
| Lab                     |       |                           | AGAT               | Caduceon    | AGAT        | Caduceon    | AGAT        | Caduceon    | AGAT        | Caduceon      | Caduceon                             | Maxxam      | Maxxam                                      | Maxxam                                      | Maxxam           | Maxxam      | Maxxam     | Maxxam     | Maxxam      |
| Certificate of Analysis |       |                           | 15T957963          | B22-25709   | 15T957963   | B22-25709   | 15T957963   | B22-25709   | 15T957963   | B22-25709     | B22-25709                            | B611447     | B611447                                     | B611447                                     | B614405          | B611447     | B614405    | B614405    | B614405     |
| <b>Semi-Volatiles</b>   |       |                           |                    |             |             |             |             |             |             |               |                                      |             |   |   |                  |             |            |            |             |
| Acenaphthene            | ug/L  | 17                        | <0.20              | < 0.05      | <0.20       | < 0.05      | <0.20       | < 0.05      | <0.20       | < 0.05        | < 0.05                               | <0.050      | <0.050                                      | <0.050                                      | <0.050           | <0.050      | <0.050     | <0.050     | <0.050      |
| Acenaphthylene          | ug/L  | 1                         | <0.20              | < 0.05      | <0.20       | < 0.05      | <0.20       | < 0.05      | <0.20       | < 0.05        | < 0.05                               | <0.050      | <0.050                                      | <0.050                                      | <0.050           | <0.050      | <0.050     | <0.050     | <0.050      |
| Anthracene              | ug/L  | 1                         | <0.10              | < 0.05      | <0.10       | < 0.05      | <0.10       | < 0.05      | <0.10       | < 0.05        | < 0.05                               | <0.050      | <0.050                                      | <0.050                                      | <0.050           | <0.050      | 0.059      | <0.050     | <0.050      |
| Benzo[a]anthracene      | ug/L  | 1.8                       | <0.20              | < 0.05      | <0.20       | < 0.05      | <0.20       | < 0.05      | <0.20       | < 0.05        | < 0.05                               | <0.050      | <0.050                                      | <0.050                                      | <0.050           | <0.050      | 0.16       | <0.050     | <0.050      |
| Benzo[a]pyrene          | ug/L  | 0.81                      | <0.01              | 0.012       | <0.01       | < 0.01      | <0.01       | < 0.01      | <0.01       | < 0.01        | < 0.01                               | <0.010      | <0.010                                      | <0.010                                      | <0.010           | <0.010      | 0.18       | 0.043      | <0.010      |
| Benzo[b]fluoranthene    | ug/L  | 0.75                      | <0.10              | < 0.05      | <0.10       | < 0.05      | <0.10       | < 0.05      | <0.10       | < 0.05        | < 0.05                               | <0.10       | <0.10                                       | <0.10                                       | <0.10            | <0.10       | 0.24       | 0.055      | <0.10       |
| Benzo[b+k]fluoranthene  | ug/L  | NV                        | -                  | < 0.1       | -           | < 0.1       | -           | < 0.1       | -           | < 0.1         | < 0.1                                | -           | -   | -   | -                | -           | -          | -          | -           |
| Benzo[g,h,i]perylene    | ug/L  | 0.2                       | <0.20              | < 0.05      | <0.20       | < 0.05      | <0.20       | < 0.05      | <0.20       | < 0.05        | < 0.05                               | <0.050      | <0.050                                      | <0.050                                      | <0.050           | <0.050      | 0.12       | <0.050     | <0.050      |
| Benzo[k]fluoranthene    | ug/L  | 0.4                       | <0.10              | < 0.05      | <0.10       | < 0.05      | <0.10       | < 0.05      | <0.10       | < 0.05        | < 0.05                               | <0.050      | <0.050                                      | <0.050                                      | <0.050           | <0.050      | 0.087      | <0.050     | <0.050      |
| Chrysene                | ug/L  | 0.7                       | <0.10              | < 0.05      | <0.10       | < 0.05      | <0.10       | < 0.05      | <0.10       | < 0.05        | < 0.05                               | <0.050      | <0.050                                      | <0.050                                      | <0.050           | <0.050      | 0.15       | <0.050     | <0.050      |
| Dibenzo[a,h]anthracene  | ug/L  | 0.4                       | <0.20              | < 0.05      | <0.20       | < 0.05      | <0.20       | < 0.05      | <0.20       | < 0.05        | < 0.05                               | <0.050      | <0.050                                      | <0.050                                      | <0.050           | <0.050      | <0.050     | <0.050     | <0.050      |
| Fluoranthene            | ug/L  | 44                        | <0.20              | < 0.05      | <0.20       | < 0.05      | <0.20       | < 0.05      | <0.20       | < 0.05        | < 0.05                               | <0.050      | <0.050                                      | <0.050                                      | <0.050           | <0.050      | 0.35       | 0.12       | <0.050      |
| Fluorene                | ug/L  | 290                       | <0.20              | < 0.05      | <0.20       | < 0.05      | <0.20       | < 0.05      | <0.20       | < 0.05        | < 0.05                               | <0.050      | <0.050                                      | <0.050                                      | <0.050           | <0.050      | <0.050     | <0.050     | <0.050      |
| Indeno[1,2,3-cd]pyrene  | ug/L  | 0.2                       | <0.20              | < 0.05      | <0.20       | < 0.05      | <0.20       | < 0.05      | <0.20       | < 0.05        | < 0.05                               | <0.050      | <0.050                                      | <0.050                                      | <0.050           | <0.050      | 0.13       | <0.050     | <0.050      |
| 1-Methylnaphthalene     | ug/L  | 1500                      | -                  | < 0.05      | -           | < 0.05      | -           | < 0.05      | -           | < 0.05        | < 0.05                               | <0.050      | <0.050                                      | <0.050                                      | 0.05             | 0.050       | <0.050     | <0.050     | <0.050      |
| 2-Methylnaphthalene     | ug/L  | 1500                      | -                  | < 0.05      | -           | < 0.05      | -           | < 0.05      | -           | < 0.05        | < 0.05                               | <0.050      | <0.050                                      | <0.050                                      | 0.05             | 0.050       | <0.050     | <0.050     | <0.050      |
| Methylnaphthalene (1&2) | ug/L  | 1500                      | <0.20              | < 1         | 0.38        | < 1         | <0.20       | < 1         | 1.5         | < 1           | < 1                                  | <0.1        | <0.1  | <0.1  | <0.1             | 0.10        | <0.71      | <0.1       | <0.1        |
| Naphthalene             | ug/L  | 7                         | <0.20              | < 0.05      | 0.36        | < 0.05      | <0.20       | < 0.05      | 0.70        | < 0.05        | < 0.05                               | <0.050      | <0.050                                      | <0.050                                      | <0.050           | 0.050       | <0.050     | <0.050     | <0.050      |
| Phenanthrene            | ug/L  | 380                       | <0.10              | < 0.05      | <0.10       | < 0.05      | <0.10       | < 0.05      | <0.10       | < 0.05        | < 0.05                               | <0.030      | <0.030                                      | <0.030                                      | 0.17             | <0.030      | <0.030     | <0.030     | <0.030      |
| Pyrene                  | ug/L  | 5.7                       | <0.20              | < 0.05      | <0.20       | < 0.05      | <0.20       | < 0.05      | <0.20       | < 0.05        | < 0.05                               | <0.050      | <0.050                                      | <0.050                                      | <0.050           | <0.050      | 0.1        | 0.1        | <0.050      |

NOTES:

- 1 Ontario Ministry of Environment, Conservation and Parks (MECP),
- ND Non-detectable results are shown as "< (RDL)" where RDL represents the reporting detection limit.
- NV No Value
- N/A Not Applicable
- Parameter not analyzed
- m bgs Metres below ground surface
- Dark Orange Indicates groundwater exceedance of MECP Table 7 generic site condition standard for coarse textured soil and residential/parkland/institutional property use

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

| Parameter                      | Units | MECP Table 7 <sup>2</sup> | 557 Cambridge Street and 774 Bronson Avenue |             |  |             |             |            |            |            |            |
|--------------------------------|-------|---------------------------|---|-------------|--|-------------|-------------|------------|------------|------------|------------|
|                                |       |                           | BH15-2A                                     | BH15-2B     | BH15-102B<br>(Field Duplicate BH15-102B) | BH15-3A     | BH15-3B     | BH15-4A    | BH15-4B    | BH15-6A    | BH15-6B    |
| Sampling Date                  |       |                           | 21-Jan-2016                                 | 21-Jan-2016 | 21-Jan-2016                              | 21-Jan-2016 | 21-Jan-2016 | 1-Mar-2016 | 1-Mar-2016 | 1-Mar-2016 | 1-Mar-2016 |
| Screen Depth (mbgs)            |       |                           | 2.1 to 4.0                                  | 6.3 to 7.8  | 6.3 to 7.8                               | 1.0 to 2.6  | 6.3 to 7.8  | 2.2 to 3.7 | 5.9 to 7.4 | 2.1 to 3.7 | 6.4 to 8.0 |
| Lab                            |       | Dark Orange               | Maxxam                                      | Maxxam      | Maxxam                                   | Maxxam      | Maxxam      | Maxxam     | Maxxam     | Maxxam     | Maxxam     |
| Certificate of Analysis        |       |                           | B614405                                     | B614405     | B614405                                  | B614405     | B614405     | B614405    | B614405    | B614405    | B614405    |
| <b>Metals &amp; Inorganics</b> |       |                           |   |             |  |             |             |            |            |            |            |
| Antimony                       | ug/L  | 16000                     | <0.50                                       | <0.50       | <0.50                                    | 0.62        | <0.50       | <0.50      | <0.50      | 1.1        | 0.75       |
| Arsenic                        | ug/L  | 1500                      | <1.0  | <1.0        | <1.0                                     | <1.0        | <1.0        | <1.0       | <1.0       | 1          | 1.5        |
| Barium                         | ug/L  | 23000                     | 110   | 190         | 190                                      | 77          | 190         | 210        | 0.2        | 220        | 65         |
| Beryllium                      | ug/L  | 53                        | <0.50                                       | <0.50       | <0.50                                    | <0.50       | <0.50       | <0.50      | <0.50      | <0.50      | <0.50      |
| Boron                          | ug/L  | 36000                     | 39  | 58          | 61                                       | 300         | 870         | 60         | 380        | 930        | 660        |
| Cadmium                        | ug/L  | 2.1                       | <0.10                                       | <0.10       | <0.10                                    | <0.10       | <0.10       | <0.10      | <0.10      | <0.10      | <0.10      |
| Chloride                       | ug/L  | 1800000                   | 340000                                      | 570000      | 570000                                   | 460000      | 970000      | 950000     | 480000     | 110000     | 140000     |
| Chromium                       | ug/L  | 640                       | <5.0  | <5.0        | <5.0                                     | <5.0        | <5.0        | <5.0       | <5.0       | <5.0       | <5.0       |
| Chromium (VI)                  | ug/L  | 110                       | <0.5  | <0.5        | <0.5                                     | <0.5        | <0.5        | <0.5       | <2.5       | <0.50      | <0.50      |
| Cobalt                         | ug/L  | 52                        | 2.3   | 1.2         | 1.1                                      | 1.2         | 0.92        | <0.50      | <0.50      | 0.59       | <0.50      |
| Copper                         | ug/L  | 69                        | 5.8   | 1.7         | 1.7                                      | 1.7         | <1.0        | 2.3        | 3.2        | 1.4        | 1.6        |
| Cyanide                        | ug/L  | 52                        | <2  | <2          | <2                                       | <2          | <2          | <2         | <2         | <2         | -          |
| Lead                           | ug/L  | 20                        | 3.7   | <0.50       | <0.50                                    | <0.50       | <0.50       | <0.50      | <0.50      | <0.50      | <0.50      |
| Mercury                        | ug/L  | 0.1                       | <0.1  | <0.1        | <0.1                                     | <0.1        | <0.1        | <0.1       | <0.1       | <0.1       | -          |
| Molybdenum                     | ug/L  | 7300                      | 3.1   | 1.9         | 2  | 4.7         | 0.98        | 3.1        | 14         | 22         | 3.4        |
| Nickel                         | ug/L  | 390                       | 3.6   | 2.9         | 2.5                                      | 3.4         | 1           | 2.1        | 2.5        | 1.3        | <1.0       |
| Sodium                         | ug/L  | 1800000                   | 300000                                      | 450000      | 460000                                   | 520000      | 890000      | 520000     | 280000     | 120000     | 260000     |
| Selenium                       | ug/L  | 50                        | <2.0  | <2.0        | <2.0                                     | 2.9         | <2.0        | <2.0       | <2.0       | <2.0       | <2.0       |
| Silver                         | ug/L  | 1.2                       | <0.10                                       | <0.10       | <0.10                                    | <0.10       | <0.10       | <0.10      | <0.10      | <0.10      | <0.10      |
| Thallium                       | ug/L  | 400                       | 0.05  | <0.050      | <0.050                                   | 0.074       | <0.050      | <0.050     | 0.054      | <0.050     | <0.050     |
| Uranium                        | ug/L  | 330                       | 1.7   | 2           | 1.8                                      | 3.1         | 0.88        | 2          | 2.5        | 4.7        | 2.6        |
| Vanadium                       | ug/L  | 200                       | 1.7   | <0.50       | <0.50                                    | <0.50       | <1.0        | <1.0       | <0.050     | <0.050     | 0.96       |
| Zinc                           | ug/L  | 890                       | 12  | <5.0        | <5.0                                     | <5.0        | <5.0        | <5.0       | <5.0       | <5.0       | <5.0       |

**NOTES:**

- 1 Ontario Ministry of Environment, Conservation and Parks (MECP), Soil, Groundwater and Sediment Standards for use under Part XV.1 of the Environmental Protection Act, April 2011, Table 7 Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional Property Use (coarse textured soils)
- ND Non-detectable results are shown as "ND (RDL)" where RDL represents the reporting detection limit.
- NV No Value
- N/A Not Applicable
- Parameter not analyzed
- m bgs Metres below ground surface
- Dark Orange Indicates groundwater exceedance of MECP Table 7 generic site condition standard for coarse textured soil and residential/parkland/institutional property use



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

| Parameter                               | Sample Location   | Sample Depth (mbgs) | Sampling Date            | Maximum Concentration | MECP Table 7 |
|---|-------------------|---------------------|--------------------------|-----------------------|--------------|
| <b>Metals and Inorganics</b>            |                   |                     |                          |                       |              |
| Mercury                                 | BH15-4 (WSP)      | 0.0 to 0.6          | 11-Jan-2016              | 0                     | 0.27         |
| Antimony                                | BH15-5 (WSP)      | 0.2 to 0.6          | 11-Jan-2016              | 1                     | 8            |
| Arsenic                                 | BH15-1 (WSP)      | 0.0 to 0.6          | 11-Jan-2016              | 15.00                 | 18           |
| Barium                                  | BH15-5 (WSP)      | 0.2 to 0.6          | 11-Jan-2016              | 17                    | 390          |
| Beryllium                               | BH15-4 (WSP)      | 0.0 to 0.6          | 11-Jan-2016              | 0.52                  | 4            |
| Boron (Total)                           | BH15-5 (WSP)      | 0.2 to 0.6          | 11-Jan-2016              | 17                    | 120          |
| Cadmium                                 | BH15-6 (WSP)      | 0.1 to 0.6          | 11-Jan-2016              | 0.29                  | 1.2          |
| Chromium                                | BH15-5 (WSP)      | 0.2 to 0.6          | 11-Jan-2016              | 48                    | 160          |
| Chromium (VI)                           | BH15-4 (WSP)      | 0.0 to 0.6          | 11-Jan-2016              | <0.2                  | 8            |
| Cobalt                                  | BH15-5 (WSP)      | 0.2 to 0.6          | 11-Jan-2016              | 11                    | 22           |
| Copper                                  | BH15-4 (WSP)      | 0.0 to 0.6          | 11-Jan-2016              | 28                    | 140          |
| Lead                                    | BH15-6 (WSP)      | 0.1 to 0.6          | 11-Jan-2016              | 210                   | 120          |
| Molybdenum                              | BH15-4 (WSP)      | 0.0 to 0.6          | 11-Jan-2016              | 1.8                   | 7            |
| Nickel                                  | BH15-5 (WSP)      | 0.2 to 0.6          | 11-Jan-2016              | 140                   | 100          |
| Selenium                                | BH15-4 (WSP)      | 0.0 to 0.6          | 11-Jan-2016              | 0.72                  | 2            |
| Silver                                  | All WSP Locations | 0.0 to 0.6          | 11-Jan-2016              | <0.20                 | 20.0         |
| Thallium                                | BH15-4 (WSP)      | 0.0 to 0.6          | 11-Jan-2016              | 0.19                  | 1            |
| Uranium                                 | BH15-6 (WSP)      | 0.1 to 0.6          | 11-Jan-2016              | 100                   | 23           |
| Vanadium                                | BH15-4 (WSP)      | 0.0 to 0.6          | 11-Jan-2016              | 34                    | 86           |
| Zinc                                    | BH15-6 (WSP)      | 0.1 to 0.6          | 11-Jan-2016              | 190                   | 340          |
| <b>Polycyclic Aromatic Hydrocarbons</b> |                   |                     |                          |                       |              |
| Acenaphthene                            | BH15-1 (WSP)      | 0.15 to 0.61        | 11-Jan-2016              | 0                     | 7.9          |
| Acenaphthylene                          | BH15-1 (WSP)      | 0.15 to 0.61        | 11-Jan-2016              | 0.1                   | 0.15         |
| Anthracene                              | BH15-1 (WSP)      | 0.15 to 0.61        | 11-Jan-2016              | 0.23                  | 0.67         |
| Benzo(a)anthracene                      | BH15-1 (WSP)      | 0.15 to 0.61        | 11-Jan-2016              | 0.72                  | 0.5          |
| Benzo(a)pyrene                          | BH15-1 (WSP)      | 0.15 to 0.61        | 11-Jan-2016              | 0.78                  | 0.3          |
| Benzo(b)fluoranthene                    | BH15-1 (WSP)      | 0.15 to 0.61        | 11-Jan-2016              | 1.1                   | 0.78         |
| Benzo(g,h)perylene                      | BH15-1 (WSP)      | 0.15 to 0.61        | 11-Jan-2016              | 0.42                  | 6.6          |
| Benzo(k)fluoranthene                    | BH15-1 (WSP)      | 0.15 to 0.61        | 11-Jan-2016              | 0.41                  | 0.78         |
| Chrysene                                | BH15-1 (WSP)      | 0.15 to 0.61        | 11-Jan-2016              | 0.71                  | 7            |
| Dibenz(a,h)anthracene                   | BH15-1 (WSP)      | 0.15 to 0.61        | 11-Jan-2016              | 0.13                  | 0.1          |
| Fluoranthene                            | BH15-1 (WSP)      | 0.15 to 0.61        | 11-Jan-2016              | 1.9                   | 0.69         |
| Fluorene                                | BH15-1 (WSP)      | 0.15 to 0.61        | 11-Jan-2016              | 0.11                  | 62           |
| Indeno(1,2,3-cd)pyrene                  | BH15-1 (WSP)      | 0.15 to 0.61        | 11-Jan-2016              | 0.4                   | 0.38         |
| Methylnaphthalene, 2-(1-)               | BH15-1 (WSP)      | 0.15 to 0.61        | 11-Jan-2016              | 0.037                 | 0.99         |
| Naphthalene                             | BH15-1 (WSP)      | 0.15 to 0.61        | 11-Jan-2016              | 0.022                 | 0.6          |
| Phenanthrene                            | BH15-1 (WSP)      | 0.15 to 0.61        | 11-Jan-2016              | 1.1                   | 6.2          |
| Pyrene                                  | BH15-1 (WSP)      | 0.15 to 0.61        | 11-Jan-2016              | 1                     | 78           |
| <b>Petroleum Hydrocarbons</b>           |                   |                     |                          |                       |              |
| F1 PHC (C6 - C10) - BTEX                | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <10                   | 55           |
| F2 PHC (C10-C16)                        | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <10                   | 98           |
| F3 PHC (C16-C34)                        | BH15-4 (Golder)   | 0.1 to 0.7          | 24-Mar-2015              | 740                   | 300          |
| F4 PHC (C34-C50)                        | BH15-4 (Golder)   | 0.1 to 0.7          | 24-Mar-2015              | 1100                  | 2800         |
| <b>Volatile Organic Compounds</b>       |                   |                     |                          |                       |              |
| Acetone (2-Propanone)                   | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.50                 | 16           |
| Benzene                                 | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.02                 | 0.21         |
| Bromodichloromethane                    | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.05                 | 13           |
| Bromoform                               | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.05                 | 0.27         |
| Bromomethane                            | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.05                 | 0.05         |
| Carbon Tetrachloride                    | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.05                 | 0.05         |
| Chlorobenzene                           | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.05                 | 2.4          |
| Chloroform                              | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.05                 | 0.05         |
| Dibromochloromethane                    | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.05                 | 9.4          |
| Dichlorodifluoromethane (FREON 12)      | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.05                 | 16           |
| 1,2-Dichlorobenzene                     | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.05                 | 3.4          |
| 1,3-Dichlorobenzene                     | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.05                 | 4.8          |
| 1,4-Dichlorobenzene                     | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.05                 | 0.083        |
| 1,1-Dichloroethane                      | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.02                 | 3.5          |
| 1,2-Dichloroethane                      | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.03                 | 0.05         |
| 1,1-Dichloroethylene                    | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.05                 | 0.05         |
| cis-1,2-Dichloroethylene                | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.02                 | 3.4          |
| trans-1,2-Dichloroethylene              | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.05                 | 0.084        |
| 1,2-Dichloropropane                     | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.03                 | 0.05         |
| cis-1,3-Dichloropropylene               | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.030                | NV           |
| trans-1,3-Dichloropropylene             | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.040                | NV           |
| 1,3-Dichloropropene (cis+trans)         | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.04                 | 0.05         |
| Ethylbenzene                            | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.05                 | 2            |
| Ethylene Dibromide                      | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.04                 | 0.05         |
| Hexane                                  | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.05                 | 2.8          |
| Methyl Ethyl Ketone (2-Butanone)        | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.50                 | 16           |
| Methyl isobutyl Ketone                  | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.50                 | 1.7          |
| Methyl t-butyl ether (MTBE)             | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.05                 | 0.75         |
| Methylene Chloride(Dichloromethane)     | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.05                 | 0.1          |
| Styrene                                 | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.05                 | 0.7          |
| 1,1,1,2-Tetrachloroethane               | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.04                 | 0.058        |
| 1,1,2,2-Tetrachloroethane               | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.05                 | 0.05         |
| Tetrachloroethylene                     | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.05                 | 0.28         |
| Toluene                                 | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.05                 | 2.3          |
| 1,1,1-Trichloroethane                   | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.05                 | 0.38         |
| 1,1,2-Trichloroethane                   | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.04                 | 0.05         |
| Trichloroethylene                       | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.03                 | 0.061        |
| Trichlorofluoromethane (FREON 11)       | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.05                 | 4            |
| Vinyl Chloride                          | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.02                 | 0.02         |
| m/p-Xylene                              | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.05                 | NV           |
| o-Xylene                                | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.05                 | NV           |
| Total Xylenes                           | All Locations     | 0.1 to 2.4          | 24-Mar-2015, 11-Jan-2016 | <0.05                 | 3.1          |

**NOTES:**

All results are in ppm on dry weight basis

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

Ontario Ministry of Environment, Conservation and Parks (MECP), Soil, Groundwater and Sediment Standards for use under Part XV.1 of the Environmental Protection Act, April 2011, Table 7 Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional Property Use Property Use (coarse textured soils)

