REPORT

Phase Two Environmental Site Assessment

104 Richmond Rd, Ottawa, Ontario

Submitted to:

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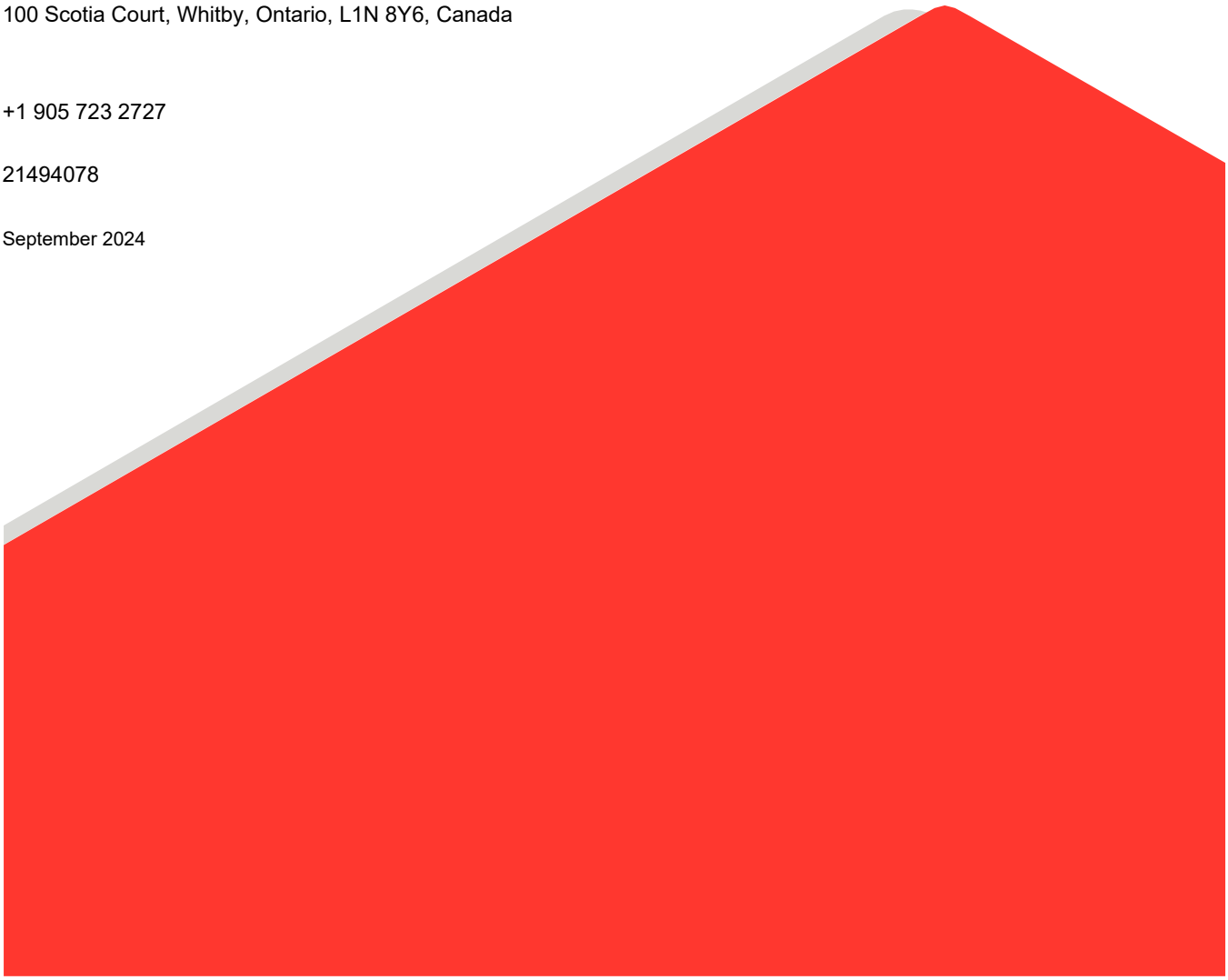
September 2024



Distribution List

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Record of Issue

Version	Date Issued	Notes
Rev. A	October 6, 2023	Draft report for client review
Rev. B	October 16, 2023	Final Draft report for client review
Rev. 0	September 4, 2024	Final report to client

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1.0 EXECUTIVE SUMMARY

IMPORTANT: *This report is based on data collected during investigations completed between September 2021 and November 21, 2023. Any data collected after November 21, 2023 has not been included in this report or considered in the conclusions and recommendations provided herein.*

WSP Canada Inc. ("WSP") was retained by 1047 Richmond Nominee Inc. ("the Client") to conduct a Phase Two Environmental Site Assessment (Phase Two ESA) of the property located at 1047 Richmond Road, Ottawa, Ontario (the Site). The Site location and plan are provided on Figures 1 and 2, respectively.

WSP previously completed a Phase One ESA for the Site, the results of which were documented in the report titled "*Phase One Environmental Site Assessment, 1047 Richmond Road, Ottawa, Ontario"* (November 2021, updated May 2024). WSP completed this Phase Two ESA investigation based on the findings of the Phase One ESA findings.

The analytical results from the sampling and analysis program indicated that all parameters tested in soil at the Site meet the applicable MECP Table 7 RPI SCS, except for PHC F1-F4 at BH21-05 and BH21-24, 1,4-dichlorobenzene at BH21-05 and SAR at BH21-03, BH21-11 and BH21-13. In July 2023, a soil excavation program was conducted at the Site and all PHC and 1,4-dichlorobenzene exceedances were removed, with confirmation samples meeting Table 7 RPI SCS. The presence of SAR is the result of the local application of de-icing salt for safety purposes and is therefore not considered to represent an exceedance of the site condition standard under Ontario Regulation 153/04. Thus, the presence of the PHC F1-F4 and 1,4-dichlorobenzene is the result of the operation of the Site as automotive garage.

Based upon the comparison of the groundwater analytical results from the 2021, 2022, and 2023 sampling programs to the MECP Table 7 SCS, no exceedances are present in groundwater with the exception of 1,2-dichloroethane (1,2-DCA) at BH22-02 and BH22-03; PHC F2 and F3 at BH22-04, and 1,2-DCA and benzene at BH21-04.

Considering the above, and in support of the filing of a Record of Site Condition (RSC), additional work is required at the Site in the form of a risk assessment to obtain an RSC with Certificate of Property Use prior to redevelopment, or removal of all impacted soil and groundwater and completion of confirmatory soil and groundwater sampling to obtain an RSC based on generic site condition standards. In a removal scenario, confirmatory groundwater sampling will be required over two quarterly events conducted three- and six-months post-excavation to confirm the groundwater quality meets applicable site condition standards.

2.0 INTRODUCTION

2.1 Site Description

WSP (formerly Golder Associates) was retained by the Client to conduct a Phase Two ESA of the following property:

Municipal Address	1047 Richmond Rd, Ottawa, Ontario
Property Identification Number	03970-0109 (LT)
Legal Description	Part Lots 24 & 25, Concession 1 (OF) Nepean as in N545545, Except Part 1 5R-3653
Size of the Phase Two Property	0.97 hectare (2.39 acre)

The location of the Phase Two Property is provided in Figure 1. The above referenced Plan of Survey is provided in Appendix A. The boundaries of the Phase Two Property as provided by the Client, which are the same as the RSC property boundaries, is shown in Figure 2.

2.2 Property Ownership

Authorization to proceed with this investigation was received from the Client on December 3, 2020. The contact information for the Client and the Phase One Property owner is:

Site Owner / Client	Address	Contact Name
Client: 1047 Richmond Nominee Inc.	2275 Upper Middle Road East Suite 700, Oakville, Ontario L6H 0C3	Mr. Andrew Konev Office: (905) 491-691-6596 Email: andrew.konev@fengate.com

2.3 Current and Proposed Future Uses

The Site (shown in Figure 2) consists of a 0.97-hectare parcel of commercial land with a former Chrysler dealership situated in the middle of the lot. Exterior areas of the Site included asphalt-paved parking (whole site) and driveway areas. The future use of the Site will be residential, with the development of three condo towers with three parking level garage and commerce and services at ground level.

2.4 Applicable Site Condition Standards

The analytical results of soil and groundwater samples collected for this Phase Two ESA were compared to the Table 7 generic site conditions standards for shallow soils in a non-potable ground water condition (residential/parkland/ institutional property use, coarse soil texture) presented in the Ontario Ministry of the Environment (MOE[1]) document titled "*Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act, April 15, 2011*". The applicable site condition standards were selected based on the following rationale:

- The Phase Two Property is not located in an area designated in a municipal official plan as a well-head protection area or other designation identified by the municipality for the protection of ground water.
- No water bodies were identified on the Phase Two Property.

[1] MOE was renamed the MECP – Ministry of Environment, Conservation and Parks; however, the generic site condition standards and associate guidance documents were released by the MOE and the standards are still legally referred to as the MOE standards.

- Based on field observations and grain size analysis results (refer to Appendix B) from soil samples collected from boreholes, the soil present at the Site is estimated to consist of soil having a grain size distribution with 50 percent or more by mass of particles that are greater than 75 µm mesh. Under the definition presented in O. Reg. 153/04, the soil at the Site is therefore considered to be coarse textured.
- The Site and surrounding properties located in whole or in part within 250 metres of the Site are within an area that is municipally serviced by a water supply that does not rely on potable groundwater as its source. No wells were identified that are used or intended for use as a source of potable water.
- The closest water body is Ottawa River located approximately 225 m northwest of the Site.
- There are no features on the Phase Two Property that would meet the conditions of an environmentally sensitive Site, as described in Section 41.
- In general, the pH range of surface soil is greater than 5 and less than 9 and the pH range of sub-surface soil is greater than 5 and less than 11. For the purposes of this Phase Two ESA investigation, the pH of surface and sub-surface soil is considered not environmentally sensitive.
- The former use of the Site was industrial/commercial, and the proposed future use of the Site is residential/parkland.
- The overburden thickness is less than 2 metres over more than one-third of the Phase Two Property.
- The average depth to shallow groundwater at the Site is 3.00 metres below ground surface (m bgs) or deeper across all monitoring events conducted from December 2021 through January 2024.

Based on the above, the 2011 Table 7 RPI Standards, which includes quality standards for soil and groundwater, were used to assess the environmental conditions at the Site. The use of Table 7 RPI SCS was approved by the City of Ottawa in correspondence sent on February 28, 2023, with the city's response approving the use of non-potable standards.

3.0 BACKGROUND INFORMATION

This section presents the background conditions of the Phase Two Property including a description of the physical setting and a summary of past investigations conducted.

The objectives of the Phase Two ESA were to obtain information about environmental conditions in the soil and groundwater on, in or under the Site, and to develop the information necessary to complete a Record of Site Condition (RSC) for the property. The objectives of this Phase Two ESA were achieved by:

- Developing an understanding of the geological and hydrogeological conditions at the Site; and
- Conducting field sampling for all contaminants of concern (COCs) associated with each area of potential environmental concern (APEC) identified in the Phase One ESA.

3.1 Physical Setting

The Site consists of an irregular polygon shaped parcel of land located on the north side of Richmond Road in Ottawa, Ontario. The nearest water body is the Ottawa River which is located approximately 225 m northwest of the Site, which flows northeast to the Atlantic Ocean (600 km northeast). Land uses surrounding the Site are commercial and residential.

The topography of the Site and surrounding areas is generally flat with a marginal downward slope to the east/north towards Ottawa River. There are no surface water drainage features on the Site.

3.2 Past Investigations

3.2.1 Phase One ESA

WSP conducted a Phase One ESA entitled "*Phase One Environmental Site Assessment, 1047 Richmond Road, Ottawa, Ontario*", dated November 2021 and updated in May 2024, to assess the likelihood of soil and/or groundwater contamination resulting from historic or present activities at the Site and surrounding area. This included a review of available historical information on the Site and surrounding area, interviews with persons familiar with the Site and a Site reconnaissance. The location of Potentially Contaminating Activities identified via the Phase One ESA are shown on Figure 3. The location of APECs identified based on the Phase One ESA are shown on Figure 4 and summarized below:

Area of Potential Environmental Concern[1]	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity[2]	Location of PCA (on-Site or off-Site)	Contaminants of Potential Concern[3]	Media Potentially Impacted (Groundwater, soil and/or Sediment)
APEC 1 – On-site automotive garage	Centre of the Site	#10. Commercial Autobody Shops	On-Site	PHCs F1-F4, BTEX and VOCs	Soil and groundwater
APEC 2A – Former UST location	Northeast portion of the Site building	#28. Gasoline and Associated Products Storage in Fixed Tanks	On-Site	PHCs F1-F4 and BTEX	Soil and groundwater
APEC 2B – Former UST location	Southeast portion of the Site building				
APEC 3 – Presence of an AST, used for waste lubricant oil and oil-stain spots on the asphalt close to the AST	Northeast portion of the Site building	#28. Gasoline and Associated Products Storage in Fixed Tanks	On-Site	PHCs F1-F4 and BTEX	Soil and groundwater
APEC 4 – Presence of painting operations (paint booth)	Northeast of the Site building	#39. Paints Manufacturing, Processing and Bulk Storage	On-Site	Metals, Hydride-Forming Metals, ORP, VOCs and PHCs	Soil and groundwater
APEC 5 – Inferred fill materials to be present site-wide	Entire Site	# 30. Importation of Fill Material of Unknown Quality	On-Site	Metals, Hydride-Forming Metals, ORP and PHCs	Soil
APEC 6 – Pole mounted transformer and fuse box	Four pole-mounted transformers were observed on the driveway of New Orchard Ave.	#55. Transformer Manufacturing, Processing and Use	On-Site	PCBs, PHCs	Soil

Area of Potential Environmental Concern[1]	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity[2]	Location of PCA (on-Site or off-Site)	Contaminants of Potential Concern[3]	Media Potentially Impacted (Groundwater, soil and/or Sediment)
APEC 7 – The application of de-icing salt for the purposes of vehicular and pedestrian safety has occurred at the Phase One Property. As per section 49.1 in O. Reg. 153/04, no testing is required.	Entire Site	#Other	On-Site	SAR, EC, sodium, chloride	Soil and groundwater

Notes:

1 Area of potential environmental concern means the area on, in or under a phase one property where one or more contaminants are potentially present, as determined through the phase one environmental Site assessment, including through, •(a) identification of past or present uses on, in or under the phase one property, and •(b) identification of potentially contaminating activity

2 Potentially contaminating activity means a use or activity set out in Column A of Table 2 of Schedule D that is occurring or has occurred in a phase one study area

3 Contaminants of potential concern specified using the method groups as identified in the "Protocol for in the Assessment of Properties under Part XV.1 of the Environmental Protection Act, March 9, 2004, amended as of July 1, 2011

4 Metals – Ba (Barium), Beryllium (Be), Boron (B), Cadmium (Cd), Chromium (Cr), Cobalt (Co), Copper (Cu), Lead (Pb), Molybdenum (Mo), Nickel (Ni), Silver (Ag), Thallium (Th), Uranium (U), Vanadium (V), Zinc (Zn); Hydride-Forming Metals – Arsenic (As), Selenium (Se), Antimony (Sb); ORP – Hexavalent Chromium (Cr-VI), Sodium (Na), Mercury (Hg), Hot Water Soluble Boron (B-HWS), Chloride (Cl-), Cyanide (CN-), Sodium Adsorption Ratio (SAR), Electrical Conductivity (EC); PHC – Petroleum Hydrocarbons; BTEX – Benzene, Toluene, Ethylbenzene and Xylenes; VOC – Volatile Organic Compounds.

3.2.2 Previous Environmental Investigations

No previous environmental investigations have been carried out at the Site. The 2021 Phase One ESA followed by the 2023 Phase One update were the first environmental study carried out at the property and its findings were considered as part of the Phase Two ESA (used in conjunction for the identification of PCAs and APECs).

4.0 SCOPE OF THE PHASE TWO ESA INVESTIGATION

The objective of this Phase Two ESA was to assess the presence or absence of impact associated with the APECs as identified in the Phase One ESA, to assess the vertical extent of soil and groundwater contaminants identified at the Site, and to support the filing of an RSC for the Site.

4.1 Overview of Site Investigation

The Phase Two ESA was carried out between September and December 2021, and between May 2022 and August 2023 and included the following tasks:

- **Health and Safety Plan:** A Health and Safety Plan for internal and subcontractor use was prepared prior to initiating fieldwork at the Site.
- **Subsurface utilities in the areas of investigation:** Prior to drilling, WSP contacted local public utilities and retained the services of a private contractor to locate and identify potential buried services within the general areas of the proposed test locations before commencing intrusive investigations at the Site.

- **Sampling and analysis plan:** WSP prepared a sampling and analysis plan prior to conducting the field investigation (refer to Appendix D).
- **Borehole drilling and monitoring well installation:** The borehole drilling program was conducted between September 21 to 24, 2021; November 11 to 25, 2021, December 21, 2021, May 5 to 11, 2022, October 3, to November 4, 2022, and on May 15, 2023. The program included the drilling of thirty-three boreholes, of which twenty-five were completed as groundwater monitoring wells. The location of the boreholes and monitoring wells are provided on Figure 5. The monitoring well construction details and water level information are presented in Tables 1 and 2.
- **Soil sampling:** Selected soil samples were collected during drilling. Soil samples were submitted for chemical analysis of one or more of the following: petroleum hydrocarbons (PHCs) plus benzene, toluene, ethylbenzene and xylenes (BTEX), volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), metals, hydride-forming metals, and other regulated parameters (ORP). A summary of the soil samples submitted for analysis is presented in Table 3.
- **Well development, groundwater monitoring and sampling:** WSP developed the newly installed monitoring wells on September 22, 2021, November 16 and 26, 2021, December 21, 2021, May 20, 2022, and May 18, 2023. WSP collected groundwater samples on October 4,2021, November 22, 2021, December 22, 2021, May 26, 2022, November 15, 2022, February 9, 2023, March 16, 2023, May 29, 2023, July 7, 2023, July 18, 2023, July 19, 2023, August 8, 2023, and November 21, 2023, from one or more of the twelve groundwater monitoring wells (BH21-02 to BH21-05, BH21-11, BH21-14, BH21-15A/B, BH21-19 to BH21-22, BH22-01 to BH22-05, BH22-08, BH22-09 (S), BH22-09 (D), BH22-10 (S) and BH22-10 (D)). The groundwater samples were submitted for analysis of one or more of VOCs, PHCs, BTEX, hydride-forming metals, and/or ORP. A summary of the groundwater samples submitted for analysis is presented in Table 4.
- **Surveying**: An elevation survey for the boreholes and monitoring wells installed as part of this Phase Two ESA was completed by WSP on September 16, 2021, December 1, 2021, January 10, 2022, and May 23, 2023.
- **Test Pit program and Soil Sampling:** Soil samples were collected following the removal soil exceedances from the area at and around BH21-05 and BH21-24, on the northeast area of the Site on July 25 and 26, 2023.
- **Reporting**: WSP complied and assessed the field and laboratory results from the above noted activities into this report.

The rationale for the investigations is provided in the Sampling and Analysis Plans provided in Appendix D. The sampling locations are provided in Figure 5. The monitoring well construction details are presented in Table 1. A summary of the soil samples collected is presented in Table 3. A summary of the groundwater samples collected is presented in Table 4.

The Phase Two ESA investigation was carried out in general accordance with WSP's standard operating procedures which conform to the requirements of O. Reg. 153/04.

The data from this Phase Two ESA investigation completed by WSP at the Site were incorporated into a single Phase Two ESA report following the Phase Two ESA report format and content required by O. Reg. 153/04. There were no impediments or access limitations that would affect the conclusions of the Phase Two ESA report.

4.2 Media Investigated

To address the potential environmental issues identified in the Phase One ESA, the Phase Two ESA field program included sampling of soil from boreholes and test pits, and groundwater from monitoring wells screened within overburden soil, upper and deep bedrock at the Site. No sediment was present at the Site and therefore no sediment sampling was completed.

Details of the parameters analysed in soil and groundwater samples are presented in Tables 3 and 4. The sampling and analysis plan (refer to Appendix D) outlines the rationale for the field investigation activities carried out at the Site and the associated methodologies used to meet the objectives of this Phase Two ESA.

4.3 Phase One Conceptual Site Model (CSM)

The following key Site features (as required by O.Reg. 153/04) are presented on Figures 3, and 4 where applicable:

- Existing buildings and structures;
- Water bodies and areas of natural significance located in the Phase One Study Area;
- Drinking water wells on the Phase One Property;
- Roads (including names) within the Phase One Study Area;
- Uses of properties adjacent to the Phase One Property; and,
- Location of identified PCAs in the Phase One Study Area (including any storage tanks).

The following describes the Phase One ESA CSM based on the information obtained and reviewed as part of the Phase One ESA:

- The Phase One property consisted of a 0.97-hectare parcel of land developed with a commercial building.
- No water bodies or areas of natural significance were identified on or within 30 m of the Phase One Property. Ottawa River is located approximately 225 m northwest of the Phase One Property.
- Potable water in the vicinity of the Phase One Property is provided by the City of Ottawa and is obtained from Ottawa River. No potable water wells were identified on the Phase One Property.
- The Phase One Property and Phase One Study Area are not considered part of a well-head protection area.
- The Phase One Property was originally transferred from the Crown to a private individual in 1804. Between 1804 to present various private owners or entities have owned the Phase One Property. The site use was residential until 1959, at which point a car dealership was developed. Since 1959, the operations at the Site have included a commercial auto body shop, and storage, maintenance, fuelling and repair of vehicles; which included one former UST tank nest located adjacent to the northeast corner of the Site building and a possible UST tank nest and service island located adjacent to the southeast corner of the Site building along Richmond Road.
- At the time of the Phase One ESA, the Phase One Property was occupied by Metro Chrysler dealership which operated as a new car dealership, used car dealership, auto body shop and maintenance garage shop.

- At the time of the Phase One ESA, the neighbouring properties within the Phase One Study Area consisted of commercial and residential uses (see Figure 2).
- The following PCAs were identified on the Phase One Property which result in APECs to the Site:
  - *#10 Commercial Autobody Shops* – The Site is currently used as a car dealership and has an automotive garage and associated equipment present.
  - *#28 Gasoline and Associated Products Storage in Fixed Tanks* – Former UST areas identified on the Site.
  - *#30 Importation of Fill Material of Unknown Quality* – Due to the age and development history of the Site, fill materials are inferred to be present site-wide.
  - *#39 Paints Manufacturing, Processing and Bulk Storage* – Presence of painting operations (paint booth).
  - *#55 Transformer Manufacturing, Processing and Use* – Pole mounted transformer and fuse box.
  - #Other Application of de-icing salt for pedestrian and vehicular safety.
- Underground utilities are present at the Site, which include natural gas, hydro, and sewer/sanitary mains.
- The surficial geology of the site is described in published maps as being comprised of sandy silt to silty sand textured till on Paleozoic terrain. Based on the results of the Phase Two investigation, the stratigraphy at the Site is comprised of silt till with pockets of sand and gravel. Inferred fill materials were present at various sampling locations, consisting of loose brown to grey sand / silty sand and trace gravel under asphalt surface. Fill materials were identified to depths ranging from approximately 0.08 to 2.74 mbgs.
- Bedrock at the Site consists of Rockcliffe Formation (Sandstone, Shale, Limestone and Dolostone). During borehole drilling, bedrock was encountered at depths ranging from 1.52 to 4.11 mbgs.
- Regional groundwater flow in the underlying aquifers is likely to the north toward the Ottawa River that is located approximately 225 m northwest of the Site at its closest point. Shallow groundwater flow is likely influenced by the presence of subsurface utilities and other subsurface infrastructure.

4.4 Deviations from Sampling and Analysis Plan

The soil and groundwater sampling were carried out in general accordance with the Phase Two ESA work program documented in the sampling and analysis plans (Appendix D).

The sampling and analysis plan outlines the rationale for the field investigation activities carried out at the Site and the associated methodologies used to meet the objectives of this Phase Two ESA. The procedures described in the Sampling and Analysis Plan were followed without modifications. The following deviations from the sampling and analysis plan were noted:

- Monitoring well BH21-01 and BH22-07 were dry upon drilling completion and groundwater samples could not be collected from these locations. These wells were monitored again during subsequent monitoring events; however, they never presented measurable water levels. Low water levels at these locations are likely related to dewatering operations at the light-rail transit (LRT) construction site located adjacent to the Phase Two Property to the south-southeast along Richmond Road.

4.5 Impediments

No physical impediments to the Phase Two ESA investigation were encountered. Access to the Phase Two Property was not denied or restricted.

5.0 INVESTIGATION METHOD

5.1 General

The following sections describe the field investigation methods employed during the Phase Two ESA. The fieldwork was carried out in September, November and December 2021, May 2022, October-November 2022, and May-November 2023.

Prior to the commencement of field activities, WSP developed a Site-specific health and safety plan. The plan identified potential health and safety concerns anticipated for the work to be done at the Site, prescribed work procedures to mitigate these concerns, specified personal protective equipment requirements for Site work and established procedures to be followed by WSP staff in the event of an emergency. The document was reviewed and signed on-Site by field personnel prior to commencing work.

Additionally, prior to the commencement of intrusive investigations, WSP contacted public underground utilities locators to co-ordinate clearances of potential underground services (e.g., telephone, sewers, water lines, and gas lines). WSP also retained the services of a private local underground utilities' locator, to scan the general investigation areas.

5.2 Drilling

Various MECP licenced drilling contractors were engaged by WSP over the course of the Phase Two ESA investigation:

- Five boreholes were drilled by CCC Group (CCC) of Ottawa, Ontario,
- Ten boreholes were drilled by Marathon Drilling Inc. (Marathon); and,
- 17 boreholes were drilled by Strata Drilling Group (Strata).

The boreholes were drilled to document soil and bedrock information in addition to facilitate soil sampling. Twenty-five of the thirty-two boreholes were equipped as monitoring wells. The borehole and monitoring well locations are shown on Figure 5. The Record of Borehole Logs are provided in Appendix E.

All field activities were carried out by or under a supervision of a WSP field technician who was directed by a Qualified Person (QP).

Borehole drilling and monitoring well installations were completed from September 21 to 24, 2021 by CCC using a Power Hollow Stem Auger truck mounted drilling equipment for the overburden material and a size H air hammer for the bedrock drilling. From November 11 to 12, November 22 to 24 and November 25, 2021, drilling was performed by Marathon using a Geoprobe Direct Push and Hollow Stem Auger for the overburden and rotary diamond drilling techniques while retrieving HQ sized core for the bed rock drilling. On December 21, 2021, May 5, 2022, to May 11, 2022, October 3, 2022 to November 4, 2022, and on May 15, 2023, drilling was performed by Strata using a Power Hollow Stem Augers.

During drilling, all non-dedicated sampling equipment were cleaned and decontaminated between each soil sampling interval by washing with an Alconox detergent solution and rinsing with potable water to reduce the potential for cross contamination between soil sampling intervals.

5.3 Soil: Sampling

All boreholes were advanced to bedrock, overburden was noted from depths of 1.52 m below ground surface (mbgs) at BH21-11 to a depth of 4.11 mbgs at BH22-09(S/D). Upon encountering auger refusal at boreholes 21-01 to 21-05, the boreholes were further advanced to a depth of about 7.6 mbgs into the bedrock using pneumatic hammer rock drilling methods in September 2021 (no rock cores were recovered from these five boreholes). Rotary diamond drilling techniques were used while retrieving HQ sized bedrock cores at BH21-15 in November 2021. The borehole locations are presented on Figure 5.

Soil samples were retrieved from the boreholes using a continuous 1.52 m macrocore soil sampler for field screening (including visual inspection and field measurement of headspace concentration), soil sample collection and stratigraphic logging at regular intervals was completed by a WSP field technician up to the final borehole depth. A portion of each soil sample was placed in a sealed plastic bag, and a portion was placed in clean laboratory-supplied sample containers for potential laboratory analysis. Soil headspace concentrations were measured from the bagged samples using a photoionization detector (PID) and a combustible gas detector, calibrated using isobutylene gas and hexane gas, respectively, to determine total organic vapour and combustible gas concentrations. Headspace readings were taken after sample collection.

Soil samples in laboratory containers were stored on ice in a cooler until delivered to the laboratory for analysis under chain of custody. Selection of soil samples for laboratory analysis was based on the APEC being investigated, results of the headspace screening and conditions encountered at each test location including visual (e.g., staining, discolouration) and olfactory observations (if any). A summary of the soil samples submitted for analysis is provided in Table 3.

Geologic descriptions, visual and olfactory observations and results of the field headspace screening are presented on the Record of Borehole Sheets in Appendix E.

5.4 Soil: Field Screening Measurements

Soil headspace vapour measurements were taken using the equipment described in the following table.

Equipment	Make and Model	Parameters Detected	Detection Limits	Precision	Accuracy	Calibration Standard	Calibration Procedure
Photo-ionization Detector	RKI Eagle 2	Organic vapour	0 – 2,000 parts per million (ppm)	± 1 ppm	Varies by specific VOC.	Isobutylene	In the warehouse prior to fieldwork
Combustible gas meter	RKI Eagle 2	Combustible gas	0 – 11,000 parts per million (ppm)	0-200: ±5 ppm 200-1,000: ± 10 ppm 1000-11000: ± 50 ppm	± 50 ppm or ± 10% of reading	Hexane	In the warehouse prior to fieldwork

The results of soil headspace measurements are presented on the Record of Borehole Sheets included in Appendix E.

5.5 Groundwater: Monitoring Well Installation

WSP personnel supervised drilling of a total of thirty-three borehole locations, twenty-five of which were equipped with monitoring wells (BH21-01 to BH21-05, BH21-11, BH21-14, BH21-15A/B, BH21-19 to BH21-22, BH22-01 to BH22-08, BH22-09 (S), BH22-09 (D), BH22-10 (S), and BH22-10 (D).

Monitoring wells were installed in selected drilled boreholes and were constructed of 38 mm [1.5 inch] and 50 mm [2 inch] inside diameter (ID) Schedule 40 polyvinyl chloride (PVC) casing and 38 and 50 mm ID Schedule 40 PVC well screens (from 1.5 to 3.0 metres in length [5-10 ft], #10 slot size). At BH21-15, a nested multilevel well system was installed with 38 mm [1.5 inch] ID Schedule 40 PVC casing and screen. The shallow screen (BH21-15B) installed in the overburden from 1.5 m to 3.0 m bgs and deeper bedrock screen (BH21-15A) was installed from 4.0 m to 7.0 m bgs. The annulus surrounding the screened portion of each monitoring well and an approximate 0.3 m portion of riser pipe above the screened section was filled with silica filter sand grade #2.

A seal consisting of bentonite solids (e.g., Holeplug™) was placed above the filter pack with a minimum thickness of 0.6 m. The remainder of the annulus was sealed with hole-plug and bentonite grout to a depth of approximately 0.3 m bgs to minimize the potential for infiltration of surface water or shallower groundwater into the screened interval.

Each monitoring well was completed with a flushmount protective casing set in concrete and sealed with a PVC J-plug. Monitoring well construction details are provided on the respective Record of Borehole sheets provided in Appendix E. The monitoring well locations are shown on Figure 5.

5.6 Groundwater: Field Measurements for Water Quality Parameters

Groundwater indicator parameters, including temperature, pH, electrical conductivity (EC), dissolved oxygen (DO) and redox potential were measured prior to sampling to ensure adequate well development and purging. A multi-parameter meter was used to measure groundwater quality during monitoring well development and groundwater sampling.

The instruments were calibrated by the supplier and/or using factory supplied solutions for electrical conductivity (1413 micro Siemens per centimetre (µS/cm)) and pH (4.01 pH and 7.01 pH) parameters. Specifications for the water quality metre are summarized in the following table:

Parameter	Measurement Range	Precision	Accuracy
pH	0.00 to 14.00 pH	0.01 pH	±0.2 pH
Electrical Conductivity	0.00 to 3999 µS/cm	0.01 mS/cm	± 0.5%
Temperature	-5 to 45 ºC	0.1 ºC	± 0.15 ºC
Dissolved Oxygen	0 to 50 mg/L	0.021 mg/L	± 2.0%
Redox Potential	± 1999 mV	1 mV	± 15 mV

5.7 Groundwater: Development, Purging and Sampling

WSP measured groundwater levels and collected groundwater samples from the onsite monitoring wells in 2021 and 2022; however, the groundwater elevation dataset used in this Phase Two ESA was obtained in 2023 (June 30, 2023, July 19, 2023, August 8, 2023, and November 21, 2023). Groundwater monitoring details are summarized in Table 2.

After monitoring well installation, development of each monitoring well at the Site was conducted by WSP personnel to remove fine-grained material and stabilize the sand filter pack. Development was completed by removing 3 to 10 wells volumes from the well, using dedicated Waterra® tubing equipped with a surge block and a foot valve to pump groundwater. Development water was collected into plastic totes and left on-Site for later disposal pending analysis. Development was completed at least 24 hours prior to sampling.

Depth to water was measured in each monitoring well using an oil-water interface probe capable of detecting the presence of light non-aqueous phase liquids (LNAPL) on the groundwater surface. Prior to groundwater sampling, each monitoring well was purged using dedicated low-flow peristaltic pump and field measurements of water quality parameters including temperature, pH, EC, DO and redox potential were recorded from the purged groundwater using calibrated multi-parameter probe connected to a flow-through cell.

Groundwater samples were collected from BH21-02 to BH21-05, BH21-11, BH21-14, BH21-15A/B, BH21-19 to BH21-22, BH22-01 to BH22-05, BH22-06, BH22-08, BH22-09 (S), BH22-09 (D), BH22-10 (S) and BH22-10 (D).

The portions of the samples to be analyzed for dissolved metals were field filtered at the time of collection using a dedicated 0.45 µm high-capacity inline filter. Groundwater samples were collected directly into clean, laboratory-supplied sample containers and stored on ice in a cooler until delivered to the analytical laboratory under chain of custody. A summary of the groundwater samples submitted for analysis is provided in Table 4.

5.8 Sediment: Sampling

Sediment was not present at the Site; therefore, no sediment samples were collected as part of this investigation.

5.9 Analytical Testing

The contact information for the analytical laboratories is included below.

Bureau Veritas Laboratories	**AGAT Laboratories**
6740 Campobello Rd	5835 Coopers Ave.,
Mississauga, ON, L5N 2L8	Mississauga, ON, L4Z1Y2
Laboratory Contact: Ankita Bhalla	Laboratory Contact: Hina Siddiqui
ankita.bhalla@bureauveritas.com	siddiqui@agatlabs.com
416.708.9967	905.712.5126

AGAT was chosen to be the secondary environmental analysis provider due to a security breach at Bureau Veritas Laboratory (BV Lab) partway through the Phase Two ESA.

Both analytical laboratories are accredited in accordance with the International Standard ISO/IEC 17025 (CALA) (General Requirement for the Competence of Testing and Calibration Laboratories, May 5, 2005, as amended) and the standards for proficiency testing developed by the Standards Council of Canada, the Canadian Association for Laboratory Accreditation or another accreditation body accepted by the MECP.

5.10 Residue Management Procedures

Investigation derived waste generated during the fieldwork efforts (e.g., soil cuttings from drilling, groundwater from well development and sampling, and wash water from equipment decontamination) were placed in sealed drums/totes and stored at the Phase Two Property for subsequent off-Site disposal.

5.11 Elevation Surveying

A location and elevation survey of the Site was completed using Trimble R10 Model 2 GPS receiver. The monitoring well coordinates are provided UTM (Universal Transverse Mercator), with coordinates measured as northings and eastings meters. The coordinate system used was Canada/NAD 1983, datum NAD (Canada), modified TM Zone 09, geoid East Canada.

Elevation and position data were collected on September 16, 2021, December 1, 2021, January 10, 2022, and May 23, 2023. All elevations are geodetic, referencing Geoid Model HT2_0e.

5.12 Quality Assurance and Quality Control Measures

WSP's quality assurance program for environmental investigations was implemented to ensure that analytical data obtained by the investigation were valid and representative. The quality assurance program included the following measures:

- The use of standard operating procedures for all field investigation activities.
- All monitoring wells were developed following installation to remove fine particles from the filter pack and any water introduced during drilling.
- Monitoring wells were appropriately purged prior to groundwater sample collection to remove stagnant water from the well bore and improve sample representativeness, minimizing sample agitation and aeration to the extent practicable.
- The collection of field duplicate samples at a minimum frequency of one duplicate for every ten samples.

Five soil duplicate samples were analyzed for the 34 overall soil samples analyzed. Fifteen groundwater duplicates were submitted for the 41 overall groundwater samples analyzed. Overall, 75 samples (soil and groundwater) were analyzed plus twenty duplicates:

- The analysis of a field and trip blank associated with groundwater sampling events.
- Initial calibration of field equipment was performed at the start of each field day, with daily checks of calibration, as needed, using a standard of known concentration.
- Soil and groundwater samples were handled and stored in accordance with the sample collection and preservation requirement of the Ministry of the Environment (MOE) *Protocol for Analytical Methods Used in the Assessment of Properties Under Part XV.I of the Environmental Protection Act*, July 1, 2011. Samples were collected directly into pre-cleaned, laboratory-supplied sample containers with the appropriate preservative for the analyte group. Upon collection, samples were placed in insulated coolers with ice for storage and transport to the analytical laboratory under chain-of-custody.

- Dedicated sampling equipment (tubing and footvalves) and clean disposable Nitrile™ gloves were used at each sampling location to prevent cross-contamination. All non-dedicated sampling equipment (e.g., water level meters, split spoons) was decontaminated between sampling locations. Sampling equipment in contact with soil, groundwater, or sediment was cleaned by mechanical means; washed with a phosphate-free, laboratory-grade detergent (e.g., LiquiNox) and, if necessary, an appropriate desorbing wash solution; and thoroughly rinsed with analyte-free water.
- Detailed field records documenting the methods and circumstances of collection for each field sample were prepared at the time of sample collection. Each sample was assigned a unique sample identification number recorded in the field notes, along with the date and time of sample collection, the sample matrix, and the requested analyses.
- The submission of samples to the analytical laboratory in accordance with standard chain of custody procedures.

Below is a summary of the primary and duplicate samples and QA/QC blank samples collected during the Phase Two ESA investigation:

Media	Date	Borehole ID	Samples ID	Duplicate ID	QA/QC samples
Soil	22-Sep-21	BH21-03	SA3	21-3 DUP-1	Metals, Hydride-Forming Metals and ORP
	22-Sep-21	BH21-05	SA2	21-5 DUP-1	VOCs and PHC F1 to F4
	24-Nov-21	BH21-20	SA2	21-20 DUP-1	VOCs and PHC F1 to F4
	21-Dec-21	BH21-21	SA2	21-21 DUP1	VOCs and PHC F1 to F4
	26-Jul-23	TP-SA11	TP-SA11	DUP_3	VOCs and PHC F1 to F4
Groundwater	30-Nov-21	BH21-4	BH21-4	DUP-1	VOCs and PHC F1 to F4
	04-Oct-21	BH21-5	BH21-5	DUP-1	Metals, Hydride-Forming Metals and ORP, PHCs F1 to F4 and VOCs
	30-Nov-21	BH21-11	BH21-11	DUP-2	Metals, Inorganics
	09-Dec-21	BH21-14	BH21-14	DUP	VOCs and PHC F1 to F4
	26-May-23	BH21-14	BH21-14	MW21-14 dup	VOCs and PHC F1 to F4
	7-Jul-23	BH21-14	BH21-14	Dup 1	VOCs and PHC F1 to F4
	22-Dec-21	BH21-21	BH21-21	DUP	VOCs
	9-Feb-23	BH22-2	MW22-02	DUP-1	VOC, BTEX
	16-Mar-23	BH22-2	MW 22-02	DUP-1	VOC, BTEX
	7-Jul-23	BH22-4	BH22-4	Dup-2	PHC (F1-F4), BTEX
	15-Nov-22	BH22-8	BH22-8	Dup2	VOC
	29-May-23	BH22-9	BH22-9D	DUP2	VOC
	7-Jul-23	BH21-14	BH21-14	Dup 1	VOCs and PHC F1 to F4
	7-Jul-23	BH22-4	MW22-04	DUP-2	VOCs and PHC F1 to F4
	15-Aug-2023	BH22-4	22-04	DUP-1	VOCs and PHC F1 to F4

Media	Date	Borehole ID	Samples ID	Duplicate ID	QA/QC samples
QA/QC Blank Samples	4-Nov-21	-	-	-	Field and Trip Blank - PHC F1 and VOC
	22-Dec-21	-	-	-	Field and Trip Blank - PHC F1 and VOC
	26-Mar-22	-	-	-	Field and Trip Blank - VOC
	15-Nov-22	-	-	-	Trip Blank - VOC
	29-Mar-23	-	-	-	Field and Trip Blank - VOC

6.0 REVIEW AND EVALUATION

This section of the report presents a review and evaluation of the results of the borehole and monitoring well drilling and installation, monitoring, and sampling activities conducted as part of the Phase Two ESA described herein.

6.1 Geology

The soil conditions encountered during the borehole drilling are presented in the Record of Borehole sheets provided in Appendix E as well as in the cross sections presented in Figures 8 and 9. The following presents a summary of the subsurface soil conditions encountered during the investigation.

Boreholes were advanced to a maximum depth of 10.66 mbgs. It should be noted that the logs presented have been inferred from recovered samples and that geologic contacts noted on the logs represent aa transition from one soil type to another rather than an exact plane of geologic change. Subsurface conditions encountered are likely to vary between and beyond the borehole sampling locations as well as between borehole locations. The borehole and monitoring well locations are shown on Figure 5.

In general, the subsurface soil conditions encountered in the boreholes consisted of a layer of fill (present at several test locations) underlain by native soil and bedrock. The fill consisted of sand / silty sand and trace gravel that extend to depths ranging from approximately 0.08 m to 2.74 mbgs. In general, the native soil below the fill consisted of silty sand with trace gravel and extended to a maximum depth of 4.11 mbgs. Bedrock was encountered during drilling from depths ranging from 1.52 to 4.11 mbgs.

No obvious odour, staining, discoloration or free product indicative of environmental contamination were observed at the borehole locations advanced by WSP, except at BH21-05, BH21-14 and BH21-24 where PHC-like odour was noted in soil during drilling. At BH21-14, sheen was observed on the water returned at surface during rock coring. Further, the last set of groundwater results from BH21-14 met the MECP Table 7 Standards and no sheens or odours were observed during well development, purging or sampling (refer to Section 5.7 – Groundwater: Quality). It is noted that as a result of the proposed future development, excavation for the underground parking garage will remove all impacted soil and groundwater.

6.2 Groundwater: Elevations and Flow Direction

All monitoring wells drilled during the 2021, 2022 and 2023 programs were monitored, and water levels (where present) were used in the interpretation of groundwater flow direction. Any temporary fluctuation in water levels on the Phase Two Property is not anticipated to affect the conclusions of the Phase Two ESA.

The location and depth of the screens for the monitoring wells were selected based on the issues being investigated, conditions observed during drilling and were installed to straddle the anticipated water table with the exception of the wells screened in the bedrock. The base of the well screens installed as part of this assessment range from approximately 3.10 to 10.66 mbgs. A summary of the monitoring well construction details are presented in Table 1

The groundwater elevations at each monitoring well are summarized in Table 2. Groundwater elevations in monitoring wells ranged from 61.52 m to 62.51 m on December 22, 2021, from 56.71 m to 62.54 m on May 23, 2023, from 56.38 m to 63.06 m on August 8, 2023, and from 55.90 m to 62.61 m on November 21, 2023. Based on the interpreted groundwater elevation contours presented in Figures 6 and 7, the inferred shallow groundwater flow is interpretated to be towards the north/northeast. At the time of the investigation, there was a sizeable linear excavation where ongoing dewatering related to the construction of the LRT occurred directly south and southeast of the Site. The excavation and dewatering have influenced the shallow groundwater elevations and flow directions on the southern part of the Site. Shallow groundwater flow near the southwest section of the Site (section along Richmond Street) was inferred to be to the east toward the excavation in 2023.

The natural deep groundwater flow direction at the Site is interpreted to be to the northwest toward the Ottawa River (River flows northeast). Seasonal fluctuation in water levels on the Site should be expected. Groundwater water levels in shallow unconfined aquifers in Ontario are typically highest following the spring recharge and decline throughout the summer and fall months into the winter. Any temporary fluctuation in water levels at the Phase Two Property is not anticipated to affect the conclusions of the Phase Two ESA.

6.3 Groundwater: Hydraulic Gradients

The average horizontal hydraulic gradient was estimated for shallow groundwater conditions based on water levels collected on August 8, 2023. The inferred shallow groundwater contours are presented in Figure 6. The average horizontal hydraulic gradient in the shallow groundwater on the north portion of the Site in August 2023 was 0.16 m/m to the northeast. The inferred deep groundwater elevation contours measured on May 23, 2023, are presented in Figure 7. The inferred deep groundwater flow direction is to the north with an approximate gradient of 0.02 m/m.

Vertical hydraulic gradients were estimated based on August 8, 2023, data using the difference in groundwater elevations between nested monitoring wells installed in the upper bedrock (BH22-10S) and deeper bedrock (BH22-10D). The estimated vertical hydraulic gradient was 0.26 m/m, indicating a downward component of groundwater flow.

6.4 Soil: Coarse Soil Texture

Two representative soil samples from the Site (BH21- 01 SA2 [0.61-1.22 mbgs] and BH21-02 SA3 [1.22-1.83]) were collected from native overburden materials and submitted for grain size distribution analysis via a 75 µm sieve mesh. The methodology consists of the following procedures: air-dried sample is reduced to < 2 mm size and mixed with a dispersing agent (Calgon solution); the sample is washed through a 200 mesh (75 µm) sieve; and the retained mass of sample is used to determine % sand fraction.

The grain size information and interpretation for these samples are presented in the laboratory certificate of analysis in Appendix B. The two samples were considered to be sufficient and representative given that native soil encountered during the Phase Two ESA was generally consistent across the Site.

Based on grain size analysis results, the overburden in the subsurface of the Site contains more than 50% particles (by mass) in the soil which were equal or greater than 75 µm in mean diameter. Per the definitions in O. Reg. 153/04, the soil on the Site is therefore considered to be coarse textured.

6.5 Soil: Field Screening

Headspace vapour measurements were conducted on the soil samples collected from the boreholes drilled as part of the Phase Two ESA. Combustible gas vapour ranged from non-detect to 440 ppm (highest reading measured at BH21-15 SA3 from 0.76 to 1.52 mbgs) and organic vapour measurements ranged from non-detect to 98 ppm (highest reading measured at BH21-05 SA 4 from 2.28 to 3.04 m bgs).

The results of headspace vapour measurements are presented on the Record of Borehole sheets in Appendix E.

6.6 Soil: Quality

For the purpose of assessing soil quality data, sample locations across the Site were evaluated relative to the applicable site condition standards. Table 3 provides a summary of the soil samples submitted for analysis and the associated test parameters. The analytical results of soil samples are presented in Table 6 and the laboratory certificates of analyses, provided in Appendix B.

A summary of the number of soil samples analysed and the number of soil samples exceeding the MECP Table 7 Standards is provided below:

Parameter	Number of Soil Samples Analysed (including duplicates)	Number Soil Samples Exceeding the Table 7 Standards (including duplicates)
VOCs	23	1,4-Dichlorobenzene - 1 sample
Metals, Hydride-Forming Metals & ORP	11	0
SAR (only)	18	Sodium adsorption ratio (SAR) - 6 samples
PHC (F1-F4) + BTEX	38	F1-F4 - 3 samples

The soil analytical results for the soil samples submitted for laboratory analysis per the Sampling and Analysis Plans were below the Table 7 Standards with the following exceptions:

- BH21-03 sample SA2 (0.6 – 1.22 mbgs) had concentrations above the MECP Table 7 for SAR (5.3 µg/g compared to a standard of 5 µg/g for residential use).
- BH21-03 sample SA3 and its duplicate (0.6 – 1.22 mbgs) had concentrations above the MECP Table 7 for SAR (6.1 µg/g and 9.6 (DUP) compared to a standard of 5 µg/g for residential use).
- BH21-05 sample SA2 (0.6 – 1.22 mbgs) had concentrations above the MECP Table 7 for PHC F3 (1,500 µg/g compared to a standard of 300 µg/g for residential use).
- BH21-05 sample SA2 DUP-1 (0.6 – 1.22 mbgs) had concentrations above the MECP Table 7 for:
  - PHC F2 (250 µg/g compared to a standard of 98 µg/g for residential);
  - PHC F3 (25,000 µg/g compared to a standard of 300 µg/g for residential);
  - PHC F4 (8,100 µg/g compared to a standard of 2,800 µg/g for residential); and,
  - 1,4-Dichlorobenzene (0.093 µg/g compared to a standard of 0.083 µg/g for residential use).

- BH21-11 sample SA2 (0.76 – 1.52 mbgs) had concentrations above the MECP Table 7 for SAR (6.6 µg/g compared to a standard of 5 µg/g for residential use).
- BH21-11 sample SA3 (1.52 – 1.88 mbgs) had concentrations above the MECP Table 7 for SAR (5.9 µg/g compared to a standard of 5 µg/g for residential use).
- BH21-13 sample SA3 (1.52 – 2.13 mbgs) had concentrations above the MECP Table 7 for SAR (7.3 µg/g compared to a standard of 5 µg/g for residential use).
- BH21-24 sample SA4 (2.28 – 3.04 mbgs) had concentrations above the MECP Table 7 for:
  - PHC F1 (154 µg/g compared to a standard of 55 µg/g for residential); and,
  - PHC F3 (1,500 µg/g compared to a standard of 300 µg/g for residential).

6.7 Groundwater: Quality

For the purpose of assessing groundwater chemistry data, sample locations across the Site were evaluated relative to the applicable site condition standards. Monitoring well construction details are summarized in Table 1 and a list of groundwater samples submitted for laboratory analysis is provided in Table 4. The analytical results for groundwater samples are presented in Table 7 and the laboratory certificates of analyses are provided in Appendix B.

A summary of the number of groundwater samples analysed and number of samples exceeding the MECP Table 7 Standards is provided below:

Parameter	Number of Groundwater Samples Analysed (including duplicates)	Number of Groundwater Samples Exceeding the Table 7 Standards (including duplicates)
VOCs	60	1,2-Dichloroethane - 15 Trichloroethylene - 3
Metals, Hydride-Forming Metals & ORP	7	0
PHC F1-F4/BTEX	60	Benzene - 4 PHC F2 - 1 PHC F3 - 3

Based upon the comparison of the groundwater analytical results from the 2021, 2022, and 2023 investigation programs to the Table 7 Standards, the detected concentrations were below the standards with the exception of:

- BH21-04, installed in a downgradient location from the former UST area, had groundwater concentration above MECP Table 7 for:
  - 1,2-Dichloroethane (9.3 µg/L) on October 4, 2021, (40.5 µg/L L) on December 9, 2021, (2.51 µg/L) on December 22, 2021, (3.99 µg/L) on May 29, 2022, (7.87 µg/L) on November 15, 2022, and (4.11 µg/L) on July 7, 2023 when compared to a standard of 0.5 µg/L;
  - Trichloroethene (4.26 µg/L compared to a standard of 0.5 µg/L) on December 9, 2021; and
  - Benzene (1.66 µg/L and 1.86 (DUP-1)) on November 30, 2021, (2.81 µg/L) on December 9, 2021, and (2.39 µg/L) on May 26, 2022, compared to a standard of 0.5 µg/L.

- BH21-14, installed downgradient from BH21-04, had groundwater concentration above MECP Table 7 for:
  - 1,2-Dichloroethane (1.45 µg/L) on November 15, 2022, when compared to a standard of 0.5 µg/L; and,
  - Trichloroethene (2.11 µg/L and 1.99 (DUP)) on December 9, 2021, compared to a standard of 0.5 µg/L.
- BH22-02, installed east of BH21-04 area, had a groundwater concentration above MECP Table 7 for:
  - 1,2-Dichloroethane (7.69 µg/L) on November 16, 2022, (2.48 µg/L and 2.58 (DUP-1)) on February 9, 2023; (5.03 µg/L and 5.17 µg/L (DUP-1)) on March 16, 2023; (4.26 µg/L) on July 7, 2023, when compared to a standard of 0.5 µg/L.
- BH22-03, installed west of BH21-14 area had groundwater concentration above MECP Table 7 for 1,2-Dichloroethane (3.14 µg/L compared to a standard of 0.5 µg/L) on March 26, 2022.
- BH22-04, installed west of BH21-14 area had groundwater concentration above MECP Table 7 for:
  - PHC F2 (214 µg/L compared to a standard of 150 µg/L) on November 21, 2023; and,
  - PHC F3 (569 µg/L compared to a standard of 500 µg/L) on July 7, 2023. Subsequent sample collected on August 15, 2023, had non-detect concentrations of PHC F3, and on November 21, 2023, had concentration of 2,840 µg/L compared to a standard of 500 µg/L.
- BH22-08, deep well installed at BH21-14 area had groundwater concentration above MECP Table 7 for 1,2-Dichloroethane (7.39 µg/L compared to a standard of 0.5 µg/L) on November 15, 2022, and meet Table 7 RPI SCS on July 19, 2023 and November 21, 2023.

Carbon tetrachloride and 1,1-Dichloroethene had their detection limits raised above the Table 7 RPI SCS for BH21-04 and BH22-02 however it is the opinion of the QP that no exceedances were present in these samples.

6.8 Sediment Quality

Sediment was not present at the Site, therefore, no sediment samples were collected as part of this investigation.

6.9 Quality Assurance and Quality Control Results

A certificate of analysis was received for each sample submitted for analysis. The results for QA/QC samples are presented in full in the laboratory certificates of analysis (Appendix B). QA/QC including calculation of relative percent differences (RPD) of the reported results was conducted in accordance with the MECP document: *Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act, April 15, 2011.*

To determine the precision of the analytical methods and field sampling procedures, parent and blind duplicate samples were collected during soil and groundwater sampling and were submitted for analysis of metals, hydride-forming metals and ORP, VOC, PHC and BTEX parameters. Precision is determined by the RPD between the duplicate and original samples and was calculated as follows:

$$RPD = \frac{|x_1 - x_2|}{x_m}$$

Where:
x_1 initial sample results
x_2 duplicate sample results
x_m mean of x_1, x_2

As outlined in the MECP Analytical Protocol, calculated relative percent differences (“RPDs”) for soil and groundwater samples should be <30% for PHC (F1-F4) and BTEX; <30% in soil and <20% in groundwater for metals, hydride-forming metals and ORP (conductivity in groundwater is <10%), and <50% in soil and <30% in groundwater for VOC. These values have been used as the acceptance criteria, when RPDs was be calculated. To permit reliable calculations, an RPD is only calculated when the original and duplicate sample concentrations are at least 5 times the report detection limit (“RDL”).

Based on the analytical results of the field duplicate and its parent sample, the RPD are within acceptable control limits, with the exception of soil RPD for PHC F2-F4 (BH21-05 SA3 and its duplicate); of soil RPD for lead, copper, zinc and nickel (BH21-03 and its duplicate DUP-1) and groundwater RPD for arsenic (BH21-11 and its duplicate DUP-2). The variability associated with these parameters for above samples and duplicate is inferred to be associated with the heterogenous nature of the soil and is not anticipated to impact the findings of this report.

Trip blank and equipment blank data for VOC/PHC F1 analysis indicated acceptable results with no detectable concentrations. The quality of the analytical results is further supported by analytical laboratory’s internal quality assurance program that includes laboratory blanks, spikes, surrogates, and duplicate samples.

All certificates of analysis or analytical reports received pursuant to clause 47 (2) (b) of the regulation comply with subsection 47(3). A certificate of analysis or analytical report has been received for each sample submitted for analysis and is provided in Appendix B. The analytical laboratory did not qualify any of the analytical results.

The field work was conducted in accordance with WSP’s Standard Operating Procedures and there were no quality issues of note identified. Accordingly, the analytical data generated during the investigation are valid and representative and may be used in this Phase Two ESA without further qualification. The RPD results are presented in Tables 7 and 8.

6.10 Phase Two Conceptual Site Model

This section summarizes Conceptual Site Model (CSM) for the property located at 1047 Richmond Road, Ottawa (i.e., the “Site”). As per Section 43 of O.Reg. 153/04, this CSM establishes the current condition of the Site.

6.10.1 Phase One ESA Information

The Site consists of an approximately 0.97-hectare parcel of land. During the 2021 Phase One ESA and 2023 Phase One ESA update, the Site was developed as commercial land with a Chrysler dealership installed. The only building was located in the middle of the property lot. In April 2023 the dealership was closed, and the Site was sold to 1047 Richmond Nominee Inc., which is in the process of demolishing the building and starting construction development. Exterior areas of the Site included asphalt-paved parking and driveway areas. Adjacent land uses included commercial and residential. Figure 2 indicates the Site location, and Figure 3 shows the Phase Two Property and Study Area.

Based on the information reviewed as part of the 2021 Phase One ESA and updated in 2023, the Phase Two Property land was initially transferred from the crown to a private individual in 1804. Between 1804 and the present, various private owners or entities have owned the land. Based on Fire Insurance Plans, Chain of Title and the Site Representative Interview, the Site use was residential until 1959, when a car dealership was developed. Accordingly, the first developed use was residential prior to the development of the automotive dealership.

6.10.2 Potentially Contaminating Activities

Based on the information obtained as part of the Phase One ESA, the multiple potentially contaminating activities (PCAs) were identified on the Site and within the surrounding Phase One Study Area as outlined in the following two tables The locations of the PCAs are provided in Figure 3. All PCAs identified on the Phase One Property were carried forward as Areas of Potential Environmental Concern (APECs) in accordance with the regulation. Not all PCAs identified in the Phase One Study Area were evaluated to contribute to areas of potential environmental concern on the Phase One Property. Rationale for the inclusion or exclusion of a PCA in an APEC is provided in the below tables.