Table 8 - Maximum Concentration - Groundwater  
770 and 775 Bronson Avenue, 557 Cambridge Street, Ottawa, ON  
OTT-22019409-A0

| Parameter                               | Sample Location            | Sample Depth (mbgs) | Sampling Date           | Maximum Concentration | MECP Table 7 |
|---|----------------------------|---------------------|-------------------------|-----------------------|--------------|
| <b>Metals and Inorganics</b>            |                            |                     |                         |                       |              |
| Mercury                                 | All WSP sampling locations | 1.0 to 8.0          | All 2016 sampling dates | <0.1                  | 0.10         |
| Antimony                                | BH15-6A (WSP)              | 2.1 to 3.7          | 1-Mar-2016              | 1.1                   | 16000        |
| Arsenic                                 | BH15-6B (WSP)              | 6.4 to 8.0          | 1-Mar-2016              | 1.5                   | 1500         |
| Barium                                  | BH15-6A (WSP)              | 2.1 to 3.7          | 1-Mar-2016              | 220                   | 23000        |
| Beryllium                               | All WSP sampling locations | 1.0 to 8.0          | All 2016 sampling dates | <0.50                 | 53           |
| Boron (Total)                           | BH15-6A (WSP)              | 2.1 to 3.7          | 1-Mar-2016              | 930                   | 36000        |
| Cadmium                                 | All WSP sampling locations | 1.0 to 8.0          | All 2016 sampling dates | <0.50                 | 2.1          |
| Chloride                                | BH15-3B (WSP)              | 6.3 to 7.8          | 21-Jan-2016             | 970000                | 1800000      |
| Chromium                                | All WSP sampling locations | 1.0 to 8.0          | All 2016 sampling dates | <5.0                  | 640          |
| Chromium (VI)                           | All WSP sampling locations | 1.0 to 8.0          | All 2016 sampling dates | <0.50                 | 110          |
| Cobalt                                  | BH15-2A (WSP)              | 2.1 to 4.0          | 21-Jan-2016             | 2.3                   | 52           |
| Copper                                  | BH15-2A (WSP)              | 2.1 to 4.0          | 21-Jan-2016             | 5.8                   | 69           |
| Lead                                    | BH15-2A (WSP)              | 2.1 to 4.0          | 21-Jan-2016             | 3.7                   | 20           |
| Molybdenum                              | BH15-6A (WSP)              | 2.1 to 3.7          | 1-Mar-2016              | 22                    | 7300         |
| Nickel                                  | BH15-2A (WSP)              | 2.1 to 4.0          | 21-Jan-2016             | 3.6                   | 390          |
| Selenium                                | BH15-3A (WSP)              | 1.0 to 2.6          | 21-Jan-2022             | 2.9                   | 50           |
| Silver                                  | All WSP sampling locations | 1.0 to 8.0          | All 2016 sampling dates | <0.10                 | 1.2          |
| Sodium                                  | BH15-3B (WSP)              | 6.3 to 7.8          | 21-Jan-2016             | 890000                | 1,800,000    |
| Thallium                                | BH15-3A (WSP)              | 1.0 to 2.6          | 21-Jan-2022             | 0.074                 | 400          |
| Uranium                                 | BH15-6A (WSP)              | 2.1 to 3.7          | 1-Mar-2016              | 4.7                   | 330          |
| Vanadium                                | BH15-2A (WSP)              | 2.1 to 4.0          | 21-Jan-2016             | 1.7                   | 200          |
| Zinc                                    | BH15-2A (WSP)              | 2.1 to 4.0          | 21-Jan-2016             | 12                    | 890          |
| <b>Polycyclic Aromatic Hydrocarbons</b> |                            |                     |                         |                       |              |
| Acenaphthene                            | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.050                | 17           |
| Acenaphthylene                          | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.050                | 1            |
| Anthracene                              | BH15-4A (WSP)              | 2.2 to 3.7          | 1-Mar-2016              | 0.059                 | 1            |
| Benzo(a)anthracene                      | BH15-4A (WSP)              | 2.2 to 3.7          | 1-Mar-2016              | 0.16                  | 1.8          |
| Benzo(a)pyrene                          | BH15-4A (WSP)              | 2.2 to 3.7          | 1-Mar-2016              | 0.18                  | 0.81         |
| Benzo(b)fluoranthene                    | BH15-4A (WSP)              | 2.2 to 3.7          | 1-Mar-2016              | 0.24                  | 0.75         |
| Benzo(g,h,i)perylene                    | BH15-4A (WSP)              | 2.2 to 3.7          | 1-Mar-2016              | 0.12                  | 0.2          |
| Benzo(k)fluoranthene                    | BH15-4A (WSP)              | 2.2 to 3.7          | 1-Mar-2016              | 0.087                 | 0.4          |
| Chrysene                                | BH15-4A (WSP)              | 2.2 to 3.7          | 1-Mar-2016              | 0.15                  | 0.7          |
| Dibenz(a,h)anthracene                   | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.050                | 0.4          |
| Fluoranthene                            | BH15-4A (WSP)              | 2.2 to 3.7          | 1-Mar-2016              | 0.35                  | 44           |
| Fluorene                                | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.050                | 290          |
| Indeno(1,2,3-cd)pyrene                  | BH15-4A (WSP)              | 2.2 to 3.7          | 1-Mar-2016              | 0.13                  | 0.2          |
| 1-Methylnaphthalene                     | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.050                | 1500         |
| 2-Methylnaphthalene                     | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.050                | 1500         |
| Methylnaphthalene, 2-(1-)               | BH15-4 (Golder)            | 4.4 to 6.0          | 27-Mar-2015             | 1.5                   | 1500         |
| Naphthalene                             | BH15-4 (Golder)            | 4.4 to 6.0          | 27-Mar-2015             | 0.7                   | 7            |
| Phenanthrene                            | BH15-4A (WSP)              | 2.2 to 3.7          | 1-Mar-2016              | 0.99                  | 380          |
| Pyrene                                  | BH15-4A (WSP)              | 2.2 to 3.7          | 1-Mar-2016              | 0.10                  | 5.7          |
| <b>Petroleum Hydrocarbons</b>           |                            |                     |                         |                       |              |
| F1 PHC (C6 - C10) - BTEX                | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <25                   | 420          |
| F2 PHC (C10-C16)                        | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <100                  | 150          |
| F3 PHC (C16-C34)                        | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <400                  | 500          |
| F4 PHC (C34-C50)                        | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <400                  | 500          |
| <b>Volatle Organic Compounds</b>        |                            |                     |                         |                       |              |
| Acetone (2-Propanone)                   | BH15-3A (WSP)              | 1.0 to 2.6          | 19-Jan-2016             | 20                    | 100000       |
| Benzene                                 | BH15-2 (Golder)            | 4.4 to 5.9          | 27-Mar-2015             | 1.8                   | 0.5          |
| Bromodichloromethane                    | BH15-4A (WSP)              | 2.2 to 3.7          | 27-Mar-2015             | 1.5                   | 67000        |
| Bromoform                               | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.10                 | 5            |
| Bromomethane                            | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.20                 | 0.89         |
| Carbon Tetrachloride                    | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.20                 | 0.2          |
| Chlorobenzene                           | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.10                 | 140          |
| Chloroform                              | All sampling locations     | 1.0 to 15.3         | All sampling dates      | 14                    | 2            |
| Dibromochloromethane                    | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.10                 | 65000        |
| Dichlorodifluoromethane (FREON 12)      | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.20                 | 3500         |
| 1,2-Dichlorobenzene                     | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.10                 | 150          |
| 1,3-Dichlorobenzene                     | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.10                 | 7600         |
| 1,4-Dichlorobenzene                     | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.10                 | 0.5          |
| 1,1-Dichloroethane                      | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.30                 | 11           |
| 1,2-Dichloroethane                      | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.20                 | 0.5          |
| 1,1-Dichloroethylene                    | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.30                 | 0.5          |
| cis-1,2-Dichloroethylene                | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.20                 | 1.6          |
| trans-1,2-Dichloroethylene              | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.20                 | 1.6          |
| 1,2-Dichloropropane                     | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.20                 | 0.58         |
| cis-1,3-Dichloropropylene               | All sampling locations     | 1.0 to 15.3         | All sampling dates      | < 0.5                 | NV           |
| trans-1,3-Dichloropropylene             | All sampling locations     | 1.0 to 15.3         | All sampling dates      | < 0.5                 | NV           |
| 1,3-Dichloropropene (cis+trans)         | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.60                 | 0.5          |
| Ethylbenzene                            | BH15-4 (Golder)            | 4.4 to 6.0          | 27-Mar-2015             | 0.55                  | 54           |
| Ethylene Dibromide                      | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.20                 | 0.2          |
| Hexane                                  | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <5                    | 5            |
| Methyl Ethyl Ketone (2-Butanone)        | BH15-2 (Golder)            | 4.4 to 5.9          | 27-Mar-2015             | 21                    | 21000        |
| Methyl Isobutyl Ketone                  | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <1.0                  | 5200         |
| Methyl t-butyl ether (MTBE)             | BH15-2 (Golder)            | 4.4 to 5.9          | 27-Mar-2015             | 4.2                   | 15           |
| Methylene Chloride(Dichloromethane)     | All sampling locations     | 1.0 to 15.2         | All sampling dates      | <0.30                 | 26           |
| Styrene                                 | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.10                 | 43           |
| 1,1,1,2-Tetrachloroethane               | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.10                 | 1.1          |
| 1,1,2,2-Tetrachloroethane               | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.10                 | 0.5          |
| Tetrachloroethylene                     | All sampling locations     | 1.0 to 15.4         | All sampling dates      | <0.20                 | 0.5          |
| Toluene                                 | BH15-3A (WSP)              | 1.0 to 2.6          | 19-Jan-2016             | <2.9                  | 320          |
| 1,1,1-Trichloroethane                   | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.30                 | 23           |
| 1,1,2-Trichloroethane                   | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.20                 | 0.5          |
| Trichloroethylene                       | All sampling locations     | 1.0 to 15.3         | All sampling dates      | <0.20                 | 0.5          |
| Trichlorofluoromethane (FREON 11)       | All sampling locations     | 1.0 to 15.4         | All sampling dates      | <0.40                 | 2000         |
| Vinyl Chloride                          | All sampling locations     | 1.0 to 15.5         | All sampling dates      | <0.17                 | 0.5          |
| m/p-Xylene                              | BH15-4 (Golder)            | 4.4 to 6.0          | 27-Mar-2015             | 2.8                   | NV           |
| o-Xylene                                | BH15-3A (WSP)              | 1.0 to 2.6          | 19-Jan-2016             | 0.61                  | NV           |
| Total Xylenes                           | BH15-4 (Golder)            | 4.4 to 6.0          | 27-Mar-2015             | 5.2                   | 72           |

**NOTES:**

NV - No value

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

Ontario Ministry of Environment, Conservation and Parks (MECP), Soil, Groundwater and Sediment Standards for use under Part XV.1 of the Environmental Protection Act, April 2011, Table 7 Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional Property Use Property Use (coarse textured soils)

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

| Parameter                                | Units    | RDL  | BH15-3-4    | BH-15-3-104 | RPD (%) | Alert Limit (%) |
|--|----------|------|-------------|-------------|---------|-----------------|
|  |          |      | 11-Jan-2016 | 11-Jan-2016 |         |                 |
| <b>Petroleum Hydrocarbons</b>            |          |      |             |             |         |                 |
| F1 PHC (C6 - C10) - BTEX                 | ug/g dry | 7    | <10         | <10         | nc      | 60              |
| F2 PHC (C10-C16)                         | ug/g dry | 4    | <10         | <10         | nc      | 60              |
| F3 PHC (C16-C34)                         | ug/g dry | 8    | <50         | <50         | nc      | 60              |
| F4 PHC (C34-C50)                         | ug/g dry | 6    | <50         | 140         | nc      | 60              |
| <b>Volatiles</b>                         |          |      |             |             |         |                 |
| Acetone                                  | ug/g dry | 0.50 | <0.50       | <0.50       | nc      | 100             |
| Benzene                                  | ug/g dry | 0.02 | <0.020      | <0.020      | nc      | 100             |
| Bromodichloromethane                     | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| Bromoform                                | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| Bromomethane                             | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| Carbon Tetrachloride                     | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| Chlorobenzene                            | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| Chloroform                               | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| Dibromochloromethane                     | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| Dichlorodifluoromethane                  | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| 1,2-Dichlorobenzene                      | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| 1,3-Dichlorobenzene                      | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| 1,4-Dichlorobenzene                      | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| 1,1-Dichloroethane                       | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| 1,2-Dichloroethane                       | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| 1,1-Dichloroethylene                     | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| cis-1,2-Dichloroethylene                 | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| trans-1,2-Dichloroethylene               | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| 1,2-Dichloropropane                      | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| cis-1,3-Dichloropropylene                | ug/g dry | 0.05 | <0.030      | <0.030      | nc      | 100             |
| trans-1,3-Dichloropropylene              | ug/g dry | 0.05 | <0.040      | <0.040      | nc      | 100             |
| 1,3-Dichloropropene, total               | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| Ethylbenzene                             | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| Ethylene dibromide (dibromoethane, 1,2-) | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| Hexane                                   | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| Methyl Ethyl Ketone (2-Butanone)         | ug/g dry | 0.50 | <0.50       | <0.50       | nc      | 100             |
| Methyl Isobutyl Ketone                   | ug/g dry | 0.50 | <0.50       | <0.50       | nc      | 100             |
| Methyl tert-butyl ether                  | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| Methylene Chloride                       | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| Styrene                                  | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| 1,1,1,2-Tetrachloroethane                | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| 1,1,2,2-Tetrachloroethane                | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| Tetrachloroethylene                      | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| Toluene                                  | ug/g dry | 0.05 | <0.020      | <0.020      | nc      | 100             |
| 1,1,1-Trichloroethane                    | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| 1,1,2-Trichloroethane                    | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| Trichloroethylene                        | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| Trichlorofluoromethane                   | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |
| Vinyl Chloride                           | ug/g dry | 0.02 | <0.020      | <0.020      | nc      | 100             |
| m/p-Xylene                               | ug/g dry | 0.05 | <0.020      | <0.020      | nc      | 100             |
| o-Xylene                                 | ug/g dry | 0.05 | <0.020      | <0.020      | nc      | 100             |
| Xylenes, total                           | ug/g dry | 0.05 | <0.050      | <0.050      | nc      | 100             |

**NOTES:**

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

- means "not analysed"

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

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

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

| Parameter                               | Units    | RDL  | BH15-3-4    | BH-15-3-104 | RPD (%) | Alert Limit (%) |
|---|----------|------|-------------|-------------|---------|-----------------|
|   |          |      | 11-Jan-2016 | 11-Jan-2016 |         |                 |
| <b>Polycyclic Aromatic Hydrocarbons</b> |          |      |             |             |         |                 |
| Acenaphthene                            | ug/g dry | 0.02 | <0.0050     | <0.0050     | nc      | 80              |
| Acenaphthylene                          | ug/g dry | 0.02 | <0.0050     | <0.0050     | nc      | 80              |
| Anthracene                              | ug/g dry | 0.02 | <0.0050     | <0.0050     | nc      | 80              |
| Benzo[a]anthracene                      | ug/g dry | 0.02 | <0.0050     | 0.02        | nc      | 80              |
| Benzo[a]pyrene                          | ug/g dry | 0.02 | <0.0050     | 0.02        | nc      | 80              |
| Benzo[b]fluoranthene                    | ug/g dry | 0.02 | <0.010      | 0.035       | nc      | 80              |
| Benzo[g,h,i]perylene                    | ug/g dry | 0.02 | <0.0050     | 0.015       | nc      | 80              |
| Benzo[k]fluoranthene                    | ug/g dry | 0.02 | <0.0050     | 0.0099      | nc      | 80              |
| Chrysene                                | ug/g dry | 0.02 | <0.0050     | 0.02        | nc      | 80              |
| Dibenzo[a,h]anthracene                  | ug/g dry | 0.02 | <0.0050     | <0.0050     | nc      | 80              |
| Fluoranthene                            | ug/g dry | 0.02 | 0.0084      | 0.035       | nc      | 80              |
| Fluorene                                | ug/g dry | 0.02 | <0.0050     | <0.0050     | nc      | 80              |
| Indeno[1,2,3-cd]pyrene                  | ug/g dry | 0.02 | <0.0050     | 0.0099      | nc      | 80              |
| Methylnaphthalene (1&2)                 | ug/g dry | 0.04 | <0.0071     | <0.0071     | nc      | 80              |
| Naphthalene                             | ug/g dry | 0.01 | <0.0050     | <0.0050     | nc      | 80              |
| Phenanthrene                            | ug/g dry | 0.02 | <0.0050     | 0.02        | nc      | 80              |
| Pyrene                                  | ug/g dry | 0.02 | 0.0084      | 0.03        | nc      | 80              |

**NOTES:**

Analysis by Paracel Laboratories Ltd.

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

- means "not analysed"

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

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

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

| Parameter     | Units    | RDL  | BH15-6-2    | BH-6-102    | RPD (%) | Alert Limit (%) |
|---------------|----------|------|-------------|-------------|---------|-----------------|
|               |          |      | 11-Jan-2016 | 11-Jan-2016 |         |                 |
| <b>Metals</b> |          |      |             |             |         |                 |
| Antimony      | ug/g dry | 1.0  | 0.92        | 1           | nc      | 60              |
| Arsenic       | ug/g dry | 1.0  | 2.7         | 3.6         | nc      | 60              |
| Barium        | ug/g dry | 1.0  | 110         | 130         | 17      | 60              |
| Beryllium     | ug/g dry | 0.5  | 0.28        | 0.33        | nc      | 60              |
| Boron         | ug/g dry | 5.0  | <5.0        | <5.0        | nc      | 60              |
| Cadmium       | ug/g dry | 0.5  | 0.22        | 0.29        | nc      | 60              |
| Chromium      | ug/g dry | 5.0  | 16          | 19          | nc      | 60              |
| Cobalt        | ug/g dry | 1.0  | 4.4         | 5.1         | nc      | 60              |
| Copper        | ug/g dry | 5.0  | 24          | 22          | nc      | 60              |
| Lead          | ug/g dry | 1.0  | 190         | 210         | 10      | 60              |
| Mercury       | ug/g dry | 0.1  | 0.076       | 0.13        | nc      | 60              |
| Molybdenum    | ug/g dry | 1.0  | 1           | 1.1         | nc      | 60              |
| Nickel        | ug/g dry | 5.0  | 11          | 11          | nc      | 60              |
| Selenium      | ug/g dry | 1.0  | <0.50       | <0.50       | nc      | 60              |
| Silver        | ug/g dry | 0.3  | <0.20       | <0.20       | nc      | 60              |
| Thallium      | ug/g dry | 1.0  | 0.1         | 0.12        | nc      | 60              |
| Uranium       | ug/g dry | 1.0  | 0.49        | 100         | nc      | 60              |
| Vanadium      | ug/g dry | 10.0 | 17          | 20          | nc      | 60              |
| Zinc          | ug/g dry | 20.0 | 170         | 190         | 11      | 60              |

**NOTES:**

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

- means "not analysed"

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

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

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

| Parameter                                | Units | RDL | MW15-5      | DUP 1       | RPD (%) | Alert Limit (%) |
|--|-------|-----|-------------|-------------|---------|-----------------|
|  |       |     | 11-Aug-2022 | 11-Aug-2022 |         |                 |
| <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 | < 2         | < 2         | nc      | 60              |
| 1,2-Dichlorobenzene                      | ug/L  | 0.5 | < 0.5       | < 0.5       | nc      | 60              |
| 1,3-Dichlorobenzene                      | ug/L  | 0.5 | < 0.5       | < 0.5       | nc      | 60              |
| 1,4-Dichlorobenzene                      | ug/L  | 0.5 | < 0.5       | < 0.5       | nc      | 60              |
| 1,1-Dichloroethane                       | ug/L  | 0.5 | < 0.5       | < 0.5       | nc      | 60              |
| 1,2-Dichloroethane                       | ug/L  | 0.5 | < 0.5       | < 0.5       | nc      | 60              |
| 1,1-Dichloroethylene                     | ug/L  | 0.5 | < 0.5       | < 0.5       | nc      | 60              |
| cis-1,2-Dichloroethylene                 | ug/L  | 0.5 | < 0.5       | < 0.5       | nc      | 60              |
| trans-1,2-Dichloroethylene               | ug/L  | 0.5 | < 0.5       | < 0.5       | nc      | 60              |
| 1,2-Dichloropropane                      | ug/L  | 0.5 | < 0.5       | < 0.5       | nc      | 60              |
| cis-1,3-Dichloropropylene                | ug/L  | 0.5 | < 0.5       | < 0.5       | nc      | 60              |
| trans-1,3-Dichloropropylene              | ug/L  | 0.5 | < 0.5       | < 0.5       | nc      | 60              |
| 1,3-Dichloropropene, total               | ug/L  | 0.5 | < 0.5       | < 0.5       | nc      | 60              |
| Ethylbenzene                             | ug/L  | 0.5 | < 0.5       | < 0.5       | nc      | 60              |
| Ethylene dibromide (dibromoethane, 1,2-) | ug/L  | 0.2 | < 0.2       | < 0.2       | nc      | 60              |
| Hexane                                   | ug/L  | 1.0 | < 5         | < 5         | nc      | 60              |
| Methyl Ethyl Ketone (2-Butanone)         | ug/L  | 5.0 | < 20        | < 20        | nc      | 60              |
| Methyl Isobutyl Ketone                   | ug/L  | 5.0 | < 20        | < 20        | nc      | 60              |
| Methyl tert-butyl ether                  | ug/L  | 2.0 | < 2         | < 2         | nc      | 60              |
| Methylene Chloride                       | ug/L  | 5.0 | < 5         | < 5         | nc      | 60              |
| Styrene                                  | ug/L  | 0.5 | < 0.5       | < 0.5       | nc      | 60              |
| 1,1,1,2-Tetrachloroethane                | ug/L  | 0.5 | < 0.5       | < 0.5       | nc      | 60              |
| 1,1,2,2-Tetrachloroethane                | ug/L  | 0.5 | < 0.5       | < 0.5       | nc      | 60              |
| Tetrachloroethylene                      | ug/L  | 0.5 | < 0.5       | < 0.5       | nc      | 60              |
| Toluene                                  | ug/L  | 0.5 | < 0.5       | < 0.5       | nc      | 60              |
| 1,1,1-Trichloroethane                    | ug/L  | 0.5 | < 0.5       | < 0.5       | nc      | 60              |
| 1,1,2-Trichloroethane                    | ug/L  | 0.5 | < 0.5       | < 0.5       | nc      | 60              |
| Trichloroethylene                        | ug/L  | 0.5 | < 0.5       | < 0.5       | nc      | 60              |
| Trichlorofluoromethane                   | ug/L  | 1.0 | < 5         | < 5         | nc      | 60              |
| Vinyl Chloride                           | ug/L  | 0.5 | < 0.2       | < 0.2       | nc      | 60              |
| m/p-Xylene                               | ug/L  | 0.5 | < 1.0       | < 1.0       | nc      | 60              |
| o-Xylene                                 | ug/L  | 0.5 | < 0.5       | < 0.5       | nc      | 60              |
| Xylenes, total                           | ug/L  | 0.5 | < 1.1       | < 1.1       | nc      | 60              |

**NOTES:**

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

- means "not analysed"

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

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

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

| Parameter                                | Units | RDL | BH15-2B     | BH15-102B   | RPD (%) | Alert Limit (%) |
|--|-------|-----|-------------|-------------|---------|-----------------|
|  |       |     | 19-Jan-2016 | 19-Jan-2016 |         |                 |
| <b>Petroleum Hydrocarbons</b>            |       |     |             |             |         |                 |
| F1 PHC (C6 - C10) - BTEX                 | ug/L  | 25  | <25         | <25         | nc      | 60              |
| F2 PHC (C10-C16)                         | ug/L  | 100 | <100        | <100        | nc      | 60              |
| F3 PHC (C16-C34)                         | ug/L  | 100 | <200        | <200        | nc      | 60              |
| F4 PHC (C34-C50)                         | ug/L  | 100 | <200        | <200        | nc      | 60              |
| <b>Volatiles</b>                         |       |     |             |             |         |                 |
| Acetone                                  | ug/L  | 5.0 | <10         | <10         | nc      | 60              |
| Benzene                                  | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| Bromodichloromethane                     | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| Bromoform                                | ug/L  | 0.5 | <1.0        | <1.0        | nc      | 60              |
| Bromomethane                             | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| Carbon Tetrachloride                     | ug/L  | 0.2 | <0.20       | <0.20       | nc      | 60              |
| Chlorobenzene                            | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| Chloroform                               | ug/L  | 0.5 | 1.2         | 1.3         | nc      | 60              |
| Dibromochloromethane                     | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| Dichlorodifluoromethane                  | ug/L  | 1.0 | <1.0        | <1.0        | nc      | 60              |
| 1,2-Dichlorobenzene                      | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| 1,3-Dichlorobenzene                      | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| 1,4-Dichlorobenzene                      | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| 1,1-Dichloroethane                       | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| 1,2-Dichloroethane                       | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| 1,1-Dichloroethylene                     | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| cis-1,2-Dichloroethylene                 | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| trans-1,2-Dichloroethylene               | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| 1,2-Dichloropropane                      | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| cis-1,3-Dichloropropylene                | ug/L  | 0.5 | <0.30       | <0.30       | nc      | 60              |
| trans-1,3-Dichloropropylene              | ug/L  | 0.5 | <0.40       | <0.40       | nc      | 60              |
| 1,3-Dichloropropene, total               | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| Ethylbenzene                             | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| Ethylene dibromide (dibromoethane, 1,2-) | ug/L  | 0.2 | <0.20       | <0.20       | nc      | 60              |
| Hexane                                   | ug/L  | 1.0 | <1.0        | <1.0        | nc      | 60              |
| Methyl Ethyl Ketone (2-Butanone)         | ug/L  | 5.0 | <10         | <10         | nc      | 60              |
| Methyl Isobutyl Ketone                   | ug/L  | 5.0 | <5.0        | <5.0        | nc      | 60              |
| Methyl tert-butyl ether                  | ug/L  | 2.0 | <0.50       | <0.50       | nc      | 60              |
| Methylene Chloride                       | ug/L  | 5.0 | <2.0        | <2.0        | nc      | 60              |
| Styrene                                  | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| 1,1,1,2-Tetrachloroethane                | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| 1,1,2,2-Tetrachloroethane                | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| Tetrachloroethylene                      | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| Toluene                                  | ug/L  | 0.5 | 0.22        | 0.22        | nc      | 60              |
| 1,1,1-Trichloroethane                    | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| 1,1,2-Trichloroethane                    | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| Trichloroethylene                        | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| Trichlorofluoromethane                   | ug/L  | 1.0 | <0.50       | <0.50       | nc      | 60              |
| Vinyl Chloride                           | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| m/p-Xylene                               | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| o-Xylene                                 | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| Xylenes, total                           | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |

**NOTES:**

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

- means "not analysed"

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

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

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

| Parameter                                | Units | RDL | BH15-3B     | BH15-103B   | RPD (%) | Alert Limit (%) |
|--|-------|-----|-------------|-------------|---------|-----------------|
|  |       |     | 15-Feb-2016 | 15-Feb-2016 |         |                 |
| <b>Volatiles</b>                         |       |     |             |             |         |                 |
| Acetone                                  | ug/L  | 5.0 | <10         | <10         | nc      | 60              |
| Benzene                                  | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| Bromodichloromethane                     | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| Bromoform                                | ug/L  | 0.5 | <1.0        | <1.0        | nc      | 60              |
| Bromomethane                             | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| Carbon Tetrachloride                     | ug/L  | 0.2 | <0.20       | <0.20       | nc      | 60              |
| Chlorobenzene                            | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| Chloroform                               | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| Dibromochloromethane                     | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| Dichlorodifluoromethane                  | ug/L  | 1.0 | <1.0        | <1.0        | nc      | 60              |
| 1,2-Dichlorobenzene                      | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| 1,3-Dichlorobenzene                      | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| 1,4-Dichlorobenzene                      | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| 1,1-Dichloroethane                       | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| 1,2-Dichloroethane                       | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| 1,1-Dichloroethylene                     | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| cis-1,2-Dichloroethylene                 | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| trans-1,2-Dichloroethylene               | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| 1,2-Dichloropropane                      | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| cis-1,3-Dichloropropylene                | ug/L  | 0.5 | <0.30       | <0.30       | nc      | 60              |
| trans-1,3-Dichloropropylene              | ug/L  | 0.5 | <0.40       | <0.40       | nc      | 60              |
| 1,3-Dichloropropene, total               | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| Ethylbenzene                             | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| Ethylene dibromide (dibromoethane, 1,2-) | ug/L  | 0.2 | <0.20       | <0.20       | nc      | 60              |
| Hexane                                   | ug/L  | 1.0 | <1.0        | <1.0        | nc      | 60              |
| Methyl Ethyl Ketone (2-Butanone)         | ug/L  | 5.0 | <10         | <10         | nc      | 60              |
| Methyl Isobutyl Ketone                   | ug/L  | 5.0 | <5.0        | <5.0        | nc      | 60              |
| Methyl tert-butyl ether                  | ug/L  | 2.0 | <0.50       | <0.50       | nc      | 60              |
| Methylene Chloride                       | ug/L  | 5.0 | <2.0        | <2.0        | nc      | 60              |
| Styrene                                  | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| 1,1,1,2-Tetrachloroethane                | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| 1,1,2,2-Tetrachloroethane                | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| Tetrachloroethylene                      | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| Toluene                                  | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| 1,1,1-Trichloroethane                    | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| 1,1,2-Trichloroethane                    | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| Trichloroethylene                        | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| Trichlorofluoromethane                   | ug/L  | 1.0 | <0.50       | <0.50       | nc      | 60              |
| Vinyl Chloride                           | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| m/p-Xylene                               | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| o-Xylene                                 | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| Xylenes, total                           | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |

**NOTES:**

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

- means "not analysed"

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

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



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

| Parameter                                | Units | RDL | BH15-4A     | BH15-104A   | RPD (%) | Alert Limit (%) |
|--|-------|-----|-------------|-------------|---------|-----------------|
|  |       |     | 23-Feb-2016 | 23-Feb-2016 |         |                 |
| <b>Petroleum Hydrocarbons</b>            |       |     |             |             |         |                 |
| F1 PHC (C6 - C10) - BTEX                 | ug/L  | 25  | <25         | <25         | nc      | 60              |
| F2 PHC (C10-C16)                         | ug/L  | 100 | <100        | <100        | nc      | 60              |
| F3 PHC (C16-C34)                         | ug/L  | 100 | <200        | <200        | nc      | 60              |
| F4 PHC (C34-C50)                         | ug/L  | 100 | <200        | <200        | nc      | 60              |
| <b>Volatiles</b>                         |       |     |             |             |         |                 |
| Acetone                                  | ug/L  | 5.0 | <10         | <10         | nc      | 60              |
| Benzene                                  | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| Bromodichloromethane                     | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| Bromoform                                | ug/L  | 0.5 | <1.0        | <1.0        | nc      | 60              |
| Bromomethane                             | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| Carbon Tetrachloride                     | ug/L  | 0.2 | <0.20       | <0.20       | nc      | 60              |
| Chlorobenzene                            | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| Chloroform                               | ug/L  | 0.5 | 1.2         | 1.3         | nc      | 60              |
| Dibromochloromethane                     | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| Dichlorodifluoromethane                  | ug/L  | 1.0 | <1.0        | <1.0        | nc      | 60              |
| 1,2-Dichlorobenzene                      | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| 1,3-Dichlorobenzene                      | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| 1,4-Dichlorobenzene                      | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| 1,1-Dichloroethane                       | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| 1,2-Dichloroethane                       | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| 1,1-Dichloroethylene                     | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| cis-1,2-Dichloroethylene                 | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| trans-1,2-Dichloroethylene               | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| 1,2-Dichloropropane                      | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| cis-1,3-Dichloropropylene                | ug/L  | 0.5 | <0.30       | <0.30       | nc      | 60              |
| trans-1,3-Dichloropropylene              | ug/L  | 0.5 | <0.40       | <0.40       | nc      | 60              |
| 1,3-Dichloropropene, total               | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| Ethylbenzene                             | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| Ethylene dibromide (dibromoethane, 1,2-) | ug/L  | 0.2 | <0.20       | <0.20       | nc      | 60              |
| Hexane                                   | ug/L  | 1.0 | <1.0        | <1.0        | nc      | 60              |
| Methyl Ethyl Ketone (2-Butanone)         | ug/L  | 5.0 | <10         | <10         | nc      | 60              |
| Methyl Isobutyl Ketone                   | ug/L  | 5.0 | <5.0        | <5.0        | nc      | 60              |
| Methyl tert-butyl ether                  | ug/L  | 2.0 | <0.50       | <0.50       | nc      | 60              |
| Methylene Chloride                       | ug/L  | 5.0 | <2.0        | <2.0        | nc      | 60              |
| Styrene                                  | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| 1,1,1,2-Tetrachloroethane                | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| 1,1,2,2-Tetrachloroethane                | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| Tetrachloroethylene                      | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| Toluene                                  | ug/L  | 0.5 | 0.22        | 0.22        | nc      | 60              |
| 1,1,1-Trichloroethane                    | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| 1,1,2-Trichloroethane                    | ug/L  | 0.5 | <0.50       | <0.50       | nc      | 60              |
| Trichloroethylene                        | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| Trichlorofluoromethane                   | ug/L  | 1.0 | <0.50       | <0.50       | nc      | 60              |
| Vinyl Chloride                           | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| m/p-Xylene                               | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| o-Xylene                                 | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |
| Xylenes, total                           | ug/L  | 0.5 | <0.20       | <0.20       | nc      | 60              |

**NOTES:**

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

- means "not analysed"

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

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

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

| Parameter                               | Units | RDL  | MW15-5      | DUP 1       | RPD (%) | Alert Limit (%) |
|---|-------|------|-------------|-------------|---------|-----------------|
|   |       |      | 11-Aug-2022 | 11-Aug-2022 |         |                 |
| <b>Polycyclic Aromatic Hydrocarbons</b> |       |      |             |             |         |                 |
| Acenaphthene                            | ug/L  | 0.05 | < 0.05      | < 0.05      | nc      | 60              |
| Acenaphthylene                          | ug/L  | 0.05 | < 0.05      | < 0.05      | nc      | 60              |
| Anthracene                              | ug/L  | 0.01 | < 0.05      | < 0.05      | nc      | 60              |
| Benzo[a]anthracene                      | ug/L  | 0.01 | < 0.05      | < 0.05      | nc      | 60              |
| Benzo[a]pyrene                          | ug/L  | 0.01 | < 0.01      | < 0.01      | nc      | 60              |
| Benzo[b]fluoranthene                    | ug/L  | 0.05 | < 0.05      | < 0.05      | nc      | 60              |
| Benzo[g,h,i]perylene                    | ug/L  | 0.05 | < 0.05      | < 0.05      | nc      | 60              |
| Benzo[k]fluoranthene                    | ug/L  | 0.05 | < 0.05      | < 0.05      | nc      | 60              |
| Chrysene                                | ug/L  | 0.05 | < 0.05      | < 0.05      | nc      | 60              |
| Dibenzo[a,h]anthracene                  | ug/L  | 0.05 | < 0.05      | < 0.05      | nc      | 60              |
| Fluoranthene                            | ug/L  | 0.01 | < 0.05      | < 0.05      | nc      | 60              |
| Fluorene                                | ug/L  | 0.05 | < 0.05      | < 0.05      | nc      | 60              |
| Indeno[1,2,3-cd]pyrene                  | ug/L  | 0.05 | < 0.05      | < 0.05      | nc      | 60              |
| 1-Methylnaphthalene                     | ug/L  | 0.05 | < 0.05      | < 0.05      | nc      | 60              |
| 2-Methylnaphthalene                     | ug/L  | 0.05 | < 0.05      | < 0.05      | nc      | 60              |
| Methylnaphthalene (1&2)                 | ug/L  | 0.10 | < 1         | < 1         | nc      | 60              |
| Naphthalene                             | ug/L  | 0.05 | < 0.05      | < 0.05      | nc      | 60              |
| Phenanthrene                            | ug/L  | 0.05 | < 0.05      | < 0.05      | nc      | 60              |
| Pyrene                                  | ug/L  | 0.01 | < 0.05      | < 0.05      | mc      | 60              |
| Parameter                               | Units | RDL  | BH15-2B     | BH15-102B   | RPD (%) | Alert Limit (%) |
|   |       |      | 19-Jan-2016 | 19-Jan-2016 |         |                 |
| <b>Polycyclic Aromatic Hydrocarbons</b> |       |      |             |             |         |                 |
| Acenaphthene                            | ug/L  | 0.05 | <0.050      | <0.050      | nc      | 60              |
| Acenaphthylene                          | ug/L  | 0.05 | <0.050      | <0.050      | nc      | 60              |
| Anthracene                              | ug/L  | 0.01 | <0.050      | <0.050      | nc      | 60              |
| Benzo[a]anthracene                      | ug/L  | 0.01 | <0.050      | <0.050      | nc      | 60              |
| Benzo[a]pyrene                          | ug/L  | 0.01 | <0.010      | <0.010      | nc      | 60              |
| Benzo[b]fluoranthene                    | ug/L  | 0.05 | <0.10       | <0.10       | nc      | 60              |
| Benzo[g,h,i]perylene                    | ug/L  | 0.05 | <0.050      | <0.050      | nc      | 60              |
| Benzo[k]fluoranthene                    | ug/L  | 0.05 | <0.050      | <0.050      | nc      | 60              |
| Chrysene                                | ug/L  | 0.05 | <0.050      | <0.050      | nc      | 60              |
| Dibenzo[a,h]anthracene                  | ug/L  | 0.05 | <0.050      | <0.050      | nc      | 60              |
| Fluoranthene                            | ug/L  | 0.01 | <0.050      | <0.050      | nc      | 60              |
| Fluorene                                | ug/L  | 0.05 | <0.050      | <0.050      | nc      | 60              |
| Indeno[1,2,3-cd]pyrene                  | ug/L  | 0.05 | <0.050      | <0.050      | nc      | 60              |
| 1-Methylnaphthalene                     | ug/L  | 0.05 | <0.050      | 0.05        | nc      | 60              |
| 2-Methylnaphthalene                     | ug/L  | 0.05 | <0.050      | 0.05        | nc      | 60              |
| Methylnaphthalene (1&2)                 | ug/L  | 0.10 | <0.1        | <0.1        | nc      | 60              |
| Naphthalene                             | ug/L  | 0.05 | <0.050      | <0.050      | nc      | 60              |
| Phenanthrene                            | ug/L  | 0.05 | <0.030      | 0.17        | nc      | 60              |
| Pyrene                                  | ug/L  | 0.01 | <0.050      | <0.050      | mc      | 60              |

**NOTES:**

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

- means "not analysed"

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

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

Table 14 - Relative Percent Differences - Metals in Groundwater  
 770 and 775 Bronson Avenue, 557 Cambridge Street, Ottawa, ON  
 OTT-22019409-A0

| Parameter     | Units | RDL | BH15-2B     | BH15-102B   | RPD (%)    | Alert Limit (%) |
|---------------|-------|-----|-------------|-------------|------------|-----------------|
|               |       |     | 19-Jan-2016 | 19-Jan-2016 |            |                 |
| <b>Metals</b> |       |     |             |             |            |                 |
| Mercury       | ug/L  | 0.1 | <0.1        | <0.1        | nc         | 40              |
| Antimony      | ug/L  | 0.5 | <0.50       | 0.62        | nc         | 40              |
| Arsenic       | ug/L  | 1   | <1.0        | <1.0        | nc         | 40              |
| Barium        | ug/L  | 1   | 190         | 77          | <b>85</b>  | 40              |
| Beryllium     | ug/L  | 0.5 | <0.50       | <0.50       | nc         | 40              |
| Boron         | ug/L  | 10  | 61          | 300         | <b>132</b> | 40              |
| Cadmium       | ug/L  | 0.1 | <0.10       | <0.10       | nc         | 40              |
| Chromium      | ug/L  | 1   | <5.0        | <5.0        | nc         | 40              |
| Chromium (VI) | ug/L  | 10  | <0.5        | <0.5        | nc         | 40              |
| Cobalt        | ug/L  | 0.5 | 1.1         | 1.2         | nc         | 40              |
| Copper        | ug/L  | 0.5 | 1.7         | 1.7         | nc         | 40              |
| Lead          | ug/L  | 0.1 | <0.50       | <0.50       | nc         | 40              |
| Molybdenum    | ug/L  | 0.5 | 2           | 4.7         | nc         | 40              |
| Nickel        | ug/L  | 1   | 2.5         | 3.4         | nc         | 40              |
| Selenium      | ug/L  | 1   | 460000      | 520000      | 12         | 40              |
| Silver        | ug/L  | 0.1 | <2.0        | 2.9         | nc         | 40              |
| Sodium        | ug/L  | 200 | <0.10       | <0.10       | nc         | 40              |
| Thallium      | ug/L  | 0.1 | <0.050      | 0.074       | nc         | 40              |
| Uranium       | ug/L  | 0.1 | 1.8         | 3.1         | <b>53</b>  | 40              |
| Vanadium      | ug/L  | 0.5 | <0.50       | <0.50       | nc         | 40              |
| Zinc          | ug/L  | 5   | <5.0        | <5.0        | nc         | 40              |

**NOTES:**

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- 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.

*Katasa Groupe*

*Phase Two Environmental Site Assessment  
770 and 774 Bronson Avenue and 557 Cambridge Street, Ottawa, Ontario*

*OTT-22019409-A0*

*October 6, 2022*

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

C.O.C.: G105027

REPORT No. B22-25709

**Report To:**

**EXP Services Inc**  
 2650 Queensview Drive, Suite 100  
 Ottawa ON K2B 8H6 Canada

**Attention:** Mark McCalla

**Caduceon Environmental Laboratories**

2378 Holly Lane  
 Ottawa Ontario K1V 7P1  
 Tel: 613-526-0123  
 Fax: 613-526-1244

DATE RECEIVED: 12-Aug-22

JOB/PROJECT NO.:

DATE REPORTED: 18-Aug-22

SAMPLE MATRIX: Groundwater

P.O. NUMBER: OTT-22019409-AO

WATERWORKS NO.

| Parameter  | Qty | Site Analyzed | Analyst Initials | Date Analyzed | Lab Method        | Reference Method |
|------------|-----|---------------|------------------|---------------|-------------------|------------------|
| Comment    | 5   | Default Site  | KPR              | 15-Aug-22     | C-comment         | -                |
| Comment    | 5   | Default Site  | JE               | 17-Aug-22     | C-comment purg RH | -                |
| SVOC       | 5   | Kingston      | law              | 16-Aug-22     | C-NAB-S-001 (k)   | EPA 8270         |
| SVOC       | 5   | Kingston      | law              | 16-Aug-22     | C-NAB-W-001 (k)   | EPA 8270         |
| PHC(F2-F4) | 5   | Kingston      | KPR              | 15-Aug-22     | C-PHC-W-001 (k)   | MOE E3421        |
| VOC's      | 5   | Richmond Hill | JE               | 16-Aug-22     | C-VOC-02 (rh)     | EPA 8260         |
| PHC(F1)    | 5   | Richmond Hill | JE               | 17-Aug-22     | C-VPHW-01 (rh)    | MOE E3421        |

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

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

F2 C10-C16 hydrocarbons in µg/g, (F2-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 - GW (µg/L) - Table 1 - Ground Water



Tahir Yapici Ph.D

Lab Manager - Ottawa District

R.L. = Reporting Limit

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

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

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

C.O.C.: G105027

REPORT No. B22-25709

**Report To:**

**EXP Services Inc**  
 2650 Queensview Drive, Suite 100  
 Ottawa ON K2B 8H6 Canada

**Attention:** Mark McCalla

**Caduceon Environmental Laboratories**

2378 Holly Lane  
 Ottawa Ontario K1V 7P1  
 Tel: 613-526-0123  
 Fax: 613-526-1244

DATE RECEIVED: 12-Aug-22

JOB/PROJECT NO.:

DATE REPORTED: 18-Aug-22

P.O. NUMBER: OTT-22019409-AO

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                            | Client I.D.<br>Sample I.D.<br>Date Collected |      | MW15-1<br>B22-25709-1<br>11-Aug-22 | MW15-5<br>B22-25709-2<br>11-Aug-22 | MW15-2<br>B22-25709-3<br>11-Aug-22 | MW15-3<br>B22-25709-4<br>11-Aug-22 | O. Reg. 153<br>Tbl. 1 - GW<br>(µg/L) |  |
|--------------------------------------|--|------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|--------------------------------------|--|
|                                      | Units  | R.L. |                                    |                                    |                                    |                                    |                                      |  |
| PHC F1 (C6-C10)                      | µg/L   | 25   | < 25                               | < 25                               | < 25                               | < 25                               | 420                                  |  |
| Comment-purgeable                    | -  |      | -                                  | -                                  | -                                  | -                                  |                                      |  |
| PHC F2 (>C10-C16)                    | µg/L   | 50   | < 50                               | < 50                               | < 50                               | < 50                               | 150                                  |  |
| PHC F3 (>C16-C34)                    | µg/L   | 400  | < 400                              | < 400                              | < 400                              | < 400                              | 500                                  |  |
| PHC F4 (>C34-C50)                    | µg/L   | 400  | < 400                              | < 400                              | < 400                              | < 400                              | 500                                  |  |
| Comment-extractable                  | -  |      | -                                  | -                                  | -                                  | -                                  |                                      |  |
| Acetone                              | µg/L   | 30   | < 30                               | < 30                               | < 30                               | < 30                               | 2700                                 |  |
| Benzene                              | µg/L   | 0.5  | < 0.5                              | < 0.5                              | < 0.5                              | < 0.5                              | 0.5                                  |  |
| Bromodichloromethane                 | µg/L   | 2    | < 2                                | < 2                                | < 2                                | < 2                                | 2                                    |  |
| Bromoform                            | µg/L   | 5    | < 5                                | < 5                                | < 5                                | < 5                                | 5                                    |  |
| Bromomethane                         | µg/L   | 0.5  | < 0.5                              | < 0.5                              | < 0.5                              | < 0.5                              | 0.89                                 |  |
| Carbon Tetrachloride                 | µg/L   | 0.2  | < 0.2                              | < 0.2                              | < 0.2                              | < 0.2                              | 0.2                                  |  |
| Monochlorobenzene<br>(Chlorobenzene) | µg/L   | 0.5  | < 0.5                              | < 0.5                              | < 0.5                              | < 0.5                              | 0.5                                  |  |
| Chloroform                           | µg/L   | 1    | < 1                                | < 1                                | < 1                                | < 1                                | 2                                    |  |
| Dibromochloromethane                 | µg/L   | 2    | < 2                                | < 2                                | < 2                                | < 2                                | 2                                    |  |
| Dichlorobenzene,1,2-                 | µg/L   | 0.5  | < 0.5                              | < 0.5                              | < 0.5                              | < 0.5                              | 0.5                                  |  |
| Dichlorobenzene,1,3-                 | µg/L   | 0.5  | < 0.5                              | < 0.5                              | < 0.5                              | < 0.5                              | 0.5                                  |  |
| Dichlorobenzene,1,4-                 | µg/L   | 0.5  | < 0.5                              | < 0.5                              | < 0.5                              | < 0.5                              | 0.5                                  |  |
| Dichlorodifluoromethane              | µg/L   | 2    | < 2                                | < 2                                | < 2                                | < 2                                | 590                                  |  |
| Dichloroethane,1,1-                  | µg/L   | 0.5  | < 0.5                              | < 0.5                              | < 0.5                              | < 0.5                              | 0.5                                  |  |
| Dichloroethane,1,2-                  | µg/L   | 0.5  | < 0.5                              | < 0.5                              | < 0.5                              | < 0.5                              | 0.5                                  |  |
| Dichloroethylene,1,1-                | µg/L   | 0.5  | < 0.5                              | < 0.5                              | < 0.5                              | < 0.5                              | 0.5                                  |  |
| Dichloroethene, cis-1,2-             | µg/L   | 0.5  | < 0.5                              | < 0.5                              | < 0.5                              | < 0.5                              | 1.6                                  |  |
| Dichloroethene, trans-1,2-           | µg/L   | 0.5  | < 0.5                              | < 0.5                              | < 0.5                              | < 0.5                              | 1.6                                  |  |
| Dichloropropane,1,2-                 | µg/L   | 0.5  | < 0.5                              | < 0.5                              | < 0.5                              | < 0.5                              | 0.5                                  |  |
| Dichloropropene, cis-1,3-            | µg/L   | 0.5  | < 0.5                              | < 0.5                              | < 0.5                              | < 0.5                              |                                      |  |

O. Reg. 153 - Soil, Ground Water and Sediment Standards  
 Tbl. 1 - GW (µg/L) - Table 1 - Ground Water



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.: G105027

REPORT No. B22-25709

**Report To:**

**EXP Services Inc**  
 2650 Queensview Drive, Suite 100  
 Ottawa ON K2B 8H6 Canada

**Attention:** Mark McCalla

**Caduceon Environmental Laboratories**

2378 Holly Lane  
 Ottawa Ontario K1V 7P1  
 Tel: 613-526-0123  
 Fax: 613-526-1244

DATE RECEIVED: 12-Aug-22

JOB/PROJECT NO.:

DATE REPORTED: 18-Aug-22

P.O. NUMBER: OTT-22019409-AO

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                               | Client I.D. |                | MW15-1      | MW15-5      | MW15-2      | MW15-3      | O. Reg. 153 |        |
|---|-------------|----------------|-------------|-------------|-------------|-------------|-------------|--------|
|   | Sample I.D. | Date Collected | B22-25709-1 | B22-25709-2 | B22-25709-3 | B22-25709-4 | Tbl. 1 - GW | (µg/L) |
|   | Units       | R.L.           | 11-Aug-22   | 11-Aug-22   | 11-Aug-22   | 11-Aug-22   |             |        |
| Dichloropropene, trans-1,3-             | µg/L        | 0.5            | < 0.5       | < 0.5       | < 0.5       | < 0.5       |             |        |
| Dichloropropene 1,3-cis+trans           | µg/L        | 0.5            | < 0.5       | < 0.5       | < 0.5       | < 0.5       | 0.5         |        |
| Ethylbenzene                            | µg/L        | 0.5            | < 0.5       | < 0.5       | < 0.5       | < 0.5       | 0.5         |        |
| Dibromoethane, 1,2-(Ethylene Dibromide) | µg/L        | 0.2            | < 0.2       | < 0.2       | < 0.2       | < 0.2       | 0.2         |        |
| Hexane                                  | µg/L        | 5              | < 5         | < 5         | < 5         | < 5         | 5           |        |
| Methyl Ethyl Ketone                     | µg/L        | 20             | < 20        | < 20        | < 20        | < 20        | 400         |        |
| Methyl Isobutyl Ketone                  | µg/L        | 20             | < 20        | < 20        | < 20        | < 20        | 640         |        |
| Methyl-t-butyl Ether                    | µg/L        | 2              | < 2         | < 2         | 3           | < 2         | 15          |        |
| Dichloromethane (Methylene Chloride)    | µg/L        | 5              | < 5         | < 5         | < 5         | < 5         | 5           |        |
| Styrene                                 | µg/L        | 0.5            | < 0.5       | < 0.5       | < 0.5       | < 0.5       | 0.5         |        |
| Tetrachloroethane, 1,1,1,2-             | µg/L        | 0.5            | < 0.5       | < 0.5       | < 0.5       | < 0.5       | 1.1         |        |
| Tetrachloroethane, 1,1,2,2-             | µg/L        | 0.5            | < 0.5       | < 0.5       | < 0.5       | < 0.5       | 0.5         |        |
| Tetrachloroethylene                     | µg/L        | 0.5            | < 0.5       | < 0.5       | < 0.5       | < 0.5       | 0.5         |        |
| Toluene                                 | µg/L        | 0.5            | < 0.5       | < 0.5       | < 0.5       | < 0.5       | 0.8         |        |
| Trichloroethane, 1,1,1-                 | µg/L        | 0.5            | < 0.5       | < 0.5       | < 0.5       | < 0.5       | 0.5         |        |
| Trichloroethane, 1,1,2-                 | µg/L        | 0.5            | < 0.5       | < 0.5       | < 0.5       | < 0.5       | 0.5         |        |
| Trichloroethylene                       | µg/L        | 0.5            | < 0.5       | < 0.5       | < 0.5       | < 0.5       | 0.5         |        |
| Trichlorofluoromethane                  | µg/L        | 5              | < 5         | < 5         | < 5         | < 5         | 150         |        |
| Vinyl Chloride                          | µg/L        | 0.2            | < 0.2       | < 0.2       | < 0.2       | < 0.2       | 0.5         |        |
| Xylene, m,p-                            | µg/L        | 1.0            | < 1.0       | < 1.0       | < 1.0       | < 1.0       |             |        |
| Xylene, o-                              | µg/L        | 0.5            | < 0.5       | < 0.5       | < 0.5       | < 0.5       |             |        |
| Xylene, m,p,o-                          | µg/L        | 1.1            | < 1.1       | < 1.1       | < 1.1       | < 1.1       | 72          |        |
| Acenaphthene                            | µg/L        | 0.05           | < 0.05      | < 0.05      | < 0.05      | < 0.05      | 4.1         |        |