Location	Potentially Contaminating Activity	Information Source	Rationale for Contribution from PCA to an APEC
Phase One Property	PCA A: #10 Commercial Autobody Shops – The Site was used as a car dealership and had an automotive garage and associated equipment present until at least 2022.	Site observations	PCAs are located on the Phase One Property and must be identified as APECs.
	PCA B: #28 Gasoline and Associated Products Storage in Fixed Tanks – Former underground storage tank (UST) areas identified on the Site.	Site observations, Site representative and building drawings	
	PCA C: #28 Gasoline and Associated Products Storage in Fixed Tanks – Presence of one above-ground storage tank (AST) used waste lubricant oil, three motor lubricant oil ASTs and oil-stained asphalt	Site observations	
	PCA D: #39 Paints Manufacturing, Processing and Bulk Storage – Presence of painting operations (paint booth)	Site observations	
	PCA E: #30 Importation of Fill Material of Unknown Quality – Due to the age of the Site, inferred fill materials to be present site-wide	Site observations, aerial photos, past environmental reports	
	PCA F: #55 Transformer Manufacturing, Processing and Use – Pole-mounted transformer located at the driveway of New Orchard Road	Site observations and 1956 FIP	
	PCA G: #Other The application of de-icing salt for vehicular and pedestrian safety has occurred at the Phase One Property	Site observations	

Location	Potentially Contaminating Activity	Information Source	Rationale for Contribution from PCA to an APEC
Phase One Study Area (excluding the Phase One Property)	PCA H: #46 Railyards, Tracks and Spurs – A Canadian National Railway corridor was historically located 350 m north of the Phase One Property	Aerial Photographs 1946, 1959 and 1965	The nature of impacts associated with this PCA typically do not migrate through groundwater and are not anticipated to impact the Phase One Property. The tracks are also located downgradient of the Phase One Property. PCA does not contribute to APEC.
	PCA I: #28 Gasoline and Associated Products Storage in Fixed Tanks – A former gas station was reported at 1051 Richmond Road (130 m southwest of the Phase One Property)	HLUI – 1956 FIPs – 1956	Based on the cross-gradient location of this PCA to the Site and the distance from the Site, the presence of this PCA is unlikely to impact the Phase One Property. PCA does not contribute to APEC.
	PCA J: #37 Operation of Dry-Cleaning Equipment (where chemicals are used) – A former Laundry cleaning facility was reported at 993 Richmond Road, 101 m northeast of the Phase One Property	HLUI – 1980's	Based on the cross-gradient location of this PCA to the Site, the presence of this PCA is unlikely to impact the Phase One Property. PCA does not contribute to APEC.
	PCA K: #10 Commercial Autobody Shops – An automotive repair shop is located at 1075 Richmond Road, 116 m southwest of the Phase One Property	HLUI – Since at least 1998	Based on the cross-gradient location of this PCA to the Site, and the distance from the Site, the presence of this PCA is unlikely to impact the Phase One Property. PCA does not contribute to APEC.
	PCA L: #28 Gasoline and Associated Products Storage in Fixed Tanks – Extendicare, located at 99 New Orchard Ave 30 m northwest of the Phase One Property, was a waste generator in 2006 and 2010 for light fuels & inorganic laboratory chemicals, waste oils & lubricants, and oil skimmings & sludges.	EcoLog ERIS report	Based on the cross-gradient location of this PCA to the Site, the presence of this PCA is unlikely to impact the Phase One Property. PCA does not contribute to APEC.
	PCA M: #55 Transformer Manufacturing, Processing and Use – Transformer located approximately 125 m northwest of the Phase One Property, along New Orchard Ave.	FIPs, 1956	Based on the downgradient location of this PCA to the Site and the distance from the Site, this PCA is unlikely to impact the Phase One Property. PCA does not contribute to APEC.
	PCA N: #10 Commercial Autobody Shops – Tops Car Wash Co. Limited is located at 979 Richmond Road, 129 m northeast of the Phase One Property. Location was listed as a motor vehicle repair shop in 2005, had a UST associated with it until at least 1992, and waste generator records for light fuels from 2002-2004.	EcoLog ERIS report	Based on the downgradient location of this PCA to the Site and the distance from the Site, the presence of this PCA is unlikely to impact the Phase One Property. PCA does not contribute to APEC.
	PCA O: (No PCA #) Multiple spills associated with LRT construction on the adjacent Property to the south between 2019 and 2022. Spilled products include diesel fuel (50 L in 2020), raw sewage (180 L in 2021), and hydraulic oil (various small-volume spills from 2019-2022).	EcoLog ERIS report	Based on the downgradient location of this PCA to the Site and current dewatering activities during ongoing subsurface LRT work, the presence of this PCA is unlikely to impact the Phase One Property. PCA does not contribute to APEC.

6.10.3 Areas of Potential Environmental Concern

As outlined in the tables above, multiple PCAs identified on the Phase One Property contribute to APECs. A summary of the APECs identified at the Phase Two Property based on the findings of the Phase One ESA is provided below, along with a summary of the associated Phase Two ESA testing and findings. The location of each APEC is shown in Figure 4. The Phase Two ESA test locations are shown in Figure 5.

Summary of A Summary of APECs

Area of Potential Environmental Concern[1]	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity[2]	Location of PCA (on-Site or off-Site)	Contaminants of Potential Concern[3]	Media Potentially Impacted (Groundwater, soil and/or Sediment)
APEC 1 – On-site automotive garage	Centre of the Site	#10. Commercial Autobody Shops	On-Site	PHCs F1-F4, BTEX and VOCs	Soil and groundwater
APEC 2A – Former UST location	Northeast portion of the Site building	#28. Gasoline and Associated Products Storage in Fixed Tanks	On-Site	PHCs F1-F4 and BTEX	Soil and groundwater
APEC 2B – Former UST location	Southeast portion of the Site building				Soil and groundwater
APEC 3 – Presence of an AST, used for waste lubricant oil and oil-stain spots on the asphalt close to the AST	Northeast portion of the Site building	#28. Gasoline and Associated Products Storage in Fixed Tanks	On-Site	PHCs F1-F4 and BTEX	Soil and groundwater
APEC 4 – Presence of painting operations (paint booth)	Northeast of the Site building	#39. Paints Manufacturing, Processing and Bulk Storage	On-Site	Metals, Hydride-Forming Metals, ORP, VOCs and PHCs	Soil and groundwater
APEC 5 – Inferred fill materials to be present site-wide	Entire Site	# 30. Importation of Fill Material of Unknown Quality	On-Site	Metals, Hydride-Forming Metals, ORP and PHCs	Soil
APEC 6 – Pole mounted transformer and fuse box	Four pole-mounted transformers were observed on the driveway of New Orchard Ave.	#55. Transformer Manufacturing, Processing and Use	On-Site	PCBs, PHCs	Soil
APEC 7 – The application of de-icing salt for the purposes of vehicular and pedestrian safety has occurred at the Phase One Property. As per section 49.1 in O. Reg. 153/04, no testing is required.	Entire Site	#Other	On-Site	SAR, EC, sodium, chloride	Soil and groundwater

Notes:

1. Area of potential environmental concern means the area on, in or under a phase one property where one or more contaminants are potentially present, as determined through the phase one environmental site assessment, including through, •(a) identification of past or present uses on, in or under the phase one property, and •(b) identification of potentially contaminating activity
2. Potentially contaminating activity means a use or activity set out in Column A of Table 2 of Schedule D that is occurring or has occurred in a phase one study area
3. Contaminants of potential concern specified using the method groups as identified in the "Protocol for in the Assessment of Properties under Part XV.1 of the Environmental Protection Act, March 9, 2004, amended as of July 1, 2011.

The following provides a description of each of the identified APECs:

APEC 1 – On-site automotive garage

The on-site automotive garage represents an APEC based on the Phase One ESA information. These include the showroom area, the service area, the paint booth, parking lot and possible refueling activities. The primary chemicals used at the Site are stored in ASTs, including new and used lubricant oil, windshield fluids. Paints, grease and janitorial cleaning products are stored in appropriate cabinets. No fuels are stored at the Site. The Site was never environmentally assessed for soil and groundwater contamination prior to this Phase Two ESA. The COCs associated with this APEC were identified to include metals (including hydride-forming metals), other regulated parameters (ORP), volatile organic compounds (VOCs), and petroleum hydrocarbons (PHCs) with potential impacts in soil and groundwater.

Boreholes and monitoring wells were installed to investigate APEC 1 including BH21-01, BH21-03, BH21-04, BH21-05, BH21-11, BH21-12, BH21-14, BH21-16, BH21-17, BH21-18, BH21-19, BH21-20, BH21-23, BH21-24, BH22-01, BH22-02, BH22-03, BH22-04, BH22-05, BH22-08, BH22-09S/D and BH22-10S/D.

The results of this testing in soil indicated exceedances of the Ministry of Environment Conservation and Parks (MECP) Table 7 Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition, residential/ parkland/ institutional property use (Table 7 RPI SCS) for SAR at BH21-03 (under O. Reg 153/04, SAR exceedances can be deemed to meet applicable standards given the historical de-icing salt application), BH21-11, and BH21-13, for PHC F2-F4 at BH21-05, for PHC F1 and F3 at BH21-24, and for 1,4-dichlorobenzene at BH21-05.

The groundwater testing results indicated exceedances of 1,2-dichloroethane (1,2-DCA), and benzene at BH21-04, and 1,2-DCA at BH22-02, BH22-03 and BH22-08 (duplicate sample). An exceedance of PHC F3 was detected in groundwater from BH22-04 in July 2023 and in November 2023. PHC F2 was detected only in November 2023 exceeding Table 7 RPI SCS at BH22-04.

The extent of impacts in soil and groundwater is defined based on the closest test locations with no exceedances and is not inferred to extend beyond the property boundary to the west and north of the Site. Vertically in groundwater, the extent of impacts below BH21-04 and BH22-02 (monitoring wells screened in the upper bedrock) are delineated by BH22-01, and downgradient by BH22-9D and BH22-10D (deeper screened wells). Impacts below BH21-14, BH22-03 and BH22-04 (monitoring wells screened in the upper bedrock) are delineated by BH22-08, and downgradient by BH22-9D and BH22-10D (monitoring well screened in the deeper bedrock).

Limited excavation was advanced to remove PHC impacts identified at BH21-05 and BH21-24. All soil from the vicinity of BH21-05 and BH21-24 was removed from the Site and delineation was achieved to the south, east and west of these locations by the excavation;BH21-23 achieved delineation to the north. The excavation around BH21-05 and BH21-24 was advanced to the competent bedrock surface (3.5-3.7 mbgs), therefore, no floor samples were collected in this area. Samples collected from the excavation's east, south and west walls were from depths close to the bedrock surface. Based on the results of samples collected from BH21-23, and the south, west, and east excavation walls; soils with the elevated PHC F1-F4 concentrations identified at BH21-05 and BH21-24 have been removed from the Site. PAH was also added to the suite of analysis for the above-mentioned samples and none were detected at concentrations above the Table 7 SCS.

1-4 Dichlorobenzene above the Table 7 SCS was only detected in the duplicate soil sample collected from BH21-05 at a depth of 0.6-1.22 mbgs. The extent of 1-4 Dichlorobenzene impacts were delineated in all directions

by the Phase Two ESA (21-16 to the north, 21-17 to the east, 21-18 to the south, and 21-19 to the west). Any 1-4-Dichlorbenzene impacted soils present in the vicinity of BH21-05 were removed as a consequence of the excavation to the bedrock surface; however remediation of 1-4-Dichlorobenze to meet the Table 7 SCS was not the objective of the excavation activities. No VOC samples were collected for analysis from the excavation, other than BTEX compounds. Details of the excavation and sampling activities conducted around BH21-05 are provided in Appendix F.

APEC 2A and 2B – Former UST location

APEC 2A – Former UST Location - Northeast Portion of the Site building

One UST was formerly present on the northeast portion of the Site (APEC 2A). The Site representative indicated that the UST was removed around the 1980s. The COCs associated with this APEC were identified to include VOCs (including BTEX) and PHCs with the potential for impacts in soil and groundwater.

Boreholes and monitoring wells were installed to investigate APEC 2A, including BH21-04, BH21-14, BH21-15, BH21-21 and BH21-22. During the 2022 investigation efforts, BH22-01, BH22-02, BH22-03, BH22-04, BH22-06, BH22-07 and BH22-08 were also advanced in the vicinity of the former UST area. The results of this testing in soil indicated no exceedances of the Table 7 ICC SCS. Note that no stains or odors were noted in the soil during drilling.

The groundwater testing results indicated exceedances of 1,2-DCA and benzene at BH21-04, 1,2-DCA at BH21-14, BH22-02, BH22-03 and BH22-08 (last sampling showed results meeting Table 7 RPI SCS), trichloroethylene at BH21-04 and BH21-14, and benzene at BH22-04. No exceedances were detected in soil or groundwater sampled from other locations.

The extent of impacts in soil and groundwater at APEC 2A is defined based on the closest test locations with no exceedances. Impacts are not inferred to extend beyond the north property boundary. Vertically in groundwater, the extent of impacts below BH21-04, BH21-14, BH22-02, BH22-03 and BH22-04 (monitoring wells screened in the upper bedrock), and BH22-08 (monitoring well screened in the deeper bedrock) has not been delineated.

APEC 2B – Former UST Location - Southeast Portion of the Site building

A second potential UST area, located at the southeast of the building (APEC 2B), was reported in a review of Site historical drawings but not confirmed by the Site visit. During the 2021 Phase One ESA interview, the Site representative (who was knowledgeable of the Site's history dating back to its initial development as a car dealership in 1959) confirmed they were unaware of a UST nest ever being present at the reported location.

As a precautionary measure, three boreholes (BH21-01, BH21-25, and BH22-05) were advanced to investigate the potential UST nest and servicing island. The COCs associated with this APEC were identified to include VOCs and PHCs with the potential for impacts in soil and groundwater.

The results of this testing in soil indicated no exceedances of the Table 7 RPI SCS. In addition, during drilling at this potential UST area, the stratigraphy encountered did not suggest the presence of a former UST; no bedding material, odors, high headspace screening measurements, or stains were observed in the soil during drilling. Given that no evidence of potential impacts or other evidence suggesting the presence of a former UST was encountered in the field, and PHC concentrations in the samples collected were all below reporting detection limits (RDL), it is inferred based on the information gathered that no UST nest was historically present at APEC 2B.

Two monitoring wells were installed at APEC 2B, BH21-01 and BH22-05. Although there was not enough water to sample at BH21-01, no evidence of PHC (odor/sheens) or free phrase was identified based on inspection of the interface probe during water level measurements. No Table 7 RPI SCS exceedances were identified in groundwater collected from BH22-05. Note that on the south of Richmond Road, there is a current open pit excavation for the construction of the Ottawa LRT, which is influencing groundwater elevations and flow in this area of the Site.

APEC 3 – Presence of an AST containing used waste lubricant oil and oil-stained asphalt

One waste oil AST was on the exterior north side of the on-site building, and another four ASTs were on the interior of the north portion of the building. The ASTs were used to store new lubricant oil and windshield fluid. No oil stains were observed in the AST area inside the building during the Site visit; however, oil stains were observed on the asphalt close to the exterior AST and were considered part of APEC 3.

The COCs associated with APEC 3 were identified to include metals (including hydride-forming metals), ORP, VOCs, and PHCs with the potential for impacts in soil and groundwater.

As part of this Phase Two ESA, three boreholes and two monitoring wells were installed to investigate APEC 3, including BH21-02, BH-03, and BH21-13. The results of this testing in soil and groundwater indicated no exceedances of Table 7 RPI SCS for the tested parameters.

APEC 4 – Presence of painting operations (paint booth)

A former paint booth was present on the east side of the building, associated with a paint mixing room. A second suspected paint booth was noted on the west side of the building, without a paint mixing room associated. The COCs associated with this APEC were identified to include metals (including hydride-forming metals), ORP, VOCs, and PHCs with the potential for impacts in soil and groundwater.

As part of the Phase Two ESA, boreholes and monitoring wells were installed to investigate APEC 4, including BH21-03, BH21-04, BH21-05, BH21-11, BH21-14, BH21-16, BH21-17, BH21-18, BH21-19, BH21-21, BH21-22, BH21-23, and BH21-24. The results of soil samples analyzed indicated exceedances of the Table 7 RPI SCS for SAR at BH21-03, for PHC F2-F4 and 1,4-Dichlorobenzene at BH21-05, and PHC F1 and F3 at BH21-24.

The groundwater testing results indicated 1,2-DCA, and benzene exceedances at BH21-04. TCE exceedances in groundwater were detected at BH21-04 and BH21-14 in 2021; however, TCE exceedances were not detected in follow-up samples collected in 2022 and TCE impacts are therefore not considered to be present in groundwater at BH21-04 or BH21-14 and vertically delineated by surrounding wells. The extent of impacts in soil and groundwater is defined based on the closest test locations. No exceedances are inferred to extend beyond the north property line.

Vertically in groundwater, the extent of impacts below BH21-04 and BH21-14 (monitoring wells screened in the upper bedrock) were delineated by BH22-01 and BH22-08 (deeper screened wells) and downgradient by BH22-09(D) and BH22-10(D).

APEC 5 – Presence of Fill Material

Based on the information obtained as part of the Phase One ESA, fill material was encountered during this investigation at the Site consisting of sand / silty sand and trace gravel under the asphalt surface ranging from approximately 0.08 to 2.74 meters below ground surface (m bgs). The COCs associated with APEC 5 were

identified to include metals (including hydride-forming metals), ORP, and PHCs with the potential for impacts in soil.

APEC 5 was investigated via test locations BH21-01, BH21-02, BH21-03, BH21-05, BH21-11, BH21-12, and BH21-13 with samples of the fill material collected from these locations and submitted for analysis of the identified COCs.

PHC F2-F4 and 1,4-Dichlorobenze above the Table 7 RPI SCS were identified in a fill sample from BH21-05 (duplicate), and PHC F1 and F3 above the Table 7 RPI SCS were identified in a sample collected from BH21-24.

APEC 6 – Pole-mounted transformer and fuse box

On the driveway off New Orchard Avenue North, four pole-mounted transformers were observed at the Site. These transformers had the potential to contain PCBs and PHC parameters and were assessed as part of this Phase Two ESA for this specific APEC.

Test pit TP 21-01 was advanced beneath the pole-mounted transformers to analyze soil quality. The soil sample collected from TP21-01- indicated no exceedances of Table 7 RPI SCS for the tested PCB and PHC parameters.

APEC 7 – The application of de-icing salt for the purposes of vehicular and pedestrian safety has occurred at the Phase One Property.

Based on the information obtained as part of the Phase Two ESA, SAR concentrations were encountered during this investigation at the Site. The COCs associated with APEC 7 were identified to include ORP (SAR and EC) with the potential for impacts in soil.

APEC 7 was investigated via test locations BH21-01, BH21-02, BH21-03, BH21-04, BH21-05, BH21-11, BH21-12, and BH21-13 with samples of the overburden material collected from these locations and submitted for analysis of the identified COCs. Exceedances of SAR were identified in the fill samples from BH21-03, BH21-11 and BH21-13. As salt has only been applied to surfaces at the Site for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both, it is opinion of the QP that the site condition standards for SAR are not exceeded, as per Section 49.1 of O. Reg. 153/04.

6.10.4 Subsurface Structures and Utilities

Underground utilities at the Site include natural gas, hydro, and sewer/sanitary pipelines. Similarly, developed lands surrounding the Site are also serviced.

WSP retained the services of USL-1 Locates (USL-1), a local, private underground utility locator, to scan the general investigation areas as part of the Phase Two ESA investigation. USL-1 cleared drilling locations, and no buried services were located near the test locations. A scan of the entire Site was not conducted as part of the Phase Two ESA.

Based on WSP's review of previous environmental reports and discussions with the client, no underground utility drawings were available for the Phase Two Property. Based on the above and the findings of the Phase Two ESA, the absence of buried utility drawings is not considered to have impacted this assessment or the findings.

6.10.5 Physical Setting

6.10.5.1 Topography

The topography of the Site and surrounding areas was generally flat. The Site has a marginal downward slope to the north-northwest. The Site follows the area's topography and is at grade concerning adjacent properties.

6.10.5.2 Stratigraphy

Representative geologic cross-sections of the Site are presented in Figures 8 and 9. In general, the subsurface soil conditions encountered in the boreholes consisted of a layer of fill (present at all test locations) underlain by native soil predominantly described as sand and silty sand (isolated glacial till, silt, and silty clay reported), followed by bedrock described as dolostone, interbedded with shale, limestone, and sandstone.

The soil conditions encountered during the 2021, 2022, and 2023 borehole drilling programs are presented in the Record of Borehole Logs provided in Appendix E. The following summarizes the subsurface soil conditions encountered during the investigation.

In general, the subsurface soil conditions encountered in the boreholes advanced within the Phase Two Property consisted of surficial fill of variable depths which ranged from 0.08 to 2.74 m bgs, underlain with sandy silt and trace clay which ranged from 1.5 m bgs to 8.53 m bgs.

The fill materials at the Phase Two Property predominantly consisted of surficial gravel with sand / silty sand and trace gravel below. Native soil below the fill consisted of sand and silty sand with isolated glacial till, silt, and silty clay. Bedrock was encountered at depths ranging from 1.52 m bgs at borehole BH21-11 to 4.11 m bgs at borehole BH21-21.

6.10.5.3 Depth to Bedrock

Section 43.1(a) of Ontario Regulation 153/04 applies at the Site since one-third of the Phase Two property consists of soil less than 2 m of overburden above the bedrock surface. Bedrock was encountered in all boreholes advanced at the Site during the Phase Two investigation. Given that the average thickness of overburden at the Site is less than 2 m in at least one-third of the Site area, the Site is considered a shallow soil property as defined by O.Reg. 153/04 (as amended).

6.10.5.4 Hydrogeological Characteristics

6.10.5.4.1 Groundwater Elevations and Flow Direction

Groundwater elevations in monitoring wells ranged from 61.52 m to 62.51 m on December 22, 2021, and from 56.38 m to 63.06 m on August 8, 2023. Based on the interpreted groundwater elevation contours presented in Figures 6 and 7, the inferred predominant groundwater flow direction is towards the north/northeast.

At the time of the investigation, there was a sizeable linear excavation where ongoing dewatering related to the construction of the LRT occurred directly south and southeast of the Site. The excavation and dewatering may have influenced the shallow groundwater elevations and flow directions on the southern part of the Site. Shallow groundwater flow near the southwest section of the Site (section along Richmond Street) was inferred to be to the east toward the excavation in 2023.

The natural deep groundwater flow direction at the Site is interpreted to be to the northwest toward the Ottawa River (River flows northeast). Seasonal fluctuation in water levels on the Site should be expected. Groundwater water levels in shallow unconfined aquifers in Ontario are typically highest following the spring recharge and

decline throughout the summer and fall months into the winter. Any temporary fluctuation in water levels at the Phase Two Property is not anticipated to affect the conclusions of the Phase Two ESA.

6.10.5.4.2 Groundwater Hydraulic Gradients

The average horizontal hydraulic gradient was estimated for shallow groundwater conditions based on water levels collected on August 8, 2023. The inferred shallow groundwater contours are presented in Figure 6. The average horizontal hydraulic gradient in the shallow groundwater on the north portion of the Site in August 2023 was 0.16 m/m to the northeast. The inferred deep groundwater elevation contours measured on May 23, 2023, are presented in Figure 7. The inferred deep groundwater flow direction is to the north with an approximate gradient of 0.02 m/m.

Vertical hydraulic gradients were estimated based on August 8, 2023, data using the difference in groundwater elevations between nested monitoring wells installed in the upper bedrock (BH22-10S) and deeper bedrock (BH22-10D). The estimated vertical hydraulic gradient was 0.26 m/m, indicating a downward component of groundwater flow.

6.10.6 Applicable Site Condition Standards

The analytical results of soil and groundwater samples collected for this Phase Two ESA were compared to the Table 7 generic site conditions standards for shallow soils in a non-potable groundwater condition (residential/ parkland/institutional property use, coarse soil texture) (Table 7 RPI SCS) presented in the Ontario Ministry of the Environment (MOE[2]) document titled "*Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act, April 15, 2011*". The applicable site condition standards were selected based on the following rationale:

- The Phase Two Property is not located in an area designated in a municipal official plan as a well-head protection area or other designation identified by the municipality for the protection of groundwater.
- No water bodies were identified on the Phase Two Property.
- Based on field observations and grain size analysis results (refer to Appendix B) from soil samples collected from boreholes, the soil present at the Site is estimated to consist of soil having a grain size distribution with 50 percent or more by mass of particles with diameter greater than 75 µm mesh. Under the definition presented in O. Reg. 153/04, the soil at the Site is therefore considered to be coarse textured.
- The Site and surrounding properties located in whole or in part within 250 meters of the Site are within an area that is municipally serviced by a water supply that does not rely on groundwater as its source. No wells were identified that are used or intended for use as a source of potable water within a 250 m radius of the Site.
- The closest water body is the Ottawa River, located approximately 225 m northwest of the Site.
- There are no features on the Phase Two Property that would meet the conditions of an environmentally sensitive Site, as described in Section 41.

[2] MOE was renamed the MECP – Ministry of Environment, Conservation and Parks; however, the generic site condition standards and associate guidance documents were released by the MOE and the standards are still legally referred to as the MOE standards.

- In general, the pH range of surface soil is greater than 5 and less than 9, and the pH range of sub-surface soil is greater than 5 and less than 11. For the purposes of this Phase Two ESA investigation, the pH of surface and sub-surface soil is considered not environmentally sensitive.
- The current land use at the Phase Two Property is industrial/commercial, and the proposed future use of the Site is residential.
- The overburden thickness is less than 2 meters over more than one-third of the Phase Two Property.
- The average depth to groundwater at the Site is approximately 5.00 meters below ground surface (m bgs), ranging from 1.75 – 7.80 m bgs.

Based on the above, the 2011 Table 7 RPI SCS, which include quality standards for soil and groundwater, were used to assess the environmental conditions at the Site.

6.10.6.1.1 Environmentally Sensitive Areas

Based on the information reviewed, the QP is not aware of any circumstance in which Section 41 of the Regulation applies to the Phase Two Property. The Phase Two Property is not located in an area designated in a city official plan as a well-head protection area or other designation identified by the city for the protection of ground water. Selected soil samples were tested for pH and were noted to be within a normal range with readings between 7.77 to 8.04.

6.10.6.1.2 Shallow Soil Property or Water Body

Overburden thickness at the Phase Two Property ranges from 1.52 m bgs at BH21-11 to 4.11 m bgs at BH21-21. At least one-third of the Site has less than 2 m overburden thickness.

The property does not include all or part of a water body and is not adjacent to a water body or includes land within 30 meters of a water body. Therefore, Section 43.1(a) and 43.1(b) of the Regulation do not apply to the Phase Two Property. The closest water body is the Ottawa River, located approximately 225 m northwest of the Site.

6.10.6.1.3 Non-Potable Site Condition Standards

Section 35 of the Regulation does not apply to the Phase Two Property based on the following reasons:

- The Site, and all other properties, in whole or in part, within 250 meters of the boundaries of the Phase Two Property, are supplied by a municipal drinking water system, as defined in the Safe Drinking Water Act, 2002.
- The record of site condition does not specify agricultural or other use as the type of property use for which the record of site condition is filed.
- The Site is not located in an area designated in the municipal official plan as a well-head protection area or other designation identified by the municipality for the protection of groundwater.
- No wells were found at the Site or within the Phase One Study Area that was in use or intended for use as a source of water for human consumption or agriculture.
- The QP has given the clerk of the municipality (City of Ottawa) a written notice of intention to apply the non-potable standards in preparing a record of site condition for the Site, and the City of Ottawa provided the approval to use non-potable conditions.

6.10.6.1.4 Soil Place On, In or Under the Phase Two Property

Fill material, inferred to have been placed at the time of Site development, was identified throughout the Phase Two Property to a maximum depth of 4.11 m bgs. Fill (gravel from a licensed quarry) was imported to the site to backfill the soil remediation excavation (2023). See Figure 19 showing the excavation location and extent.

6.10.6.1.5 Proposed Buildings and Other Structures

The Phase Two Property is developed with one commercial building surrounded by asphalt-paved parking. There is an intention to use the Phase Two Property for residential purposes in the future, with the Site redevelopment plan consisting of 3 condo towers with 36, 38, and 40 storeys respectively, 6 storeys podium, 3 levels of underground parking and a central square/park area. The development will include excavation of all overburden materials and the upper bedrock to the Phase Two Property Boundary to accommodate the proposed 3 storey underground parking structure.

6.10.6.1.6 Standards Deemed to be Met As Per O.Reg. 153/04 Section 49.1

With regards to Section 49.1 of O.Reg. 153/04, the following are of note:

- Salt has been applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both. Therefore, as per Section 49.1 of O. Reg. 153/04, it is the QP's opinion that the site condition standards for sodium adsorption ratio (SAR) in soil are not exceeded.
- With the exception of granular material used to backfill the remediation excavation related to soil PHC impacts, excess soil, as defined by O.Reg. 406/19, has not been placed at the Site.
- There has been no discharge of drinking water to the Site.
- Fill material characterized by exceedances due to the presence of a naturally occurring range of concentrations of a contaminant for the area is not present at the Site.

6.10.7 Delineation of Contaminant Impacts

6.10.7.1.1 APEC Where Contaminants are Present at a Concentration Above the Applicable Site Condition Standard

The reported concentrations of all soil and groundwater samples submitted for analysis indicate that soil and groundwater quality at all APECs meets the applicable site condition standards except for the following:

APEC	Parameter Groups Exceeding the Applicable Site Conditions Standards in Soil	Parameter Groups Exceeding the Applicable Site Conditions Standards in Groundwater
APEC 1 – On-site automotive garage	SAR, PHC and 1,4-Dichlorobenzene	1,2-DCA, PHC F2, PHC F3, and benzene
APEC 2A – Former UST location (north of the Site building)	None	1,2-DCA and benzene
APEC 2B – Former UST location (southeast of the Site building)	None	N/A
APEC 3 – Presence of an AST, used waste lubricant oil and oil-stained asphalt	SAR	None
APEC 4 – Presence of painting operations (paint booth)	SAR, PHC and 1,4-Dichlorobenzene	1,2-DCA and benzene

APEC	Parameter Groups Exceeding the Applicable Site Conditions Standards in Soil	Parameter Groups Exceeding the Applicable Site Conditions Standards in Groundwater
APEC 5 – Inferred fill materials to be present site-wide	None	None
APEC 6 – Pole-mounted transformer and fuse box	None	N/A
APEC 7 – Application of de-icing salt	SAR	None

Notes: NA – Not Applicable

6.10.7.1.2 Contaminated Media

The Phase Two ESA identified the presence of exceedances of the applicable site condition standards for SAR, 1,4-dichlorobenzene and PHC F1-F4 in soil at the Site (refer to Figures 10A, 13A, and 12A). The detected SAR is considered to be the result of the application of salt to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice. It is therefore the QP's opinion, as per Section 49(1) of O. Reg. 153/04 that the site condition standards for SAR are not exceeded at these test locations.

PHC F1-F4 detected in soil located on the east side of the building is considered the result of the historical site activities. The VOC parameter 1,4-dichlorobenzene was detected in soil located on the east side of the building and is considered a result of the historical use of the site.

In relation to groundwater, exceedances of the applicable site condition standards for 1,2-DCA, TCE, PHC F2 and F3, and benzene were detected (refer to Figures 16A, 17A and 18A). Exceedances of TCE were inconsistently detected and the most recent groundwater samples do not indicate exceedances of TCE in groundwater. It has therefore been concluded that TCE is not present in onsite groundwater at concentrations exceeding the Table 7 RPI SCS. 1,2-DCA, PHC F2, PHC F3 and benzene on, in, or under the Phase Two ESA property at concentrations greater than the applicable site condition standards are inferred to be the result of automotive body work-related activities and/or auto repair carried out at the former car dealership on Site.

Sediment is not present at the Site.

6.10.8 Contaminants Exceeding Applicable Standards at the Site

As noted above, exceedances of the applicable site condition standards for SAR were detected in the soil at the Site. The detected SAR exceedances are considered to be the result of the application of salt to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice. Therefore, it is the QP's opinion, as per Section 49(1) of O. Reg. 153/04 that the site condition standards for SAR are not exceeded at these test locations.

In the area of BH21-05, two boreholes (BH21-23 and BH21-24) were advanced within 2 meters of BH21-05 to investigate elevated PHC F2-F4 and 1,4-dichlorobenzene concentrations in the duplicate soil sample collected from BH21-05 at a depth of 0.6 to 1.22 m bgs. Concentrations of PHC F2-F4 in soil samples collected from BH21-23 and BH21-24 were not as elevated as those detected in the BH21-05 duplicate sample. PHC F1 and F3 concentrations in a soil sample collected from BH21-04 (2.28 – 3.04 mbgs) did exceed Table 7 RPI SCS; however, detected F1 concentrations were lower by approximately 41% and detected F3 concentrations were lower by more than an order of magnitude. 1,4-dichlorobenzene was not detected at concentrations above Table 7 RPI SCS in samples collected from BH21-23 or BH21-24. Based on the results of soil sampling at BH21-23 and

BH21-24, it is WSP's opinion that the high PHC F2-F4 concentrations and elevated 1,4-dichlorobenzene concentrations in the duplicate sample from BH21-05 may have been anomalous and related to the heterogeneity of the sampled material. Across the remainder of the Site, PHC F1-F4 and 1,4-dichlorobenzene concentrations in the analyzed soil samples were below the Table 7 RPI SCS.

Although the soil analytical results taken from BH21-05 may have been anomalous and related to the heterogeneity (as mentioned above), it was decided that the area around BH21-05 would be excavated to remove any uncertainty regarding the soil quality in that area. The area encompassing BH21-05 and BH21-24 where concentrations of the PHC and/or VOC (1,4-dichlorobenzene) in soil exceeding of Table 7 RPI SCS were identified was excavated in July 2023. The area was excavated to the top of bedrock on a 2:1 slope with the excavation footprint totaling 25 m^2, with the depth of the excavation extended to approximately 3.5 to 3.7 mbgs (top of bedrock). An approximate volume of 100 m^3 of material was excavated and placed on tarps prior to offsite disposal. Limited soil samples (PHC, BTEX and PAH) were collected at the final wall limits and delineation was achieved to the south, east and west of these locations by the excavation – delineation to the north was achieved by BH21-23. No floor samples were collected as the excavation extended to the top of the bedrock, but samples were collected at the toe of the wall to represent the floor samples. All samples met the Table 7 RPI SCS for PHC F1-F4, BTEX and PAH.

Monitoring wells BH21-21, BH21-22, BH22-09 (S) and BH22-10 (S) were installed at the property limit for horizontal delineation, downgradient from BH21-04, BH22-02, BH22-03 and BH22-04 where concentrations of 1,2-DCA, PHC F2, PHC F3, and benzene above the Table 7 RPI SCS were detected in groundwater.

Monitoring wells BH22-01, BH22-08, BH22-09 (D), and BH22-10 (D) were installed at deeper depths for vertical delineation of the same impacted monitoring wells for the same COPCs.

Based on the most recent analytical results and inferred groundwater flow direction on the northern end of the Site, it is inferred that the impacts in groundwater present at the Site have not migrated off-site. The analytical results for PHCs and VOCs in groundwater are shown in Figure 16A and 18A.

6.10.9 Description of Areas of Contamination on the Property

PHC F1-F4 and 1,4-Dichlorobenzene were present in the overburden east of the Site building prior to the soil excavation. The approximate excavated area was 25 m^2.

1,2-DCA, PHC F2, PHC F3 and benzene are present in groundwater on the northern portion of the Site, north of the building in an area that is asphalt paved.

6.10.10 Potential Influence of Utilities on Contaminant Migration

The depth of the water table at the area presenting groundwater exceedances is approximately 2.20 m bgs for the shallow wells and 7.60 m bgs for the deep wells. The top of bedrock on the Site ranges from 1.5 m bgs to 4.5 m bgs. From public locates, private locates, and site reconciliation inspections, it is noted that there are no identified underground utilities in the impacted areas.

Utilities may be present in the depth range of the shallow water table, and thus utilities at the Site could influence the migration of contaminants through the bedding material of the excavated utility trenches. Evidence collected at the Site as part of the Phase Two ESA does not indicate that contaminant migration has likely not been affected by the presence of underground utilities.

6.10.11 Description of Contaminants

1,2-DCA is a volatile organic compound and chlorinated solvent. 1,2-DCA is a chemical used to make PVC pipes. 1,2-DCA is additionally used as an associate intermediate for different organic chemical compounds and as a solvent. Benzene is used as an intermediate in the production of other chemicals and one of the components of gasoline. 1,4-dichlorobenzene is used as a repellant against snakes, rats, mice, squirrels, bats, and insects, as a deodorizer for toilets, urinals and diaper pails, as an insecticidal fumigant, and as an air freshener.

PHCs are the primary constituents of products produced from crude oil distillation. The products produced from the distillation include but are not limited to products such as gasoline, diesel, kerosene, combustible oils, etc. Some of these compounds are volatile and readily evaporate when released to the ground. Depending on the ground surface's and subsurface soil's permeability, these compounds can migrate through subsurface soil until eventually reaching the water table, where they can mix with groundwater (depending on their solubility) and migrate predominately laterally along groundwater gradients.

Technically, 1,2-DCA in liquid form is denser than water and can migrate downward through the groundwater system outpacing vertical groundwater velocity if sufficient quantities are released/present in the subsurface. The concentrations of 1,2-DCA detected in on site groundwater are not susceptible to density-driven vertical migration.

6.10.12 Migration of Contaminants

1,2-DCA, PHC F2, PHC F3 and benzene are inferred to originate on-Site due to the long-term (1959-2022) operation of an auto dealership with an associated mechanical shop and paint booth. In 2021, monitoring wells BH21-21 and BH21-22 were installed at the northwestern property limit, downgradient of the Site operations. Concentrations of 1,2-DCA, PHC F2, PHC F3 and benzene in groundwater samples collected from BH21-21, and BH21-22 were below the Table 7 RPI SCS, indicating that impacts had not migrated downgradient in groundwater.

During the 2022 investigation, monitoring wells BH22-09 (S), BH22-09 (D), BH22-10 (S) and BH22-10 (D) were installed at the northern part of the property. Concentrations of 1,2-DCA, PHC F2, PHC F3 and benzene in groundwater samples collected from the northern boundary monitoring wells were also below the Table 7 SCS.

PHC F2 and F3 above the Table 7 RPI SCS were detected in deep monitoring well BH22-04 in 2023. Data from surrounding monitoring wells does not indicate that PHC impacts are wide spread in the vicinity of BH22-04.

Land use adjacent to the Site to the north and north-east is residential (log-term care/retirement building and high-rise apartment/condo). At this time, it is not anticipated that contamination from the Site is flowing off-site to the neighboring downgradient property. The redevelopment plan for the Site includes an underground parking garage on the entire footprint of the property, and it is expected that during construction all impacted groundwater will be removed during construction of the underground parking garage.

Contaminants are not considered to be migrating as soil vapour at the Site.

6.10.13 Meteorological and Climatic Considerations

Seasonal fluctuation in water levels on the Site should be expected. We note shallow groundwater water levels in unconfined aquifers in Ontario are typically highest following the spring recharge and decline throughout the summer and fall months into the winter.

6.10.14 Potential for Soil Vapour Intrusion

No buildings or indoor spaces were present in the areas with soil and groundwater exceedances and the on-Site building is currently vacant; therefore, soil vapor intrusion is not anticipated. The redevelopment plan for the Site includes the removal of all existing structures and the construction of an underground parking garage across the entire footprint of the property. Construction of the parking garage will involve the excavation of all overburden material and removal of the underlying bedrock to reach the desired base elevation for the parking garage.

All contaminated soil and rock materials will be removed and exported off-site for disposal as part of the Site redevelopment. Any groundwater that collects in the excavation during construction will be treated and appropriately discharged to a municipal sewer.

6.10.15 Potential Exposure Pathways and Receptors

The site redevelopment plan proposes a change in land use from commercial to residential. Based on the Site characterization data collected and the current/future use of the Site, the following exposure pathways are considered potentially relevant:

Human Exposure Pathways

No direct human exposure pathways were identified for the Site for the current Site use. Specifically, groundwater is not used for potable purposes, and impacted groundwater is at a depth that is unlikely to be encountered during typical construction activities at the Site. Exposure to contaminants in indoor air via vapor intrusion from soil or groundwater is not considered a complete exposure pathway as the on-site building is no longer in use and is further not located in the areas with concentrations of volatile parameters exceeding the Table 7 RPI SCS.

Considering the future redevelopment of the Site, excavation works will be required for the construction of underground parking and all overburden material and bedrock to a depth of approximately 9.0 mbgs will be removed from the site and managed in accordance with applicable regulations. During construction, is expected that all concentrations in Table 7 SCS will be removed from the Site via excavation, blasting, and dewatering. Removed materials will be appropriately tested and disposed of off-site at an appropriate licensed waste-receiving site.

Ecological Exposure Pathways

Given the former commercial usage of the Site, the future use and surrounding properties, the presence of hard cap surface across the Site (i.e., pavement and building floor slab), as well as the distance to surface water (225 m northwest). No ecological exposure pathways were identified.

7.0 CONCLUSIONS

The analytical results from the sampling and analysis program indicated that all parameters tested in the soil at the Site meet the applicable Table 7 RPI SCS, except for 1,4-dichlorobenzene and PHC F2-F4 at BH21-05, PHC F1 and F3 at BH21-24, and SAR at BH21-03, BH21-11, BH21-13. WSP notes the following:

- The presence of SAR is considered to be the result of the local application of de-icing salt for safety purposes and is therefore exempt (i.e., not considered to represent an exceedance of the site condition standard) under Ontario Regulation 153/04.
- The presence of the PHC F1-F4 and 1,4-dichlorobenzene is considered to be the result of the former operation of the Site as a car dealership and associated automotive garage operations. The area where exceedances were detected were excavated and confirmatory samples collected meet the MECP Table 7 RPI SCS for PHC F1-F4.

Given WSP's understanding that all overburden material (from the ground surface to the top of the bedrock) will be removed during the site redevelopment, all soil including the areas impacted by SAR and VOCs will be removed from the Site and disposed of at a licensed facility that accepts soil with exceedances of the MECP Table 7 RPI SCS, prior to the Site being occupied as a residential development.

Based upon the comparison of the groundwater analytical results from the 2021, 2022, and 2023 sampling programs to the MECP Table 7 SCS, no exceedances are present in groundwater with the exception of 1,2-dichloroethane (1,2-DCA) at BH22-02 and BH22-03, PHC F2 and F3 at BH22-04; and 1,2-DCA and benzene at BH21-04.

Based on the location and depth of impacted groundwater it is expected that future excavation as part of the site redevelopment will remove the impacted groundwater. Any groundwater discharged from the Site to city sewers (related to excavation dewatering) will have to be in compliance with the city sewer use bylaws.

Monitoring wells BH22-09 (S), BH22-09 (D), BH22-10 (S), and BH22-10 (D) installed at the northern property boundary do not present COCs at concentrations above Table 7 SCS. It is therefore WSP's opinion that contamination in groundwater is not migrating off-site to the north.

Based on the above and in support of the filing of a Record of Site Condition (RSC), additional work is required at the Site in the form of a risk assessment to obtain an RSC with Certificate of Property Use prior to redevelopment, or removal of all impacted soil and groundwater and completion of confirmatory soil and groundwater sampling to obtain an RSC based on generic site condition standards. In a removal scenario, confirmatory groundwater sampling will be required over two quarterly events conducted three- and six-months post-excavation to confirm the groundwater quality meets applicable site condition standards.

8.0 REFERENCES

Phase One Environmental Site Assessment, 1047 Richmond Road, Ottawa, Ontario, dated November 2021, updated May 2024.

Quaternary Geology of Ontario, Southern Sheet. Map 2556. Ontario Ministry of Development and Mines dated 1991 (Map No. 2556, Quaternary Geology of Ontario, Southern Sheet, 1991).

Bedrock Geology of Ontario, Southern Sheet. Map 2544. Ontario Ministry of Development and Mines dated 1991 Map No. 2544, Bedrock Geology of Ontario, Southern Sheet, 1991).

9.0 LIMITATIONS

This report was prepared for the exclusive use of 1047 Richmond Nominee Inc. The report, which specifically includes all tables, figures and appendices, is based on data and information, collected during conducting the Phase Two ESA, and is based solely on the conditions of the property at the time of conducting investigations, supplemented by historical information and data obtained by WSP Canada Inc. as described in this report. Any data collected at the Site after November 21, 2023 is not included in this report.

The assessment of environmental conditions at this Site has been made using the results of field screening techniques and chemical analysis of soil and groundwater samples at a limited number of locations. The Site conditions between sampling locations have been inferred based on conditions observed at the sampling locations. Conditions may vary from these sample locations. Additional study, including further investigation, can reduce the inherent uncertainties associated with this type of study. However, it is never possible, even with exhaustive sampling and testing, to dismiss the possibility that part of a Site may be contaminated and remain undetected.

The services performed as described in this report were conducted in a manner consistent with that level of care and skill normally exercised by other members of the engineering and science professions currently practicing under similar conditions, subject to the time limits and financial and physical constraints applicable to the services.

Any use which a third party makes of this report, or any reliance on, or decisions to be made based on it, are the responsibilities of such third parties. WSP Canada Inc. accepts no responsibility for damages, if any, suffered by any third party (other than as noted above) as a result of decisions made or actions based on this report.

The content of this report is based on information collected during the drilling, soil and groundwater sampling activities, our present understanding of the Site conditions, and our professional judgement in light of such information at the time of this report. This report provides a professional opinion and therefore no warranty is expressed, implied, or made as to the conclusions, advice and recommendations offered in this report. This report does not provide a legal opinion regarding compliance with applicable laws. With respect to regulatory compliance issues, it should be noted that regulatory statutes and the interpretation of regulatory statutes are subject to change.

The findings and conclusions of this report are valid only as of the date of this report. If new information is discovered in future work, including excavations, borings or other studies, WSP Canada Inc. should be requested to re-evaluate the conclusions of this report, and to provide amendments as required.

The monitoring wells installed as part of this project have been constructed using licensed drilling/well contractors employing licensed well technicians. It is owner's responsibility to have a licensed well technician properly abandon all monitoring wells, if required.

10.0 CLOSURE

We trust that this report meets your current requirements. Should any clarification or further information be required, please contact the undersigned.

Signature Page

WSP Canada Inc.

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https://wsponline.sharepoint.com/sites/gld-152441/project files/6 deliverables/ph two report(s)/7. phase two esa october 2023/final/21494078-r-rev0-1047 richmond rd phase two oreg 153-4sept2024.docx

Tables

Table 1
Borehole and Monitoring Wells Construction Details
1047 Richmond Road, Ottawa, Ontario

BH ID	Coordinates (m)		Date Installed	Installed by	Borehole Depth (mbgs)	Monitoring Well Depth (mbgs)	Well Diameter (mm)	Screen Length (m)	Screen Interval (mbgs)	Soil Lithology Description at Screened Section
	East	North								
BH21-1	361274.13	5026289.91	24-Sep-21	Golder	7.62	7.62	50	3.05	4.57 - 7.62	Limestone
BH21-2	361297.78	5026359.31	21-Sep-21	Golder	7.01	7.01	50	3.05	3.96 - 7.01	Limestone
BH21-3	361289.20	5026355.14	22-Sep-21	Golder	7.62	7.62	50	3.05	4.57 - 7.62	Limestone
BH21-4	361313.66	5026369.74	21-Sep-21	Golder	7.62	7.62	25	3.05	4.57 - 7.62	Limestone
BH21-5	361327.88	5026358.16	24-Sep-21	Golder	7.62	7.62	50	3.05	4.57 - 7.62	Limestone
BH21-11	439016.09	5024866.18	12-Nov-21	Golder	5.54	5.54	25	3.05	2.49 - 5.54	Limestone
BH21-12	439013.76	5024886.55	11-Nov-21	Golder	1.98	No Well Installation				
BH21-13	439024.74	5024897.83	11-Nov-21	Golder	1.68	No Well Installation				
BH21-14	439036.19	5024909.39	12-Nov-21	Golder	4.57	4.57	25	1.52	3.05 - 4.57	Limestone
BH21-15A	439046.43	5024913.53	12-Nov-21	Golder	7.01	7.01	25	3.05	3.96 - 7.01	Limestone
BH21-15B	439046.40	5024913.62	12-Nov-21	Golder	3.05	3.05	25	1.52	1.53 - 3.05	Silty Sand to Sand
BH21-16	439057.99	5024901.11	11-Nov-21	Golder	1.93	No Well Installation				
BH21-17	439071.59	5024894.36	11-Nov-21	Golder	2.49	No Well Installation				
BH21-18	439064.96	5024881.64	11-Nov-21	Golder	2.74	No Well Installation				
BH21-19	439039.11	5024882.48	25-Nov-21	Golder	5.13	5.13	50	2.43	2.70 - 5.13	Limestone
BH21-20	439047.00	5024862.00	24-Nov-21	Golder	5.18	5.18	50	1.88	3.30 - 5.18	Limestone
BH21-21	439040.16	5024927.14	21-Dec-21	Golder	4.92	4.92	50	3.28	1.64 - 4.92	Silty and Sand
BH21-22	439033.00	5024915.09	21-Dec-21	Golder	4.59	4.59	50	3.28	1.31 - 4.59	Sand
BH21-23	439061.22	5024892.28	21-Dec-21	Golder	3.93	No Well Installation				
BH21-24	439061.77	5024890.31	21-Dec-21	Golder	3.93	No Well Installation				
BH21-25	439071.16	5024848.77	21-Dec-21	Golder	3.61	No Well Installation				
BH22-1	439048.70	5024906.61	11-May-22	Golder	9.60	9.60	50	1.52	8.06 - 9.60	Limestone
BH22-2	439035.44	5024907.45	09-May-22	Golder	7.46	7.46	50	3.05	4.41 - 7.46	Limestone
BH22-3	439052.58	5024916.51	10-May-22	Golder	6.70	6.7	50	1.52	5.18 - 6.7	Limestone
BH22-4	439027.09	5024905.18	09-May-22	Golder	7.92	7.92	50	3.05	4.87 - 7.92	Limestone
BH22-5	439071.33	5024856.17	11-May-22	Golder	10.66	10.66	50	3.05	7.61 - 10.66	Limestone
BH22-6	439036.59	5024908.45	03-Oct-22	Golder	7.00	7.00	50	1	6.00 - 7.00	Limestone
BH22-7	439047.33	5024904.34	03-Oct-22	Golder	7.00	7.00	50	1	6.00 - 7.01	Limestone
BH22-8	439037.03	5024909.26	04-Nov-22	Golder	10.00	10.00	50	1	9.00 - 10.00	Limestone
BH22-9 (S)	439049.13	5024939.27	15-May-23	WSP	7.62	7.62	50	3.05	4.57 - 7.62	Limestone
BH22-9 (D)	439049.96	5024938.87	15-May-23	WSP	10.06	10.06	50	1	9.06 - 10.66	Limestone
BH22-10 (S)	439066.77	5024925.75	15-May-23	WSP	7.62	7.62	50	3.05	4.57 - 7.62	Limestone
BH22-10 (D)	439067.67	5024924.96	15-May-23	WSP	10.37	10.06	50	1	9.06 - 10.06	Limestone

Notes:

mm = millimetres
m = metres
mbgs = metres below ground surface

Table to be read in conjunction with accompanying report

Completed by: EB, LO
Reviewed by: DS

Groundwater Elevations and Monitoring Details
1047 Richmond Road, Ottawa, Ontario

Monitoring Well ID	Ground Surface Elevation (m)	Top of Pipe Elevation (m)	Depth to Water October 4, 2021 (mbtop)	Groundwater Elevation October 4, 2021 (m)	Depth to Water November 30, 2021 (mbtop)	Groundwater Elevation November 30, 2021 (m)	Depth to Water December 22, 2021 (mbtop)	Groundwater Elevation December 22, 2021 (m)	Depth to Water May 26, 2022 (mbtop)	Groundwater Elevation May 26, 2022 (m)	Depth to Water November 15, 2022 (mbtop)	Groundwater Elevation November 15, 2022 (m)	Depth to Water May 23, 2023 (mbtop)	Groundwater Elevation May 23, 2023 (m)	Depth to Water June 30, 2023 (mbtop)	Groundwater Elevation June 30, 2023 (m)
BH21-1	65.73	65.66	7.62	58.04	7.56	58.10	7.59	58.07	NM	NM	NM	NM	NM	NM	NM	NM
BH21-2	65.46	64.09	3.17	60.92	3.21	60.88	3.21	60.88	NM	NM	NM	NM	NM	NM	NM	NM
BH21-3	65.24	64.52	3.56	60.96	3.08	61.44	3.08	61.44	NM	NM	NM	NM	NM	NM	NM	NM
BH21-4	65.09	64.94	2.50	62.44	2.68	62.26	2.68	62.26	2.29	62.65	3.02	61.93	2.49	62.45	2.94	62.00
BH21-5	65.47	65.37	3.85	61.52	3.94	61.43	3.84	61.52	NM	NM	NM	NM	NM	NM	NM	NM
BH21-11	65.26	65.20	NI	NI	2.9	62.30	2.9	62.30	NM	NM	NM	NM	NM	NM	NM	NM
BH21-14	64.84	64.81	NI	NI	2.45	62.36	2.41	62.40	2.1	62.71	2.765	62.04	2.37	62.44	2.40	62.41
BH21-15A	64.84	64.71	NI	NI	2.61	62.10	2.61	62.10	NM	NM	NM	NM	2.33	62.38	NM	NM
BH21-15B	64.84	64.77	NI	NI	2.52	62.25	2.52	62.25	NM	NM	NM	NM	2.31	62.47	NM	NM
BH21-19	65.95	65.88	NI	NI	3.37	62.51	3.37	62.51	NM	NM	NM	NM	NM	NM	NM	NM
BH21-20	65.93	65.85	NI	NI	3.74	62.11	3.74	62.11	NM	NM	NM	NM	NM	NM	NM	NM
BH21-21	64.41	64.28	NI	NI	NI	NI	2.30	61.98	NM	NM	NM	NM	NM	NM	2.14	NM
BH21-22	64.62	64.47	NI	NI	NI	NI	2.57	61.90	NM	NM	NM	NM	2.22	62.25	2.12	NM
BH22-1	65.02	64.85	NI	NI	NI	NI	NI	NI	7.70	57.15	8.03	56.82	7.40	57.45	7.55	57.30
BH22-2	64.90	64.82	NI	NI	NI	NI	NI	NI	6.90	57.92	2.90	61.92	2.29	62.54	3.02	61.81
BH22-3	64.85	64.72	NI	NI	NI	NI	NI	NI	2.17	62.55	6.68	58.04	6.29	58.43	7.23	57.49
BH22-4	64.75	64.61	NI	NI	NI	NI	NI	NI	6.71		6.96	57.66	7.00	57.62	6.96	57.65
BH22-5	65.94	65.85	NI	NI	NI	NI	NI	NI	7.70		NM	NM	7.86	57.99	7.77	58.08
BH22-6	64.90	64.82	NI	NI	NI	NI	NI	NI	NI		6.77	58.05	6.77	58.05	6.70	58.13
BH22-7	65.11	65.06	NI	NI	NI	NI	NI	NI	NI		6.87	58.20	6.85	58.21	NM	NM
BH22-8	64.87	64.78	NI	NI	NI	NI	NI	NI	NI		8.02	56.76	7.91	56.87	7.74	57.04
BH22-9 (S)	64.22	64.06	NI	NI	NI	NI	NI	NI	NI		NI	NI	7.35	56.71	NM	NM
BH22-9 (D)	64.23	64.18	NI	NI	NI	NI	NI	NI	NI		NI	NI	8.51	55.67	NM	NM
BH22-10 (S)	64.83	64.73	NI	NI	NI	NI	NI	NI	NI		NI	NI	7.39	57.35	NM	NM
BH22-10 (D)	64.81	64.73	NI	NI	NI	NI	NI	NI	NI		NI	NI	9.07	55.66	NM	NM

Notes:

mbtop	= metres below top of pipe
mbgs	= metres below ground surface
NI	= not installed
NM	= not measured
DECOMM	= decommissioned
OBS	= obstructed

Table to be read in conjunction with accompanying report

Completed by: EB, LO
Reviewed by: DS

Table 2
Groundwater Elevations and Monitoring Details
1047 Richmond Road, Ottawa, Ontario

Monitoring Well ID	Ground Surface Elevation (m)	Top of Pipe Elevation (m)	Depth to Water July 19, 2023 (mbtop)	Groundwater Elevation July 19, 2023 (m)	Depth to Water August 8, 2023 (mbtop)	Groundwater Elevation August 8, 2023 (m)	Depth to Water November 11, 2023 (mbtop)	Groundwater Elevation November 11, 2023 (m)	Free Phase Product Observation
BH21-1	65.73	65.66	NM	NM	7.47	58.19	NM	NM	None
BH21-2	65.46	64.09	NM	NM	2.95	61.14	NM	NM	None
BH21-3	65.24	64.52	NM	NM	2.80	61.72	NM	NM	None
BH21-4	65.09	64.94	2.40	62.54	1.88	63.06	NM	NM	None
BH21-5	65.47	65.37	NM	NM	Destroyed	Destroyed	Destroyed	Destroyed	None
BH21-11	65.26	65.20	NM	NM	2.22	62.98	2.77	62.43	None
BH21-14	64.84	64.81	2.20	62.61	1.81	63.00	2.54	62.27	None
BH21-15A	64.84	64.71	NM	NM	NM	NM	2.10	62.61	None
BH21-15B	64.84	64.77	NM	NM	NM	NM	NM	NM	None
BH21-19	65.95	65.88	NM	NM	NM	NM	NM	NM	None
BH21-20	65.93	65.85	NM	NM	NM	NM	NM	NM	None
BH21-21	64.41	64.28	NM	NM	1.90	62.38	2.59	61.69	None
BH21-22	64.62	64.47	NM	NM	1.75	62.72	2.24	62.23	None
BH22-1	65.02	64.85	7.67	57.18	NM	NM	NM	NM	None
BH22-2	64.90	64.82	2.50	62.32	NM	NM	Destroyed	Destroyed	None
BH22-3	64.85	64.72	6.70	58.02	6.66	58.06	7.17	57.55	None
BH22-4	64.75	64.61	6.69	57.92	6.40	58.22	7.00	57.61	Product (sheen) was noted in the MW development water, but a thickness was not measurable with the interface probe
BH22-5	65.94	65.85	NM	NM	7.75	58.10	7.82	58.03	None
BH22-6	64.90	64.82	6.94	57.88	6.64	58.18	6.79	58.03	None
BH22-7	65.11	65.06	6.72	58.34	6.60	58.46	NM	NM	None
BH22-8	64.87	64.78	7.78	57.00	7.57	57.21	7.98	56.80	None
BH22-9 (S)	64.22	64.06	NM	NM	5.28	58.78	5.62	58.44	None
BH22-9 (D)	64.23	64.18	NM	NM	7.80	56.38	8.28	55.90	None
BH22-10 (S)	64.83	64.73	NM	NM	6.94	57.80	6.73	58.00	None
BH22-10 (D)	64.81	64.73	NM	NM	7.78	56.95	7.75	56.98	None

Notes:

mbtop	= metres below top of pipe
mbgs	= metres below ground surface
NI	= not installed
NM	= not measured
DECOMM	= decommissioned
OBS	= obstructed

Table to be read in conjunction with accompanying report

Completed by: EB, LO
Reviewed by: DS

Summary of the Soil Samples Submitted for Analysis
1047 Richmond Road, Ottawa, Ontario