O. Reg. 153 - Soil, Ground Water and Sediment Standards  
 Tbl. 1 - GW (µg/L) - Table 1 - Ground Water



Tahir Yapici Ph.D  
 Lab Manager - Ottawa District

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C.O.C.: G105027

REPORT No. B22-25709

**Report To:**

**EXP Services Inc**  
 2650 Queensview Drive, Suite 100  
 Ottawa ON K2B 8H6 Canada

**Attention:** Mark McCalla

**Caduceon Environmental Laboratories**

2378 Holly Lane  
 Ottawa Ontario K1V 7P1  
 Tel: 613-526-0123  
 Fax: 613-526-1244

DATE RECEIVED: 12-Aug-22

JOB/PROJECT NO.:

DATE REPORTED: 18-Aug-22

P.O. NUMBER: OTT-22019409-AO

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                | Client I.D.<br>Sample I.D.<br>Date Collected |      | MW15-1<br>B22-25709-1<br>11-Aug-22 | MW15-5<br>B22-25709-2<br>11-Aug-22 | MW15-2<br>B22-25709-3<br>11-Aug-22 | MW15-3<br>B22-25709-4<br>11-Aug-22 | O. Reg. 153<br>Tbl. 1 - GW<br>(µg/L) |  |
|--------------------------|--|------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|--------------------------------------|--|
|                          | Units  | R.L. |                                    |                                    |                                    |                                    |                                      |  |
| Acenaphthylene           | µg/L   | 0.05 | < 0.05                             | < 0.05                             | < 0.05                             | < 0.05                             | 1                                    |  |
| Anthracene               | µg/L   | 0.05 | < 0.05                             | < 0.05                             | < 0.05                             | < 0.05                             | 0.1                                  |  |
| Benzo(a)anthracene       | µg/L   | 0.05 | < 0.05                             | < 0.05                             | < 0.05                             | < 0.05                             | 0.2                                  |  |
| Benzo(a)pyrene           | µg/L   | 0.01 | <b>0.012</b>                       | < 0.01                             | < 0.01                             | < 0.01                             | 0.01                                 |  |
| Benzo(b)fluoranthene     | µg/L   | 0.05 | < 0.05                             | < 0.05                             | < 0.05                             | < 0.05                             | 0.1                                  |  |
| Benzo(b+k)fluoranthene   | µg/L   | 0.1  | < 0.1                              | < 0.1                              | < 0.1                              | < 0.1                              |                                      |  |
| Benzo(g,h,i)perylene     | µg/L   | 0.05 | < 0.05                             | < 0.05                             | < 0.05                             | < 0.05                             | 0.2                                  |  |
| Benzo(k)fluoranthene     | µg/L   | 0.05 | < 0.05                             | < 0.05                             | < 0.05                             | < 0.05                             | 0.1                                  |  |
| Chrysene                 | µg/L   | 0.05 | < 0.05                             | < 0.05                             | < 0.05                             | < 0.05                             | 0.1                                  |  |
| Dibenzo(a,h)anthracene   | µg/L   | 0.05 | < 0.05                             | < 0.05                             | < 0.05                             | < 0.05                             | 0.2                                  |  |
| Fluoranthene             | µg/L   | 0.05 | < 0.05                             | < 0.05                             | < 0.05                             | < 0.05                             | 0.4                                  |  |
| Fluorene                 | µg/L   | 0.05 | < 0.05                             | < 0.05                             | < 0.05                             | < 0.05                             | 120                                  |  |
| Indeno(1,2,3,-cd)pyrene  | µg/L   | 0.05 | < 0.05                             | < 0.05                             | < 0.05                             | < 0.05                             | 0.2                                  |  |
| Methylnaphthalene,1-     | µg/L   | 0.05 | < 0.05                             | < 0.05                             | < 0.05                             | < 0.05                             | 2                                    |  |
| Methylnaphthalene,2-     | µg/L   | 0.05 | < 0.05                             | < 0.05                             | < 0.05                             | < 0.05                             | 2                                    |  |
| Methylnaphthalene 2-(1-) | µg/L   | 1    | < 1                                | < 1                                | < 1                                | < 1                                | 2                                    |  |
| Naphthalene              | µg/L   | 0.05 | < 0.05                             | < 0.05                             | < 0.05                             | < 0.05                             | 7                                    |  |
| Phenanthrene             | µg/L   | 0.05 | < 0.05                             | < 0.05                             | < 0.05                             | < 0.05                             | 0.1                                  |  |
| Pyrene                   | µg/L   | 0.05 | < 0.05                             | < 0.05                             | < 0.05                             | < 0.05                             | 0.2                                  |  |
| 2-Fluorobiphenyl (SS)    | % rec.                                       | 10   | 86.0                               | 95.0                               | 92.0                               | 86.0                               |                                      |  |
| Terphenyl-d14 (SS)       | % rec.                                       | 10   | 99.0                               | 108                                | 105                                | 104                                |                                      |  |

O. Reg. 153 - Soil, Ground Water and Sediment Standards  
 Tbl. 1 - GW (µg/L) - Table 1 - Ground Water



Tahir Yapici Ph.D  
 Lab Manager - Ottawa District

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C.O.C.: G105027

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 Ottawa ON K2B 8H6 Canada

**Attention:** Mark McCalla

**Caduceon Environmental Laboratories**

2378 Holly Lane  
 Ottawa Ontario K1V 7P1  
 Tel: 613-526-0123  
 Fax: 613-526-1244

DATE RECEIVED: 12-Aug-22

JOB/PROJECT NO.:

DATE REPORTED: 18-Aug-22

P.O. NUMBER: OTT-22019409-AO

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                            | Client I.D.<br>Sample I.D.<br>Date Collected |      | Dup 1<br>B22-25709-5<br>11-Aug-22 |  | O. Reg. 153<br>Tbl. 1 - GW<br>(µg/L) |  |
|--------------------------------------|--|------|-----------------------------------|--|--------------------------------------|--|
|                                      | Units  | R.L. |                                   |  |                                      |  |
| PHC F1 (C6-C10)                      | µg/L   | 25   | < 25                              |  | 420                                  |  |
| Comment-purgeable                    | -  |      | -                                 |  |                                      |  |
| PHC F2 (>C10-C16)                    | µg/L   | 50   | < 50                              |  | 150                                  |  |
| PHC F3 (>C16-C34)                    | µg/L   | 400  | < 400                             |  | 500                                  |  |
| PHC F4 (>C34-C50)                    | µg/L   | 400  | < 400                             |  | 500                                  |  |
| Comment-extractable                  | -  |      | -                                 |  |                                      |  |
| Acetone                              | µg/L   | 30   | < 30                              |  | 2700                                 |  |
| Benzene                              | µg/L   | 0.5  | < 0.5                             |  | 0.5                                  |  |
| Bromodichloromethane                 | µg/L   | 2    | < 2                               |  | 2                                    |  |
| Bromoform                            | µg/L   | 5    | < 5                               |  | 5                                    |  |
| Bromomethane                         | µg/L   | 0.5  | < 0.5                             |  | 0.89                                 |  |
| Carbon Tetrachloride                 | µg/L   | 0.2  | < 0.2                             |  | 0.2                                  |  |
| Monochlorobenzene<br>(Chlorobenzene) | µg/L   | 0.5  | < 0.5                             |  | 0.5                                  |  |
| Chloroform                           | µg/L   | 1    | < 1                               |  | 2                                    |  |
| Dibromochloromethane                 | µg/L   | 2    | < 2                               |  | 2                                    |  |
| Dichlorobenzene,1,2-                 | µg/L   | 0.5  | < 0.5                             |  | 0.5                                  |  |
| Dichlorobenzene,1,3-                 | µg/L   | 0.5  | < 0.5                             |  | 0.5                                  |  |
| Dichlorobenzene,1,4-                 | µg/L   | 0.5  | < 0.5                             |  | 0.5                                  |  |
| Dichlorodifluoromethane              | µg/L   | 2    | < 2                               |  | 590                                  |  |
| Dichloroethane,1,1-                  | µg/L   | 0.5  | < 0.5                             |  | 0.5                                  |  |
| Dichloroethane,1,2-                  | µg/L   | 0.5  | < 0.5                             |  | 0.5                                  |  |
| Dichloroethylene,1,1-                | µg/L   | 0.5  | < 0.5                             |  | 0.5                                  |  |
| Dichloroethene, cis-1,2-             | µg/L   | 0.5  | < 0.5                             |  | 1.6                                  |  |
| Dichloroethene, trans-1,2-           | µg/L   | 0.5  | < 0.5                             |  | 1.6                                  |  |
| Dichloropropane,1,2-                 | µg/L   | 0.5  | < 0.5                             |  | 0.5                                  |  |
| Dichloropropene, cis-1,3-            | µg/L   | 0.5  | < 0.5                             |  |                                      |  |

O. Reg. 153 - Soil, Ground Water and Sediment Standards  
 Tbl. 1 - GW (µg/L) - Table 1 - Ground Water



Tahir Yapici Ph.D  
 Lab Manager - Ottawa District

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2378 Holly Lane  
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 Tel: 613-526-0123  
 Fax: 613-526-1244

DATE RECEIVED: 12-Aug-22

JOB/PROJECT NO.:

DATE REPORTED: 18-Aug-22

P.O. NUMBER: OTT-22019409-AO

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                                | Client I.D.<br>Sample I.D.<br>Date Collected |      | Dup 1<br>B22-25709-5<br>11-Aug-22 |  |  |  | O. Reg. 153<br>Tbl. 1 - GW<br>(µg/L) |  |
|--|--|------|-----------------------------------|--|--|--|--------------------------------------|--|
|  | Units  | R.L. |                                   |  |  |  |                                      |  |
| Dichloropropene, trans-1,3-              | µg/L   | 0.5  | < 0.5                             |  |  |  |                                      |  |
| Dichloropropene 1,3-cis+trans            | µg/L   | 0.5  | < 0.5                             |  |  |  | 0.5                                  |  |
| Ethylbenzene                             | µg/L   | 0.5  | < 0.5                             |  |  |  | 0.5                                  |  |
| Dibromoethane, 1,2- (Ethylene Dibromide) | µg/L   | 0.2  | < 0.2                             |  |  |  | 0.2                                  |  |
| Hexane                                   | µg/L   | 5    | < 5                               |  |  |  | 5                                    |  |
| Methyl Ethyl Ketone                      | µg/L   | 20   | < 20                              |  |  |  | 400                                  |  |
| Methyl Isobutyl Ketone                   | µg/L   | 20   | < 20                              |  |  |  | 640                                  |  |
| Methyl-t-butyl Ether                     | µg/L   | 2    | < 2                               |  |  |  | 15                                   |  |
| Dichloromethane (Methylene Chloride)     | µg/L   | 5    | < 5                               |  |  |  | 5                                    |  |
| Styrene                                  | µg/L   | 0.5  | < 0.5                             |  |  |  | 0.5                                  |  |
| Tetrachloroethane, 1,1,1,2-              | µg/L   | 0.5  | < 0.5                             |  |  |  | 1.1                                  |  |
| Tetrachloroethane, 1,1,2,2-              | µg/L   | 0.5  | < 0.5                             |  |  |  | 0.5                                  |  |
| Tetrachloroethylene                      | µg/L   | 0.5  | < 0.5                             |  |  |  | 0.5                                  |  |
| Toluene                                  | µg/L   | 0.5  | < 0.5                             |  |  |  | 0.8                                  |  |
| Trichloroethane, 1,1,1-                  | µg/L   | 0.5  | < 0.5                             |  |  |  | 0.5                                  |  |
| Trichloroethane, 1,1,2-                  | µg/L   | 0.5  | < 0.5                             |  |  |  | 0.5                                  |  |
| Trichloroethylene                        | µg/L   | 0.5  | < 0.5                             |  |  |  | 0.5                                  |  |
| Trichlorofluoromethane                   | µg/L   | 5    | < 5                               |  |  |  | 150                                  |  |
| Vinyl Chloride                           | µg/L   | 0.2  | < 0.2                             |  |  |  | 0.5                                  |  |
| Xylene, m,p-                             | µg/L   | 1.0  | < 1.0                             |  |  |  |                                      |  |
| Xylene, o-                               | µg/L   | 0.5  | < 0.5                             |  |  |  |                                      |  |
| Xylene, m,p,o-                           | µg/L   | 1.1  | < 1.1                             |  |  |  | 72                                   |  |
| Acenaphthene                             | µg/L   | 0.05 | < 0.05                            |  |  |  | 4.1                                  |  |

O. Reg. 153 - Soil, Ground Water and Sediment Standards  
 Tbl. 1 - GW (µg/L) - Table 1 - Ground Water



Tahir Yapici Ph.D  
 Lab Manager - Ottawa District

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DATE RECEIVED: 12-Aug-22

JOB/PROJECT NO.:

DATE REPORTED: 18-Aug-22

P.O. NUMBER: OTT-22019409-AO

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                | Units  | R.L. | Dup 1<br>B22-25709-5<br>11-Aug-22 | O. Reg. 153<br>Tbl. 1 - GW<br>(µg/L) |  |
|--------------------------|--------|------|-----------------------------------|--------------------------------------|--|
|                          |        |      |                                   |                                      |  |
| Acenaphthylene           | µg/L   | 0.05 | < 0.05                            | 1                                    |  |
| Anthracene               | µg/L   | 0.05 | < 0.05                            | 0.1                                  |  |
| Benzo(a)anthracene       | µg/L   | 0.05 | < 0.05                            | 0.2                                  |  |
| Benzo(a)pyrene           | µg/L   | 0.01 | < 0.01                            | 0.01                                 |  |
| Benzo(b)fluoranthene     | µg/L   | 0.05 | < 0.05                            | 0.1                                  |  |
| Benzo(b+k)fluoranthene   | µg/L   | 0.1  | < 0.1                             |                                      |  |
| Benzo(g,h,i)perylene     | µg/L   | 0.05 | < 0.05                            | 0.2                                  |  |
| Benzo(k)fluoranthene     | µg/L   | 0.05 | < 0.05                            | 0.1                                  |  |
| Chrysene                 | µg/L   | 0.05 | < 0.05                            | 0.1                                  |  |
| Dibenzo(a,h)anthracene   | µg/L   | 0.05 | < 0.05                            | 0.2                                  |  |
| Fluoranthene             | µg/L   | 0.05 | < 0.05                            | 0.4                                  |  |
| Fluorene                 | µg/L   | 0.05 | < 0.05                            | 120                                  |  |
| Indeno(1,2,3,-cd)pyrene  | µg/L   | 0.05 | < 0.05                            | 0.2                                  |  |
| Methylnaphthalene,1-     | µg/L   | 0.05 | < 0.05                            | 2                                    |  |
| Methylnaphthalene,2-     | µg/L   | 0.05 | < 0.05                            | 2                                    |  |
| Methylnaphthalene 2-(1-) | µg/L   | 1    | < 1                               | 2                                    |  |
| Naphthalene              | µg/L   | 0.05 | < 0.05                            | 7                                    |  |
| Phenanthrene             | µg/L   | 0.05 | < 0.05                            | 0.1                                  |  |
| Pyrene                   | µg/L   | 0.05 | < 0.05                            | 0.2                                  |  |
| 2-Fluorobiphenyl (SS)    | % rec. | 10   | 100                               |                                      |  |
| Terphenyl-d14 (SS)       | % rec. | 10   | 110                               |                                      |  |

O. Reg. 153 - Soil, Ground Water and Sediment Standards  
Tbl. 1 - GW (µg/L) - Table 1 - Ground Water



Tahir Yapici Ph.D  
Lab Manager - Ottawa District

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DATE REPORTED: 18-Aug-22

P.O. NUMBER: OTT-22019409-AO

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

**Summary of Exceedances**

| Table 1 - Ground Water |             |       |
|------------------------|-------------|-------|
| MW15-1                 | Found Value | Limit |
| Benzo(a)pyrene (µg/L)  | 0.012       | 0.01  |

O. Reg. 153 - Soil, Ground Water and Sediment Standards  
 Tbl. 1 - GW (µg/L) - Table 1 - Ground Water



Tahir Yapici Ph.D  
 Lab Manager - Ottawa District

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CLIENT NAME: GOLDER ASSOCIATES LTD  
1931 ROBERTSON ROAD  
OTTAWA, ON K2H5B7  
(613) 592-9600

ATTENTION TO: Keith Holmes

PROJECT: 1525987

AGAT WORK ORDER: 15T957961

TRACE ORGANICS REVIEWED BY: Oksana Gushyla, Trace Organics Lab Supervisor

DATE REPORTED: Apr 01, 2015

PAGES (INCLUDING COVER): 16

VERSION\*: 1

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

\*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

# Certificate of Analysis

AGAT WORK ORDER: 15T957961

PROJECT: 1525987

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

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY: T L

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

DATE RECEIVED: 2015-03-28

DATE REPORTED: 2015-04-01

| Parameter                  | Unit | SAMPLE DESCRIPTION: |      | BH15-2 SA3 | BH15-2 SA33 | BH15-4 SA3 | BH15-2 SA1 | BH15-1 SA1 | BH15-1 SA4 | BH15-3 SA1 | BH15-3 SA3 |
|----------------------------|------|---------------------|------|------------|-------------|------------|------------|------------|------------|------------|------------|
|                            |      | SAMPLE TYPE:        |      | Soil       | Soil        | Soil       | Soil       | Soil       | Soil       | Soil       | Soil       |
|                            |      | DATE SAMPLED:       |      | 3/24/2015  | 3/24/2015   | 3/24/2015  | 3/24/2015  | 3/24/2015  | 3/24/2015  | 3/24/2015  | 3/24/2015  |
|                            |      | G / S               | RDL  | 6410019    | 6410020     | 6410021    | 6410024    | 6410027    | 6410030    | 6410034    | 6410037    |
| Naphthalene                | µg/g | 0.6                 | 0.05 | <0.05      | <0.05       | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Acenaphthylene             | µg/g | 0.15                | 0.05 | <0.05      | <0.05       | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Acenaphthene               | µg/g | 7.9                 | 0.05 | <0.05      | <0.05       | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Fluorene                   | µg/g | 62                  | 0.05 | <0.05      | <0.05       | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Phenanthrene               | µg/g | 6.2                 | 0.05 | <0.05      | <0.05       | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Anthracene                 | µg/g | 0.67                | 0.05 | <0.05      | <0.05       | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Fluoranthene               | µg/g | 0.69                | 0.05 | <0.05      | <0.05       | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Pyrene                     | µg/g | 78                  | 0.05 | <0.05      | <0.05       | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Benz(a)anthracene          | µg/g | 0.5                 | 0.05 | <0.05      | <0.05       | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Chrysene                   | µg/g | 7                   | 0.05 | <0.05      | <0.05       | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Benzo(b)fluoranthene       | µg/g | 0.78                | 0.05 | <0.05      | <0.05       | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Benzo(k)fluoranthene       | µg/g | 0.78                | 0.05 | <0.05      | <0.05       | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Benzo(a)pyrene             | µg/g | 0.3                 | 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/g | 0.38                | 0.05 | <0.05      | <0.05       | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Dibenz(a,h)anthracene      | µg/g | 0.1                 | 0.05 | <0.05      | <0.05       | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Benzo(g,h,i)perylene       | µg/g | 6.6                 | 0.05 | <0.05      | <0.05       | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| 2-and 1-methyl Naphthalene | µg/g | 0.99                | 0.05 | <0.05      | <0.05       | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Moisture Content           | %    |                     | 0.1  | 5.4        | 5.1         | 6.4        | 6.4        | 8.7        | 5.6        | 9.8        | 9.2        |
| Surrogate                  | Unit | Acceptable Limits   |      |            |             |            |            |            |            |            |            |
| Chrysene-d12               | %    | 50-140              |      | 76         | 74          | 77         | 134        | 117        | 118        | 133        | 133        |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3 Site Condition Standards - Soil - Residential/Parkland/Institutional Property Use - Coarse Textured Soils

6410019-6410037 Results are based on the dry weight of the soil.

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

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AGAT WORK ORDER: 15T957961

PROJECT: 1525987

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CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY: T L

## O.Reg.153(511) - PHCs F1 - F4 (-BTEX) (Soil)

DATE RECEIVED: 2015-03-28


DATE REPORTED: 2015-04-01

| Parameter                      | Unit | SAMPLE DESCRIPTION: |     | BH15-2 SA4 | BH15-4 SA1 |
|--------------------------------|------|---------------------|-----|------------|------------|
|                                |      | G / S               | RDL | 6410018    | 6410040    |
| F1 (C6 to C10)                 | µg/g |                     | 5   | <5         | <5         |
| F1 (C6 to C10) minus BTEX      | µg/g | 55                  | 5   | <5         | <5         |
| F2 (C10 to C16)                | µg/g | 98                  | 10  | <10        | <10        |
| F3 (C16 to C34)                | µg/g | 300                 | 50  | <50        | 740        |
| F4 (C34 to C50)                | µg/g | 2800                | 50  | <50        | 1100       |
| Gravimetric Heavy Hydrocarbons | µg/g | 2800                | 50  | NA         | NA         |
| Moisture Content               | %    |                     | 0.1 | 7.3        | 2.9        |
| Surrogate                      | Unit | Acceptable Limits   |     |            |            |
| Terphenyl                      | %    | 60-140              |     | 87         | 100        |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3 Site Condition Standards - Soil - Residential/Parkland/Institutional Property Use - Coarse Textured Soils

6410018-6410040 Results are based on sample dry weight.  
 The C6-C10 fraction is calculated using toluene response factor.  
 The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.  
 Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.  
 The chromatogram has returned to baseline by the retention time of nC50.  
 Total C6 - C50 results are corrected for BTEX contributions.  
 This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.  
 nC6 and nC10 response factors are within 30% of Toluene response factor.  
 nC10, nC16 and nC34 response factors are within 10% of their average.  
 C50 response factor is within 70% of nC10 + nC16 + nC34 average.  
 Linearity is within 15%.  
 Extraction and holding times were met for this sample.  
 Fractions 1-4 are quantified without the contribution of PAHs. Under Ontario Regulation 153, results are considered valid without determining the PAH contribution if not requested by the client.

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

DATE RECEIVED: 2015-03-28

DATE REPORTED: 2015-04-01

| Parameter                         | Unit | SAMPLE DESCRIPTION: |     |            |            |            |            |            |            |
|-----------------------------------|------|---------------------|-----|------------|------------|------------|------------|------------|------------|
|                                   |      | G / S               | RDL | BH15-4 SA3 | BH15-2 SA1 | BH15-1 SA1 | BH15-1 SA4 | BH15-3 SA1 | BH15-3 SA3 |
|                                   |      |                     |     | Soil       | Soil       | Soil       | Soil       | Soil       | Soil       |
|                                   |      |                     |     | 3/24/2015  | 3/24/2015  | 3/24/2015  | 3/24/2015  | 3/24/2015  | 3/24/2015  |
|                                   |      |                     |     | 6410021    | 6410024    | 6410027    | 6410030    | 6410034    | 6410037    |
| F1 (C6 to C10)                    | µg/g |                     | 5   | <5         | <5         | <5         | <5         | <5         | <5         |
| F1 (C6 to C10) minus BTEX         | µg/g | 55                  | 5   | <5         | <5         | <5         | <5         | <5         | <5         |
| F2 (C10 to C16)                   | µg/g | 98                  | 10  | <10        | <10        | <10        | <10        | <10        | <10        |
| F2 (C10 to C16) minus Naphthalene | µg/g | 98                  | 10  | <10        | <10        | <10        | <10        | <10        | <10        |
| F3 (C16 to C34)                   | µg/g | 300                 | 50  | <50        | <50        | 140        | <50        | <50        | <50        |
| F3 (C16 to C34) minus PAHs        | µg/g | 300                 | 50  | <50        | <50        | 140        | <50        | <50        | <50        |
| F4 (C34 to C50)                   | µg/g | 2800                | 50  | <50        | <50        | 55         | <50        | <50        | <50        |
| Gravimetric Heavy Hydrocarbons    | µg/g | 2800                | 50  | NA         | NA         | NA         | NA         | NA         | NA         |
| Moisture Content                  | %    |                     | 0.1 | 6.4        | 6.4        | 8.7        | 5.6        | 9.8        | 9.2        |
| Surrogate                         | Unit | Acceptable Limits   |     |            |            |            |            |            |            |
| Terphenyl                         | %    | 60-140              |     | 97         | 81         | 110        | 109        | 94         | 101        |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3 Site Condition Standards - Soil - Residential/Parkland/Institutional Property Use - Coarse Textured Soils

6410021-6410037 Results are based on sample dry weight.

The C6-C10 fraction is calculated using toluene response factor.

The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.

Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons &gt;C50 are present.

The chromatogram has returned to baseline by the retention time of nC50.

Total C6 - C50 results are corrected for BTEX and PAH contributions.

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

nC6 and nC10 response factors are within 30% of Toluene response factor.

nC10, nC16 and nC34 response factors are within 10% of their average.

C50 response factor is within 70% of nC10 + nC16 + nC34 average.

Linearity is within 15%.

Extraction and holding times were met for this sample.

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ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY: T L

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

DATE RECEIVED: 2015-03-28

DATE REPORTED: 2015-04-01

| Parameter                   | Unit | SAMPLE DESCRIPTION: |      | BH15-2 SA4 | BH15-4 SA3 | BH15-2 SA1 | BH15-1 SA1 | BH15-1 SA4 | BH15-3 SA1 | BH15-3 SA3 | BH15-4 SA1 |
|-----------------------------|------|---------------------|------|------------|------------|------------|------------|------------|------------|------------|------------|
|                             |      | SAMPLE TYPE:        |      | Soil       | Soil       | Soil       | Soil       | Soil       | Soil       | Soil       | Soil       |
|                             |      | DATE SAMPLED:       |      | 3/24/2015  | 3/24/2015  | 3/24/2015  | 3/24/2015  | 3/24/2015  | 3/24/2015  | 3/24/2015  | 3/24/2015  |
|                             |      | G / S               | RDL  | 6410018    | 6410021    | 6410024    | 6410027    | 6410030    | 6410034    | 6410037    | 6410040    |
| Dichlorodifluoromethane     | µg/g | 16                  | 0.05 | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Vinyl Chloride              | ug/g | 0.02                | 0.02 | <0.02      | <0.02      | <0.02      | <0.02      | <0.02      | <0.02      | <0.02      | <0.02      |
| Bromomethane                | ug/g | 0.05                | 0.05 | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Trichlorofluoromethane      | ug/g | 4                   | 0.05 | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Acetone                     | ug/g | 16                  | 0.50 | <0.50      | <0.50      | <0.50      | <0.50      | <0.50      | <0.50      | <0.50      | <0.50      |
| 1,1-Dichloroethylene        | ug/g | 0.05                | 0.05 | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Methylene Chloride          | ug/g | 0.1                 | 0.05 | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Trans- 1,2-Dichloroethylene | ug/g | 0.084               | 0.05 | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Methyl tert-butyl Ether     | ug/g | 0.75                | 0.05 | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| 1,1-Dichloroethane          | ug/g | 3.5                 | 0.02 | <0.02      | <0.02      | <0.02      | <0.02      | <0.02      | <0.02      | <0.02      | <0.02      |
| Methyl Ethyl Ketone         | ug/g | 16                  | 0.50 | <0.50      | <0.50      | <0.50      | <0.50      | <0.50      | <0.50      | <0.50      | <0.50      |
| Cis- 1,2-Dichloroethylene   | ug/g | 3.4                 | 0.02 | <0.02      | <0.02      | <0.02      | <0.02      | <0.02      | <0.02      | <0.02      | <0.02      |
| Chloroform                  | ug/g | 0.05                | 0.04 | <0.04      | <0.04      | <0.04      | <0.04      | <0.04      | <0.04      | <0.04      | <0.04      |
| 1,2-Dichloroethane          | ug/g | 0.05                | 0.03 | <0.03      | <0.03      | <0.03      | <0.03      | <0.03      | <0.03      | <0.03      | <0.03      |
| 1,1,1-Trichloroethane       | ug/g | 0.38                | 0.05 | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Carbon Tetrachloride        | ug/g | 0.05                | 0.05 | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Benzene                     | ug/g | 0.21                | 0.02 | <0.02      | <0.02      | <0.02      | <0.02      | <0.02      | <0.02      | <0.02      | <0.02      |
| 1,2-Dichloropropane         | ug/g | 0.05                | 0.03 | <0.03      | <0.03      | <0.03      | <0.03      | <0.03      | <0.03      | <0.03      | <0.03      |
| Trichloroethylene           | ug/g | 0.061               | 0.03 | <0.03      | <0.03      | <0.03      | <0.03      | <0.03      | <0.03      | <0.03      | <0.03      |
| Bromodichloromethane        | ug/g | 13                  | 0.05 | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Methyl Isobutyl Ketone      | ug/g | 1.7                 | 0.50 | <0.50      | <0.50      | <0.50      | <0.50      | <0.50      | <0.50      | <0.50      | <0.50      |
| 1,1,2-Trichloroethane       | ug/g | 0.05                | 0.04 | <0.04      | <0.04      | <0.04      | <0.04      | <0.04      | <0.04      | <0.04      | <0.04      |
| Toluene                     | ug/g | 2.3                 | 0.05 | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Dibromochloromethane        | ug/g | 9.4                 | 0.05 | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Ethylene Dibromide          | ug/g | 0.05                | 0.04 | <0.04      | <0.04      | <0.04      | <0.04      | <0.04      | <0.04      | <0.04      | <0.04      |
| Tetrachloroethylene         | ug/g | 0.28                | 0.05 | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| 1,1,1,2-Tetrachloroethane   | ug/g | 0.058               | 0.04 | <0.04      | <0.04      | <0.04      | <0.04      | <0.04      | <0.04      | <0.04      | <0.04      |
| Chlorobenzene               | ug/g | 2.4                 | 0.05 | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Ethylbenzene                | ug/g | 2                   | 0.05 | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| m & p-Xylene                | ug/g |                     | 0.05 | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |

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PROJECT: 1525987

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ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY: T L

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

DATE RECEIVED: 2015-03-28

DATE REPORTED: 2015-04-01

| Parameter                 | Unit       | SAMPLE DESCRIPTION: |      | BH15-2 SA4 | BH15-4 SA3 | BH15-2 SA1 | BH15-1 SA1 | BH15-1 SA4 | BH15-3 SA1 | BH15-3 SA3 | BH15-4 SA1 |
|---------------------------|------------|---------------------|------|------------|------------|------------|------------|------------|------------|------------|------------|
|                           |            | SAMPLE TYPE:        |      | Soil       | Soil       | Soil       | Soil       | Soil       | Soil       | Soil       | Soil       |
|                           |            | DATE SAMPLED:       |      | 3/24/2015  | 3/24/2015  | 3/24/2015  | 3/24/2015  | 3/24/2015  | 3/24/2015  | 3/24/2015  | 3/24/2015  |
|                           |            | G / S               | RDL  | 6410018    | 6410021    | 6410024    | 6410027    | 6410030    | 6410034    | 6410037    | 6410040    |
| Bromoform                 | ug/g       | 0.27                | 0.05 | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Styrene                   | ug/g       | 0.7                 | 0.05 | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| 1,1,2,2-Tetrachloroethane | ug/g       | 0.05                | 0.05 | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| o-Xylene                  | ug/g       |                     | 0.05 | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| 1,3-Dichlorobenzene       | ug/g       | 4.8                 | 0.05 | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| 1,4-Dichlorobenzene       | ug/g       | 0.083               | 0.05 | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| 1,2-Dichlorobenzene       | ug/g       | 3.4                 | 0.05 | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Xylene Mixture            | ug/g       | 3.1                 | 0.05 | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| 1,3-Dichloropropene       | µg/g       | 0.05                | 0.04 | <0.04      | <0.04      | <0.04      | <0.04      | <0.04      | <0.04      | <0.04      | <0.04      |
| n-Hexane                  | µg/g       | 2.8                 | 0.05 | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      | <0.05      |
| Surrogate                 | Unit       | Acceptable Limits   |      |            |            |            |            |            |            |            |            |
| Toluene-d8                | % Recovery | 50-140              |      | 90         | 91         | 91         | 63         | 94         | 98         | 65         | 92         |
| 4-Bromofluorobenzene      | % Recovery | 50-140              |      | 95         | 94         | 94         | 90         | 93         | 93         | 91         | 90         |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3 Site Condition Standards - Soil - Residential/Parkland/Institutional Property Use - Coarse Textured Soils  
 6410018-6410040 The sample was analysed using the high level technique. The sample was extracted using methanol, a small amount of the methanol extract was diluted in water and the purge & trap GC/MS analysis was performed. Results are based on the dry weight of the soil.

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ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY: T L

## PHCs F1 - F4 (-BTEX) (Soil)

DATE RECEIVED: 2015-03-28

DATE REPORTED: 2015-04-01

SAMPLE DESCRIPTION: BH15-2 SA44

SAMPLE TYPE: Soil

DATE SAMPLED: 3/24/2015

| Parameter                      | Unit | G / S             | RDL | 6410006 |
|--------------------------------|------|-------------------|-----|---------|
| F1 (C6 to C10)                 | µg/g |                   | 5   | <5      |
| F1 (C6 to C10) minus BTEX      | µg/g | 55                | 5   | <5      |
| F2 (C10 to C16)                | µg/g | 98                | 10  | <10     |
| F3 (C16 to C34)                | µg/g | 300               | 50  | <50     |
| F4 (C34 to C50)                | µg/g | 2800              | 50  | <50     |
| Gravimetric Heavy Hydrocarbons | µg/g | 2800              | 50  | NA      |
| Moisture Content               | %    |                   | 0.1 | 6.4     |
| Surrogate                      | Unit | Acceptable Limits |     |         |
| Terphenyl                      | %    | 60-140            |     | 83      |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3 Site Condition Standards - Soil - Residential/Parkland/Institutional Property Use - Coarse Textured Soils

6410006

The soil sample was prepared in the lab using the Methanol extraction technique. The sample was not field preserved with methanol.

Results are based on sample dry weight.

The C6-C10 fraction is calculated using toluene response factor.

The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.

Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons &gt;C50 are present.

The chromatogram has returned to baseline by the retention time of nC50.

Total C6 - C50 results are corrected for BTEX contributions.

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

nC6 and nC10 response factors are within 30% of Toluene response factor.

nC10, nC16 and nC34 response factors are within 10% of their average.

C50 response factor is within 70% of nC10 + nC16 + nC34 average.

Linearity is within 15%.

Extraction and holding times were met for this sample.

Fractions 1-4 are quantified without the contribution of PAHs. Under Ontario Regulation 153, results are considered valid without determining the PAH contribution if not requested by the client.

Certified By:



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SAMPLING SITE:

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## VOCs (Soil)

DATE RECEIVED: 2015-03-28

DATE REPORTED: 2015-04-01

SAMPLE DESCRIPTION: BH15-2 SA44

SAMPLE TYPE: Soil

DATE SAMPLED: 3/24/2015

| Parameter                   | Unit | G / S | RDL  | 6410006 |
|-----------------------------|------|-------|------|---------|
| Dichlorodifluoromethane     | ug/g | 16    | 0.05 | <0.05   |
| Vinyl Chloride              | ug/g | 0.02  | 0.02 | <0.02   |
| Bromomethane                | ug/g | 0.05  | 0.05 | <0.05   |
| Trichlorofluoromethane      | ug/g | 4     | 0.05 | <0.05   |
| Acetone                     | ug/g | 16    | 0.50 | <0.50   |
| 1,1-Dichloroethylene        | ug/g | 0.05  | 0.05 | <0.05   |
| Methylene Chloride          | ug/g | 0.1   | 0.05 | <0.05   |
| Trans- 1,2-Dichloroethylene | ug/g | 0.084 | 0.05 | <0.05   |
| Methyl tert-butyl Ether     | ug/g | 0.75  | 0.05 | <0.05   |
| 1,1-Dichloroethane          | ug/g | 3.5   | 0.02 | <0.02   |
| Methyl Ethyl Ketone         | ug/g | 16    | 0.50 | <0.50   |
| Cis- 1,2-Dichloroethylene   | ug/g | 3.4   | 0.02 | <0.02   |
| Chloroform                  | ug/g | 0.05  | 0.04 | <0.04   |
| 1,2-Dichloroethane          | ug/g | 0.05  | 0.03 | <0.03   |
| 1,1,1-Trichloroethane       | ug/g | 0.38  | 0.05 | <0.05   |
| Carbon Tetrachloride        | ug/g | 0.05  | 0.05 | <0.05   |
| Benzene                     | ug/g | 0.21  | 0.02 | <0.02   |
| 1,2-Dichloropropane         | ug/g | 0.05  | 0.03 | <0.03   |
| Trichloroethylene           | ug/g | 0.061 | 0.03 | <0.03   |
| Bromodichloromethane        | ug/g | 13    | 0.05 | <0.05   |
| Methyl Isobutyl Ketone      | ug/g | 1.7   | 0.50 | <0.50   |
| 1,1,2-Trichloroethane       | ug/g | 0.05  | 0.04 | <0.04   |
| Toluene                     | ug/g | 2.3   | 0.05 | <0.05   |
| Dibromochloromethane        | ug/g | 9.4   | 0.05 | <0.05   |
| Ethylene Dibromide          | ug/g | 0.05  | 0.04 | <0.04   |
| Tetrachloroethylene         | ug/g | 0.28  | 0.05 | <0.05   |
| 1,1,1,2-Tetrachloroethane   | ug/g | 0.058 | 0.04 | <0.04   |
| Chlorobenzene               | ug/g | 2.4   | 0.05 | <0.05   |
| Ethylbenzene                | ug/g | 2     | 0.05 | <0.05   |
| m & p-Xylene                | ug/g |       | 0.05 | <0.05   |

Certified By:



# Certificate of Analysis

AGAT WORK ORDER: 15T957961

PROJECT: 1525987

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

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY: T L

## VOCs (Soil)

DATE RECEIVED: 2015-03-28

DATE REPORTED: 2015-04-01

SAMPLE DESCRIPTION: BH15-2 SA44

SAMPLE TYPE: Soil

DATE SAMPLED: 3/24/2015

| Parameter                 | Unit       | G / S             | RDL  | 6410006 |
|---------------------------|------------|-------------------|------|---------|
| Bromoform                 | ug/g       | 0.27              | 0.05 | <0.05   |
| Styrene                   | ug/g       | 0.7               | 0.05 | <0.05   |
| 1,1,2,2-Tetrachloroethane | ug/g       | 0.05              | 0.05 | <0.05   |
| o-Xylene                  | ug/g       |                   | 0.05 | <0.05   |
| 1,3-Dichlorobenzene       | ug/g       | 4.8               | 0.05 | <0.05   |
| 1,4-Dichlorobenzene       | ug/g       | 0.083             | 0.05 | <0.05   |
| 1,2-Dichlorobenzene       | ug/g       | 3.4               | 0.05 | <0.05   |
| Xylene Mixture            | ug/g       | 3.1               | 0.05 | <0.05   |
| 1,3-Dichloropropene       | µg/g       | 0.05              | 0.04 | <0.04   |
| n-Hexane                  | µg/g       | 2.8               | 0.05 | <0.05   |
| Surrogate                 | Unit       | Acceptable Limits |      |         |
| Toluene-d8                | % Recovery | 50-140            |      | 114     |
| 4-Bromofluorobenzene      | % Recovery | 50-140            |      | 92      |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3 Site Condition Standards - Soil - Residential/Parkland/Institutional Property Use - Coarse Textured Soils  
 6410006 The soil sample was prepared in the lab using the Methanol extraction technique. The sample was not field preserved with methanol.  
 The sample was analysed using the high level technique. The sample was extracted using methanol, a small amount of the methanol extract was diluted in water and the purge & trap GC/MS analysis was performed.  
 Results are based on the dry weight of the soil.

Certified By:





# Guideline Violation

AGAT WORK ORDER: 15T957961

PROJECT: 1525987

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

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

| SAMPLEID | SAMPLE TITLE | GUIDELINE         | ANALYSIS PACKAGE                             | PARAMETER       | GUIDEVALUE | RESULT |
|----------|--------------|-------------------|--|-----------------|------------|--------|
| 6410040  | BH15-4 SA1   | T3(RPI) - Current | O.Reg.153(511) - PHCs F1 - F4 (-BTEX) (Soil) | F3 (C16 to C34) | 300        | 740    |

## Quality Assurance

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 15T957961

PROJECT: 1525987

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY: T L

| Trace Organics Analysis        |         |           |           |        |      |                |              |                    |       |          |                    |       |              |                   |       |
|--------------------------------|---------|-----------|-----------|--------|------|----------------|--------------|--------------------|-------|----------|--------------------|-------|--------------|-------------------|-------|
| RPT Date: Apr 01, 2015         |         |           | DUPLICATE |        |      |                | Method Blank | REFERENCE MATERIAL |       |          | METHOD BLANK SPIKE |       | MATRIX SPIKE |                   |       |
| PARAMETER                      | Batch   | Sample Id | Dup #1    | Dup #2 | RPD  | Measured Value |              | Acceptable Limits  |       | Recovery | Acceptable Limits  |       | Recovery     | Acceptable Limits |       |
|                                |         |           |           |        |      |                |              | Lower              | Upper |          | Lower              | Upper |              | Lower             | Upper |
| O. Reg. 153(511) - PAHs (Soil) |         |           |           |        |      |                |              |                    |       |          |                    |       |              |                   |       |
| Naphthalene                    | 6412426 |           | < 0.05    | < 0.05 | 0.0% | < 0.05         | 110%         | 50%                | 140%  | 86%      | 50%                | 140%  | 82%          | 50%               | 140%  |
| Acenaphthylene                 | 6412426 |           | < 0.05    | < 0.05 | 0.0% | < 0.05         | 104%         | 50%                | 140%  | 86%      | 50%                | 140%  | 92%          | 50%               | 140%  |
| Acenaphthene                   | 6412426 |           | < 0.05    | < 0.05 | 0.0% | < 0.05         | 111%         | 50%                | 140%  | 89%      | 50%                | 140%  | 85%          | 50%               | 140%  |
| Fluorene                       | 6412426 |           | < 0.05    | < 0.05 | 0.0% | < 0.05         | 102%         | 50%                | 140%  | 86%      | 50%                | 140%  | 96%          | 50%               | 140%  |
| Phenanthrene                   | 6412426 |           | < 0.05    | < 0.05 | 0.0% | < 0.05         | 94%          | 50%                | 140%  | 86%      | 50%                | 140%  | 101%         | 50%               | 140%  |
| Anthracene                     | 6412426 |           | < 0.05    | < 0.05 | 0.0% | < 0.05         | 96%          | 50%                | 140%  | 82%      | 50%                | 140%  | 99%          | 50%               | 140%  |
| Fluoranthene                   | 6412426 |           | < 0.05    | < 0.05 | 0.0% | < 0.05         | 92%          | 50%                | 140%  | 81%      | 50%                | 140%  | 110%         | 50%               | 140%  |
| Pyrene                         | 6412426 |           | < 0.05    | < 0.05 | 0.0% | < 0.05         | 90%          | 50%                | 140%  | 81%      | 50%                | 140%  | 106%         | 50%               | 140%  |
| Benz(a)anthracene              | 6412426 |           | < 0.05    | < 0.05 | 0.0% | < 0.05         | 61%          | 50%                | 140%  | 57%      | 50%                | 140%  | 105%         | 50%               | 140%  |
| Chrysene                       | 6412426 |           | < 0.05    | < 0.05 | 0.0% | < 0.05         | 102%         | 50%                | 140%  | 89%      | 50%                | 140%  | 102%         | 50%               | 140%  |
| Benzo(b)fluoranthene           | 6412426 |           | < 0.05    | < 0.05 | 0.0% | < 0.05         | 80%          | 50%                | 140%  | 68%      | 50%                | 140%  | 85%          | 50%               | 140%  |
| Benzo(k)fluoranthene           | 6412426 |           | < 0.05    | < 0.05 | 0.0% | < 0.05         | 120%         | 50%                | 140%  | 107%     | 50%                | 140%  | 101%         | 50%               | 140%  |
| Benzo(a)pyrene                 | 6412426 |           | < 0.05    | < 0.05 | 0.0% | < 0.05         | 93%          | 50%                | 140%  | 81%      | 50%                | 140%  | 102%         | 50%               | 140%  |
| Indeno(1,2,3-cd)pyrene         | 6412426 |           | < 0.05    | < 0.05 | 0.0% | < 0.05         | 88%          | 50%                | 140%  | 71%      | 50%                | 140%  | 110%         | 50%               | 140%  |
| Dibenz(a,h)anthracene          | 6412426 |           | < 0.05    | < 0.05 | 0.0% | < 0.05         | 86%          | 50%                | 140%  | 75%      | 50%                | 140%  | 103%         | 50%               | 140%  |
| Benzo(g,h,i)perylene           | 6412426 |           | < 0.05    | < 0.05 | 0.0% | < 0.05         | 110%         | 50%                | 140%  | 87%      | 50%                | 140%  | 111%         | 50%               | 140%  |
| 2-and 1-methyl Naphthalene     | 6412426 |           | < 0.05    | < 0.05 | 0.0% | < 0.05         | 111%         | 50%                | 140%  | 88%      | 50%                | 140%  | 89%          | 50%               | 140%  |
| VOCs (Soil)                    |         |           |           |        |      |                |              |                    |       |          |                    |       |              |                   |       |
| Dichlorodifluoromethane        | 6405189 |           | < 0.05    | < 0.05 | 0.0% | < 0.05         | 125%         | 50%                | 140%  | 125%     | 50%                | 140%  | 125%         | 50%               | 140%  |
| Vinyl Chloride                 | 6405189 |           | < 0.02    | < 0.02 | 0.0% | < 0.02         | 130%         | 50%                | 140%  | 107%     | 50%                | 140%  | 84%          | 50%               | 140%  |
| Bromomethane                   | 6405189 |           | < 0.05    | < 0.05 | 0.0% | < 0.05         | 75%          | 50%                | 140%  | 108%     | 50%                | 140%  | 109%         | 50%               | 140%  |
| Trichlorofluoromethane         | 6405189 |           | < 0.05    | < 0.05 | 0.0% | < 0.05         | 79%          | 50%                | 140%  | 99%      | 50%                | 140%  | 93%          | 50%               | 140%  |
| Acetone                        | 6405189 |           | < 0.50    | < 0.50 | 0.0% | < 0.50         | 106%         | 50%                | 140%  | 104%     | 50%                | 140%  | 106%         | 50%               | 140%  |
| 1,1-Dichloroethylene           | 6405189 |           | < 0.05    | < 0.05 | 0.0% | < 0.05         | 78%          | 50%                | 140%  | 130%     | 60%                | 130%  | 119%         | 50%               | 140%  |
| Methylene Chloride             | 6405189 |           | < 0.05    | < 0.05 | 0.0% | < 0.05         | 78%          | 50%                | 140%  | 120%     | 60%                | 130%  | 108%         | 50%               | 140%  |
| Trans- 1,2-Dichloroethylene    | 6405189 |           | < 0.05    | < 0.05 | 0.0% | < 0.05         | 70%          | 50%                | 140%  | 82%      | 60%                | 130%  | 123%         | 50%               | 140%  |
| Methyl tert-butyl Ether        | 6405189 |           | < 0.05    | < 0.05 | 0.0% | < 0.05         | 70%          | 50%                | 140%  | 95%      | 60%                | 130%  | 121%         | 50%               | 140%  |
| 1,1-Dichloroethane             | 6405189 |           | < 0.02    | < 0.02 | 0.0% | < 0.02         | 91%          | 50%                | 140%  | 111%     | 60%                | 130%  | 126%         | 50%               | 140%  |
| Methyl Ethyl Ketone            | 6405189 |           | < 0.50    | < 0.50 | 0.0% | < 0.50         | 113%         | 50%                | 140%  | 112%     | 50%                | 140%  | 120%         | 50%               | 140%  |
| Cis- 1,2-Dichloroethylene      | 6405189 |           | < 0.02    | < 0.02 | 0.0% | < 0.02         | 92%          | 50%                | 140%  | 112%     | 60%                | 130%  | 123%         | 50%               | 140%  |
| Chloroform                     | 6405189 |           | < 0.04    | < 0.04 | 0.0% | < 0.04         | 89%          | 50%                | 140%  | 100%     | 60%                | 130%  | 110%         | 50%               | 140%  |
| 1,2-Dichloroethane             | 6405189 |           | < 0.03    | < 0.03 | 0.0% | < 0.03         | 91%          | 50%                | 140%  | 101%     | 60%                | 130%  | 110%         | 50%               | 140%  |
| 1,1,1-Trichloroethane          | 6405189 |           | < 0.05    | < 0.05 | 0.0% | < 0.05         | 79%          | 50%                | 140%  | 82%      | 60%                | 130%  | 94%          | 50%               | 140%  |
| Carbon Tetrachloride           | 6405189 |           | < 0.05    | < 0.05 | 0.0% | < 0.05         | 76%          | 50%                | 140%  | 80%      | 60%                | 130%  | 91%          | 50%               | 140%  |
| Benzene                        | 6405189 |           | < 0.02    | < 0.02 | 0.0% | < 0.02         | 89%          | 50%                | 140%  | 92%      | 60%                | 130%  | 104%         | 50%               | 140%  |
| 1,2-Dichloropropane            | 6405189 |           | < 0.03    | < 0.03 | 0.0% | < 0.03         | 79%          | 50%                | 140%  | 93%      | 60%                | 130%  | 103%         | 50%               | 140%  |
| Trichloroethylene              | 6405189 |           | < 0.03    | < 0.03 | 0.0% | < 0.03         | 72%          | 50%                | 140%  | 87%      | 60%                | 130%  | 98%          | 50%               | 140%  |
| Bromodichloromethane           | 6405189 |           | < 0.05    | < 0.05 | 0.0% | < 0.05         | 73%          | 50%                | 140%  | 86%      | 60%                | 130%  | 94%          | 50%               | 140%  |

## Quality Assurance

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 15T957961

PROJECT: 1525987

ATTENTION TO: Keith Holmes


SAMPLING SITE:

SAMPLED BY: T L

### Trace Organics Analysis (Continued)

| RPT Date: Apr 01, 2015      |         |           | DUPLICATE |        |       | Method Blank | REFERENCE MATERIAL |                   |       | METHOD BLANK SPIKE |                   |       | MATRIX SPIKE |                   |       |
|-----------------------------|---------|-----------|-----------|--------|-------|--------------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------|-------------------|-------|
| PARAMETER                   | Batch   | Sample Id | Dup #1    | Dup #2 | RPD   |              | Measured Value     | Acceptable Limits |       | Recovery           | Acceptable Limits |       | Recovery     | Acceptable Limits |       |
|                             |         |           |           |        |       |              |                    | Lower             | Upper |                    | Lower             | Upper |              | Lower             | Upper |
| Methyl Isobutyl Ketone      | 6405189 |           | < 0.50    | < 0.50 | 0.0%  | < 0.50       | 92%                | 50%               | 140%  | 112%               | 50%               | 140%  | 114%         | 50%               | 140%  |
| 1,1,2-Trichloroethane       | 6405189 |           | < 0.04    | < 0.04 | 0.0%  | < 0.04       | 95%                | 50%               | 140%  | 98%                | 60%               | 130%  | 108%         | 50%               | 140%  |
| Toluene                     | 6405189 |           | < 0.05    | < 0.05 | 0.0%  | < 0.05       | 87%                | 50%               | 140%  | 89%                | 60%               | 130%  | 103%         | 50%               | 140%  |
| Dibromochloromethane        | 6405189 |           | < 0.05    | < 0.05 | 0.0%  | < 0.05       | 81%                | 50%               | 140%  | 92%                | 60%               | 130%  | 96%          | 50%               | 140%  |
| Ethylene Dibromide          | 6405189 |           | < 0.04    | < 0.04 | 0.0%  | < 0.04       | 89%                | 50%               | 140%  | 95%                | 60%               | 130%  | 106%         | 50%               | 140%  |
| Tetrachloroethylene         | 6405189 |           | < 0.05    | < 0.05 | 0.0%  | < 0.05       | 109%               | 50%               | 140%  | 87%                | 60%               | 130%  | 87%          | 50%               | 140%  |
| 1,1,1,2-Tetrachloroethane   | 6405189 |           | < 0.04    | < 0.04 | 0.0%  | < 0.04       | 94%                | 50%               | 140%  | 87%                | 60%               | 130%  | 101%         | 50%               | 140%  |
| Chlorobenzene               | 6405189 |           | < 0.05    | < 0.05 | 0.0%  | < 0.05       | 89%                | 50%               | 140%  | 90%                | 60%               | 130%  | 104%         | 50%               | 140%  |
| Ethylbenzene                | 6405189 |           | < 0.05    | < 0.05 | 0.0%  | < 0.05       | 81%                | 50%               | 140%  | 82%                | 60%               | 130%  | 98%          | 50%               | 140%  |
| m & p-Xylene                | 6405189 |           | < 0.05    | < 0.05 | 0.0%  | < 0.05       | 83%                | 50%               | 140%  | 80%                | 60%               | 130%  | 98%          | 50%               | 140%  |
| Bromoform                   | 6405189 |           | < 0.05    | < 0.05 | 0.0%  | < 0.05       | 102%               | 50%               | 140%  | 102%               | 60%               | 130%  | 116%         | 50%               | 140%  |
| Styrene                     | 6405189 |           | < 0.05    | < 0.05 | 0.0%  | < 0.05       | 72%                | 50%               | 140%  | 86%                | 60%               | 130%  | 104%         | 50%               | 140%  |
| 1,1,2,2-Tetrachloroethane   | 6405189 |           | < 0.05    | < 0.05 | 0.0%  | < 0.05       | 112%               | 50%               | 140%  | 105%               | 60%               | 130%  | 122%         | 50%               | 140%  |
| o-Xylene                    | 6405189 |           | < 0.05    | < 0.05 | 0.0%  | < 0.05       | 88%                | 50%               | 140%  | 86%                | 60%               | 130%  | 105%         | 50%               | 140%  |
| 1,3-Dichlorobenzene         | 6405189 |           | < 0.05    | < 0.05 | 0.0%  | < 0.05       | 100%               | 50%               | 140%  | 96%                | 60%               | 130%  | 99%          | 50%               | 140%  |
| 1,4-Dichlorobenzene         | 6405189 |           | < 0.05    | < 0.05 | 0.0%  | < 0.05       | 100%               | 50%               | 140%  | 100%               | 60%               | 130%  | 128%         | 50%               | 140%  |
| 1,2-Dichlorobenzene         | 6405189 |           | < 0.05    | < 0.05 | 0.0%  | < 0.05       | 92%                | 50%               | 140%  | 88%                | 60%               | 130%  | 111%         | 50%               | 140%  |
| 1,3-Dichloropropene         | 6405189 |           | < 0.04    | < 0.04 | 0.0%  | < 0.04       | 76%                | 50%               | 140%  | 78%                | 60%               | 130%  | 86%          | 50%               | 140%  |
| n-Hexane                    | 6405189 |           | < 0.05    | < 0.05 | 0.0%  | < 0.05       | 98%                | 50%               | 140%  | 95%                | 60%               | 130%  | 100%         | 50%               | 140%  |
| PHCs F1 - F4 (-BTEX) (Soil) |         |           |           |        |       |              |                    |                   |       |                    |                   |       |              |                   |       |
| F1 (C6 to C10)              | 6398878 |           | 53        | 67     | 23.3% | < 5          | 79%                | 60%               | 140%  | 95%                | 80%               | 120%  | 104%         | 60%               | 140%  |
| F2 (C10 to C16)             | 6410040 | 6410040   | < 10      | < 10   | 0.0%  | < 10         | 112%               | 60%               | 140%  | 98%                | 80%               | 120%  | 61%          | 60%               | 140%  |
| F3 (C16 to C34)             | 6410040 | 6410040   | 740       | 760    | 2.7%  | < 50         | 114%               | 60%               | 140%  | 96%                | 80%               | 120%  | 64%          | 60%               | 140%  |
| F4 (C34 to C50)             | 6410040 | 6410040   | 1100      | 1200   | 8.7%  | < 50         | 104%               | 60%               | 140%  | 102%               | 80%               | 120%  | 74%          | 60%               | 140%  |

Certified By:





## Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 15T957961

PROJECT: 1525987

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY: T L

| PARAMETER                         | AGAT S.O.P  | LITERATURE REFERENCE                | ANALYTICAL TECHNIQUE |
|-----------------------------------|-------------|-------------------------------------|----------------------|
| Trace Organics Analysis           |             |                                     |                      |
| Naphthalene                       | ORG-91-5106 | EPA SW846 3541 & 8270               | GC/MS                |
| Acenaphthylene                    | ORG-91-5106 | EPA SW846 3541 & 8270               | GC/MS                |
| Acenaphthene                      | ORG-91-5106 | EPA SW846 3541 & 8270               | GC/MS                |
| Fluorene                          | ORG-91-5106 | EPA SW846 3541 & 8270               | GC/MS                |
| Phenanthrene                      | ORG-91-5106 | EPA SW846 3541 & 8270               | GC/MS                |
| Anthracene                        | ORG-91-5106 | EPA SW846 3541 & 8270               | GC/MS                |
| Fluoranthene                      | ORG-91-5106 | EPA SW846 3541 & 8270               | GC/MS                |
| Pyrene                            | ORG-91-5106 | EPA SW846 3541 & 8270               | GC/MS                |
| Benz(a)anthracene                 | ORG-91-5106 | EPA SW846 3541 & 8270               | GC/MS                |
| Chrysene                          | ORG-91-5106 | EPA SW846 3541 & 8270               | GC/MS                |
| Benzo(b)fluoranthene              | ORG-91-5106 | EPA SW846 3541 & 8270               | GC/MS                |
| Benzo(k)fluoranthene              | ORG-91-5106 | EPA SW846 3541 & 8270               | GC/MS                |
| Benzo(a)pyrene                    | ORG-91-5106 | EPA SW846 3541 & 8270               | GC/MS                |
| Indeno(1,2,3-cd)pyrene            | ORG-91-5106 | EPA SW846 3541 & 8270               | GC/MS                |
| Dibenz(a,h)anthracene             | ORG-91-5106 | EPA SW846 3541 & 8270               | GC/MS                |
| Benzo(g,h,i)perylene              | ORG-91-5106 | EPA SW846 3541 & 8270               | GC/MS                |
| 2-and 1-methyl Naphthalene        | ORG-91-5106 | EPA SW846 3541 & 8270               | GC/MS                |
| Moisture Content                  | ORG-91-5106 | EPA SW-846 3541 & 8270              | BALANCE              |
| Chrysene-d12                      | ORG-91-5106 | EPA SW846 3541 & 8270               | GC/MS                |
| F1 (C6 to C10)                    | VOL-91-5009 | CCME Tier 1 Method, SW846 5035      | P & T GC / FID       |
| F1 (C6 to C10) minus BTEX         | VOL-91-5009 | CCME Tier 1 Method, SW846 5035      | P & T GC / FID       |
| F2 (C10 to C16)                   | VOL-91-5009 | CCME Tier 1 Method                  | GC / FID             |
| F3 (C16 to C34)                   | VOL-91-5009 | CCME Tier 1 Method                  | GC / FID             |
| F4 (C34 to C50)                   | VOL-91-5009 | CCME Tier 1 Method                  | GC / FID             |
| Gravimetric Heavy Hydrocarbons    | VOL-91-5009 | CCME Tier 1 Method                  | GRAVIMETRIC ANALYSIS |
| Moisture Content                  | VOL-91-5009 | CCME Tier 1 Method, SW846 5035,8015 | BALANCE              |
| Terphenyl                         | VOL-91-5009 |                                     | GC/FID               |
| F1 (C6 to C10)                    | VOL-91-5009 | CCME Tier 1 Method                  | GC / FID             |
| F1 (C6 to C10) minus BTEX         | VOL-91-5009 | CCME Tier 1 Method                  | GC / FID             |
| F2 (C10 to C16)                   | VOL-91-5009 | CCME Tier 1 Method                  | GC / FID             |
| F2 (C10 to C16) minus Naphthalene | VOL-91-5009 | CCME Tier 1 Method                  | GC / FID             |
| F3 (C16 to C34)                   | VOL-91-5009 | CCME Tier 1 Method                  | GC / FID             |
| F3 (C16 to C34) minus PAHs        | VOL-91-5009 | CCME Tier 1 Method                  | GC / FID             |
| F4 (C34 to C50)                   | VOL-91-5009 | CCME Tier 1 Method                  | GC / FID             |
| Gravimetric Heavy Hydrocarbons    | VOL-91-5009 | CCME Tier 1 Method                  | GRAVIMETRIC ANALYSIS |
| Moisture Content                  | VOL-91-5009 | CCME Tier 1 Method                  | BALANCE              |
| Terphenyl                         | VOL-91-5009 |                                     | GC/FID               |
| Dichlorodifluoromethane           | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Vinyl Chloride                    | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Bromomethane                      | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Trichlorofluoromethane            | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Acetone                           | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| 1,1-Dichloroethylene              | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Methylene Chloride                | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Trans- 1,2-Dichloroethylene       | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Methyl tert-butyl Ether           | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| 1,1-Dichloroethane                | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Methyl Ethyl Ketone               | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |

## Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 15T957961

PROJECT: 1525987

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY: T L

| PARAMETER                      | AGAT S.O.P  | LITERATURE REFERENCE                | ANALYTICAL TECHNIQUE |
|--------------------------------|-------------|-------------------------------------|----------------------|
| Cis- 1,2-Dichloroethylene      | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Chloroform                     | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| 1,2-Dichloroethane             | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| 1,1,1-Trichloroethane          | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Carbon Tetrachloride           | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Benzene                        | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| 1,2-Dichloropropane            | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Trichloroethylene              | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Bromodichloromethane           | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Methyl Isobutyl Ketone         | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| 1,1,2-Trichloroethane          | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Toluene                        | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Dibromochloromethane           | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Ethylene Dibromide             | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Tetrachloroethylene            | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| 1,1,1,2-Tetrachloroethane      | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Chlorobenzene                  | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Ethylbenzene                   | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| m & p-Xylene                   | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Bromoform                      | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Styrene                        | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| 1,1,2,2-Tetrachloroethane      | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| o-Xylene                       | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| 1,3-Dichlorobenzene            | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| 1,4-Dichlorobenzene            | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| 1,2-Dichlorobenzene            | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Xylene Mixture                 | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| 1,3-Dichloropropene            | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| n-Hexane                       | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Toluene-d8                     | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| 4-Bromofluorobenzene           | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| F1 (C6 to C10)                 | VOL-91-5009 | CCME Tier 1 Method, SW846 5035      | P & T GC / FID       |
| F1 (C6 to C10) minus BTEX      | VOL-91-5009 | CCME Tier 1 Method, SW846 5035      | P & T GC / FID       |
| F2 (C10 to C16)                | VOL-91-5009 | CCME Tier 1 Method                  | GC / FID             |
| F3 (C16 to C34)                | VOL-91-5009 | CCME Tier 1 Method                  | GC / FID             |
| F4 (C34 to C50)                | VOL-91-5009 | CCME Tier 1 Method                  | GC / FID             |
| Gravimetric Heavy Hydrocarbons | VOL-91-5009 | CCME Tier 1 Method                  | GRAVIMETRIC ANALYSIS |
| Moisture Content               | VOL-91-5009 | CCME Tier 1 Method, SW846 5035,8015 | BALANCE              |
| Terphenyl                      | VOL-91-5009 |                                     | GC/FID               |
| Dichlorodifluoromethane        | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Vinyl Chloride                 | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Bromomethane                   | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Trichlorofluoromethane         | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Acetone                        | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| 1,1-Dichloroethylene           | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Methylene Chloride             | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Trans- 1,2-Dichloroethylene    | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| Methyl tert-butyl Ether        | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |
| 1,1-Dichloroethane             | VOL-91-5002 | EPA SW-846 5035 & 8260              | (P&T)GC/MS           |

## Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 15T957961

PROJECT: 1525987

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY: T L

| PARAMETER                 | AGAT S.O.P  | LITERATURE REFERENCE   | ANALYTICAL TECHNIQUE |
|---------------------------|-------------|------------------------|----------------------|
| Methyl Ethyl Ketone       | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| Cis- 1,2-Dichloroethylene | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| Chloroform                | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| 1,2-Dichloroethane        | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| 1,1,1-Trichloroethane     | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| Carbon Tetrachloride      | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| Benzene                   | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| 1,2-Dichloropropane       | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| Trichloroethylene         | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| Bromodichloromethane      | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| Methyl Isobutyl Ketone    | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| 1,1,2-Trichloroethane     | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| Toluene                   | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| Dibromochloromethane      | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| Ethylene Dibromide        | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| Tetrachloroethylene       | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| 1,1,1,2-Tetrachloroethane | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| Chlorobenzene             | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| Ethylbenzene              | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| m & p-Xylene              | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| Bromoform                 | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| Styrene                   | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| 1,1,2,2-Tetrachloroethane | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| o-Xylene                  | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| 1,3-Dichlorobenzene       | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| 1,4-Dichlorobenzene       | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| 1,2-Dichlorobenzene       | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| Xylene Mixture            | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| 1,3-Dichloropropene       | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| n-Hexane                  | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| Toluene-d8                | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |
| 4-Bromofluorobenzene      | VOL-91-5002 | EPA SW-846 5035 & 8260 | (P&T)GC/MS           |



# AGAT

## Laboratories

5335 Coopers Avenue  
 Mississauga, Ontario L4Z 1Y2  
 Ph: 905.712.5100 Fax: 905.712.5122  
 www.agatlabs.com webearth.agatlabs.com

### Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water intended for human consumption)

#### Report Information:

Company: GAL  
 Contact: Keith Holmes  
 Address: 1931 Robertson Road  
 Phone: 613-592-9600 Fax: \_\_\_\_\_  
 Reports to be sent to:  
 1. Email: khalmes@golder.com  
 2. Email: \_\_\_\_\_

#### Project Information:

Project: 1525987  
 Site Location: \_\_\_\_\_  
 Sampled By: Tara Deaurin  
 AGAT Quote #: \_\_\_\_\_

#### Invoice Information:

Company: GAL Bill To Same: Yes  No   
 Contact: Accounting  
 Address: \_\_\_\_\_  
 Email: ottawa-accounting@golder.com

#### Regulatory Requirements:

Regulation 153/04  
 Sewer Use  
 Sanitary  
 Storm  
 Regulation 558  
 CCME  
 Pov. Water Quality Objectives (PWQO)  
 Other

Is this submission for a Record of Site Condition?  
 Yes  No

Report Guideline on Certificate of Analysis  
 Yes  No

#### Sample Matrix Legend

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

| Sample Identification | Date Sampled | Time Sampled | # of Containers | Sample Matrix | Comments/Special Instructions | Metals and Inorganics | Metal Scan | Hydride Forming Metals | Client Custom Metals | ORPs: <input type="checkbox"/> B-HWS <input type="checkbox"/> Cl <input type="checkbox"/> CN <input type="checkbox"/> C <sup>6+</sup> <input type="checkbox"/> EC <input type="checkbox"/> FOC <input type="checkbox"/> NO <sub>3</sub> /NO <sub>2</sub> <input type="checkbox"/> Total N <input type="checkbox"/> Hg <input type="checkbox"/> pH <input type="checkbox"/> SAR | Nutrients: <input type="checkbox"/> TP <input type="checkbox"/> NH <sub>3</sub> <input type="checkbox"/> TKN <input type="checkbox"/> NO <sub>3</sub> <input type="checkbox"/> NO <sub>2</sub> <input type="checkbox"/> NO <sub>3</sub> /NO <sub>2</sub> | Volatiles: <input checked="" type="checkbox"/> VOC <input type="checkbox"/> BTEX <input type="checkbox"/> THM | CCME Fractions 1 to 4 | ABNs | PAHs | Chlorophenols | PCBs | Organochlorine Pesticides | TCLP Metals/Inorganics | Sewer Use |  |
|-----------------------|--------------|--------------|-----------------|---------------|-------------------------------|-----------------------|------------|------------------------|----------------------|--|--|---|-----------------------|------|------|---------------|------|---------------------------|------------------------|-----------|--|
| BHIS-2 SA44           | 24/03/15     |              | 1               | S             | extra 11 vials to be sent     |                       |            |                        |                      |  |  |   |                       |      |      |               |      |                           |                        |           |  |
| BHIS-2 SA44           | 24/03/15     |              | 2               | S             |                               |                       |            |                        |                      |  |  |   |                       |      |      |               |      |                           |                        |           |  |
| BHIS-2 SA43           | 24/03/15     |              | 1               | S             |                               |                       |            |                        |                      |  |  |   |                       |      |      |               |      |                           |                        |           |  |
| BHIS-2 SA33           | 24/03/15     |              | 1               | S             |                               |                       |            |                        |                      |  |  |   |                       |      |      |               |      |                           |                        |           |  |
| BHIS-4 SA3            | 24/03/15     |              | 3               | S             |                               |                       |            |                        |                      |  |  |   |                       |      |      |               |      |                           |                        |           |  |
| BHIS-2 SA1            | 24/03/15     |              | 3               | S             |                               |                       |            |                        |                      |  |  |   |                       |      |      |               |      |                           |                        |           |  |
| BHIS-1 SA1            | 25/03/15     |              | 3               | S             |                               |                       |            |                        |                      |  |  |   |                       |      |      |               |      |                           |                        |           |  |
| BHIS-1 SA4            | 25/03/15     |              | 3               | S             |                               |                       |            |                        |                      |  |  |   |                       |      |      |               |      |                           |                        |           |  |
| BHIS-3 SA1            | 24/03/15     |              | 3               | S             |                               |                       |            |                        |                      |  |  |   |                       |      |      |               |      |                           |                        |           |  |
| BHIS-3 SA3            | 24/03/15     |              | 3               | S             |                               |                       |            |                        |                      |  |  |   |                       |      |      |               |      |                           |                        |           |  |
| BHIS-4 SA1            | 24/03/15     |              | 2               | S             |                               |                       |            |                        |                      |  |  |   |                       |      |      |               |      |                           |                        |           |  |

Samples Requisitioned By (Print Name and Sign): Tara Deaurin Date: Mar 27, 15 Time: 16:16

Samples Requisitioned By (Print Name and Sign): Tara Deaurin Date: Mar 27, 15 Time: 16:16

Symbolic Received By (Print Name and Sign): Reynold D. B. B. B. Date: Mar 27, 15 Time: 16:13

Samples Received By (Print Name and Sign): Reynold D. B. B. B. Date: Mar 27, 15 Time: 16:13

Page 1 of 1

Document ID: 017-13-15-11-001

Pink Copy - Client | Yellow Copy - AGAT | White Copy - AGAT

Date Issued: Jan 8, 2015

#### Laboratory Use Only

Work Order #: 15T957961

Cooler Quantity: \_\_\_\_\_

Arrival Temperatures: 4 | 3 | 4

Custody Seal Intact:  Yes  No  N/A

Notes: \_\_\_\_\_

#### Turnaround Time (TAT) Required:

Regular TAT:  5 to 7 Business Days

Rush TAT (Rush Surcharges Apply):  3 Business Days  2 Business Days  1 Business Day

OR Date Required (Rush Surcharges May Apply):

Please provide prior notification for rush TAT \*TAT is exclusive of weekends and statutory holidays

CLIENT NAME: GOLDER ASSOCIATES LTD  
1931 ROBERTSON ROAD  
OTTAWA, ON K2H5B7  
(613) 592-9600

ATTENTION TO: Keith Holmes

PROJECT: 1525987

AGAT WORK ORDER: 15T957963

TRACE ORGANICS REVIEWED BY: Oksana Gushyla, Trace Organics Lab Supervisor

DATE REPORTED: Apr 01, 2015

PAGES (INCLUDING COVER): 16

VERSION\*: 1

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

\*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

# Certificate of Analysis

AGAT WORK ORDER: 15T957963

PROJECT: 1525987

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

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY: T L

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

DATE RECEIVED: 2015-03-28

DATE REPORTED: 2015-04-01

| Parameter                  | Unit | SAMPLE DESCRIPTION: |      | 15-1      | 15-2      | 15-3      | 15-4      | Dup1      |         |
|----------------------------|------|---------------------|------|-----------|-----------|-----------|-----------|-----------|---------|
|                            |      | SAMPLE TYPE:        |      | Water     | Water     | Water     | Water     | Water     |         |
|                            |      | DATE SAMPLED:       |      | 3/27/2015 | 3/27/2015 | 3/27/2015 | 3/27/2015 | 3/27/2015 |         |
|                            |      | G / S               | RDL  | 6409917   | 6409918   | 6409926   | 6409934   | RDL       | 6409944 |
| Naphthalene                | µg/L | 1400                | 0.20 | <0.20     | 0.36      | <0.20     | 0.70      | 0.60      | <0.60   |
| Acenaphthylene             | µg/L | 1.8                 | 0.20 | <0.20     | <0.20     | <0.20     | <0.20     | 0.60      | <0.60   |
| Acenaphthene               | µg/L | 600                 | 0.20 | <0.20     | <0.20     | <0.20     | <0.20     | 0.60      | <0.60   |
| Fluorene                   | µg/L | 400                 | 0.20 | <0.20     | <0.20     | <0.20     | <0.20     | 0.60      | <0.60   |
| Phenanthrene               | µg/L | 580                 | 0.10 | <0.10     | <0.10     | <0.10     | <0.10     | 0.30      | <0.30   |
| Anthracene                 | µg/L | 2.4                 | 0.10 | <0.10     | <0.10     | <0.10     | <0.10     | 0.30      | <0.30   |
| Fluoranthene               | µg/L | 130                 | 0.20 | <0.20     | <0.20     | <0.20     | <0.20     | 0.60      | <0.60   |
| Pyrene                     | µg/L | 68                  | 0.20 | <0.20     | <0.20     | <0.20     | <0.20     | 0.60      | <0.60   |
| Benzo(a)anthracene         | µg/L | 4.7                 | 0.20 | <0.20     | <0.20     | <0.20     | <0.20     | 0.60      | <0.60   |
| Chrysene                   | µg/L | 1                   | 0.10 | <0.10     | <0.10     | <0.10     | <0.10     | 0.30      | <0.30   |
| Benzo(b)fluoranthene       | µg/L | 0.75                | 0.10 | <0.10     | <0.10     | <0.10     | <0.10     | 0.30      | <0.30   |
| Benzo(k)fluoranthene       | µg/L | 0.4                 | 0.10 | <0.10     | <0.10     | <0.10     | <0.10     | 0.30      | <0.30   |
| Benzo(a)pyrene             | µg/L | 0.81                | 0.01 | <0.01     | <0.01     | <0.01     | <0.01     | 0.03      | <0.03   |
| Indeno(1,2,3-cd)pyrene     | µg/L | 0.2                 | 0.20 | <0.20     | <0.20     | <0.20     | <0.20     | 0.60      | <0.60   |
| Dibenz(a,h)anthracene      | µg/L | 0.52                | 0.20 | <0.20     | <0.20     | <0.20     | <0.20     | 0.60      | <0.60   |
| Benzo(g,h,i)perylene       | µg/L | 0.2                 | 0.20 | <0.20     | <0.20     | <0.20     | <0.20     | 0.60      | <0.60   |
| 2-and 1-methyl Naphthalene | µg/L | 1800                | 0.20 | <0.20     | 0.38      | <0.20     | 1.5       | 0.60      | <0.60   |
| Surrogate                  | Unit | Acceptable Limits   |      |           |           |           |           |           |         |
| Chrysene-d12               | %    | 50-140              |      | 70        | 74        | 72        | 69        |           | 82      |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3 Site Condition Standards - Non Potable Ground Water - All Types of Property Use - Coarse Textured Soils

6409917-6409934 Note: The result for Benzo(b)Flouranthene is the total of the Benzo(b)&amp;(j)Flouranthene isomers because the isomers co-elute on the GC column.

 6409944 Note: The result for Benzo(b)Flouranthene is the total of the Benzo(b)&(j)Flouranthene isomers because the isomers co-elute on the GC column.  
 The sample was diluted because there was limited water available to perform the analysis. The reporting detection limit has been corrected for the dilution factor used.