Sample Locations	Sample ID	Sample Depth (mbgs)	Sampling Date	Soil Lithology Sample Description	Headspace Readings		Parameters Analyzed
					Gastech (ppm)	PID (ppm)	
BH21-01	21-1 SA1	0.1 - 0.6	24-Sep-2021	Gravelly SAND	0	0	Metals, Hydride-Forming Metals and ORP
	21-1 SA3	1.22 - 1.8	24-Sep-2021	SILTY SAND	0	0	VOC and PHC (F1-F4), BTEX
BH21-02	21-2 SA2	0.6 - 1.22	21-Sep-2021	SAND, trace silt	0	0	Metals, Hydride-Forming Metals and ORP
	21-2 SA5	2.44 - 2.66	21-Sep-2021	Weathered Limestone	0	0	VOC and PHC (F1-F4), BTEX
BH21-03	21-3 SA1	0.076 - 0.6	22-Sep-2021	Gravelly SAND	0	7	VOC and PHC (F1-F4), BTEX
	21-3 SA2	0.6 - 1.22	22-Sep-2021	SAND	0	6	PHC (F1-F4) and BTEX
	21-3 SA3	1.22 - 1.83	22-Sep-2021	SILTY SAND, trace gravel	0	0	Metals, Hydride-Forming Metals and ORP
	21-3 DUP-1 (Field Duplicate SA3)	1.22 - 1.83	22-Sep-2021	SILTY SAND, trace gravel	0	0	Metals, Hydride-Forming Metals and ORP
BH21-04	21-4 SA1	0.05 - 0.6	21-Sep-2021	SILTY SAND, trace gravel	0	4	VOC and PHC (F1-F4), BTEX
	21-4 SA6	3 - 3.14	21-Sep-2021	SILTY SAND	0	0	PHC (F1-F4) and BTEX
BH21-05	21-5 SA2	0.6 - 1.22	22-Sep-2021	SILTY SAND and gravel	0	3	VOC and PHC (F1-F4), BTEX
	21-5 DUP-1 (Field Duplicate SA2)	0.6 - 1.22	22-Sep-2021	SILTY SAND and gravel	0	3	VOC and PHC (F1-F4), BTEX
	21-5 SA3	1.22 - 1.45	24-Sep-21	SILTY SAND and gravel	0	2	PHC (F1-F4), BTEX, Metals, Hydride-Forming Metals and ORP
BH21-11	21-11 SA2	0.76 - 1.52	12-Nov-2021	SILTY SAND	15	0	VOC, PHC (F1-F4), BTEX, Metals, Hydride-Forming Metals and ORP
	21-11 SA3	1.52 - 1.88	12-Nov-2021	Weathered Limestone	10	0	Metals, Hydride-Forming Metals and ORP
BH21-12	21-12 SA2	0.76 - 1.52	11-Nov-2021	SAND	10	0	Metals, Hydride-Forming Metals and ORP
	21-12 SA3	1.52 - 2.29	11-Nov-2021	SAND	420	0	VOC, PHC (F1-F4), BTEX, Metals, Hydride-Forming Metals and ORP
BH21-13	21-13 SA2	0.76 - 1.52	11-Nov-2021	SAND	15	0	Metals, Hydride-Forming Metals and ORP
	21-13 SA3	1.52 - 2.13	11-Nov-2021	SAND	15	0	Metals, Hydride-Forming Metals and ORP
BH21-14	21-14 SA3	1.52 - 2.13	12-Nov-21	SILTY SAND	55	0	VOC and PHC (F1-F4), BTEX
BH21-15	21-15 SA3	0.76 - 1.52	12-Nov-21	SAND	440	0	VOC and PHC (F1-F4), BTEX
BH21-16	21-16 SA2	0.76 - 1.52	11-Nov-2021	SAND	10	2	VOC and PHC (F1-F4), BTEX
BH21-17	21-17 SA2	0.76 - 1.52	11-Nov-2021	SAND	10	0	VOC and PHC (F1-F4), BTEX
BH21-18	21-18 SA2	0.76 - 1.52	11-Nov-2021	SAND	15	0	VOC and PHC (F1-F4), BTEX
BH21-19	BH21-19 SA1	0.2 - 0.61	22-Nov-2021	SAND	90	0	VOC and PHC (F1-F4), BTEX
BH21-20	BH21-20 SA2	0.76 - 1.52	24-Nov-2021	SAND, trace gravel	50	0	PHC (F1-F4) and BTEX
	Dup-1 Bh21-20 SA2 (Field Duplicate)	0.76 - 1.52	24-Nov-2021	SAND, trace gravel	50	0	PHC (F1-F4) and BTEX
BH21-21	BH21- 21 SA3	2.28 - 3.04	21-Dec-2021	SAND, trace gravel	60	1	PHC (F1-F4) and BTEX
	DUP1 BH21-21 SA3 (Field Duplicate)	2.28 - 3.04	21-Dec-2021	SAND, trace gravel	60	1	PHC (F1-F4) and BTEX
BH21-22	BH21-22 SA3	2.43 - 2.74	21-Dec-2021	SILTY, trace sand	0	16	PHC (F1-F4) and BTEX
BH21-23	BH21-23 SA4	3.04 - 3.35	21-Dec-2021	Weathered Limestone	350	1	PHC (F1-F4) and BTEX
BH21-24	BH21-24 SA4	2.28 - 3.04	21-Dec-2021	SILTY SAND	40	98	PHC (F1-F4) and BTEX
BH21-25	BH21-25 SA4	3.04 - 3.35	21-Dec-2021	SILTY SAND and gravel	0	0	PHC (F1-F4) and BTEX
BH22-1	BH22-01 SA2	0.76 - 1.52	11-May-22	Fill - SAND	10	0	VOCs, PHC (F1-F4) and BTEX
BH22-2	BH22-02 SA4	2.28 - 2.89	9-May-22	Weathered Limestone	0	0	VOCs, PHC (F1-F4) and BTEX
BH22-3	BH22-03 SA2	0.76 - 1.52	10-May-22	SILTY SAND	25	0	VOCs, PHC (F1-F4) and BTEX
BH22-4	BH22-04 SA1	0 - 0.76	9-May-22	gravelly SAND	1	55	VOCs, PHC (F1-F4) and BTEX
BH22-5	BH22-05 SA4	2.28 -3.04	11-May-22	SILTY SAND	0	0	PHC (F1-F4) and BTEX
TP21-01	TP21-01	0 - 0.15	22-Nov-2021	SAND	0	0	PHC (F1-F4), BTEX and PCB

Notes:

m bgs = metres below ground surface
ORP = other regulated parameters
BTEX = benzene, toluene, ethylbenzene, xylene
VOC = volatile organic compounds
PHC = petroleum hydrocarbons
ppm = parts per million
Table to be read in conjunction with accompanying report

Completed by: EB, LO
Reviewed by: DS

Summary of Groundwater Samples Submitted for Analysis
1047 Richmond Road, Ottawa, Ontario

Well ID	Sample ID	Sampling Date	Well Depth (mbgs)	Screen Interval (mbgs)	Lithology Description at Screened Section	Parameters Analyzed
BH21-02	BH21-02	04-Oct-2021	7.62	4.57 - 7.62	Limestone	VOC, PHC (F1-F4), BTEX, Metals, Hydride-Forming Metals and ORP
BH21-03	BH21-03	04-Oct-2021	7.01	3.96 - 7.01	Limestone	VOC, PHC (F1-F4), BTEX, Metals, Hydride-Forming Metals and ORP
BH21-04	BH21-04	04-Oct-2021	7.62	4.57 - 7.62	Limestone	VOC, PHC (F1-F4), BTEX, Metals, Hydride-Forming Metals and ORP
	BH21-04	30-Nov-2021				VOC, PHC (F1-F4), BTEX
	DUP-1	30-Nov-2021				VOC, PHC (F1-F4), BTEX
	BH21-04	9-Dec-21				VOC, PHC (F1-F4), BTEX
	BH21-05	26-May-22				VOC, PHC (F1-F4), BTEX
	BH21-04	22-Dec-22				VOC, PHC (F1-F4), BTEX
	BH21-04	15-Nov-22				VOC
	BH21-04	7-Jul-23				VOC, PHC (F1-F4), BTEX
BH21-05	BH21-05	04-Oct-2021	7.62	4.57 - 7.62	Limestone	VOC, PHC (F1-F4), BTEX, Metals, Hydride-Forming Metals and ORP
	DUP-1	04-Oct-2021				VOC, PHC (F1-F4), BTEX, Metals, Hydride-Forming Metals and ORP
BH21-11	BH21-11	30-Nov-2021	5.54	2.49 - 5.54	Limestone	VOC, PHC (F1-F4), BTEX, Metals, Hydride-Forming Metals and ORP
BH21-11	DUP-2	30-Nov-2021				Metals, Hydride-Forming Metals and ORP
BH21-14	BH21-14	30-Nov-2021	4.57	3.05 - 4.57	Limestone	VOC, PHC (F1-F4), BTEX
	BH21-14	09-Dec-2021				VOC, PHC (F1-F4), BTEX
	DUP	09-Dec-2021				VOC, PHC (F1-F4), BTEX
	BH21-14	22-Dec-21				VOC, PHC (F1-F4), BTEX
	MW 21-14	26-May-22				VOC, PHC (F1-F4), BTEX
	MW 21-14 dup	26-May-22				VOC, PHC (F1-F4), BTEX
	BH21-14	15-Nov-22				VOC
	21-14	7-Jul-23				VOC, PHC (F1-F4), BTEX
	Dup 1	7-Jul-23				VOC, PHC (F1-F4), BTEX
BH21-15A	BH21-15A	30-Nov-2021	7.01	3.96 - 7.01	Limestone	VOC, PHC (F1-F4), BTEX
BH21-15B	BH21-15B	30-Nov-2021	3.05	1.53 - 3.05	Silty Sand to Sand	VOC, PHC (F1-F4), BTEX
BH21-19	BH21-19	30-Nov-2021			Limestone	VOC, PHC (F1-F4), BTEX
BH21-20	BH21-20	30-Nov-2021	16.60	13.71 - 16.76	Limestone	VOC, PHC (F1-F4), BTEX
BH21-21	BH21-21	22-Dec-21	4.92	1.64 - 4.92	Silty and Sand	VOC, PHC (F1-F4), BTEX
	DUP	22-Dec-21				VOC, PHC (F1-F4), BTEX
BH21-22	BH21-22	22-Dec-21	4.59	1.31 - 4.59	Sand	VOC, PHC (F1-F4), BTEX
BH22-1	BH22-1	26-May-22	9.60	8.06 - 9.60	Limestone	VOC, PHC (F1-F4), BTEX
	BH22-1	16-Nov-22				VOC
	BH22-1	7-Jul-23				VOC, PHC (F1-F4), BTEX
BH22-2	BH22-2	26-May-22	7.46	4.41 - 7.46	Limestone	VOC, PHC (F1-F4), BTEX
	BH22-2	16-Nov-22				VOC
	MW22-02	9-Feb-23				VOC
	DUP-1	9-Feb-23				VOC
	MW 22-02	16-Mar-23				VOC
	DUP-1	16-Mar-23				VOC
	MW 22-02	7-Jul-23				VOC
BH22-3	BH22-3	26-May-22	6.70	5.18 - 6.7	Limestone	VOC, PHC (F1-F4), BTEX

Summary of Groundwater Samples Submitted for Analysis
1047 Richmond Road, Ottawa, Ontario

Well ID	Sample ID	Sampling Date	Well Depth (mbgs)	Screen Interval (mbgs)	Lithology Description at Screened Section	Parameters Analyzed
BH22-4	BH22-4	26-May-22	7.92	4.87 - 7.92	Limestone	VOC, PHC (F1-F4), BTEX
	BH22-4	16-Nov-22				VOC
	MW22-04	7-Jul-23				PHC (F1-F4), BTEX
	DUP-2	7-Jul-23				PHC (F1-F4), BTEX
	22-04	15-Aug-23				PHC (F1-F4), BTEX
	MW 22-04	21-Nov-23				VOC, PHC (F1-F4), BTEX
BH22-5	BH22-5	26-May-22	10.66	7.61 - 10.66	Limestone	VOC, PHC (F1-F4), BTEX
BH22-6	MW22-06	18-Jul-23	7.00	6.00 - 7.00	Limestone	VOC, PHC (F1-F4), BTEX
BH22-8	22-8	15-Nov-22	10.00	9.00 - 10.00	Limestone	VOC
	dup2	15-Nov-22				VOC
	MW22-08	19-Jul-23				VOC, PHC (F1-F4), BTEX
	MW 22-08	21-Nov-23				VOC, PHC (F1-F4), BTEX
	DUP-GW	21-Nov-23				VOC, PHC (F1-F4), BTEX
BH22-9 (S)	22-09S	29-May-23	7.62	4.57 - 7.62	Limestone	VOC
BH22-9 (D)	22-09D	29-May-23	10.06	9.06 - 10.66	Limestone	VOC
	DUP2	29-May-23				VOC
BH22-10 (S)	22-10S	29-May-23	7.62	4.57 - 7.62	Limestone	VOC
BH22-10 (D)	22-10D	29-May-23	10.06	9.06 - 10.06	Limestone	VOC

Notes:

m bgs	= metres below ground surface
ORP	= other regulated parameters
BTEX	= benzene, toluene, ethylbenzene, xylene
VOC	= volatile organic compounds
PHC	= petroleum hydrocarbons
PAH	= polycyclic aromatic hydrocarbons
PCB	= polychlorinated biphenils

Table to be read in conjunction with accompanying report

Completed by: EB, LO
Reviewed by: DS

Table 5A
Soil Analytical Results - Volatile Organic Compounds
1047 Richmond Road, Ottawa, Ontario

		Sample Location	BH21-01	BH21-02	BH21-03	BH21-04	BH21-05	BH21-05	BH21-11	BH21-12	BH21-14	BH21-15	BH21-16	BH21-17
		Sample Name	21-1 SA3	21-2 SA5	21-3 SA1	21-4 SA1	21-5 SA2	21-5 DUP-1	21-11 SA2	21-12 SA3	21-14 SA3	21-15 SA3	21-16 SA2	21-17 SA2
		Sample Date	24-09-2021	21-09-2021	22-09-2021	21-09-2021	22-09-2021	22-09-2021	12-11-2021	11-11-2021	12-11-2021	12-11-2021	11-11-2021	11-11-2021
		Sample Depth	1.22-1.8 m	2.44-2.66 m	0.076-0.6 m	0.05-0.6 m	0.6-1.22 m	0.6-1.22 m	0.76-1.52 m	1.52-2.29 m	1.52-2.13 m	0.76-1.52 m	0.76-1.52 m	0.76-1.52 m
Parameter	**REG153 (11) T7-R/P/I SOIL COARSE**	**Unit**												
Volatile Organic Compounds														
Acetone	16	ug/g	< 0.49	< 0.49	< 0.49	< 0.49	< 0.49	< 0.49	< 0.49	< 0.49	< 0.49	< 0.49	< 0.49	< 0.49
trans-1,3-Dichloropropene		ug/g	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
cis-1,3-Dichloropropene		ug/g	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030
Bromomethane	0.05	ug/g	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
1,2-Dibromoethane	0.05	ug/g	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Carbon Tetrachloride	0.05	ug/g	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
n-Hexane	2.8	ug/g	< 0.040	< 0.040	0.19	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Chlorobenzene	2.4	ug/g	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
2-Butanone	16	ug/g	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40
Chloroform	0.05	ug/g	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
4-Methyl-2-pentanone	1.7	ug/g	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40
1,2-Dichlorobenzene	3.4	ug/g	< 0.040	< 0.040	< 0.040	< 0.040	0.12	0.15	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Methyl tert-Butyl Ether	0.75	ug/g	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
1,3-Dichlorobenzene	4.8	ug/g	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Methylene Chloride	0.1	ug/g	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049
1,4-Dichlorobenzene	0.083	ug/g	< 0.040	< 0.040	< 0.040	< 0.040	0.073	**0.093**	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Styrene	0.7	ug/g	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Dichlorodifluoromethane	16	ug/g	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Tetrachloroethene	0.28	ug/g	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
1,1-Dichloroethane	3.5	ug/g	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
1,1,1,2-Tetrachloroethane	0.058	ug/g	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
1,2-Dichloroethane	0.05	ug/g	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049	< 0.049
1,1,2,2-Tetrachloroethane	0.05	ug/g	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
1,1-Dichloroethene	0.05	ug/g	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
1,1,1-Trichloroethane	0.38	ug/g	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
trans-1,2-Dichloroethene	0.084	ug/g	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
1,1,2-Trichloroethane	0.05	ug/g	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
cis-1,2-Dichloroethene	3.4	ug/g	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Trichloroethene	0.061	ug/g	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
1,2-Dichloropropane	0.05	ug/g	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Trichlorofluoromethane	4	ug/g	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Vinyl Chloride	0.02	ug/g	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019
1,3-Dichloropropene, Total	0.05	ug/g	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Trihalomethanes														
Bromodichloromethane	13	ug/g	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Bromoform	0.27	ug/g	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Dibromochloromethane	9.4	ug/g	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040

Notes:
Bold: Value exceeding Table 7 standards
ug/g: micrograms per gram
NV: No Value
<: Indicates parameter not detected above laboratory method detection limit.

REG153 (11) T7-R/P/I SOIL COARSE	Table 7 = Ontario Ministry of the Environment, Conservation and Parks (MECP), "Soil, Ground Water 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

Created By: NB
Reviewed By: LO

Table 5A
Soil Analytical Results - Volatile Organic Compounds
1047 Richmond Road, Ottawa, Ontario

		Sample Location	BH21-18	BH21-19	BH21-20	BH21-20	BH21-21	BH21-21	BH21-22	BH22-01	BH22-02	BH22-03	BH22-04
		Sample Name	21-18 SA2	BH21-19 SA1	BH21-20 SA2	Dup-1 Bh21-20	BH21- 21 SA3	DUP1	BH21-22 SA3	BH22-01 SA2	BH22-02 SA4	BH22-03 SA2	BH22-04 SA1
		Sample Date	11-11-2021	22-11-2021	24-11-2021	24-11-2021	21-12-2021	21-12-2021	21-12-2021	11-05-2022	09-05-2022	10-05-2022	09-05-2022
		Sample Depth	0.76-1.52 m	0.2-0.61 m	0.76-1.52 m	0.76-1.52 m	2.28-3.04 m	2.28-3.04 m	2.43-2.74 m	0.76 - 1.52 m	2.28 - 2.89 m	0.76 - 1.52 m	0 - 0.76 m
Parameter	**REG153 (11) T7-R/P/I SOIL COARSE**	**Unit**											
Volatile Organic Compounds													
Acetone	16	ug/g	< 0.49	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
trans-1,3-Dichloropropene		ug/g	< 0.040	-	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene		ug/g	< 0.030	-	-	-	-	-	-	-	-	-	-
Bromomethane	0.05	ug/g	< 0.040	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,2-Dibromoethane	0.05	ug/g	< 0.040	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Carbon Tetrachloride	0.05	ug/g	< 0.040	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
n-Hexane	2.8	ug/g	< 0.040	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chlorobenzene	2.4	ug/g	< 0.040	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Butanone	16	ug/g	< 0.40	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Chloroform	0.05	ug/g	< 0.040	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
4-Methyl-2-pentanone	1.7	ug/g	< 0.40	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dichlorobenzene	3.4	ug/g	< 0.040	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Methyl tert-Butyl Ether	0.75	ug/g	< 0.040	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	4.8	ug/g	< 0.040	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Methylene Chloride	0.1	ug/g	< 0.049	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	0.083	ug/g	< 0.040	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Styrene	0.7	ug/g	< 0.040	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dichlorodifluoromethane	16	ug/g	< 0.040	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tetrachloroethene	0.28	ug/g	< 0.040	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1-Dichloroethane	3.5	ug/g	< 0.040	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
1,1,1,2-Tetrachloroethane	0.058	ug/g	< 0.040	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
1,2-Dichloroethane	0.05	ug/g	< 0.049	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
1,1,2,2-Tetrachloroethane	0.05	ug/g	< 0.040	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1-Dichloroethene	0.05	ug/g	< 0.040	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1,1-Trichloroethane	0.38	ug/g	< 0.040	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
trans-1,2-Dichloroethene	0.084	ug/g	< 0.040	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
1,1,2-Trichloroethane	0.05	ug/g	< 0.040	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
cis-1,2-Dichloroethene	3.4	ug/g	< 0.040	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Trichloroethene	0.061	ug/g	< 0.010	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
1,2-Dichloropropane	0.05	ug/g	< 0.040	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Trichlorofluoromethane	4	ug/g	< 0.040	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Vinyl Chloride	0.02	ug/g	< 0.019	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
1,3-Dichloropropene, Total	0.05	ug/g	< 0.050	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.05	< 0.05	< 0.05	< 0.05
Trihalomethanes													
Bromodichloromethane	13	ug/g	< 0.040	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromoform	0.27	ug/g	< 0.040	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibromochloromethane	9.4	ug/g	< 0.040	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Notes:
Bold: Value exceeding Table 7 standards
ug/g: micrograms per gram
NV: No Value
<: Indicates parameter not detected above laboratory method d

REG153 (11) T7-R/P/I SOIL COARSE	Table 7 = Ontario Ministry of th Environmental Protection Act",

Created By: NB
Reviewed By: LO

Soil Analytical Results - Petroleum Hydrocarbons, Benzene, Toluene, Ethylbenzene and Xylenes
1047 Richmond Road, Ottawa, Ontario

		Sample Location	BH21-01	BH21-02	BH21-03	BH21-03	BH21-04	BH21-04	BH21-05	BH21-05	BH21-05	BH21-11	BH21-12
		Sample Name	21-1 SA3	21-2 SA5	21-3 SA1	21-3 SA2	21-4 SA1	21-4 SA6	21-5 SA2	21-5 DUP-1	21-5 SA3	21-11 SA2	21-12 SA3
		Sample Date	24-09-2021	21-09-2021	22-09-2021	22-09-2021	21-09-2021	21-09-2021	22-09-2021	22-09-2021	24-09-2021	12-11-2021	11-11-2021
		Sample Depth	1.22-1.8 m	2.44-2.66 m	0.076-0.6 m	0.6-1.22 m	0.05-0.6 m	3-3.14 m	0.6-1.22 m	0.6-1.22 m	1.22-1.45 m	0.76-1.52 m	1.52-2.29 m
Parameter	**REG153 (11) T7-R/P/I SOIL COARSE**	**Unit**											
BTEX													
Benzene	0.21	ug/g	< 0.0060	< 0.0060	< 0.0060	< 0.020	< 0.0060	< 0.020	< 0.0060	< 0.0060	< 0.020	< 0.0060	< 0.0060
Ethylbenzene	2	ug/g	< 0.010	< 0.010	< 0.010	< 0.020	< 0.010	< 0.020	< 0.010	< 0.010	< 0.020	< 0.010	< 0.010
Toluene	2.3	ug/g	< 0.020	< 0.020	0.039	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Xylenes, Total	3.1	ug/g	< 0.020	< 0.020	0.045	< 0.040	< 0.020	< 0.040	< 0.020	< 0.020	< 0.040	< 0.020	< 0.020
m,p-Xylenes	NV	ug/g	< 0.020	< 0.020	0.045	< 0.040	< 0.020	< 0.040	< 0.020	< 0.020	< 0.040	< 0.020	< 0.020
o-Xylene	NV	ug/g	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Petroleum Hydrocarbons													
Petroleum Hydrocarbons - F1 (C6-C10)	55	ug/g	< 10	< 10	-	< 10	-	< 10	< 10	< 10	< 10	< 10	< 10
Petroleum Hydrocarbons - F1 (C6-C10)-BTEX	55	ug/g	< 10	< 10	-	< 10	-	< 10	< 10	< 10	< 10	< 10	< 10
Petroleum Hydrocarbons - F2 (C10-C16)	98	ug/g	< 10	< 10	-	< 10	-	< 10	< 10	**260**	< 10	< 10	< 10
Petroleum Hydrocarbons - F3 (C16-C34)	300	ug/g	< 50	< 50	-	< 50	-	< 50	**1500**	**25000**	200	< 50	140
Petroleum Hydrocarbons - F4 (C34-C50)	2800	ug/g	< 50	< 50	-	< 50	-	< 50	520	**8100**	76	< 50	310
Petroleum Hydrocarbons - F4 Gravimetric	2800	ug/g	-	-	-	-	-	-	-	-	-	-	1400
Reached Baseline at C50	NV	ug/g	YES	YES	-	YES	-	YES	YES	YES	YES	YES	NO

Notes:
Bold: Value exceeding Table 7 standards
ug/g: micrograms per gram
NV: No Value
<: Indicates parameter not detected above laboratory method detection limit.

REG153 (11) T7-R/P/I SOIL COARSE	Table 7 = Ontario Ministry of the Environment, Conservation and Parks (MECP), "Soil, Ground Water 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

Created By: NB
Reviewed By: LO

Soil Analytical Results - Petroleum Hydrocarbons, Benzene, Toluene, Ethylbenzene and Xylenes
1047 Richmond Road, Ottawa, Ontario

		Sample Location	BH21-14	BH21-15	BH21-16	BH21-17	BH21-18	BH21-19	BH21-20	BH21-20	BH21-21	BH21-21	BH21-22	BH21-23
		Sample Name	21-14 SA3	21-15 SA3	21-16 SA2	21-17 SA2	21-18 SA2	BH21-19 SA1	BH21-20 SA2	Dup-1 Bh21-20 SA2	BH21- 21 SA3	DUP1	BH21-22 SA3	BH21-23 SA4
		Sample Date	12-11-2021	12-11-2021	11-11-2021	11-11-2021	11-11-2021	22-11-2021	24-11-2021	24-11-2021	21-12-2021	21-12-2021	21-12-2021	21-12-2021
		Sample Depth	1.52-2.13 m	0.76-1.52 m	0.76-1.52 m	0.76-1.52 m	0.76-1.52 m	0.2-0.61 m	0.76-1.52 m	0.76-1.52 m	2.28-3.04 m	2.28-3.04 m	2.43-2.74 m	3.04-3.35 m
Parameter	**REG153 (11) T7-R/P/I SOIL COARSE**	**Unit**												
BTEX														
Benzene	0.21	ug/g	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.0060	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Ethylbenzene	2	ug/g	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Toluene	2.3	ug/g	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Xylenes, Total	3.1	ug/g	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
m,p-Xylenes	NV	ug/g	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
o-Xylene	NV	ug/g	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Petroleum Hydrocarbons														
Petroleum Hydrocarbons - F1 (C6-C10)	55	ug/g	< 10	< 10	< 10	< 10	< 10	< 5	< 5	< 5	< 5	< 5	6	< 5
Petroleum Hydrocarbons - F1 (C6-C10)-BTEX	55	ug/g	< 10	< 10	< 10	< 10	< 10	< 5	< 5	< 5	< 5	< 5	6	< 5
Petroleum Hydrocarbons - F2 (C10-C16)	98	ug/g	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Petroleum Hydrocarbons - F3 (C16-C34)	300	ug/g	< 50	300	100	260	< 50	< 50	< 50	< 50	< 50	< 50	260	< 50
Petroleum Hydrocarbons - F4 (C34-C50)	2800	ug/g	< 50	780	< 50	87	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Petroleum Hydrocarbons - F4 Gravimetric	2800	ug/g	-	2200	-	-	-	-	-	-	-	-	-	-
Reached Baseline at C50	NV	ug/g	YES	NO	YES	YES	YES	-	-	-	-	-	-	-

Notes:
Bold: Value exceeding Table 7 standards
ug/g: micrograms per gram
NV: No Value
<: Indicates parameter not detected above laboratory method detection limit.

REG153 (11) T7-R/P/I SOIL COARSE	Table 7 = Ontario Ministry of the and Sediment Standards for Use Table 7: Generic Site Condition Condition

Soil Analytical Results - Petroleum Hydrocarbons, Benzene, Toluene, Ethylbenzene and Xylenes
1047 Richmond Road, Ottawa, Ontario

		Sample Location	BH21-24	BH21-25	BH22-01	BH22-02	BH22-03	BH22-04	BH22-05	TP21-01	East Wall	South Wall	West Wall	TP-SA11	TP-SA11
		Sample Name	BH21-24 SA4	BH21-25 SA4	BH22-01 SA2	BH22-02 SA4	BH22-03 SA2	BH22-04 SA1	BH22-05 SA4	TP21-01	EW-SA5	SW-SA4	WW-SA7	TP-SA11	DUP-3
		Sample Date	21-12-2021	21-12-2021	11-05-2022	09-05-2022	10-05-2022	09-05-2022	11-05-2022	22-11-2021	25-07-2023	25-07-2023	25-07-2023	26-07-2023	26-07-2023
		Sample Depth	2.28-3.04 m	3.04-3.35 m	0.76 - 1.52 m	2.28 - 2.89 m	0.76 - 1.52 m	0 - 0.76 m	2.28 -3.04 m	0-0.15 m	1 m	3.5-3.7 m	1-1.8 m	3.2-3.5 m	3.2-3.5 m
Parameter	**REG153 (11) T7-R/P/I SOIL COARSE**	**Unit**													
BTEX															
Benzene	0.21	ug/g	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Ethylbenzene	2	ug/g	< 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
Toluene	2.3	ug/g	< 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
Xylenes, Total	3.1	ug/g	< 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
m,p-Xylenes	NV	ug/g	< 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
o-Xylene	NV	ug/g	< 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
Petroleum Hydrocarbons															
Petroleum Hydrocarbons - F1 (C6-C10)	55	ug/g	**154**	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Petroleum Hydrocarbons - F1 (C6-C10)-BTEX	55	ug/g	**154**	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Petroleum Hydrocarbons - F2 (C10-C16)	98	ug/g	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Petroleum Hydrocarbons - F3 (C16-C34)	300	ug/g	**1500**	< 50	< 50	< 50	< 50	< 50	< 50	< 50	51	< 50	< 50	< 50	< 50
Petroleum Hydrocarbons - F4 (C34-C50)	2800	ug/g	170	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Petroleum Hydrocarbons - F4 Gravimetric	2800	ug/g	-	-	-	-	-	-	-	-	-	-	-	-	-
Reached Baseline at C50	NV	ug/g	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
Bold: Value exceeding Table 7 standards
ug/g: micrograms per gram
NV: No Value
<: Indicates parameter not detected above laboratory method detection limit.