Certified By:



# Certificate of Analysis

AGAT WORK ORDER: 15T957963

PROJECT: 1525987

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

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY: T L

## O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Water)

DATE RECEIVED: 2015-03-28


DATE REPORTED: 2015-04-01

| Parameter                         | Unit | SAMPLE DESCRIPTION: |     | 15-1    | 15-2    | 15-3    | 15-4    | Dup1    |
|-----------------------------------|------|---------------------|-----|---------|---------|---------|---------|---------|
|                                   |      | G / S               | RDL | 6409917 | 6409918 | 6409926 | 6409934 | 6409944 |
| F1 (C6 to C10)                    | µg/L |                     | 25  | <25     | <25     | <25     | 36      | <25     |
| F1 (C6 to C10) minus BTEX         | µg/L | 750                 | 25  | <25     | <25     | <25     | 30      | <25     |
| F2 (C10 to C16)                   | µg/L | 150                 | 100 | <100    | <100    | <100    | <100    | <100    |
| F2 (C10 to C16) minus Naphthalene | µg/L | 150                 | 100 | <100    | <100    | <100    | <100    | <100    |
| F3 (C16 to C34)                   | µg/L | 500                 | 100 | <100    | <100    | <100    | <100    | <100    |
| F3 (C16 to C34) minus PAHs        | µg/L | 500                 | 100 | <100    | <100    | <100    | <100    | <100    |
| F4 (C34 to C50)                   | µg/L | 500                 | 100 | <100    | <100    | <100    | <100    | <100    |
| Gravimetric Heavy Hydrocarbons    | µg/L | 500                 | 500 | NA      | NA      | NAS     | NA      | NA      |
| Surrogate                         | Unit | Acceptable Limits   |     |         |         |         |         |         |
| Terphenyl                         | %    | 60-140              | 91  | 86      | 78      | 78      | 80      |         |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3 Site Condition Standards - Non Potable Ground Water - All Types of Property Use - Coarse Textured Soils

6409917-6409944 The C6-C10 fraction is calculated using Toluene response factor.  
 The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and nC34.  
 Gravimetric Heavy Hydrocarbons are not included in the Total C16 - C50 and are only determined if the chromatogram of the C34 - C50 Hydrocarbons indicated that hydrocarbons >C50 are present.  
 The chromatogram has returned to baseline by the retention time of nC50.  
 Total C6-C50 results are corrected for BTEX and PAH contributions.  
 This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.  
 nC6 and nC10 response factors are within 30% of Toluene response factor.  
 nC10, nC16 and nC34 response factors are within 10% of their average.  
 C50 response factor is within 70% of nC10 + nC16 nC34 average.  
 Linearity is within 15%.  
 Extraction and holding times were met for this sample.

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# Certificate of Analysis

AGAT WORK ORDER: 15T957963

PROJECT: 1525987

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

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY: T L

## O. Reg. 153(511) - VOCs (Water)

DATE RECEIVED: 2015-03-28

DATE REPORTED: 2015-04-01

| Parameter                   | Unit | SAMPLE DESCRIPTION: 15-1 |      |           |      | 15-2      |      | 15-3      |      | 15-4      |  |
|-----------------------------|------|--------------------------|------|-----------|------|-----------|------|-----------|------|-----------|--|
|                             |      | SAMPLE TYPE: Water       |      | Water     |      | Water     |      | Water     |      | Water     |  |
|                             |      | DATE SAMPLED: 3/27/2015  |      | 3/27/2015 |      | 3/27/2015 |      | 3/27/2015 |      | 3/27/2015 |  |
|                             |      | G / S                    | RDL  | 6409917   | RDL  | 6409918   | RDL  | 6409926   | RDL  | 6409934   |  |
| Dichlorodifluoromethane     | µg/L | 4400                     | 0.20 | <0.20     | 0.40 | <0.40     | 0.20 | <0.20     | 0.40 | <0.40     |  |
| Vinyl Chloride              | µg/L | 0.5                      | 0.17 | <0.17     | 0.34 | <0.34     | 0.17 | <0.17     | 0.34 | <0.34     |  |
| Bromomethane                | µg/L | 5.6                      | 0.20 | <0.20     | 0.40 | <0.40     | 0.20 | <0.20     | 0.40 | <0.40     |  |
| Trichlorofluoromethane      | µg/L | 2500                     | 0.40 | <0.40     | 0.80 | <0.80     | 0.40 | <0.40     | 0.80 | <0.80     |  |
| Acetone                     | µg/L | 130000                   | 1.0  | <1.0      | 2.0  | <2.0      | 1.0  | <1.0      | 2.0  | <2.0      |  |
| 1,1-Dichloroethylene        | µg/L | 1.6                      | 0.30 | <0.30     | 0.60 | <0.60     | 0.30 | <0.30     | 0.60 | <0.60     |  |
| Methylene Chloride          | µg/L | 610                      | 0.30 | <0.30     | 0.60 | <0.60     | 0.30 | <0.30     | 0.60 | <0.60     |  |
| trans- 1,2-Dichloroethylene | µg/L | 1.6                      | 0.20 | <0.20     | 0.40 | <0.40     | 0.20 | <0.20     | 0.40 | <0.40     |  |
| Methyl tert-butyl ether     | µg/L | 190                      | 0.20 | <0.20     | 0.40 | 4.2       | 0.20 | <0.20     | 0.40 | <0.40     |  |
| 1,1-Dichloroethane          | µg/L | 320                      | 0.30 | <0.30     | 0.60 | <0.60     | 0.30 | <0.30     | 0.60 | <0.60     |  |
| Methyl Ethyl Ketone         | µg/L | 470000                   | 1.0  | 11        | 2.0  | 21        | 1.0  | <1.0      | 2.0  | <2.0      |  |
| cis- 1,2-Dichloroethylene   | µg/L | 1.6                      | 0.20 | <0.20     | 0.40 | <0.40     | 0.20 | <0.20     | 0.40 | <0.40     |  |
| Chloroform                  | µg/L | 2.4                      | 0.20 | 2.1       | 0.40 | 2.8       | 0.20 | 3.2       | 0.40 | 0.91      |  |
| 1,2-Dichloroethane          | µg/L | 1.6                      | 0.20 | <0.20     | 0.40 | <0.40     | 0.20 | <0.20     | 0.40 | <0.40     |  |
| 1,1,1-Trichloroethane       | µg/L | 640                      | 0.30 | <0.30     | 0.60 | <0.60     | 0.30 | <0.30     | 0.60 | <0.60     |  |
| Carbon Tetrachloride        | µg/L | 0.79                     | 0.20 | <0.20     | 0.40 | <0.40     | 0.20 | <0.20     | 0.40 | <0.40     |  |
| Benzene                     | µg/L | 44                       | 0.20 | <0.20     | 0.40 | 1.8       | 0.20 | <0.20     | 0.40 | <0.40     |  |
| 1,2-Dichloropropane         | µg/L | 16                       | 0.20 | <0.20     | 0.40 | <0.40     | 0.20 | <0.20     | 0.40 | <0.40     |  |
| Trichloroethylene           | µg/L | 1.6                      | 0.20 | <0.20     | 0.40 | <0.40     | 0.20 | <0.20     | 0.40 | <0.40     |  |
| Bromodichloromethane        | µg/L | 85000                    | 0.20 | <0.20     | 0.40 | <0.40     | 0.20 | 0.27      | 0.40 | <0.40     |  |
| Methyl Isobutyl Ketone      | µg/L | 140000                   | 1.0  | <1.0      | 2.0  | <2.0      | 1.0  | <1.0      | 2.0  | <2.0      |  |
| 1,1,2-Trichloroethane       | µg/L | 4.7                      | 0.20 | <0.20     | 0.40 | <0.40     | 0.20 | <0.20     | 0.40 | <0.40     |  |
| Toluene                     | µg/L | 18000                    | 0.20 | 0.67      | 0.40 | 1.6       | 0.20 | 1.5       | 0.40 | 0.66      |  |
| Dibromochloromethane        | µg/L | 82000                    | 0.10 | <0.10     | 0.20 | <0.20     | 0.10 | <0.10     | 0.20 | <0.20     |  |
| Ethylene Dibromide          | µg/L | 0.25                     | 0.10 | <0.10     | 0.20 | <0.20     | 0.10 | <0.10     | 0.20 | <0.20     |  |
| Tetrachloroethylene         | µg/L | 1.6                      | 0.20 | <0.20     | 0.40 | <0.40     | 0.20 | <0.20     | 0.40 | <0.40     |  |
| 1,1,1,2-Tetrachloroethane   | µg/L | 3.3                      | 0.10 | <0.10     | 0.20 | <0.20     | 0.10 | <0.10     | 0.20 | <0.20     |  |
| Chlorobenzene               | µg/L | 630                      | 0.10 | <0.10     | 0.20 | <0.20     | 0.10 | <0.10     | 0.20 | <0.20     |  |
| Ethylbenzene                | µg/L | 2300                     | 0.10 | <0.10     | 0.20 | <0.20     | 0.10 | <0.10     | 0.20 | 0.55      |  |
| m & p-Xylene                | µg/L |                          | 0.20 | <0.20     | 0.40 | 0.51      | 0.20 | 0.37      | 0.40 | 2.8       |  |

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PROJECT: 1525987

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CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY: T L

### O. Reg. 153(511) - VOCs (Water)

DATE RECEIVED: 2015-03-28

DATE REPORTED: 2015-04-01

| Parameter                 | Unit       | SAMPLE DESCRIPTION: 15-1 |      |         |      | 15-2      |      |         |      | 15-3      |      |         |      | 15-4      |      |         |  |    |  |  |  |
|---------------------------|------------|--------------------------|------|---------|------|-----------|------|---------|------|-----------|------|---------|------|-----------|------|---------|--|----|--|--|--|
|                           |            | SAMPLE TYPE: Water       |      |         |      | Water     |      |         |      | Water     |      |         |      | Water     |      |         |  |    |  |  |  |
|                           |            | DATE SAMPLED: 3/27/2015  |      |         |      | 3/27/2015 |      |         |      | 3/27/2015 |      |         |      | 3/27/2015 |      |         |  |    |  |  |  |
|                           |            | G / S                    | RDL  | 6409917 | RDL  | 6409918   | RDL  | 6409926 | RDL  | 6409926   | RDL  | 6409934 | RDL  | 6409934   | RDL  | 6409934 |  |    |  |  |  |
| Bromoform                 | µg/L       | 380                      | 0.10 | <0.10   | 0.20 | <0.20     | 0.10 | <0.10   | 0.20 | <0.10     | 0.20 | <0.20   | 0.20 | <0.20     | 0.20 | <0.20   |  |    |  |  |  |
| Styrene                   | µg/L       | 1300                     | 0.10 | <0.10   | 0.20 | <0.20     | 0.10 | <0.10   | 0.20 | <0.10     | 0.20 | <0.20   | 0.20 | <0.20     | 0.20 | <0.20   |  |    |  |  |  |
| 1,1,2,2-Tetrachloroethane | µg/L       | 3.2                      | 0.10 | <0.10   | 0.20 | <0.20     | 0.10 | <0.10   | 0.20 | <0.10     | 0.20 | <0.20   | 0.20 | <0.20     | 0.20 | <0.20   |  |    |  |  |  |
| o-Xylene                  | µg/L       |                          | 0.10 | <0.10   | 0.20 | <0.20     | 0.10 | 0.10    | 0.20 | 0.10      | 0.20 | 2.4     | 0.20 | 2.4       | 0.20 | 2.4     |  |    |  |  |  |
| 1,3-Dichlorobenzene       | µg/L       | 9600                     | 0.10 | <0.10   | 0.20 | <0.20     | 0.10 | <0.10   | 0.20 | <0.10     | 0.20 | <0.20   | 0.20 | <0.20     | 0.20 | <0.20   |  |    |  |  |  |
| 1,4-Dichlorobenzene       | µg/L       | 8                        | 0.10 | <0.10   | 0.20 | <0.20     | 0.10 | <0.10   | 0.20 | <0.10     | 0.20 | <0.20   | 0.20 | <0.20     | 0.20 | <0.20   |  |    |  |  |  |
| 1,2-Dichlorobenzene       | µg/L       | 4600                     | 0.10 | <0.10   | 0.20 | <0.20     | 0.10 | <0.10   | 0.20 | <0.10     | 0.20 | <0.20   | 0.20 | <0.20     | 0.20 | <0.20   |  |    |  |  |  |
| 1,3-Dichloropropene       | µg/L       | 5.2                      | 0.30 | <0.30   | 0.60 | <0.60     | 0.30 | <0.30   | 0.60 | <0.30     | 0.60 | <0.60   | 0.60 | <0.60     | 0.60 | <0.60   |  |    |  |  |  |
| Xylene Mixture            | µg/L       | 4200                     | 0.20 | <0.20   | 0.40 | 0.51      | 0.20 | 0.47    | 0.40 | 0.47      | 0.40 | 5.2     | 0.40 | 5.2       | 0.40 | 5.2     |  |    |  |  |  |
| n-Hexane                  | µg/L       | 51                       | 0.20 | <0.20   | 0.40 | <0.40     | 0.20 | <0.20   | 0.40 | <0.20     | 0.40 | <0.40   | 0.40 | <0.40     | 0.40 | <0.40   |  |    |  |  |  |
| Surrogate                 | Unit       | Acceptable Limits        |      |         |      |           |      |         |      |           |      |         |      |           |      |         |  |    |  |  |  |
| Toluene-d8                | % Recovery | 50-140                   |      |         |      | 89        |      |         |      | 91        |      |         |      | 94        |      |         |  | 91 |  |  |  |
| 4-Bromofluorobenzene      | % Recovery | 50-140                   |      |         |      | 76        |      |         |      | 81        |      |         |      | 79        |      |         |  | 98 |  |  |  |

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PROJECT: 1525987

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ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY: T L

## O. Reg. 153(511) - VOCs (Water)

DATE RECEIVED: 2015-03-28

DATE REPORTED: 2015-04-01

| Parameter                   | Unit | SAMPLE DESCRIPTION: |      | Dup1      | Field Blank | Trip Blank |
|-----------------------------|------|---------------------|------|-----------|-------------|------------|
|                             |      | SAMPLE TYPE:        |      | Water     | Water       | Water      |
|                             |      | DATE SAMPLED:       |      | 3/27/2015 | 3/27/2015   | 3/27/2015  |
|                             |      | G / S               | RDL  | 6409944   | 6409952     | 6409955    |
| Dichlorodifluoromethane     | µg/L | 4400                | 0.20 | <0.20     | <0.20       | <0.20      |
| Vinyl Chloride              | µg/L | 0.5                 | 0.17 | <0.17     | <0.17       | <0.17      |
| Bromomethane                | µg/L | 5.6                 | 0.20 | <0.20     | <0.20       | <0.20      |
| Trichlorofluoromethane      | µg/L | 2500                | 0.40 | <0.40     | <0.40       | <0.40      |
| Acetone                     | µg/L | 130000              | 1.0  | <1.0      | <1.0        | <1.0       |
| 1,1-Dichloroethylene        | µg/L | 1.6                 | 0.30 | <0.30     | <0.30       | <0.30      |
| Methylene Chloride          | µg/L | 610                 | 0.30 | <0.30     | <0.30       | <0.30      |
| trans- 1,2-Dichloroethylene | µg/L | 1.6                 | 0.20 | <0.20     | <0.20       | <0.20      |
| Methyl tert-butyl ether     | µg/L | 190                 | 0.20 | <0.20     | <0.20       | <0.20      |
| 1,1-Dichloroethane          | µg/L | 320                 | 0.30 | <0.30     | <0.30       | <0.30      |
| Methyl Ethyl Ketone         | µg/L | 470000              | 1.0  | <1.0      | <1.0        | <1.0       |
| cis- 1,2-Dichloroethylene   | µg/L | 1.6                 | 0.20 | <0.20     | <0.20       | <0.20      |
| Chloroform                  | µg/L | 2.4                 | 0.20 | 2.8       | <0.20       | <0.20      |
| 1,2-Dichloroethane          | µg/L | 1.6                 | 0.20 | <0.20     | <0.20       | <0.20      |
| 1,1,1-Trichloroethane       | µg/L | 640                 | 0.30 | <0.30     | <0.30       | <0.30      |
| Carbon Tetrachloride        | µg/L | 0.79                | 0.20 | <0.20     | <0.20       | <0.20      |
| Benzene                     | µg/L | 44                  | 0.20 | <0.20     | <0.20       | <0.20      |
| 1,2-Dichloropropane         | µg/L | 16                  | 0.20 | <0.20     | <0.20       | <0.20      |
| Trichloroethylene           | µg/L | 1.6                 | 0.20 | <0.20     | <0.20       | <0.20      |
| Bromodichloromethane        | µg/L | 85000               | 0.20 | 0.25      | <0.20       | <0.20      |
| Methyl Isobutyl Ketone      | µg/L | 140000              | 1.0  | <1.0      | <1.0        | <1.0       |
| 1,1,2-Trichloroethane       | µg/L | 4.7                 | 0.20 | <0.20     | <0.20       | <0.20      |
| Toluene                     | µg/L | 18000               | 0.20 | 1.5       | <0.20       | <0.20      |
| Dibromochloromethane        | µg/L | 82000               | 0.10 | <0.10     | <0.10       | <0.10      |
| Ethylene Dibromide          | µg/L | 0.25                | 0.10 | <0.10     | <0.10       | <0.10      |
| Tetrachloroethylene         | µg/L | 1.6                 | 0.20 | <0.20     | <0.20       | <0.20      |
| 1,1,1,2-Tetrachloroethane   | µg/L | 3.3                 | 0.10 | <0.10     | <0.10       | <0.10      |
| Chlorobenzene               | µg/L | 630                 | 0.10 | <0.10     | <0.10       | <0.10      |
| Ethylbenzene                | µg/L | 2300                | 0.10 | <0.10     | <0.10       | <0.10      |
| m & p-Xylene                | µg/L |                     | 0.20 | 0.36      | <0.20       | <0.20      |

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SAMPLING SITE:

SAMPLED BY: T L

## O. Reg. 153(511) - VOCs (Water)

DATE RECEIVED: 2015-03-28

DATE REPORTED: 2015-04-01

| Parameter                 | Unit       | SAMPLE DESCRIPTION: |      | Dup1      | Field Blank | Trip Blank |
|---------------------------|------------|---------------------|------|-----------|-------------|------------|
|                           |            | SAMPLE TYPE:        |      | Water     | Water       | Water      |
|                           |            | DATE SAMPLED:       |      | 3/27/2015 | 3/27/2015   | 3/27/2015  |
|                           |            | G / S               | RDL  | 6409944   | 6409952     | 6409955    |
| Bromoform                 | µg/L       | 380                 | 0.10 | <0.10     | <0.10       | <0.10      |
| Styrene                   | µg/L       | 1300                | 0.10 | <0.10     | <0.10       | <0.10      |
| 1,1,2,2-Tetrachloroethane | µg/L       | 3.2                 | 0.10 | <0.10     | <0.10       | <0.10      |
| o-Xylene                  | µg/L       |                     | 0.10 | 0.10      | <0.10       | <0.10      |
| 1,3-Dichlorobenzene       | µg/L       | 9600                | 0.10 | <0.10     | <0.10       | <0.10      |
| 1,4-Dichlorobenzene       | µg/L       | 8                   | 0.10 | <0.10     | <0.10       | <0.10      |
| 1,2-Dichlorobenzene       | µg/L       | 4600                | 0.10 | <0.10     | <0.10       | <0.10      |
| 1,3-Dichloropropene       | µg/L       | 5.2                 | 0.30 | <0.30     | <0.30       | <0.30      |
| Xylene Mixture            | µg/L       | 4200                | 0.20 | 0.46      | <0.20       | <0.20      |
| n-Hexane                  | µg/L       | 51                  | 0.20 | <0.20     | <0.20       | <0.20      |
| Surrogate                 | Unit       | Acceptable Limits   |      |           |             |            |
| Toluene-d8                | % Recovery | 50-140              |      | 95        | 94          | 89         |
| 4-Bromofluorobenzene      | % Recovery | 50-140              |      | 80        | 76          | 75         |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3 Site Condition Standards - Non Potable Ground Water - All Types of Property Use - Coarse Textured Soils

 6409918 Dilution factor=2  
 The sample was diluted because it was foamy. The reporting detection limit has been corrected for the dilution factor used.

 6409934 Dilution factor=2  
 The sample was diluted because it was foamy. The reporting detection limit has been corrected for the dilution factor used.

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ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY: T L

## O. Reg. 153(511) - VOCs (Water).

DATE RECEIVED: 2015-03-28

DATE REPORTED: 2015-04-01

| Parameter                   | Unit | SAMPLE DESCRIPTION: |     |            |
|-----------------------------|------|---------------------|-----|------------|
|                             |      | G / S               | RDL | Trip Spike |
|                             |      |                     |     | Water      |
|                             |      |                     |     | 3/27/2015  |
|                             |      |                     |     | 6409958    |
| Dichlorodifluoromethane     | %    |                     |     | 115        |
| Vinyl Chloride              | %    |                     |     | 119        |
| Bromomethane                | %    |                     |     | 118        |
| Trichlorofluoromethane      | %    |                     |     | 120        |
| Acetone                     | %    |                     |     | 107        |
| 1,1-Dichloroethylene        | %    |                     |     | 104        |
| Methylene Chloride          | %    |                     |     | 118        |
| trans- 1,2-Dichloroethylene | %    |                     |     | 95         |
| Methyl tert-butyl ether     | %    |                     |     | 94         |
| 1,1-Dichloroethane          | %    |                     |     | 100        |
| Methyl Ethyl Ketone         | %    |                     |     | 103        |
| cis- 1,2-Dichloroethylene   | %    |                     |     | 92         |
| Chloroform                  | %    |                     |     | 106        |
| 1,2-Dichloroethane          | %    |                     |     | 90         |
| 1,1,1-Trichloroethane       | %    |                     |     | 95         |
| Carbon Tetrachloride        | %    |                     |     | 97         |
| Benzene                     | %    |                     |     | 82         |
| 1,2-Dichloropropane         | %    |                     |     | 84         |
| Trichloroethylene           | %    |                     |     | 79         |
| Bromodichloromethane        | %    |                     |     | 91         |
| Methyl Isobutyl Ketone      | %    |                     |     | 83         |
| 1,1,2-Trichloroethane       | %    |                     |     | 102        |
| Toluene                     | %    |                     |     | 96         |
| Dibromochloromethane        | %    |                     |     | 102        |
| Ethylene Dibromide          | %    |                     |     | 98         |
| Tetrachloroethylene         | %    |                     |     | 88         |
| 1,1,1,2-Tetrachloroethane   | %    |                     |     | 100        |
| Chlorobenzene               | %    |                     |     | 96         |
| Ethylbenzene                | %    |                     |     | 80         |
| m & p-Xylene                | %    |                     |     | 89         |

Certified By:





## Certificate of Analysis

AGAT WORK ORDER: 15T957963

PROJECT: 1525987

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

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY: T L

### O. Reg. 153(511) - VOCs (Water).

DATE RECEIVED: 2015-03-28

DATE REPORTED: 2015-04-01

|                           |            | SAMPLE DESCRIPTION: Trip Spike |         |
|---------------------------|------------|--------------------------------|---------|
|                           |            | SAMPLE TYPE: Water             |         |
|                           |            | DATE SAMPLED: 3/27/2015        |         |
| Parameter                 | Unit       | G / S                          | RDL     |
|                           |            |                                | 6409958 |
| Bromoform                 | %          |                                | 98      |
| Styrene                   | %          |                                | 85      |
| 1,1,2,2-Tetrachloroethane | %          |                                | 107     |
| o-Xylene                  | %          |                                | 99      |
| 1,3-Dichlorobenzene       | %          |                                | 79      |
| 1,4-Dichlorobenzene       | %          |                                | 93      |
| 1,2-Dichlorobenzene       | %          |                                | 83      |
| 1,3-Dichloropropene       | %          |                                | 72      |
| Xylene Mixture            | %          |                                | 94      |
| n-Hexane                  | %          |                                | 96      |
| Surrogate                 | Unit       | Acceptable Limits              |         |
| Toluene-d8                | % Recovery | 50-140                         | 101     |
| 4-Bromofluorobenzene      | % Recovery | 50-140                         | 100     |

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:



## Guideline Violation

AGAT WORK ORDER: 15T957963

PROJECT: 1525987

5835 COOPERS AVENUE  
MISSISSAUGA, ONTARIO  
CANADA L4Z 1Y2  
TEL (905)712-5100  
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CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

| SAMPLEID | SAMPLE TITLE | GUIDELINE          | ANALYSIS PACKAGE                | PARAMETER  | GUIDEVALUE | RESULT |
|----------|--------------|--------------------|---------------------------------|------------|------------|--------|
| 6409918  | 15-2         | T3(NPGW) - Current | O. Reg. 153(511) - VOCs (Water) | Chloroform | 2.4        | 2.8    |
| 6409926  | 15-3         | T3(NPGW) - Current | O. Reg. 153(511) - VOCs (Water) | Chloroform | 2.4        | 3.2    |
| 6409944  | Dup1         | T3(NPGW) - Current | O. Reg. 153(511) - VOCs (Water) | Chloroform | 2.4        | 2.8    |