REG153 (11) T7-R/P/I SOIL COARSE	Table 7 = Ontario Ministry of the and Sediment Standards for Use Table 7: Generic Site Condition Condition

Table 5C
Soil Analytical Results - Metals, Hydride-forming Metals and Other Regulated Parameters
1047 Richmond Road, Ottawa, Ontario

			Sample Location	BH21-01	BH21-01	BH21-02	BH21-02	BH21-03	BH21-03	BH21-03	BH21-03	BH21-04	BH21-04
			Sample Name	21-1 SA1	21-1 SA3	21-2 SA2	21-2 SA5	21-3 SA1	21-3 SA2	21-3 SA3	21-3 DUP-1	21-4 SA1	21-4 SA6
			Sample Date	24-09-2021	24-09-2021	21-09-2021	21-09-2021	22-09-2021	22-09-2021	22-09-2021	22-09-2021	21-09-2021	21-09-2021
			Sample Depth	0.1-0.6 m	1.22-1.8 m	0.6-1.22 m	2.44-2.66 m	0.076-0.6 m	0.6-1.22 m	1.22-1.83 m	1.22-1.83 m	0.05-0.6 m	3-3.14 m
Parameter	**REG153 (11) T7-R/P/I SOIL COARSE**	**Unit**											
Metals													
Barium	390	ug/g	72	-	21	-	-	-	99	110	-	-
Beryllium	4	ug/g	0.49	-	< 0.20	-	-	-	0.52	0.72	-	-
Boron	120	ug/g	9.8	-	< 5.0	-	-	-	7.8	12	-	-
Cadmium	1.2	ug/g	< 0.10	-	< 0.10	-	-	-	0.45	0.37	-	-
Chromium	160	ug/g	25	-	8.3	-	-	-	27	33	-	-
Cobalt	22	ug/g	7.6	-	3.1	-	-	-	13	14	-	-
Copper	140	ug/g	12	-	4.6	-	-	-	18	60	-	-
Lead	120	ug/g	5.6	-	2	-	-	-	23	48	-	-
Molybdenum	6.9	ug/g	< 0.50	-	< 0.50	-	-	-	< 0.50	0.52	-	-
Nickel	100	ug/g	22	-	5.5	-	-	-	25	34	-	-
Silver	20	ug/g	< 0.20	-	< 0.20	-	-	-	< 0.20	< 0.20	-	-
Thallium	1	ug/g	0.1	-	< 0.050	-	-	-	0.14	0.21	-	-
Uranium	23	ug/g	0.5	-	0.45	-	-	-	0.49	0.64	-	-
Vanadium	86	ug/g	30	-	20	-	-	-	26	29	-	-
Zinc	340	ug/g	33	-	16	-	-	-	54	89	-	-
Metals, Hydride-Forming													
Antimony	7.5	ug/g	< 0.20	-	< 0.20	-	-	-	0.33	0.46	-	-
Selenium	2.4	ug/g	< 0.50	-	< 0.50	-	-	-	< 0.50	< 0.50	-	-
Arsenic	18	ug/g	< 1.0	-	< 1.0	-	-	-	1.7	2.8	-	-
Other Regulated Parameters													
Boron, Hot Water Soluble	1.5	ug/g	0.38	-	0.15	-	-	-	0.87	0.67	-	-
Hexavalent Chromium	8	ug/g	< 0.18	-	< 0.18	-	-	-	< 0.18	< 0.18	-	-
Cyanide (WAD)	0.051	ug/g	< 0.01	-	< 0.01	-	-	-	< 0.01	< 0.01	-	-
Conductivity	0.7	ms/cm	0.54	-	0.26	-	-	-	0.34	0.41	-	-
Mercury	0.27	ug/g	< 0.050	-	< 0.050	-	-	-	0.063	0.077	-	-
Sodium Adsorption Ratio	5	-	3.6	2.3	0.88	4.1	0.29	**5.3**	**6.1**	**9.6**	0.46	0.34
pH	5 - 9	pH units	7.51	-	6.97	-	-	-	7.54	7.43	-	-
Moisture, Percent	NV	%	22	17	4.7	7.6	3.4	5.6	16	15	6.6	9.6

Notes:
Bold: Value exceeding Table 7 standards
ug/g: micrograms per gram
NV: No Value
<: Indicates parameter not detected above laboratory method detection limit.

REG153 (11) T7-R/P/I SOIL COARSE	Table 7 = Ontario Ministry of the Environment, Conservation and Parks (MECP), "Soil, Ground Water 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

Created By: NB
Reviewed By: LO

Table 5C
Soil Analytical Results - Metals, Hydride-forming Metals and Other Regulated Parameters
1047 Richmond Road, Ottawa, Ontario

		Sample Location	BH21-05	BH21-05	BH21-05	BH21-11	BH21-11	BH21-12	BH21-12	BH21-13	BH21-13
		Sample Name	21-5 SA2	21-5 DUP-1	21-5 SA3	21-11 SA2	21-11 SA3	21-12 SA2	21-12 SA3	21-13 SA2	21-13 SA3
		Sample Date	22-09-2021	22-09-2021	24-09-2021	12-11-2021	12-11-2021	11-11-2021	11-11-2021	11-11-2021	11-11-2021
		Sample Depth	0.6-1.22 m	0.6-1.22 m	1.22-1.45 m	0.76-1.52 m	1.52-1.88 m	0.76-1.52 m	1.52-2.29 m	0.76-1.52 m	1.52-2.13 m
Parameter	**REG153 (11) T7-R/P/I SOIL COARSE**	**Unit**									
Metals											
Barium	390	ug/g	-	-	89	110	76	49	77	24	81
Beryllium	4	ug/g	-	-	0.4	0.61	0.46	0.31	0.54	< 0.20	1.1
Boron	120	ug/g	-	-	6.9	8.1	6.9	< 5.0	9.2	< 5.0	16
Cadmium	1.2	ug/g	-	-	0.54	0.29	0.2	< 0.10	< 0.10	< 0.10	< 0.10
Chromium	160	ug/g	-	-	22	26	24	15	39	7	41
Cobalt	22	ug/g	-	-	7.9	11	7.2	4.3	8.5	2.8	20
Copper	140	ug/g	-	-	14	22	15	8.6	17	5.3	7.8
Lead	120	ug/g	-	-	85	54	20	2.7	6.7	1.9	5.2
Molybdenum	6.9	ug/g	-	-	1.2	< 0.50	0.73	< 0.50	4.6	< 0.50	0.76
Nickel	100	ug/g	-	-	16	26	22	8.6	18	4.9	47
Silver	20	ug/g	-	-	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Thallium	1	ug/g	-	-	0.12	0.15	0.11	0.06	0.11	< 0.050	0.21
Uranium	23	ug/g	-	-	0.53	0.42	0.39	0.55	0.54	0.4	0.31
Vanadium	86	ug/g	-	-	30	27	28	27	27	15	27
Zinc	340	ug/g	-	-	43	80	60	21	32	12	35
Metals, Hydride-Forming											
Antimony	7.5	ug/g	-	-	0.23	0.53	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Selenium	2.4	ug/g	-	-	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Arsenic	18	ug/g	-	-	1.3	1.1	< 1.0	< 1.0	< 1.0	< 1.0	2
Other Regulated Parameters											
Boron, Hot Water Soluble	1.5	ug/g	-	-	0.4	0.6	0.61	0.13	0.51	0.14	0.41
Hexavalent Chromium	8	ug/g	-	-	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18
Cyanide (WAD)	0.051	ug/g	-	-	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Conductivity	0.7	ms/cm	-	-	0.27	0.33	0.37	0.13	0.59	0.06	0.38
Mercury	0.27	ug/g	-	-	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Sodium Adsorption Ratio	5	-	0.24	0.21	0.36	**6.6**	**5.9**	0.71	0.7	0.54	**7.3**
pH	5 - 9	pH units	-	-	7.42	7.41	7.61	6.99	7.58	6.88	7.68
Moisture, Percent	NV	%	10	9.3	14	18	16	8.7	15	6.2	10

Notes:
Bold: Value exceeding Table 7 standards
ug/g: micrograms per gram
NV: No Value
<: Indicates parameter not detected above laboratory method detection limit.

REG153 (11) T7-R/P/I SOIL COARSE	Table 7 = Ontario Ministry of the Env Sediment Standards for Use Under F Generic Site Condition Standards for

Created By: NB
Reviewed By: LO

Table 5D

Soil Analytical Results - Polychlorinated Biphenil's

1047 Richmond Road, Ottawa, Ontario

		Sample Location	TP21-01
		Sample Name	TP21-01
		Sample Date	22-11-2021
		Sample Depth	0-0.15 m
Parameter	**REG153 (11) T7-R/P/I SOIL COARSE**	**Unit**	
Polychlorinated Biphenyls			
Polychlorinated Biphenyls	0.35	ug/g	< 0.1

Notes:

Bold: Value exceeding Table 7 standards

ug/g: micrograms per gram

NV: No Value

<: Indicates parameter not detected above laboratory method detection limit.

REG153 (11) T7-R/P/I SOIL COARSE

Table 7 = Ontario Ministry of the Environment, Conservation and Parks (MECP), "Soil, Ground Water and Sediment Standards for Use

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Table 5E
Soil Analytical Results - Polycyclic Aromatic Hydrocarbons
1047 Richmond Road, Ottawa, Ontario

			Location	East Wall	South Wall	West Wall	TP-SA11	TP-SA11
			Sample Name	EW-SA5	SW-SA4	WW-SA7	TP-SA11	DUP-3
			Sample Date	25-07-2023	25-07-2023	25-07-2023	26-07-2023	26-07-2023
			Sample Depth	1 m	3.5-3.7 m	1-1.8 m	3.2-3.5 m	3.2-3.5 m
Parameter	**REG153 (11) T7-R/P/I SOIL COARSE**	**Unit**						
Polycyclic Aromatic Hydrocarbons								
Acenaphthene	7.9	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo[g,h,i]perylene	6.6	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno[1,2,3-cd]pyrene	0.38	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	0.15	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo[k]fluoranthene	0.78	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	0.67	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	7	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	0.6	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo[a]anthracene	0.5	ug/g	0.06	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzo[a,h]anthracene	0.1	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	6.2	ug/g	0.08	< 0.05	< 0.05	< 0.05	< 0.05
Benzo[a]pyrene	0.3	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	0.69	ug/g	0.24	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	78	ug/g	0.16	< 0.05	< 0.05	< 0.05	< 0.05
Benzo[b]fluoranthene	0.78	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	62	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Notes:
Bold: Value exceeding Table 7 standards
ug/g: micrograms per gram
<: Indicates parameter not detected above laboratory method detection limit.

REG153 (11) T7-R/P/I SOIL COARSE	Table 7 = Ontario Ministry of the Environment, Conservation and Parks (MECP), "Soil, Ground Water 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

Created By: NB
Reviewed By: LO

Table 6A
Groundwater Analytical Results - Volatile Organic Compounds
1047 Richmond Road, Ottawa, Ontario

		Sample Location	BH21-02	BH21-03	BH21-04	BH21-04	BH21-04	BH21-04	BH21-04	BH21-04	BH21-04	BH21-04	BH21-05	BH21-05	BH21-11	BH21-11
		Sample Name	21-2	21-3	21-4	21-4	DUP-1	BH21-04	BH21-4	MW 21-04	21-4	MW21-04	21-5	DUP-1	21-11	DUP-2
		Sample Date	04-10-2021	04-10-2021	04-10-2021	30-11-2021	30-11-2021	09-12-2021	22-12-2021	26-05-2022	15-11-2022	07-07-2023	04-10-2021	04-10-2021	30-11-2021	30-11-2021
Parameter	**REG153 (11) T7-GW COARSE**	**Unit**														
Volatile Organic Compounds																
Acetone	100000	ug/L	< 10	< 10	< 10	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 10	< 10	< 1.0	-
trans-1,3-Dichloropropene	NV	ug/L	< 0.40	< 0.40	< 0.40	-	-	< 0.60	-	-	-	-	< 0.40	< 0.40	-	-
cis-1,3-Dichloropropene	NV	ug/L	< 0.30	< 0.30	< 0.30	-	-	< 0.40	-	-	-	-	< 0.30	< 0.30	-	-
Bromomethane	0.89	ug/L	< 0.50	< 0.50	< 0.50	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.50	< 0.20	-
1,2-Dibromoethane	0.2	ug/L	< 0.20	< 0.20	< 0.20	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.20	< 0.10	-
Carbon Tetrachloride	0.2	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	**< 0.40**	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	-
n-Hexane	5	ug/L	< 1.0	< 1.0	< 1.0	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 1.0	< 1.0	< 0.20	-
Chlorobenzene	140	ug/L	< 0.20	< 0.20	5.5	9.12	8.7	< 0.20	< 0.10	5.88	3.98	< 0.10	< 0.20	< 0.20	< 0.10	-
2-Butanone	21000	ug/L	< 10	< 10	< 10	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 10	< 10	< 1.0	-
Chloroform	2	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	-
4-Methyl-2-pentanone	5200	ug/L	< 5.0	< 5.0	< 5.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0	< 1.0	-
1,2-Dichlorobenzene	150	ug/L	< 0.50	< 0.50	6.3	< 0.10	< 0.10	< 0.20	< 0.10	5.99	5.13	2.5	< 0.50	< 0.50	< 0.10	-
Methyl tert-Butyl Ether	15	ug/L	< 0.50	< 0.50	< 0.50	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.50	< 0.20	-
1,3-Dichlorobenzene	7600	ug/L	< 0.50	< 0.50	< 0.50	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.50	< 0.50	< 0.10	-
Methylene Chloride	26	ug/L	< 2.0	< 2.0	< 2.0	< 0.30	< 0.30	< 0.60	< 0.30	< 0.30	< 0.30	< 0.30	< 2.0	< 2.0	< 0.30	-
1,4-Dichlorobenzene	0.5	ug/L	< 0.50	< 0.50	< 0.50	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.50	< 0.50	< 0.10	-
Styrene	43	ug/L	< 0.50	< 0.50	< 0.50	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.50	< 0.50	< 0.10	-
Dichlorodifluoromethane	3500	ug/L	< 1.0	< 1.0	< 1.0	< 0.20	< 0.20	< 0.40	< 0.20	< 0.40	< 0.40	< 0.40	< 1.0	< 1.0	< 0.20	-
Tetrachloroethene	0.5	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	-
1,1-Dichloroethane	11	ug/L	< 0.20	< 0.20	< 0.20	< 0.30	< 0.30	< 0.60	< 0.30	< 0.30	< 0.30	< 0.30	< 0.20	< 0.20	< 0.30	-
1,1,1,2-Tetrachloroethane	1.1	ug/L	< 0.50	< 0.50	< 0.50	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.50	< 0.50	< 0.10	-
1,2-Dichloroethane	0.5	ug/L	< 0.50	< 0.50	**9.3**	< 0.20	< 0.20	**40.5**	**2.51**	**3.99**	**7.67**	**4.11**	< 0.50	< 0.50	< 0.20	-
1,1,2,2-Tetrachloroethane	0.5	ug/L	< 0.50	< 0.50	< 0.50	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.50	< 0.50	< 0.10	-
1,1-Dichloroethene	0.5	ug/L	< 0.20	< 0.20	< 0.20	< 0.30	< 0.30	< 0.4	< 0.30	< 0.30	< 0.30	< 0.30	< 0.20	< 0.20	< 0.30	-
1,1,1-Trichloroethane	23	ug/L	< 0.20	< 0.20	< 0.20	< 0.30	< 0.30	< 0.60	< 0.30	< 0.30	< 0.30	< 0.30	< 0.20	< 0.20	< 0.30	-
trans-1,2-Dichloroethene	1.6	ug/L	< 0.50	< 0.50	< 0.50	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.50	< 0.20	-
1,1,2-Trichloroethane	0.5	ug/L	< 0.50	< 0.50	< 0.50	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.50	< 0.20	-
cis-1,2-Dichloroethene	1.6	ug/L	< 0.50	< 0.50	< 0.50	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.50	< 0.20	-
Trichloroethene	0.5	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	**4.26**	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	-
1,2-Dichloropropane	0.58	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	-
Trichlorofluoromethane	2000	ug/L	< 0.50	< 0.50	< 0.50	< 0.40	< 0.40	< 0.80	< 0.40	< 0.40	< 0.40	< 0.40	< 0.50	< 0.50	< 0.40	-
Vinyl Chloride	0.5	ug/L	< 0.20	< 0.20	< 0.20	< 0.17	< 0.17	< 0.34	< 0.17	< 0.17	< 0.17	< 0.17	< 0.20	< 0.20	< 0.17	-
1,3-Dichloropropene, Total	0.5	ug/L	< 0.50	< 0.50	< 0.50	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.50	< 0.50	< 0.30	-
Trihalomethanes																
Bromodichloromethane	67000	ug/L	< 0.50	< 0.50	< 0.50	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.50	< 0.20	-
Bromoform	5	ug/L	< 1.0	< 1.0	< 1.0	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 1.0	< 1.0	< 0.10	-
Dibromochloromethane	65000	ug/L	< 0.50	< 0.50	< 0.50	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.50	< 0.50	< 0.10	-
Acid/Base/Neutral Compounds																
1,2,4-Trichlorobenzene	3	ug/L	-	-	-	-	-	< 0.60	-	-	-	-	-	-	-	-

Notes:
Bold: Value exceeding Table 7 standards
Bold: Detection limit exceeding Table 7 standards
ug/L: microgarms per liter
uS/cm: microsiemens per centimeter
NV: No value
REG153 (11) T7-GW COARSE: O.Reg 153 (2011) Table 7 Standards for all types of property use for groundwater in coarse textured soil in generic site condition for shallow soils in a non-potable ground water condition

Table 6A
Groundwater Analytical Results - Volatile Organic Compounds
1047 Richmond Road, Ottawa, Ontario

	Sample Location		BH21-14	BH21-14	BH21-14	BH21-14	BH21-14	BH21-14	BH21-14	BH21-14	BH21-14	BH21-15A	BH21-15B	BH21-19	BH21-20	BH21-21	BH21-21	BH21-22	BH22-01	BH22-01	BH22-01
	Sample Name		21-14	BH21-14	DUP	BH21-14	MW 21-14	MW 21-14 dup	21-14	21-14	Dup 1	21-15A	21-15B	21-19	21-20	BH21-21	DUP1	BH21-22	22-1	MW 22-01	MW22-01
	Sample Date		30-11-2021	09-12-2021	09-12-2021	22-12-2021	26-05-2022	26-05-2022	15-11-2022	07-07-2023	07-07-2023	30-11-2021	30-11-2021	30-11-2021	30-11-2021	22-12-2021	22-12-2021	22-12-2021	16-11-2022	26-05-2022	07-07-2023
Parameter	**REG153 (11) T7-GW COARSE**	**Unit**																			
Volatile Organic Compounds																					
Acetone	100000	ug/L	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0
trans-1,3-Dichloropropene	NV	ug/L	-	< 0.30	< 0.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	NV	ug/L	-	< 0.20	< 0.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromomethane	0.89	ug/L	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20
1,2-Dibromoethane	0.2	ug/L	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10
Carbon Tetrachloride	0.2	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
n-Hexane	5	ug/L	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20
Chlorobenzene	140	ug/L	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	0.54	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10
2-Butanone	21000	ug/L	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0
Chloroform	2	ug/L	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20
4-Methyl-2-pentanone	5200	ug/L	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	150	ug/L	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	1.59	0.53	0.58	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10
Methyl tert-Butyl Ether	15	ug/L	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20
1,3-Dichlorobenzene	7600	ug/L	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10
Methylene Chloride	26	ug/L	< 0.30	< 0.30	< 0.30	< 0.60	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.60	< 0.30	< 0.30	< 0.30
1,4-Dichlorobenzene	0.5	ug/L	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10
Styrene	43	ug/L	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10
Dichlorodifluoromethane	3500	ug/L	< 0.20	< 0.20	< 0.20	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.40	< 0.40	< 0.40	< 0.40
Tetrachloroethene	0.5	ug/L	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20
1,1-Dichloroethane	11	ug/L	< 0.30	< 0.30	< 0.30	< 0.60	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.60	< 0.30	< 0.30	< 0.30
1,1,1,2-Tetrachloroethane	1.1	ug/L	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10
1,2-Dichloroethane	0.5	ug/L	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	**1.45**	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	0.5	0.45	< 0.40	< 0.20	< 0.20	< 0.20
1,1,2,2-Tetrachloroethane	0.5	ug/L	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10
1,1-Dichloroethene	0.5	ug/L	< 0.30	< 0.2	< 0.2	< 0.50	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.50	< 0.30	< 0.30	< 0.30
1,1,1-Trichloroethane	23	ug/L	< 0.30	< 0.30	< 0.30	< 0.60	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.60	< 0.30	< 0.30	< 0.30
trans-1,2-Dichloroethene	1.6	ug/L	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20
1,1,2-Trichloroethane	0.5	ug/L	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20
cis-1,2-Dichloroethene	1.6	ug/L	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20
Trichloroethene	0.5	ug/L	< 0.20	**2.11**	**1.99**	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20
1,2-Dichloropropane	0.58	ug/L	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20
Trichlorofluoromethane	2000	ug/L	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.40	< 0.40
Vinyl Chloride	0.5	ug/L	< 0.17	< 0.17	< 0.17	< 0.34	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.34	< 0.17	< 0.17	< 0.17
1,3-Dichloropropene, Total	0.5	ug/L	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30
Trihalomethanes																					
Bromodichloromethane	67000	ug/L	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20
Bromoform	5	ug/L	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10
Dibromochloromethane	65000	ug/L	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10
Acid/Base/Neutral Compounds																					
1,2,4-Trichlorobenzene	3	ug/L	-	< 0.30	< 0.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
Bold: Value exceeding Table 7 standards
Bold: Detection limit exceeding Table 7 standards
ug/L: microgarms per liter
uS/cm: microsiemens per centimeter
NV: No value
REG153 (11) T7-GW COARSE: O.Reg 153 (2011) Table 7 Standards
coarse textured soil in generic site c
water condition

Table 6A
Groundwater Analytical Results - Volatile Organic Compounds
1047 Richmond Road, Ottawa, Ontario

		Sample Location	BH22-02	BH22-02	BH22-02	BH22-02	BH22-02	BH22-02	BH22-2	BH22-03	BH22-04	BH22-04	BH22-04	BH22-04	BH22-4	BH22-4	BH22-05	BH22-06	BH22-08	BH22-08	BH22-08	BH22-08	BH22-08
		Sample Name	MW 22-02	22-2	MW22-02	DUP-1	MW 22-02	DUP-1	MW22-02	MW 22-03	MW 22-04	22-4	MW22-04	DUP-2	22-04	MW 22-04	MW 22-05	MW22-06	22-8	dup 2	MW22-8	MW 22-8	DUP-GW
		Sample Date	26-05-2022	16-11-2022	09-02-2023	09-02-2023	16-03-2023	16-03-2023	07-07-2023	26-05-2022	26-05-2022	16-11-2022	07-07-2023	07-07-2023	15-08-2023	21-11-2023	26-05-2022	18-07-2023	15-11-2022	15-11-2022	19-07-2023	21-11-2023	21-11-2023
Parameter	**REG153 (11) T7-GW COARSE**	**Unit**																					
Volatile Organic Compounds																							
Acetone	100000	ug/L	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,3-Dichloropropene	NV	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	NV	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromomethane	0.89	ug/L	< 0.20	< 0.20	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
1,2-Dibromoethane	0.2	ug/L	< 0.10	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Carbon Tetrachloride	0.2	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	**< 0.40**	**< 0.40**	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
n-Hexane	5	ug/L	< 0.20	< 0.20	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Chlorobenzene	140	ug/L	< 0.10	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	3.98	< 0.10	< 0.10	< 0.10
2-Butanone	21000	ug/L	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroform	2	ug/L	< 0.20	< 0.20	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
4-Methyl-2-pentanone	5200	ug/L	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	150	ug/L	< 0.10	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	4.99	< 0.10	< 0.10	< 0.10
Methyl tert-Butyl Ether	15	ug/L	< 0.20	< 0.20	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
1,3-Dichlorobenzene	7600	ug/L	< 0.10	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Methylene Chloride	26	ug/L	< 0.30	< 0.30	< 0.60	< 0.60	< 0.60	< 0.60	< 0.60	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30
1,4-Dichlorobenzene	0.5	ug/L	< 0.10	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Styrene	43	ug/L	< 0.10	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dichlorodifluoromethane	3500	ug/L	< 0.40	< 0.40	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40
Tetrachloroethene	0.5	ug/L	< 0.20	< 0.20	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
1,1-Dichloroethane	11	ug/L	< 0.30	< 0.30	< 0.60	< 0.60	< 0.60	< 0.60	< 0.60	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30
1,1,1,2-Tetrachloroethane	1.1	ug/L	< 0.10	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2-Dichloroethane	0.5	ug/L	< 0.20	**7.69**	**2.48**	**2.58**	**5.03**	**5.17**	**4.26**	**3.14**	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	**7.39**	< 0.20	< 0.20	< 0.20
1,1,2,2-Tetrachloroethane	0.5	ug/L	< 0.10	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1-Dichloroethene	0.5	ug/L	< 0.30	< 0.30	< 0.50	< 0.50	**< 0.60**	**< 0.60**	< 0.50	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30
1,1,1-Trichloroethane	23	ug/L	< 0.30	< 0.30	< 0.60	< 0.60	< 0.60	< 0.60	< 0.60	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30
trans-1,2-Dichloroethene	1.6	ug/L	< 0.20	< 0.20	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
1,1,2-Trichloroethane	0.5	ug/L	< 0.20	< 0.20	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
cis-1,2-Dichloroethene	1.6	ug/L	< 0.20	< 0.20	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	0.42	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Trichloroethene	0.5	ug/L	< 0.20	< 0.20	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
1,2-Dichloropropane	0.58	ug/L	< 0.20	< 0.20	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Trichlorofluoromethane	2000	ug/L	< 0.40	< 0.40	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40
Vinyl Chloride	0.5	ug/L	< 0.17	< 0.17	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
1,3-Dichloropropene, Total	0.5	ug/L	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30
Trihalomethanes																							
Bromodichloromethane	67000	ug/L	< 0.20	< 0.20	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Bromoform	5	ug/L	< 0.10	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibromochloromethane	65000	ug/L	< 0.10	< 0.10	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acid/Base/Neutral Compounds																							
1,2,4-Trichlorobenzene	3	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
Bold: Value exceeding Table 7 standards
Bold: Detection limit exceeding Table 7 standards
ug/L: microgarms per liter
uS/cm: microsiemens per centimeter
NV: No value
REG153 (11) T7-GW COARSE: O.Reg 153 (2011) Table 7 Standards
coarse textured soil in generic site c
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Table 6A
Groundwater Analytical Results - Volatile Organic Compounds
1047 Richmond Road, Ottawa, Ontario

	Sample Location	BH22-09D	BH22-09D	BH22-09S	BH22-10D	BH22-10S	FIELD BLANK	FIELD BLANK	FIELD BLANK	FIELD BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK
	Sample Name	22-09D	DUP2	22-09S	22-10D	22-10S	F- BLANK	FIELD BLANK	Field Blank	Field Blank VOCs	TRIP BLANK	TRIP BLANK	Trip Blank	trip blank	Trip Blank VOCs
	Sample Date	29-05-2023	29-05-2023	29-05-2023	29-05-2023	29-05-2023	04-10-2021	22-12-2021	26-05-2022	29-05-2023	04-10-2021	22-12-2021	26-05-2022	15-11-2022	29-05-2023
Parameter	**REG153 (11) T7-GW COARSE**	**Unit**													
Volatile Organic Compounds															
Acetone	100000	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,3-Dichloropropene	NV	ug/L	-	-	-	-	-	< 0.40	-	-	-	< 0.40	-	-	-	-
cis-1,3-Dichloropropene	NV	ug/L	-	-	-	-	-	< 0.30	-	-	-	< 0.30	-	-	-	-
Bromomethane	0.89	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 0.20	< 0.20	< 0.20
1,2-Dibromoethane	0.2	ug/L	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10
Carbon Tetrachloride	0.2	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
n-Hexane	5	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 1.0	< 0.20	< 0.20	< 0.20	< 1.0	< 0.20	< 0.20	< 0.20	< 0.20
Chlorobenzene	140	ug/L	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10
2-Butanone	21000	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0
Chloroform	2	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
4-Methyl-2-pentanone	5200	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	150	ug/L	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.50	< 0.10	< 0.10	< 0.10	< 0.50	< 0.10	< 0.10	< 0.10	< 0.10
Methyl tert-Butyl Ether	15	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 0.20	< 0.20	< 0.20
1,3-Dichlorobenzene	7600	ug/L	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.50	< 0.10	< 0.10	< 0.10	< 0.50	< 0.10	< 0.10	< 0.10	< 0.10
Methylene Chloride	26	ug/L	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 2.0	< 0.30	< 0.30	< 0.30	< 2.0	< 0.30	< 0.30	< 0.30	< 0.30
1,4-Dichlorobenzene	0.5	ug/L	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.50	< 0.10	< 0.10	< 0.10	< 0.50	< 0.10	< 0.10	< 0.10	< 0.10
Styrene	43	ug/L	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.50	< 0.10	< 0.10	< 0.10	< 0.50	< 0.10	< 0.10	< 0.10	< 0.10
Dichlorodifluoromethane	3500	ug/L	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 1.0	< 0.20	< 0.40	< 0.40	< 1.0	< 0.20	< 0.40	< 0.40	< 0.40
Tetrachloroethene	0.5	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
1,1-Dichloroethane	11	ug/L	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.20	< 0.30	< 0.30	< 0.30	< 0.20	< 0.30	< 0.30	< 0.30	< 0.30
1,1,1,2-Tetrachloroethane	1.1	ug/L	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.50	< 0.10	< 0.10	< 0.10	< 0.50	< 0.10	< 0.10	< 0.10	< 0.10
1,2-Dichloroethane	0.5	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 0.20	< 0.20	< 0.20
1,1,2,2-Tetrachloroethane	0.5	ug/L	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.50	< 0.10	< 0.10	< 0.10	< 0.50	< 0.10	< 0.10	< 0.10	< 0.10
1,1-Dichloroethene	0.5	ug/L	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.20	< 0.30	< 0.30	< 0.30	< 0.20	< 0.30	< 0.30	< 0.30	< 0.30
1,1,1-Trichloroethane	23	ug/L	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.20	< 0.30	< 0.30	< 0.30	< 0.20	< 0.30	< 0.30	< 0.30	< 0.30
trans-1,2-Dichloroethene	1.6	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 0.20	< 0.20	< 0.20
1,1,2-Trichloroethane	0.5	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 0.20	< 0.20	< 0.20
cis-1,2-Dichloroethene	1.6	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 0.20	< 0.20	< 0.20
Trichloroethene	0.5	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
1,2-Dichloropropane	0.58	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Trichlorofluoromethane	2000	ug/L	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.50	< 0.40	< 0.40	< 0.40	< 0.50	< 0.40	< 0.40	< 0.40	< 0.40
Vinyl Chloride	0.5	ug/L	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.20	< 0.17	< 0.17	< 0.17	< 0.20	< 0.17	< 0.17	< 0.17	< 0.17
1,3-Dichloropropene, Total	0.5	ug/L	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	-	< 0.30	< 0.30	< 0.30	-	< 0.30	< 0.30	< 0.30	< 0.30
Trihalomethanes																
Bromodichloromethane	67000	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 0.20	< 0.20	< 0.20
Bromoform	5	ug/L	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 1.0	< 0.10	< 0.10	< 0.10	< 1.0	< 0.10	< 0.10	< 0.10	< 0.10
Dibromochloromethane	65000	ug/L	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.50	< 0.10	< 0.10	< 0.10	< 0.50	< 0.10	< 0.10	< 0.10	< 0.10
Acid/Base/Neutral Compounds																
1,2,4-Trichlorobenzene	3	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
Bold: Value exceeding Table 7 standards
Bold: Detection limit exceeding Table 7 standards
ug/L: microgarms per liter
uS/cm: microsiemens per centimeter
NV: No value
REG153 (11) T7-GW COARSE: O.Reg 153 (2011) Table 7 Standards
coarse textured soil in generic site c
water condition

Table 6B
Groundwater Analytical Results - Petroleum Hydrocarbons F1 to F4, Benzene, Toluene, Ethylbenzene and Xylenes
1047 Richmond Road, Ottawa, Ontario

		Sample Location	BH21-02	BH21-03	BH21-04	BH21-04	BH21-04	BH21-04	BH21-04	BH21-04	BH21-04	BH21-04	BH21-05	BH21-05
		Sample Name	21-2	21-3	21-4	21-4	DUP-1	BH21-04	BH21-4	MW 21-04	21-4	MW21-04	21-5	DUP-1
		Sample Date	04-10-2021	04-10-2021	04-10-2021	30-11-2021	30-11-2021	09-12-2021	22-12-2021	26-05-2022	15-11-2022	07-07-2023	04-10-2021	04-10-2021
Parameter	**REG153 (11) T7-GW COARSE**	**Unit**												
Petroleum Hydrocarbons														
Petroleum Hydrocarbons - F1 (C6-C10)	420	ug/L	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	-	< 25	< 25	< 25
Petroleum Hydrocarbons - F1 (C6-C10)-BTEX	420	ug/L	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	-	< 25	< 25	< 25
Petroleum Hydrocarbons - F2 (C10-C16)	150	ug/L	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	-	< 100	< 100	< 100
Petroleum Hydrocarbons - F3 (C16-C34)	500	ug/L	< 200	< 200	< 200	< 100	< 100	< 100	< 100	< 100	-	< 100	< 200	< 200
Petroleum Hydrocarbons - F4 (C34-C50)	500	ug/L	< 200	< 200	< 200	< 100	< 100	< 100	< 100	< 100	-	< 100	< 200	< 200
BTEX														
Benzene	0.5	ug/L	< 0.17	< 0.17	0.49	**1.66**	**1.86**	**2.81**	< 0.20	**2.39**	< 0.20	< 0.20	< 0.17	< 0.17
Ethylbenzene	54	ug/L	< 0.20	< 0.20	< 0.20	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.20
Toluene	320	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Xylenes, Total	72	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
m,p-Xylenes	NV	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
o-Xylene	NV	ug/L	< 0.20	< 0.20	< 0.20	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.20

Notes:

Bold: Value exceeding Table 7 standards

ug/L: microgarms per liter

uS/cm: microsiemens per centimeter

NV: No value

REG153 (11) T7-GW COARSE: O.Reg 153 (2011) Table 7 Standards for all types of property use for groundwater in coarse textured soil in generic site condition for shallow soils in a non-potable ground water condition

Table 6B
Groundwater Analytical Results - Petroleum Hydrocarbons F1 to F4, Benzene, Toluene, Ethylbenzene and Xylenes
1047 Richmond Road, Ottawa, Ontario

		Sample Location	BH21-11	BH21-11	BH21-14	BH21-14	BH21-14	BH21-14	BH21-14	BH21-14	BH21-14	BH21-14	BH21-14	BH21-15A
		Sample Name	21-11	DUP-2	21-14	BH21-14	DUP	BH21-14	MW 21-14	MW 21-14 dup	21-14	21-14	Dup 1	21-15A
		Sample Date	30-11-2021	30-11-2021	30-11-2021	09-12-2021	09-12-2021	22-12-2021	26-05-2022	26-05-2022	15-11-2022	07-07-2023	07-07-2023	30-11-2021
Parameter	**REG153 (11) T7-GW COARSE**	**Unit**												
Petroleum Hydrocarbons														
Petroleum Hydrocarbons - F1 (C6-C10)	420	ug/L	< 25	-	< 25	< 25	< 25	< 25	< 25	< 25	-	< 25	< 25	< 25
Petroleum Hydrocarbons - F1 (C6-C10)-BTEX	420	ug/L	< 25	-	< 25	< 25	< 25	< 25	< 25	< 25	-	< 25	< 25	< 25
Petroleum Hydrocarbons - F2 (C10-C16)	150	ug/L	< 100	-	< 100	< 100	< 100	< 100	< 100	< 100	-	< 100	< 100	< 100
Petroleum Hydrocarbons - F3 (C16-C34)	500	ug/L	< 100	-	< 100	< 100	< 100	< 100	< 100	< 100	-	< 100	< 100	< 100
Petroleum Hydrocarbons - F4 (C34-C50)	500	ug/L	< 100	-	< 100	< 100	< 100	< 100	< 100	< 100	-	< 100	< 100	< 100
BTEX														
Benzene	0.5	ug/L	< 0.20	-	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Ethylbenzene	54	ug/L	< 0.10	-	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Toluene	320	ug/L	< 0.20	-	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Xylenes, Total	72	ug/L	< 0.20	-	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
m,p-Xylenes	NV	ug/L	< 0.20	-	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
o-Xylene	NV	ug/L	< 0.10	-	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Notes:

Bold: Value exceeding Table 7 standards

ug/L: microgarms per liter

uS/cm: microsiemens per centimeter

NV: No value

REG153 (11) T7-GW COARSE: O.Reg 153 (2011) Table 7 Standards for all types of property use for groundwater in coarse textured soil in generic site condition for shallow soils in a non-potable ground water condition

Table 6B
Groundwater Analytical Results - Petroleum Hydrocarbons F1 to F4, Benzene, Toluene, Ethylbenzene and Xylenes
1047 Richmond Road, Ottawa, Ontario

		Sample Location	BH21-15B	BH21-19	BH21-20	BH21-21	BH21-21	BH21-22	BH22-01	BH22-01	BH22-1	BH22-02	BH22-02	BH22-02
		Sample Name	21-15B	21-19	21-20	BH21-21	DUP1	BH21-22	MW 22-01	22-1	MW22-01	MW 22-02	22-2	MW22-02
		Sample Date	30-11-2021	30-11-2021	30-11-2021	22-12-2021	22-12-2021	22-12-2021	26-05-2022	16-11-2022	07-07-2023	26-05-2022	16-11-2022	09-02-2023
Parameter	**REG153 (11) T7-GW COARSE**	**Unit**												
Petroleum Hydrocarbons														
Petroleum Hydrocarbons - F1 (C6-C10)	420	ug/L	< 25	< 25	< 25	< 25	< 25	< 25	< 25	-	< 25	< 25	-	-
Petroleum Hydrocarbons - F1 (C6-C10)-BTEX	420	ug/L	< 25	< 25	< 25	< 25	< 25	< 25	< 25	-	< 25	< 25	-	-
Petroleum Hydrocarbons - F2 (C10-C16)	150	ug/L	< 100	< 100	< 100	< 100	< 100	< 100	< 100	-	< 100	< 100	-	-
Petroleum Hydrocarbons - F3 (C16-C34)	500	ug/L	< 100	< 100	< 100	< 100	< 100	< 100	< 100	-	< 100	< 100	-	-
Petroleum Hydrocarbons - F4 (C34-C50)	500	ug/L	< 100	< 100	< 100	< 100	< 100	< 100	< 100	-	< 100	< 100	-	-
BTEX														
Benzene	0.5	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.40
Ethylbenzene	54	ug/L	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20
Toluene	320	ug/L	< 0.20	0.63	0.31	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.40
Xylenes, Total	72	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
m,p-Xylenes	NV	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.40
o-Xylene	NV	ug/L	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20

Notes:

Bold: Value exceeding Table 7 standards

ug/L: microgarms per liter

uS/cm: microsiemens per centimeter

NV: No value

REG153 (11) T7-GW COARSE: O.Reg 153 (2011) Table 7 Standards for all types of property use for groundwater in coarse textured soil in generic site condition for shallow soils in a non-potable ground water condition

Table 6B
Groundwater Analytical Results - Petroleum Hydrocarbons F1 to F4, Benzene, Toluene, Ethylbenzene and Xylenes
1047 Richmond Road, Ottawa, Ontario

			Sample Location	BH22-02	BH22-02	BH22-02	BH22-02	BH22-03	BH22-04	BH22-04	BH22-04	BH22-04	BH22-04	BH22-04	BH22-05	BH22-06
			Sample Name	DUP-1	MW 22-02	DUP-1	MW22-02	MW 22-03	MW 22-04	22-4	MW22-04	DUP-2	22-04	MW 22-04	MW 22-05	MW22-06
			Sample Date	09-02-2023	16-03-2023	16-03-2023	07-07-2023	26-05-2022	26-05-2022	16-11-2022	07-07-2023	07-07-2023	15-08-2023	21-11-2023	26-05-2022	18-07-2023
Parameter	**REG153 (11) T7-GW COARSE**	**Unit**														
Petroleum Hydrocarbons																
Petroleum Hydrocarbons - F1 (C6-C10)	420	ug/L	-	-	-	< 25	< 25	< 25	-	< 25	< 25	< 25	< 25	< 25	< 25
Petroleum Hydrocarbons - F1 (C6-C10)-BTEX	420	ug/L	-	-	-	< 25	< 25	< 25	-	< 25	< 25	< 25	< 25	< 25	< 25
Petroleum Hydrocarbons - F2 (C10-C16)	150	ug/L	-	-	-	< 100	120	< 100	-	< 100	< 100	< 100	**214**	< 100	< 100
Petroleum Hydrocarbons - F3 (C16-C34)	500	ug/L	-	-	-	< 100	300	< 100	-	**542**	**569**	< 100	**2840**	< 100	< 100
Petroleum Hydrocarbons - F4 (C34-C50)	500	ug/L	-	-	-	< 100	< 100	< 100	-	< 100	< 100	< 100	< 100	< 100	< 100
BTEX																
Benzene	0.5	ug/L	< 0.40	< 0.40	< 0.40	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Ethylbenzene	54	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Toluene	320	ug/L	< 0.40	< 0.40	< 0.40	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Xylenes, Total	72	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
m,p-Xylenes	NV	ug/L	< 0.40	< 0.40	< 0.40	< 0.40	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
o-Xylene	NV	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Notes:

Bold: Value exceeding Table 7 standards

ug/L: microgarms per liter

uS/cm: microsiemens per centimeter

NV: No value

REG153 (11) T7-GW COARSE: O.Reg 153 (2011) Table 7 Standards for all types of property use for groundwater in coarse textured soil in generic site condition for shallow soils in a non-potable ground water condition

Table 6B
Groundwater Analytical Results - Petroleum Hydrocarbons F1 to F4, Benzene, Toluene, Ethylbenzene and Xylenes
1047 Richmond Road, Ottawa, Ontario

		Sample Location	BH22-08	BH22-08	BH22-08	BH22-08	BH22-08	BH22-09D	BH22-09D	BH22-09S	BH22-10D	BH22-10S	FIELD BLANK	FIELD BLANK	FIELD BLANK
		Sample Name	22-8	dup 2	MW22-8	MW 22-8	DUP-GW	22-09D	DUP2	22-09S	22-10D	22-10S	F- BLANK	FIELD BLANK	Field Blank
		Sample Date	15-11-2022	15-11-2022	19-07-2023	21-11-2023	21-11-2023	29-05-2023	29-05-2023	29-05-2023	29-05-2023	29-05-2023	04-10-2021	22-12-2021	26-05-2022
Parameter	**REG153 (11) T7-GW COARSE**	**Unit**													
Petroleum Hydrocarbons															
Petroleum Hydrocarbons - F1 (C6-C10)	420	ug/L	-	-	< 25	< 25	< 25	-	-	-	-	-	< 25	< 25	-
Petroleum Hydrocarbons - F1 (C6-C10)-BTEX	420	ug/L	-	-	< 25	< 25	< 25	-	-	-	-	-	< 25	< 25	-
Petroleum Hydrocarbons - F2 (C10-C16)	150	ug/L	-	-	< 100	< 100	< 100	-	-	-	-	-	-	-	-
Petroleum Hydrocarbons - F3 (C16-C34)	500	ug/L	-	-	< 100	< 100	< 100	-	-	-	-	-	-	-	-
Petroleum Hydrocarbons - F4 (C34-C50)	500	ug/L	-	-	< 100	< 100	< 100	-	-	-	-	-	-	-	-
BTEX															
Benzene	0.5	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.17	< 0.20	< 0.20
Ethylbenzene	54	ug/L	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10
Toluene	320	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Xylenes, Total	72	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
m,p-Xylenes	NV	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
o-Xylene	NV	ug/L	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10

Notes:

Bold: Value exceeding Table 7 standards

ug/L: microgarms per liter

uS/cm: microsiemens per centimeter

NV: No value

REG153 (11) T7-GW COARSE: O.Reg 153 (2011) Table 7 Standards for all types of property use for groundwater in coarse textured soil in generic site condition for shallow soils in a non-potable ground water condition

Table 6B
Groundwater Analytical Results - Petroleum Hydrocarbons F1 to F4, Benzene, Toluene, Ethylbenzene and Xylenes
1047 Richmond Road, Ottawa, Ontario

		Sample Location	FIELD BLANK
		Sample Name	Field Blank VOCs
		Sample Date	29-05-2023
Parameter	**REG153 (11) T7-GW COARSE**	**Unit**	
Petroleum Hydrocarbons			
Petroleum Hydrocarbons - F1 (C6-C10)	420	ug/L	-
Petroleum Hydrocarbons - F1 (C6-C10)-BTEX	420	ug/L	-
Petroleum Hydrocarbons - F2 (C10-C16)	150	ug/L	-
Petroleum Hydrocarbons - F3 (C16-C34)	500	ug/L	-
Petroleum Hydrocarbons - F4 (C34-C50)	500	ug/L	-
BTEX			
Benzene	0.5	ug/L	< 0.20
Ethylbenzene	54	ug/L	< 0.10
Toluene	320	ug/L	< 0.20
Xylenes, Total	72	ug/L	< 0.20
m,p-Xylenes	NV	ug/L	< 0.20
o-Xylene	NV	ug/L	< 0.10

Notes:

Bold: Value exceeding Table 7 standards

ug/L: microgarms per liter

uS/cm: microsiemens per centimeter

NV: No value

REG153 (11) T7-GW COARSE: O.Reg 153 (2011) Table 7 Standards for all types of property use for groundwater in coarse textured soil in generic site condition for shallow soils in a non-potable ground water condition

		Sample Location	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK
		Sample Name	TRIP BLANK	TRIP BLANK	Trip Blank	trip blank	Trip Blank VOCs
		Sample Date	04-10-2021	22-12-2021	26-05-2022	15-11-2022	29-05-2023
Parameter	**REG153 (11) T7-GW COARSE**	**Unit**					
Petroleum Hydrocarbons							
Petroleum Hydrocarbons - F1 (C6-C10)	420	ug/L	< 25	< 25	-	-	-
Petroleum Hydrocarbons - F1 (C6-C10)-BTEX	420	ug/L	< 25	< 25	-	-	-
Petroleum Hydrocarbons - F2 (C10-C16)	150	ug/L	-	-	-	-	-
Petroleum Hydrocarbons - F3 (C16-C34)	500	ug/L	-	-	-	-	-
Petroleum Hydrocarbons - F4 (C34-C50)	500	ug/L	-	-	-	-	-
BTEX							
Benzene	0.5	ug/L	< 0.17	< 0.20	< 0.20	< 0.20	< 0.20
Ethylbenzene	54	ug/L	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10
Toluene	320	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Xylenes, Total	72	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
m,p-Xylenes	NV	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
o-Xylene	NV	ug/L	< 0.20	< 0.10	< 0.10	< 0.10	< 0.10

Notes:

Bold: Value exceeding Table 7 standards

ug/L: microgarms per liter

uS/cm: microsiemens per centimeter

NV: No value

REG153 (11) T7-GW COARSE: O.Reg 153 (2011) Table 7 Standards for all types of property use for groundwater in coarse textured soil in generic site condition for shallow soils in a non-potable ground water condition

Table 6C
Groundwater Analytical Results - Metals and Other Regulated Parameters
1047 Richmond Road, Ottawa, Ontario

		Sample Location	BH21-02	BH21-03	BH21-04	BH21-05	BH21-05	BH21-11	BH21-11
		Sample Name	21-2	21-3	21-4	21-5	DUP-1	21-11	DUP-2
		Sample Date	04-10-2021	04-10-2021	04-10-2021	04-10-2021	04-10-2021	30-11-2021	30-11-2021
Parameter	**REG153 (11) T7-GW COARSE**	**Unit**							
Metals									
Barium	23000	ug/L	55	36	140	77	77	47.7	59.7
Beryllium	53	ug/L	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.50	< 0.50
Boron	36000	ug/L	82	86	91	150	140	85	89
Cadmium	2.1	ug/L	< 0.090	< 0.090	< 0.090	< 0.090	< 0.090	< 0.20	< 0.20
Chromium	640	ug/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 2.0
Cobalt	52	ug/L	< 0.50	< 0.50	4.2	< 0.50	< 0.50	0.65	1.24
Copper	69	ug/L	1.6	< 0.90	< 0.90	< 0.90	< 0.90	1.2	< 1.0
Lead	20	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Molybdenum	7300	ug/L	< 0.50	0.57	< 0.50	< 0.50	< 0.50	0.63	0.83
Nickel	390	ug/L	1.6	1.1	2.7	< 1.0	1	2.5	2.9
Silver	1.2	ug/L	< 0.090	< 0.090	< 0.090	< 0.090	< 0.090	< 0.20	< 0.20
Thallium	400	ug/L	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.30	< 0.30
Uranium	330	ug/L	0.69	0.64	0.52	0.54	0.54	0.75	0.84
Vanadium	200	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.56	< 0.40
Zinc	890	ug/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Metals, Hydride-Forming									
Antimony	16000	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 1.0
Selenium	50	ug/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0
Arsenic	1500	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	6	4.1
Other Regulated Parameters									
Hexavalent Chromium	110	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2	< 2
Cyanide (free)	52	ug/L	-	-	-	-	-	3	< 2
Cyanide (WAD)	52	ug/L	< 1	< 1	< 1	< 1	< 1	-	-
Mercury	0.1	ug/L	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.02	< 0.02
Sodium	1800000	ug/L	170000	87000	34000	65000	64000	65500	63100
Chloride	1800	mg/L	150	47	47	36	36	121	124
pH	NV	pH units	-	-	-	-	-	7.5	7.64

Notes:

Bold: Value exceeding Table 7 standards

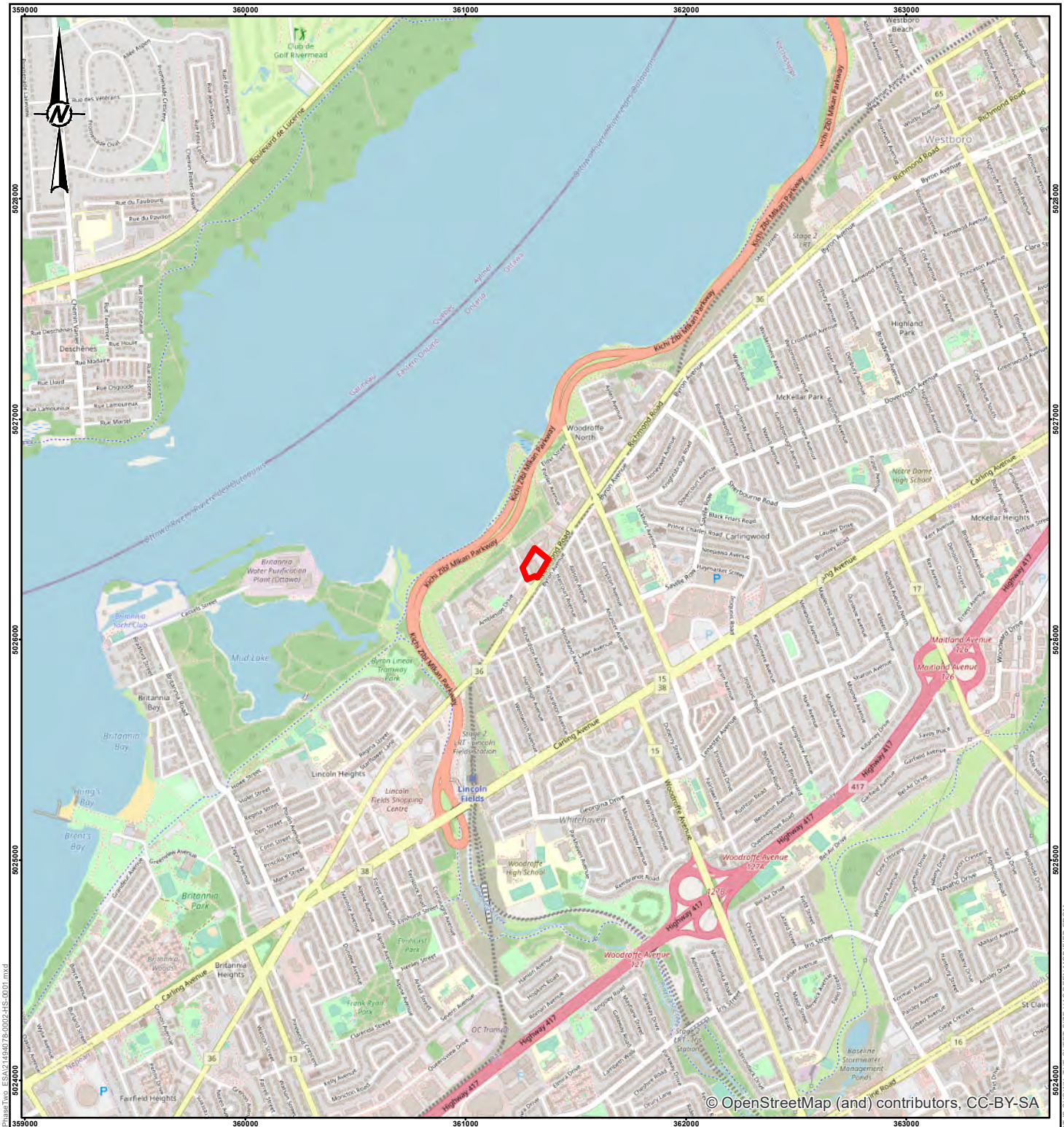
ug/L: microgarms per liter

uS/cm: microsiemens per centimeter

NV: No value

REG153 (11) T7-GW COARSE: O.Reg 153 (2011) Table 7 Standards for all types of property use for groundwater in coarse textured soil in generic site condition for shallow soils in a non-potable ground water condition

Figures



LEGEND

APPROXIMATE SITE BOUNDARY

0 250 500 1,000

1:25,000 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
COORDINATE SYSTEM: MTM ZONE 9 VERTICAL DATUM: CGVD28

CLIENT

1047 RICHMOND NOMINEE INC.

PROJECT

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE

KEY PLAN

CONSULTANT

wsp

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	JEM
REVIEWED	DS
APPROVED	PH

PROJECT NO.	CONTROL	REV.	FIGURE
21494078	0002	0	1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm

Path: S:\Clients\Ennate\1047 Richmond Rd\69 PROJ\21494078 Ennate GeoEnviro\0002 Phase Two ESA\21494078-0002-HS-0001.mxd

LEGEND

ROADWAY

APPROXIMATE SITE BOUNDARY

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2020
2. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: MTM ZONE 9, VERTICAL DATUM: CGVD28

0 10 20 40

1:750 METRES

CLIENT
1047 RICHMOND NOMINEE INC.

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
SITE PLAN

CONSULTANT

wsp

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	JEM
REVIEWED	DS
APPROVED	PH

PROJECT NO.	CONTROL	REV.	FIGURE
21494078	0002	0	**2**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm

Path: S:\Clients\Fengate\1047_Richmond_R499_PRO-J\21494078_Fengate_GeoEnviro\0002_PhaseTwo_ESA\21494078-0002-2HS-0002.mxd

LEGEND

- POTENTIALLY CONTAMINATING ACTIVITY (PCA)
- ROADWAY
- WETLAND
- WATERBODY
- APPROXIMATE SITE BOUNDARY
- PHASE ONE STUDY AREA

Potentially Contaminiating Activities ("PCA")

Location	Detail	O.Reg. 153/04 PCA#
A	Commercial Autobody Shops – The Site was used as a car dealership and had an automotive garage and associated equipment present until at least 2022.	10
B	Gasoline and Associated Products Storage in Fixed Tanks – Former underground storage tank (UST) areas identified on the Site.	28
C	Gasoline and Associated Products Storage in Fixed Tanks – Presence of one above-ground storage tank (AST) used waste lubricant oil, three motor lubricant oil ASTs and oil-stained asphalt	28
D	Paints Manufacturing, Processing and Bulk Storage – Presence of painting operations (paint booth)	39
E	Importation of Fill Material of Unknown Quality – Due to the age of the Site, inferred fill materials to be present site-wide	30
F	Transformer Manufacturing, Processing and Use – Pole-mounted transformer located at the driveway of New Orchard Road	55
G	Other – The application of de-icing salt for vehicular and pedestrian safety has occurred at the Phase One Property	(Other)
H	Railyards, Tracks and Spurs – A Canadian National Railway corridor was historically located 350 m north of the Phase One Property	46
I	Gasoline and Associated Products Storage in Fixed Tanks – A former gas station was reported at 1051 Richmond Road (130 m southwest of the Phase One Property)	28
J	Operation of Dry-Cleaning Equipment (where chemicals are used) – A former Laundry cleaning facility was reported at 993 Richmond Road, 101 m northeast of the Phase One Property	37
K	Commercial Autobody Shops – A automotive repair shop is located at 1075 Richmond Road, 116 m southwest of the Phase One Property	10
L	Gasoline and Associated Products Storage in Fixed Tanks – Extendicare, located at 99 New Orchard Ave 30 m northwest of the Phase One Property, was a waste generator in 2006 and 2010 for light fuels & inorganic laboratory chemicals, waste oils & lubricants and oil skimmings & sludges.	28
M	Transformer Manufacturing, Processing and Use – Transformer located approximately 125 m northwest of the Phase One Property, along New Orchard Ave.	55
N	Commercial Autobody Shops – Tops Car Wash Co. Limited is located at 979 Richmond Road, 129 m northeast of the Phase One Property. It was listed as a motor vehicle repair shop in 2005, had a UST associated with it until at least 1992, and waste generator records for light fuels from 2002-2004.	10
O	NA – Multiple spills associated with LRT construction on the adjacent Property to the south between 2019 and 2022. Spilled products include diesel fuel (50 L in 2020), raw sewage (180 L in 2021), and hydraulic oil (various small-volume spills from 2019-2022).	NA

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2020
2. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: MTM ZONE 9, VERTICAL DATUM: CGVD28

0 25 50 100

1:2,750 METRES

CLIENT
1047 RICHMOND NOMINEE INC.

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
POTENTIALLY CONTAMINATING ACTIVITIES

CONSULTANT

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	JEM
REVIEWED	DS
APPROVED	PH

PROJECT NO.	CONTROL	REV.	FIGURE
21494078	0002	0	3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 0 25mm

Path: S:\Clients\Fengate\1047_Richmond_R.d\9g_PRO\21494078_Fengate_GeoEnviro0002_PhaseTwo_ESA\21494078-0002-HS-00\03.mxd

LEGEND

- APEC 1
- APEC 2A
- APEC 2B
- APEC 3
- APEC 4
- APEC 5
- APEC 6
- APEC 7
- ROADWAY
- APPROXIMATE SITE BOUNDARY

Areas of Potential Environmental Concern ("APEC")		
APEC	**Description**	**O. Reg 153/04 - PCA#**
APEC 1	On-site Automotive garage	10
APEC 2A	Former UST Location - Northeast Portion of the Site Building	28
APEC 2B	Former UST Location - Southeast Portion of the Site Building	
APEC 3	Presence of an AST, used waste lubricant oil and oil-stained ashphalt	28
APEC 4	Presence of painting operations (paint booth)	39
APEC 5	Inferred fill materials to be present site-wide	30
APEC 6	Pole mounted transformer	55
APEC 7	Application of de-icing salt	(other)

NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)
1. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY WSP UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © KING'S PRINTER 2023
2. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: MTM ZONE 9, VERTICAL DATUM: CGVD28

0 10 20 40
1:750 METRES

CLIENT
1047 RICHMOND NOMINEE INC.