## Quality Assurance

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 15T957963

PROJECT: 1525987

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY: T L

| Trace Organics Analysis         |         |           |           |        |      |              |                    |                   |       |                    |                   |              |          |                   |       |
|---------------------------------|---------|-----------|-----------|--------|------|--------------|--------------------|-------------------|-------|--------------------|-------------------|--------------|----------|-------------------|-------|
| RPT Date: Apr 01, 2015          |         |           | DUPLICATE |        |      | Method Blank | REFERENCE MATERIAL |                   |       | METHOD BLANK SPIKE |                   | MATRIX SPIKE |          |                   |       |
| PARAMETER                       | Batch   | Sample Id | Dup #1    | Dup #2 | RPD  |              | Measured Value     | Acceptable Limits |       | Recovery           | Acceptable Limits |              | Recovery | Acceptable Limits |       |
|                                 |         |           |           |        |      |              |                    | Lower             | Upper |                    | Lower             | Upper        |          | Lower             | Upper |
| O. Reg. 153(511) - VOCs (Water) |         |           |           |        |      |              |                    |                   |       |                    |                   |              |          |                   |       |
| Dichlorodifluoromethane         | 6410005 |           | < 0.20    | < 0.20 | 0.0% | < 0.20       | 83%                | 50%               | 140%  | 110%               | 50%               | 140%         | 102%     | 50%               | 140%  |
| Vinyl Chloride                  | 6410005 |           | < 0.17    | < 0.17 | 0.0% | < 0.17       | 96%                | 50%               | 140%  | 102%               | 50%               | 140%         | 112%     | 50%               | 140%  |
| Bromomethane                    | 6410005 |           | < 0.20    | < 0.20 | 0.0% | < 0.20       | 105%               | 50%               | 140%  | 104%               | 50%               | 140%         | 112%     | 50%               | 140%  |
| Trichlorofluoromethane          | 6410005 |           | < 0.40    | < 0.40 | 0.0% | < 0.40       | 118%               | 50%               | 140%  | 107%               | 50%               | 140%         | 104%     | 50%               | 140%  |
| Acetone                         | 6410005 |           | < 1.0     | < 1.0  | 0.0% | < 1.0        | 103%               | 50%               | 140%  | 100%               | 50%               | 140%         | 110%     | 50%               | 140%  |
| 1,1-Dichloroethylene            | 6410005 |           | < 0.30    | < 0.30 | 0.0% | < 0.30       | 110%               | 50%               | 140%  | 114%               | 60%               | 130%         | 104%     | 50%               | 140%  |
| Methylene Chloride              | 6410005 |           | < 0.30    | < 0.30 | 0.0% | < 0.30       | 111%               | 50%               | 140%  | 108%               | 60%               | 130%         | 117%     | 50%               | 140%  |
| trans- 1,2-Dichloroethylene     | 6410005 |           | < 0.20    | < 0.20 | 0.0% | < 0.20       | 111%               | 50%               | 140%  | 110%               | 60%               | 130%         | 109%     | 50%               | 140%  |
| Methyl tert-butyl ether         | 6410005 |           | < 0.20    | < 0.20 | 0.0% | < 0.20       | 102%               | 50%               | 140%  | 110%               | 60%               | 130%         | 107%     | 50%               | 140%  |
| 1,1-Dichloroethane              | 6410005 |           | < 0.30    | < 0.30 | 0.0% | < 0.30       | 122%               | 50%               | 140%  | 120%               | 60%               | 130%         | 121%     | 50%               | 140%  |
| Methyl Ethyl Ketone             | 6410005 |           | < 1.0     | < 1.0  | 0.0% | < 1.0        | 98%                | 50%               | 140%  | 100%               | 50%               | 140%         | 105%     | 50%               | 140%  |
| cis- 1,2-Dichloroethylene       | 6410005 |           | < 0.20    | < 0.20 | 0.0% | < 0.20       | 107%               | 50%               | 140%  | 98%                | 60%               | 130%         | 106%     | 50%               | 140%  |
| Chloroform                      | 6410005 |           | < 0.20    | < 0.20 | 0.0% | < 0.20       | 117%               | 50%               | 140%  | 109%               | 60%               | 130%         | 111%     | 50%               | 140%  |
| 1,2-Dichloroethane              | 6410005 |           | < 0.20    | < 0.20 | 0.0% | < 0.20       | 106%               | 50%               | 140%  | 100%               | 60%               | 130%         | 103%     | 50%               | 140%  |
| 1,1,1-Trichloroethane           | 6410005 |           | < 0.30    | < 0.30 | 0.0% | < 0.30       | 108%               | 50%               | 140%  | 101%               | 60%               | 130%         | 98%      | 50%               | 140%  |
| Carbon Tetrachloride            | 6410005 |           | < 0.20    | < 0.20 | 0.0% | < 0.20       | 107%               | 50%               | 140%  | 101%               | 60%               | 130%         | 99%      | 50%               | 140%  |
| Benzene                         | 6410005 |           | < 0.20    | < 0.20 | 0.0% | < 0.20       | 114%               | 50%               | 140%  | 90%                | 60%               | 130%         | 96%      | 50%               | 140%  |
| 1,2-Dichloropropane             | 6410005 |           | < 0.20    | < 0.20 | 0.0% | < 0.20       | 98%                | 50%               | 140%  | 100%               | 60%               | 130%         | 94%      | 50%               | 140%  |
| Trichloroethylene               | 6410005 |           | < 0.20    | < 0.20 | 0.0% | < 0.20       | 103%               | 50%               | 140%  | 95%                | 60%               | 130%         | 90%      | 50%               | 140%  |
| Bromodichloromethane            | 6410005 |           | < 0.20    | < 0.20 | 0.0% | < 0.20       | 109%               | 50%               | 140%  | 105%               | 60%               | 130%         | 100%     | 50%               | 140%  |
| Methyl Isobutyl Ketone          | 6410005 |           | < 1.0     | < 1.0  | 0.0% | < 1.0        | 106%               | 50%               | 140%  | 93%                | 50%               | 140%         | 90%      | 50%               | 140%  |
| 1,1,2-Trichloroethane           | 6410005 |           | < 0.20    | < 0.20 | 0.0% | < 0.20       | 114%               | 50%               | 140%  | 120%               | 60%               | 130%         | 121%     | 50%               | 140%  |
| Toluene                         | 6410005 |           | < 0.20    | < 0.20 | 0.0% | < 0.20       | 126%               | 50%               | 140%  | 113%               | 60%               | 130%         | 113%     | 50%               | 140%  |
| Dibromochloromethane            | 6410005 |           | < 0.10    | < 0.10 | 0.0% | < 0.10       | 127%               | 50%               | 140%  | 117%               | 60%               | 130%         | 120%     | 50%               | 140%  |
| Ethylene Dibromide              | 6410005 |           | < 0.10    | < 0.10 | 0.0% | < 0.10       | 123%               | 50%               | 140%  | 113%               | 60%               | 130%         | 115%     | 50%               | 140%  |
| Tetrachloroethylene             | 6410005 |           | < 0.20    | < 0.20 | 0.0% | < 0.20       | 119%               | 50%               | 140%  | 108%               | 60%               | 130%         | 119%     | 50%               | 140%  |
| 1,1,1,2-Tetrachloroethane       | 6410005 |           | < 0.10    | < 0.10 | 0.0% | < 0.10       | 115%               | 50%               | 140%  | 110%               | 60%               | 130%         | 117%     | 50%               | 140%  |
| Chlorobenzene                   | 6410005 |           | < 0.10    | < 0.10 | 0.0% | < 0.10       | 126%               | 50%               | 140%  | 109%               | 60%               | 130%         | 116%     | 50%               | 140%  |
| Ethylbenzene                    | 6410005 |           | < 0.10    | < 0.10 | 0.0% | < 0.10       | 109%               | 50%               | 140%  | 97%                | 60%               | 130%         | 99%      | 50%               | 140%  |
| m & p-Xylene                    | 6410005 |           | < 0.20    | < 0.20 | 0.0% | < 0.20       | 125%               | 50%               | 140%  | 112%               | 60%               | 130%         | 111%     | 50%               | 140%  |
| Bromoform                       | 6410005 |           | < 0.10    | < 0.10 | 0.0% | < 0.10       | 121%               | 50%               | 140%  | 114%               | 60%               | 130%         | 126%     | 50%               | 140%  |
| Styrene                         | 6410005 |           | < 0.10    | < 0.10 | 0.0% | < 0.10       | 90%                | 50%               | 140%  | 96%                | 60%               | 130%         | 97%      | 50%               | 140%  |
| 1,1,2,2-Tetrachloroethane       | 6410005 |           | < 0.10    | < 0.10 | 0.0% | < 0.10       | 129%               | 50%               | 140%  | 121%               | 60%               | 130%         | 121%     | 50%               | 140%  |
| o-Xylene                        | 6410005 |           | < 0.10    | < 0.10 | 0.0% | < 0.10       | 119%               | 50%               | 140%  | 118%               | 60%               | 130%         | 123%     | 50%               | 140%  |
| 1,3-Dichlorobenzene             | 6410005 |           | < 0.10    | < 0.10 | 0.0% | < 0.10       | 116%               | 50%               | 140%  | 95%                | 60%               | 130%         | 102%     | 50%               | 140%  |
| 1,4-Dichlorobenzene             | 6410005 |           | < 0.10    | < 0.10 | 0.0% | < 0.10       | 113%               | 50%               | 140%  | 112%               | 60%               | 130%         | 118%     | 50%               | 140%  |
| 1,2-Dichlorobenzene             | 6410005 |           | < 0.10    | < 0.10 | 0.0% | < 0.10       | 121%               | 50%               | 140%  | 98%                | 60%               | 130%         | 102%     | 50%               | 140%  |
| 1,3-Dichloropropene             | 6410005 |           | < 0.30    | < 0.30 | 0.0% | < 0.30       | 98%                | 50%               | 140%  | 90%                | 60%               | 130%         | 84%      | 50%               | 140%  |
| n-Hexane                        | 6410005 |           | < 0.20    | < 0.20 | 0.0% | < 0.20       | 73%                | 50%               | 140%  | 115%               | 60%               | 130%         | 93%      | 50%               | 140%  |

## Quality Assurance

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 15T957963

PROJECT: 1525987

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY: T L

### Trace Organics Analysis (Continued)

| RPT Date: Apr 01, 2015 |       |           | DUPLICATE |        |     | Method Blank | REFERENCE MATERIAL |                   |       | METHOD BLANK SPIKE |                   |       | MATRIX SPIKE |                   |       |
|------------------------|-------|-----------|-----------|--------|-----|--------------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------|-------------------|-------|
| PARAMETER              | Batch | Sample Id | Dup #1    | Dup #2 | RPD |              | Measured Value     | Acceptable Limits |       | Recovery           | Acceptable Limits |       | Recovery     | Acceptable Limits |       |
|                        |       |           |           |        |     |              |                    | Lower             | Upper |                    | Lower             | Upper |              | Lower             | Upper |


**O. Reg. 153(511) - PAHs (Water)**

|                            |         |  |        |        |      |        |      |     |      |     |     |      |     |     |      |
|----------------------------|---------|--|--------|--------|------|--------|------|-----|------|-----|-----|------|-----|-----|------|
| Naphthalene                | 6413486 |  | 1.8    | 1.8    | 0.0% | < 0.20 | 98%  | 50% | 140% | 88% | 50% | 140% | 77% | 50% | 140% |
| Acenaphthylene             | 6413486 |  | < 0.20 | < 0.20 | 0.0% | < 0.20 | 103% | 50% | 140% | 81% | 50% | 140% | 78% | 50% | 140% |
| Acenaphthene               | 6413486 |  | < 0.20 | < 0.20 | 0.0% | < 0.20 | 104% | 50% | 140% | 84% | 50% | 140% | 80% | 50% | 140% |
| Fluorene                   | 6413486 |  | < 0.20 | < 0.20 | 0.0% | < 0.20 | 101% | 50% | 140% | 78% | 50% | 140% | 76% | 50% | 140% |
| Phenanthrene               | 6413486 |  | 0.19   | 0.19   | 0.0% | < 0.10 | 87%  | 50% | 140% | 75% | 50% | 140% | 76% | 50% | 140% |
| Anthracene                 | 6413486 |  | < 0.10 | < 0.10 | 0.0% | < 0.10 | 99%  | 50% | 140% | 82% | 50% | 140% | 79% | 50% | 140% |
| Fluoranthene               | 6413486 |  | < 0.20 | < 0.20 | 0.0% | < 0.20 | 103% | 50% | 140% | 78% | 50% | 140% | 84% | 50% | 140% |
| Pyrene                     | 6413486 |  | < 0.20 | < 0.20 | 0.0% | < 0.20 | 105% | 50% | 140% | 80% | 50% | 140% | 87% | 50% | 140% |
| Benz(a)anthracene          | 6413486 |  | < 0.20 | < 0.20 | 0.0% | < 0.20 | 85%  | 50% | 140% | 68% | 50% | 140% | 77% | 50% | 140% |
| Chrysene                   | 6413486 |  | < 0.10 | < 0.10 | 0.0% | < 0.10 | 106% | 50% | 140% | 95% | 50% | 140% | 82% | 50% | 140% |
| Benzo(b)fluoranthene       | 6413486 |  | < 0.10 | < 0.10 | 0.0% | < 0.10 | 92%  | 50% | 140% | 60% | 50% | 140% | 72% | 50% | 140% |
| Benzo(k)fluoranthene       | 6413486 |  | < 0.10 | < 0.10 | 0.0% | < 0.10 | 104% | 50% | 140% | 90% | 50% | 140% | 71% | 50% | 140% |
| Benzo(a)pyrene             | 6413486 |  | < 0.01 | < 0.01 | 0.0% | < 0.01 | 100% | 50% | 140% | 82% | 50% | 140% | 77% | 50% | 140% |
| Indeno(1,2,3-cd)pyrene     | 6413486 |  | < 0.20 | < 0.20 | 0.0% | < 0.20 | 110% | 50% | 140% | 70% | 50% | 140% | 77% | 50% | 140% |
| Dibenz(a,h)anthracene      | 6413486 |  | < 0.20 | < 0.20 | 0.0% | < 0.20 | 126% | 50% | 140% | 62% | 50% | 140% | 73% | 50% | 140% |
| Benzo(g,h,i)perylene       | 6413486 |  | < 0.20 | < 0.20 | 0.0% | < 0.20 | 126% | 50% | 140% | 78% | 50% | 140% | 83% | 50% | 140% |
| 2-and 1-methyl Naphthalene | 6413486 |  | 6.8    | 7.0    | 2.9% | < 0.20 | 102% | 50% | 140% | 85% | 50% | 140% | 78% | 50% | 140% |

**O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Water)**

|                 |         |         |       |       |      |       |      |     |      |     |     |      |     |     |      |
|-----------------|---------|---------|-------|-------|------|-------|------|-----|------|-----|-----|------|-----|-----|------|
| F1 (C6 to C10)  | 6398077 |         | < 25  | < 25  | 0.0% | < 25  | 106% | 60% | 140% | 81% | 60% | 140% | 81% | 60% | 140% |
| F2 (C10 to C16) | 6409934 | 6409934 | < 100 | < 100 | 0.0% | < 100 | 94%  | 60% | 140% | 73% | 60% | 140% | 67% | 60% | 140% |
| F3 (C16 to C34) | 6409934 | 6409934 | < 100 | < 100 | 0.0% | < 100 | 96%  | 60% | 140% | 82% | 60% | 140% | 92% | 60% | 140% |
| F4 (C34 to C50) | 6409934 | 6409934 | < 100 | < 100 | 0.0% | < 100 | 84%  | 60% | 140% | 76% | 60% | 140% | 78% | 60% | 140% |

Certified By:





## Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 15T957963

PROJECT: 1525987

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY: T L

| PARAMETER                         | AGAT S.O.P    | LITERATURE REFERENCE   | ANALYTICAL TECHNIQUE |
|-----------------------------------|---------------|------------------------|----------------------|
| Trace Organics Analysis           |               |                        |                      |
| Naphthalene                       | ORG-91-5105   | EPA SW-846 3510 & 8270 | GC/MS                |
| Acenaphthylene                    | ORG-91-5105   | EPA SW-846 3510 & 8270 | GC/MS                |
| Acenaphthene                      | ORG-91-5105   | EPA SW-846 3510 & 8270 | GC/MS                |
| Fluorene                          | ORG-91-5105   | EPA SW-846 3510 & 8270 | GC/MS                |
| Phenanthrene                      | ORG-91-5105   | EPA SW-846 3510 & 8270 | GC/MS                |
| Anthracene                        | ORG-91-5105   | EPA SW-846 3510 & 8270 | GC/MS                |
| Fluoranthene                      | ORG-91-5105   | EPA SW-846 3510 & 8270 | GC/MS                |
| Pyrene                            | ORG-91-5105   | EPA SW-846 3510 & 8270 | GC/MS                |
| Benz(a)anthracene                 | ORG-91-5105   | EPA SW-846 3510 & 8270 | GC/MS                |
| Chrysene                          | ORG-91-5105   | EPA SW-846 3510 & 8270 | GC/MS                |
| Benzo(b)fluoranthene              | ORG-91-5105   | EPA SW-846 3510 & 8270 | GC/MS                |
| Benzo(k)fluoranthene              | ORG-91-5105   | EPA SW-846 3510 & 8270 | GC/MS                |
| Benzo(a)pyrene                    | ORG-91-5105   | EPA SW-846 3510 & 8270 | GC/MS                |
| Indeno(1,2,3-cd)pyrene            | ORG-91-5105   | EPA SW-846 3510 & 8270 | GC/MS                |
| Dibenz(a,h)anthracene             | ORG-91-5105   | EPA SW-846 3510 & 8270 | GC/MS                |
| Benzo(g,h,i)perylene              | ORG-91-5105   | EPA SW-846 3510 & 8270 | GC/MS                |
| 2-and 1-methyl Naphthalene        | ORG-91-5105   | EPA SW-846 3510 & 8270 | GC/MS                |
| Chrysene-d12                      | ORG-91-5105   | EPA SW-846 3510 & 8270 | GC/MS                |
| F1 (C6 to C10)                    | VOL-91-5010   | MOE PHC E3421          | (P&T)GC/FID          |
| F1 (C6 to C10) minus BTEX         | VOL-91-5010   | MOE PHC E3421          | (P&T)GC/FID          |
| F2 (C10 to C16)                   | VOL-91-5010   | MOE PHC E3421          | GC/FID               |
| F2 (C10 to C16) minus Naphthalene | VOL-91-5010   | MOE PHC E3421          | GC/FID               |
| F3 (C16 to C34)                   | VOL-91-5010   | MOE PHC E3421          | GC/FID               |
| F3 (C16 to C34) minus PAHs        | VOL-91-5010   | MOE PHC E3421          | GC/FID               |
| F4 (C34 to C50)                   | VOL -91- 5010 | MOE PHC- E3421         | GC/FID               |
| Gravimetric Heavy Hydrocarbons    | VOL-91-5010   | MOE PHC E3421          | BALANCE              |
| Terphenyl                         | VOL-91-5010   |                        | GC/FID               |
| Dichlorodifluoromethane           | VOL-91-5001   | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Vinyl Chloride                    | VOL-91-5001   | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Bromomethane                      | VOL-91-5001   | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Trichlorofluoromethane            | VOL-91-5001   | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Acetone                           | VOL-91-5001   | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| 1,1-Dichloroethylene              | VOL-91-5001   | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Methylene Chloride                | VOL-91-5001   | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| trans- 1,2-Dichloroethylene       | VOL-91-5001   | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Methyl tert-butyl ether           | VOL-91-5001   | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| 1,1-Dichloroethane                | VOL-91-5001   | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Methyl Ethyl Ketone               | VOL-91-5001   | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| cis- 1,2-Dichloroethylene         | VOL-91-5001   | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Chloroform                        | VOL-91-5001   | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| 1,2-Dichloroethane                | VOL-91-5001   | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| 1,1,1-Trichloroethane             | VOL-91-5001   | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Carbon Tetrachloride              | VOL-91-5001   | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Benzene                           | VOL-91-5001   | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| 1,2-Dichloropropane               | VOL-91-5001   | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Trichloroethylene                 | VOL-91-5001   | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Bromodichloromethane              | VOL-91-5001   | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Methyl Isobutyl Ketone            | VOL-91-5001   | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| 1,1,2-Trichloroethane             | VOL-91-5001   | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |

## Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 15T957963

PROJECT: 1525987

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY: T L

| PARAMETER                   | AGAT S.O.P  | LITERATURE REFERENCE   | ANALYTICAL TECHNIQUE |
|-----------------------------|-------------|------------------------|----------------------|
| Toluene                     | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Dibromochloromethane        | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Ethylene Dibromide          | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Tetrachloroethylene         | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| 1,1,1,2-Tetrachloroethane   | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Chlorobenzene               | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Ethylbenzene                | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| m & p-Xylene                | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Bromoform                   | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Styrene                     | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| 1,1,2,2-Tetrachloroethane   | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| o-Xylene                    | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| 1,3-Dichlorobenzene         | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| 1,4-Dichlorobenzene         | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| 1,2-Dichlorobenzene         | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| 1,3-Dichloropropene         | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Xylene Mixture              | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| n-Hexane                    | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Toluene-d8                  | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| 4-Bromofluorobenzene        | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Dichlorodifluoromethane     | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Vinyl Chloride              | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Bromomethane                | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Trichlorofluoromethane      | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Acetone                     | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| 1,1-Dichloroethylene        | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Methylene Chloride          | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| trans- 1,2-Dichloroethylene | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Methyl tert-butyl ether     | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| 1,1-Dichloroethane          | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Methyl Ethyl Ketone         | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| cis- 1,2-Dichloroethylene   | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Chloroform                  | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| 1,2-Dichloroethane          | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| 1,1,1-Trichloroethane       | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Carbon Tetrachloride        | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Benzene                     | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| 1,2-Dichloropropane         | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Trichloroethylene           | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Bromodichloromethane        | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Methyl Isobutyl Ketone      | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| 1,1,2-Trichloroethane       | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Toluene                     | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Dibromochloromethane        | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Ethylene Dibromide          | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Tetrachloroethylene         | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| 1,1,1,2-Tetrachloroethane   | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Chlorobenzene               | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Ethylbenzene                | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| m & p-Xylene                | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |

## Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 15T957963

PROJECT: 1525987

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY: T L

| PARAMETER                 | AGAT S.O.P  | LITERATURE REFERENCE   | ANALYTICAL TECHNIQUE |
|---------------------------|-------------|------------------------|----------------------|
| Bromoform                 | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Styrene                   | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| 1,1,2,2-Tetrachloroethane | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| o-Xylene                  | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| 1,3-Dichlorobenzene       | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| 1,4-Dichlorobenzene       | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| 1,2-Dichlorobenzene       | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| 1,3-Dichloropropene       | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Xylene Mixture            | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| n-Hexane                  | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| Toluene-d8                | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |
| 4-Bromofluorobenzene      | VOL-91-5001 | EPA SW-846 5030 & 8260 | (P&T)GC/MS           |



AGAT Laboratories

5835 Cooper's Avenue  
Mississauga, Ontario L4Z 1V2  
Ph: 905.712.5100 Fax: 905.712.5122  
www.agatlabs.com webearth.agatlabs.com

### Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water intended for human consumption)

#### Report Information:

Company: GA  
 Contact: Keith Holmes  
 Address: 1931 Robertson Road  
 Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
 Reports to be sent to:  
 1. Email: kholmes@golders.com  
 2. Email: \_\_\_\_\_

#### Project Information:

Project: 1525987  
 Site Location: \_\_\_\_\_  
 Sampled By: Tony Lyon  
 AGAT Quote #: \_\_\_\_\_

#### Invoice Information:

Company: GA  
 Contact: Accounting  
 Address: \_\_\_\_\_  
 Email: office-accounting@golders.com

#### Regulatory Requirements:

Regulation 153/04  
 Sewer Use  
 Sanitary  
 Storm  
 Prov. Water Quality Objectives (PWQO)  
 Other \_\_\_\_\_

Is this submission for a Record of Site Condition?  
 Yes  No

Report Guideline on Certificate of Analysis  
 Yes  No

#### Sample Matrix Legend

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

| Sample Identification | Date Sampled | Time Sampled | # of Containers | Sample Matrix | Comments/Special Instructions | Metals and Inorganics | Metal Scan | Hydride Forming Metals | Client Custom Metals | Nutrients | Volatiles | CCME Fractions 1 to 4 | ABNs | PAHs | Chlorophenols | PCBs | Organochlorine Pesticides | TCLP Metals/Inorganics | Sewer Use |  |
|-----------------------|--------------|--------------|-----------------|---------------|-------------------------------|-----------------------|------------|------------------------|----------------------|-----------|-----------|-----------------------|------|------|---------------|------|---------------------------|------------------------|-----------|--|
| 15-1                  | 27/03/15     |              | 8               | GW            | Mar 27, 15                    |                       |            |                        |                      |           |           |                       |      |      |               |      |                           |                        |           |  |
| 15-2                  |              |              | 8               |               | is the correct data           |                       |            |                        |                      |           |           |                       |      |      |               |      |                           |                        |           |  |
| 15-3                  |              |              | 8               |               | for all                       |                       |            |                        |                      |           |           |                       |      |      |               |      |                           |                        |           |  |
| 15-4                  |              |              | 8               |               | for all                       |                       |            |                        |                      |           |           |                       |      |      |               |      |                           |                        |           |  |
| Dup1                  |              |              | 3               |               | (not necessary)               |                       |            |                        |                      |           |           |                       |      |      |               |      |                           |                        |           |  |
| Field blank           |              |              | 3               |               |                               |                       |            |                        |                      |           |           |                       |      |      |               |      |                           |                        |           |  |
| Top blank             |              |              | 3               |               |                               |                       |            |                        |                      |           |           |                       |      |      |               |      |                           |                        |           |  |
| Top spki              |              |              | 3               |               |                               |                       |            |                        |                      |           |           |                       |      |      |               |      |                           |                        |           |  |
| Lab Dug               | 5-4          | 27/03/15     | 2               | GW            | -hand digging in              |                       |            |                        |                      |           |           |                       |      |      |               |      |                           |                        |           |  |

Samples Requisitioned By: Tony Lyon Date: Mar 27, 15 Time: 16:16  
 Samples Received By: Rebecca Beckett Date: Mar 28 Time: 10:15  
 Samples Requisitioned by (Print Name and Sign): \_\_\_\_\_ Date: Mar 27, 15 Time: \_\_\_\_\_  
 Samples Received by (Print Name and Sign): \_\_\_\_\_ Date: Mar 28 Time: 10:15  
 Page 1 of 1  
 No: T0000649

#### Laboratory Use Only

Work Order #: 15T957963

Cooler Quantity: 1

Arrival Temperatures: 4 15 15

Custody Seal Intact:  Yes  No  N/A

#### Turnaround Time (TAT) Required:

Regular TAT  5 to 7 Business Days

#### Rush TAT (Rush Surcharges Apply)

3 Business Days  2 Business Days  1 Business Day

OR Date Required (Rush Surcharges May Apply): \_\_\_\_\_

Please provide prior notification for rush TAT  
 \*TAT is exclusive of weekends and statutory holidays