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
AREAS OF POTENTIAL ENVIRONMENTAL CONCERN

CONSULTANT

YYYY-MM-DD	2023-10-02
DESIGNED	DS
PREPARED	JEM
REVIEWED	DS
APPROVED	PH

PROJECT NO.	CONTROL	REV.	FIGURE
21494078	0002	0	4

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm

Path: S:\Clients\Fengate\1047 - Richmond, R d\99 - PROJ\21494078_Fengate_GeoEnviro\0002 - Phase Two - ESA\21494078-0002-HS-0104.mxd

LEGEND

- APPROXIMATE BOREHOLE LOCATION
- APPROXIMATE TEST PIT LOCATION
- CROSS-SECTION LOCATION
- APPROXIMATE SITE BOUNDARY

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2020
2. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: MTM ZONE 9, VERTICAL DATUM: CGVD28

0 10 20 40

1:750 METRES

CLIENT
1047 RICHMOND NOMINEE INC.

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
BOREHOLE AND MONITORING WELL LOCATION PLAN

CONSULTANT

wsp

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	JEM
REVIEWED	DS
APPROVED	PH

PROJECT NO.	CONTROL	REV.	FIGURE
21494078	0002	0	**5**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm

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LEGEND

- APPROXIMATE BOREHOLE LOCATION
- APPROXIMATE TEST PIT LOCATION
- GROUNDWATER CONTOUR
- INFERRED GROUNDWATER FLOW
- CROSS-SECTION LOCATION
- APPROXIMATE SITE BOUNDARY

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2020
2. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: MTM ZONE 9, VERTICAL DATUM: CGVD28

22-09 — Borehole ID
56.71 — Groundwater Elevation

0 10 20 40
1:750 METRES

CLIENT
1047 RICHMOND NOMINEE INC.

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
SHALLOW GROUNDWATER ELEVATIONS (AUGUST 8, 2023)

CONSULTANT

YYYY-MM-DD	2023-09-27
DESIGNED	DS
PREPARED	JEM
REVIEWED	DS
APPROVED	PH

PROJECT NO.	CONTROL	REV.	FIGURE
21494078	0002	0	6

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM:
0 25mm

Path: S:\Clients\Fengate\1047 - Richmond, R499 - PROJ\21494078_Fengate_GeoEnviro\0002_PhaseTwo_ESA\21494078-0002-HS-0006.mxd

LEGEND

- APPROXIMATE BOREHOLE LOCATION
- APPROXIMATE TEST PIT LOCATION
- CROSS-SECTION LOCATION
- APPROXIMATE SITE BOUNDARY

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE
2. (*) GROUNDWATER LEVEL JULY 19, 2023.

REFERENCE(S)

1. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2020
2. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: MTM ZONE 9, VERTICAL DATUM: CGVD28

Well ID — 22-05 (58.10) — Groundwater Elevation

0 10 20 40
1:750 METRES

CLIENT
1047 RICHMOND NOMINEE INC.

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
DEEP GROUNDWATER ELEVATION (AUG. 2023)

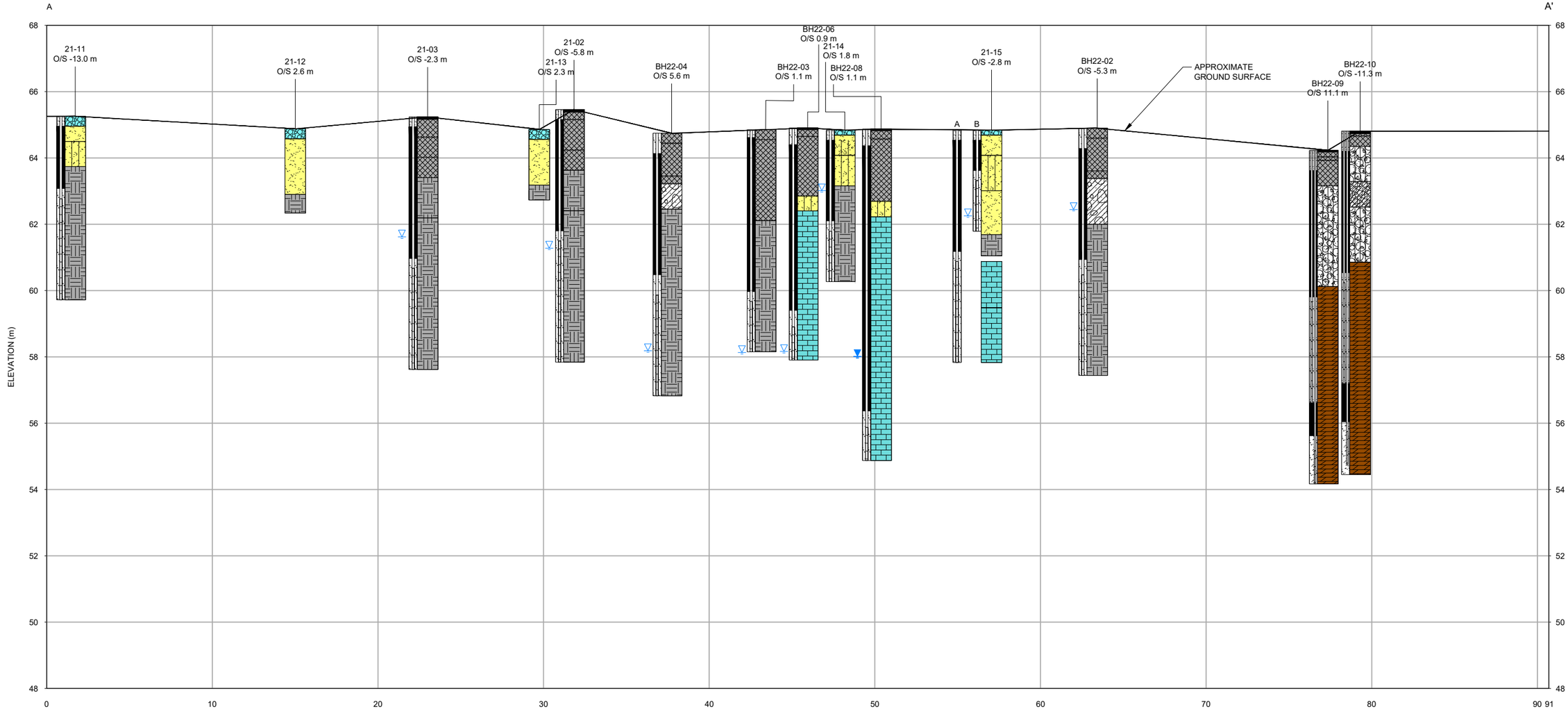
CONSULTANT

YYYY-MM-DD	2023-09-27
DESIGNED	DS
PREPARED	JEM
REVIEWED	DS
APPROVED	PH

PROJECT NO.	CONTROL	REV.	FIGURE
21494078	0002	0	7

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm

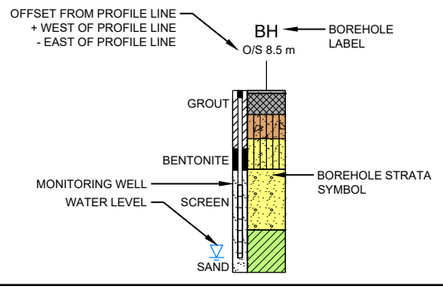
Path: S:\Clients\Fengate\1047 - Richmond, R d99 - PROJ\21494078_Fengate_GeoEnviro\0002_PhaseTwo_ESA\21494078-0002-HS-0105_2.mxd



SOIL STRATIGRAPHY

- ASPHALT
- FILL
- SAND
- SILTY SAND
- SILT
- GRAVEL
- GRAVELLY CLAYEY SAND
- GRAVELLY SILTY SAND TILL
- GLACIAL TILL
- LIMESTONE
- DOLOMITE
- BEDROCK

LEGEND



0 2.5 5
1:125 VERTICAL SCALE METRES

0 5 10
1:250 HORIZONTAL SCALE METRES

CLIENT
1047 RICHMOND NOMINEE INC.

CONSULTANT
wsp

YYYY-MM-DD	2023-07-18
DESIGNED	DS
PREPARED	MK
REVIEWED	DS
APPROVED	KS

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
CROSS SECTION A-A'

PROJECT NO.	CONTROL	REV.	FIGURE
21494078	0001	0	8

25 mm
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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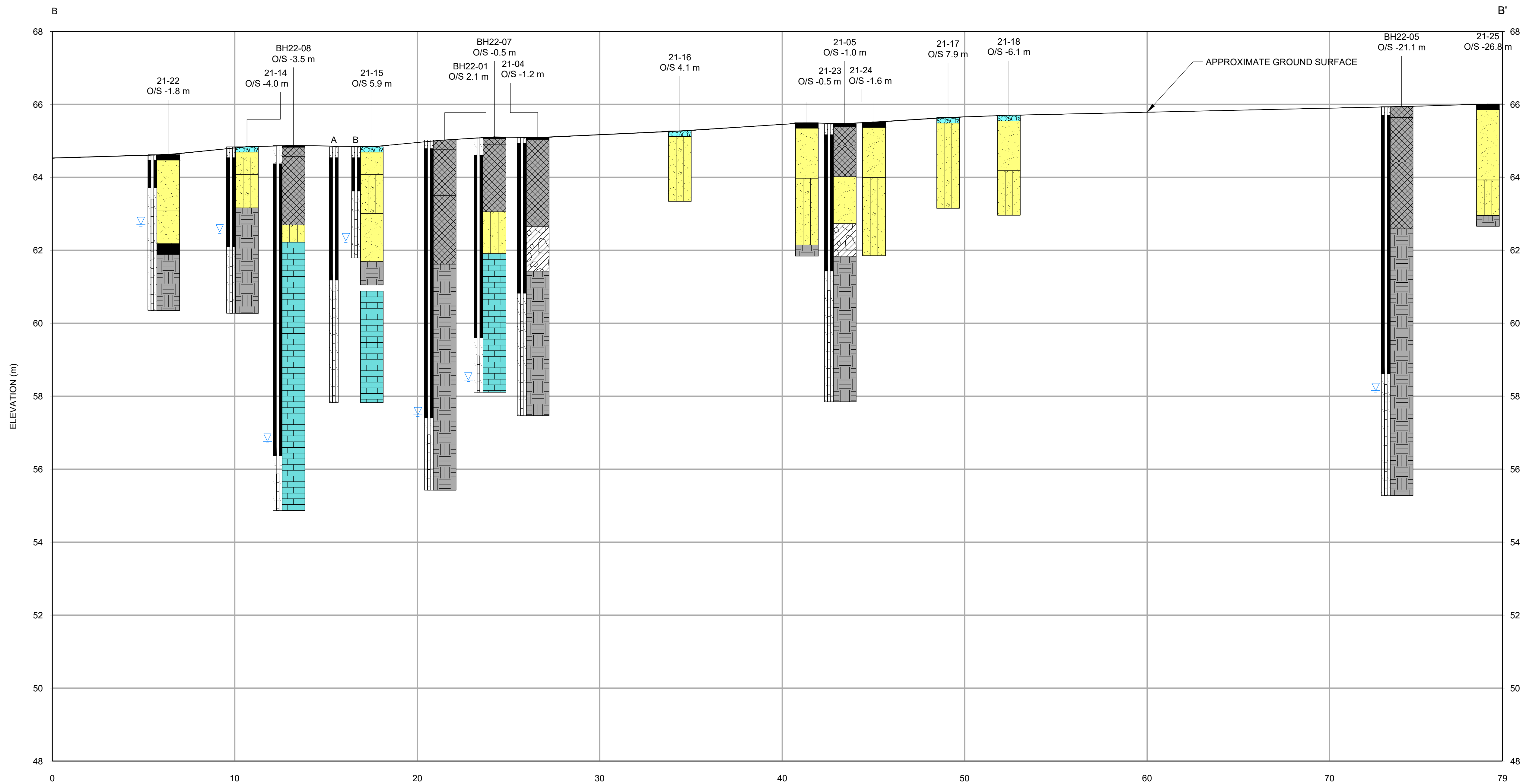
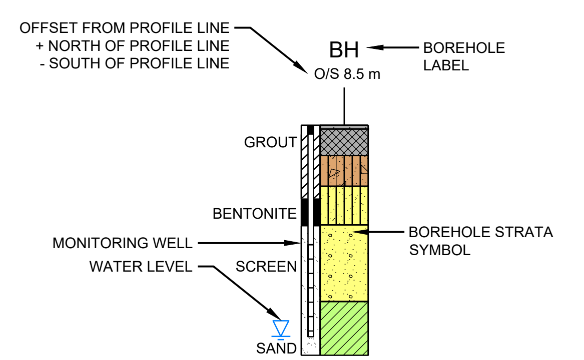


HORIZONTAL DISTANCE (m)

SOIL STRATIGRAPHY

ASPHALT	GLACIAL TILL
FILL	LIMESTONE
SAND	DOLOMITE
SILTY SAND	BEDROCK
SILT	
GRAVEL	
GRAVELLY CLAYEY SAND	
GRAVELLY SILTY SAND TILL	

LEGEND



0 2.5 5
1:125 VERTICAL SCALE METRES

0 5 10
1:250 HORIZONTAL SCALE METRES

CLIENT
1047 RICHMOND NOMINEE INC.

CONSULTANT
wsp

YYYY-MM-DD	2023-07-18
DESIGNED	DS
PREPARED	MK
REVIEWED	DS
APPROVED	KS

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
CROSS SECTION B-B'

PROJECT NO.	CONTROL	REV.	FIGURE
21494078	0001	0	9

Parameter	Unit	REG153 (11) T7 R/P/I SOIL COARSE [1]	BH21-13	BH21-13
			11-Nov-2021	11-Nov-2021
			21-13 SA2	21-13 SA3
Sample Depth	m		0.76 - 1.52	1.52 - 2.13
SAR	ug/g	5	0.54	7.3

Parameter	Unit	REG153 (11) T7 R/P/I SOIL COARSE [1]	BH21-11	BH21-11
			12-Nov-2021	12-Nov-2021
			21-11 SA2	21-12 SA3
Sample Depth	m		0.76 - 1.52	1.52 -1.88
SAR	ug/g	5	6.6	5.9

Parameter	Unit	REG153 (11) T7 R/P/I SOIL COARSE [1]	BH21-03	BH21-03	BH21-03	BH21-03
			22-Sep-2021	22-Sep-2021	22-Sep-2021	22-Sep-2021 [3]
			21-03 SA2	21-03 SA2	21-03 SA3	21-03DUP-1 (Dup of SA3)
Sample Depth	m		0.076 - 0.6	0.6 - 1.22	1.22 - 1.83	1.22 - 1.83
SAR	ug/g	5	No Exceedences	5.3	6.1	6.6

LEGEND

- CROSS-SECTION LOCATION
- APPROXIMATE BOREHOLE LOCATION
- APPROXIMATE TEST PIT LOCATION
- LOCATION WHERE ALL SAMPLES MEET APPLICABLE STANDARDS
- LOCATION WHERE APPLICABLE STANDARD IS DEEMED NOT TO BE AN EXCEEDANCE AS PER SECTION 49.1 OF O.Reg 153/04
- APPROXIMATE SITE BOUNDARY

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE
2. BOLD AND SHADED VALUE INDICATES PARAMETER IS GREATER THAN REG153, TABLE 7 I/C/C STANDARDS
3. UNDERLINED VALUE INDICATES PARAMETER IS GREATER THAN REG153, TABLE 7 R/P/I STANDARDS
4. [1]O.REG 153 (2011) TABLE 7 STANDARDS FOR INDUSTRIAL/COMMERCIAL/COMMUNITY (I/C/C) PROPERTY USE FOR COARSE TEXTURED SOIL IN GENERIC SITE CONDITION FOR SHALLOW SOILS IN A NON-POTABLE GROUND WATER CONDITION
5. [2]O.REG 153 (2011) TABLE STANDARDS FOR RESIDENTIAL/PARKLAND/INSTITUTIONAL (R/P/I) PROPERTY USE FOR COARSE TEXTURED SOIL IN GENERIC SITE CONDITION FOR SHALLOW SOILS IN A NON-POTABLE GROUND WATER CONDITION
6. * OTHER PARAMETERS CONSIST OF: CONDUCTIVITY, CYANIDE (WAD), pH, SODIUM ADSORPTION RATIO (SAR)
7. - INDICATES PARAMETER IS NOT ANALYZED OR NOT APPLICABLE

REFERENCE(S)

1. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2020
2. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: MTM ZONE 9, VERTICAL DATUM: CGVD28

0 10 20 40
1:750 METRES

CLIENT
1047 RICHMOND NOMINEE INC.

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
SOIL ANALYTICAL RESULTS - SAR

CONSULTANT
wsp

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	JEM
REVIEWED	DS
APPROVED	PH

PROJECT NO.	CONTROL	REV.	FIGURE
21494078	0002	0	**10A**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM:
0 25mm

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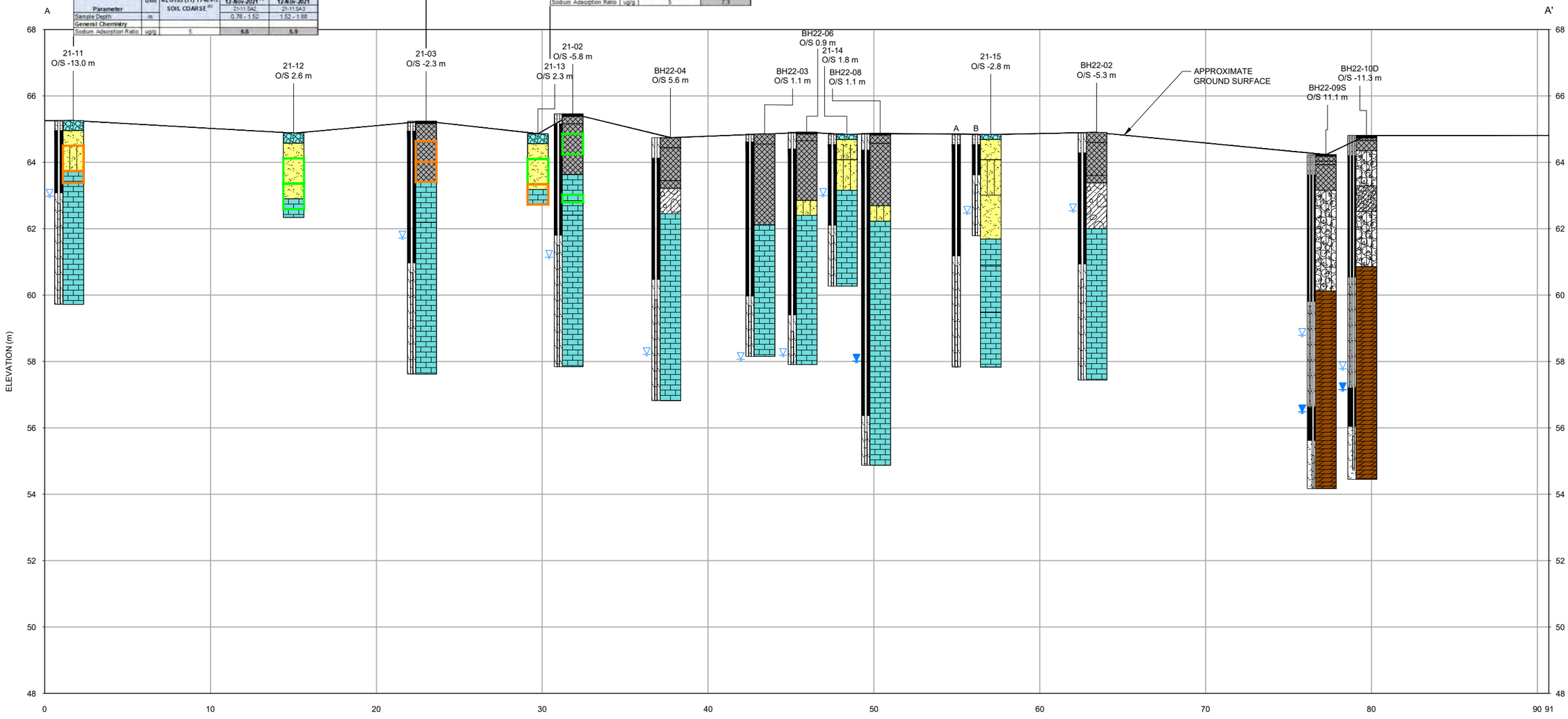
Parameter	Unit	REG153 (11) T7-R/P/I SOIL COARSE [2]	BH21-03 22-Sep-2021 [3]	BH21-03 22-Sep-2021	BH21-03 22-Sep-2021
			21-3DUP-1	21-3 SA2	21-3 SA3
Sample Depth	m		1.22 - 1.83	0.6 - 1.22	1.22 - 1.83
General Chemistry					
Sodium Adsorption Ratio	ug/g	5	9.6	5.3	6.1

Parameter	Unit	REG153 (11) T7-R/P/I SOIL COARSE [2]	BH21-11 12-Nov-2021 [4]	BH21-11 12-Nov-2021
			21-11 SA2	21-11 SA3
Sample Depth	m		0.76 - 1.52	1.52 - 1.88
General Chemistry				
Sodium Adsorption Ratio	ug/g	5	6.6	5.9

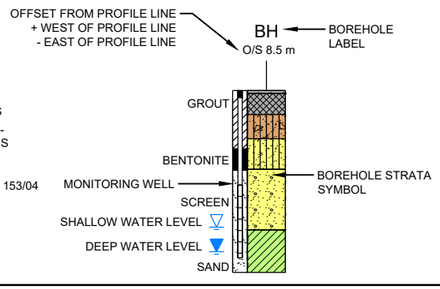
Parameter	Unit	REG153 (11) T7-R/P/I SOIL COARSE [2]	BH21-13 11-Nov-2021
			21-13 SA3
Sample Depth	m		1.52 - 2.13
General Chemistry			
Sodium Adsorption Ratio	ug/g	5	7.3



SOIL STRATIGRAPHY

- ASPHALT
- FILL
- SAND
- SILTY SAND
- SILT
- GRAVEL
- GRAVELLY CLAYEY SAND
- GRAVELLY SILTY SAND TILL
- GLACIAL TILL
- LIMESTONE
- DOLOMITE
- SOIL SAMPLE MEETS APPLICABLE STANDARDS
- SOIL SAMPLE ANALYZED - APPLICABLE STANDARD IS DEEMED NOT TO BE AN EXCEEDANCE AS PER SECTION 49.1 OF O. REG. 153/04

LEGEND



0 2.5 5
1:125 VERTICAL SCALE METRES

0 5 10
1:250 HORIZONTAL SCALE METRES

CLIENT
1047 RICHMOND NOMINEE INC.

CONSULTANT
wsp

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	MK
REVIEWED	DS
APPROVED	KS

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
CROSS SECTION A-A' (SOIL EXCEEDANCES - SAR)

PROJECT NO.	CONTROL	REV.	FIGURE
21494078		----	10B

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25 mm 0

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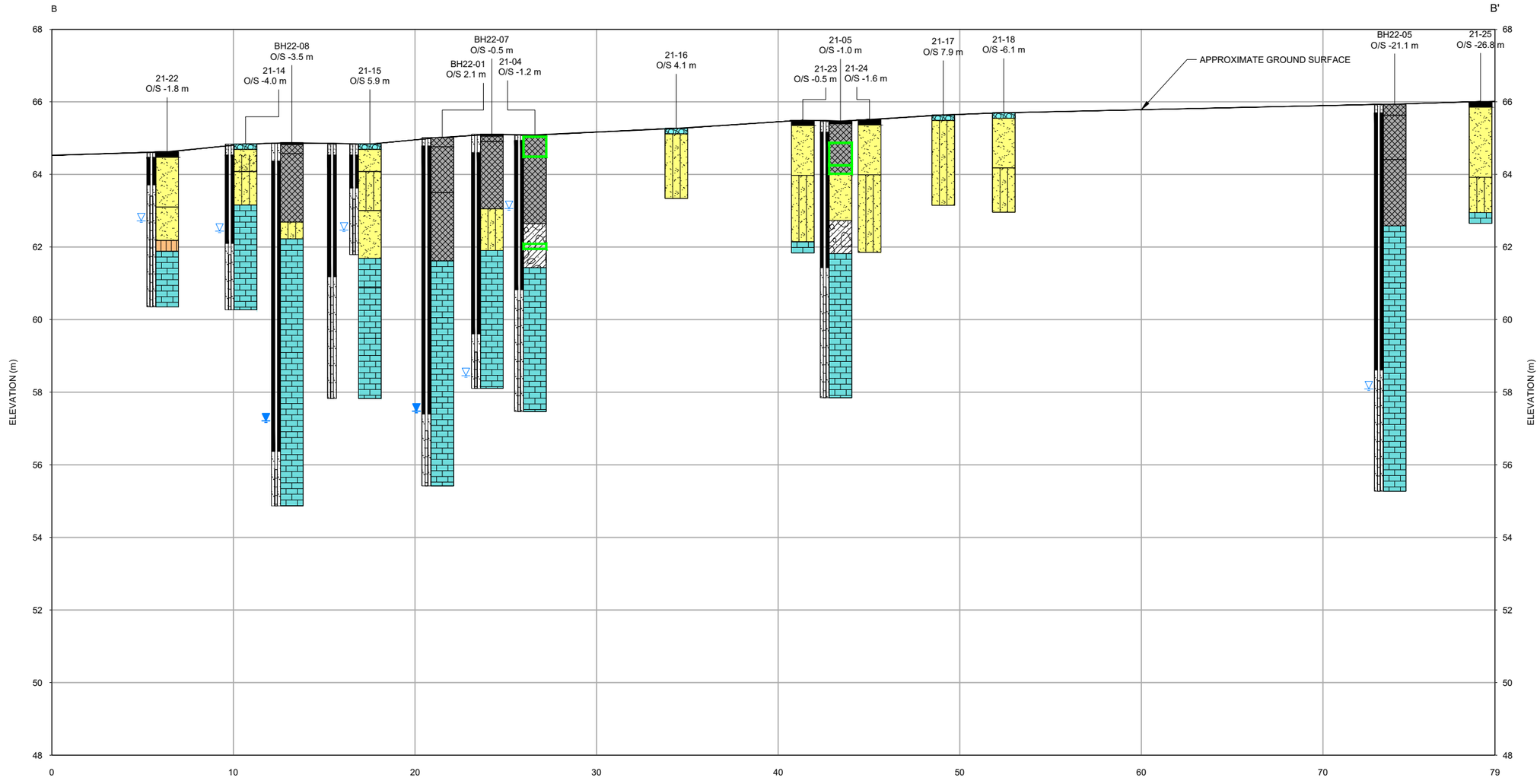
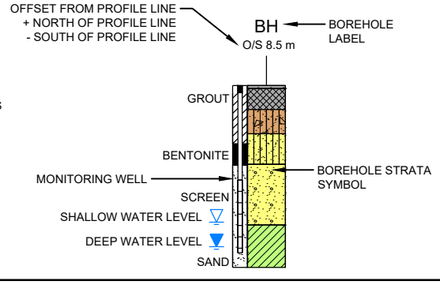


SOIL STRATIGRAPHY

- ASPHALT
- FILL
- SAND
- SILTY SAND
- SILT
- GRAVEL
- GRAVELLY CLAYEY SAND
- GRAVELLY SILTY SAND TILL
- GLACIAL TILL
- LIMESTONE
- DOLOMITE
- SOIL SAMPLE MEETS APPLICABLE STANDARDS

LEGEND



0 2.5 5
1:125 VERTICAL SCALE METRES

0 5 10
1:250 HORIZONTAL SCALE METRES

CLIENT
1047 RICHMOND NOMINEE INC.

CONSULTANT
wsp

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	MK
REVIEWED	DS
APPROVED	KS

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
CROSS SECTION B-B' (SOIL EXCEEDANCES - SAR)

PROJECT NO.	CONTROL	REV.	FIGURE
21494078		----	10C

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25 mm
0

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LEGEND

- APPROXIMATE BOREHOLE LOCATION
- APPROXIMATE TEST PIT LOCATION
- LOCATION WHERE ALL SAMPLES MEET APPLICABLE STANDARDS
- APPROXIMATE SITE BOUNDARY

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE
2. BOLD AND SHADED VALUE INDICATES PARAMETER IS GREATER THAN REG153, TABLE 7 I/C/C STANDARDS
3. UNDERLINED VALUE INDICATES PARAMETER IS GREATER THAN REG153, TABLE 7 R/P/I STANDARDS
4. [1]O.REG 153 (2011) TABLE 7 STANDARDS FOR INDUSTRIAL/COMMERCIAL/COMMUNITY (I/C/C) PROPERTY USE FOR COARSE TEXTURED SOIL IN GENERIC SITE CONDITION FOR SHALLOW SOILS IN A NON-POTABLE GROUND WATER CONDITION
5. [2]O.REG 153 (2011) TABLE STANDARDS FOR RESIDENTIAL/PARKLAND/INSTITUTIONAL (R/P/I) PROPERTY USE FOR COARSE TEXTURED SOIL IN GENERIC SITE CONDITION FOR SHALLOW SOILS IN A NON-POTABLE GROUND WATER CONDITION
6. * OTHER PARAMETERS CONSIST OF: CONDUCTIVITY, CYANIDE (WAD), pH, SODIUM ADSORPTION RATIO (SAR)
7. - INDICATES PARAMETER IS NOT ANALYZED OR NOT APPLICABLE

REFERENCE(S)

1. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2020
2. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: MTM ZONE 9, VERTICAL DATUM: CGVD28

0 10 20 40
1:750 METRES

CLIENT
1047 RICHMOND NOMINEE INC.

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
SOIL ANALYTICAL RESULTS - METALS AND HYDRIDE FORMING METALS AND ORP (EXCLUDING SAR)

CONSULTANT

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	JEM
REVIEWED	DS
APPROVED	PH

PROJECT NO.	CONTROL	REV.	FIGURE
21494078	0002	0	**11A**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm 0

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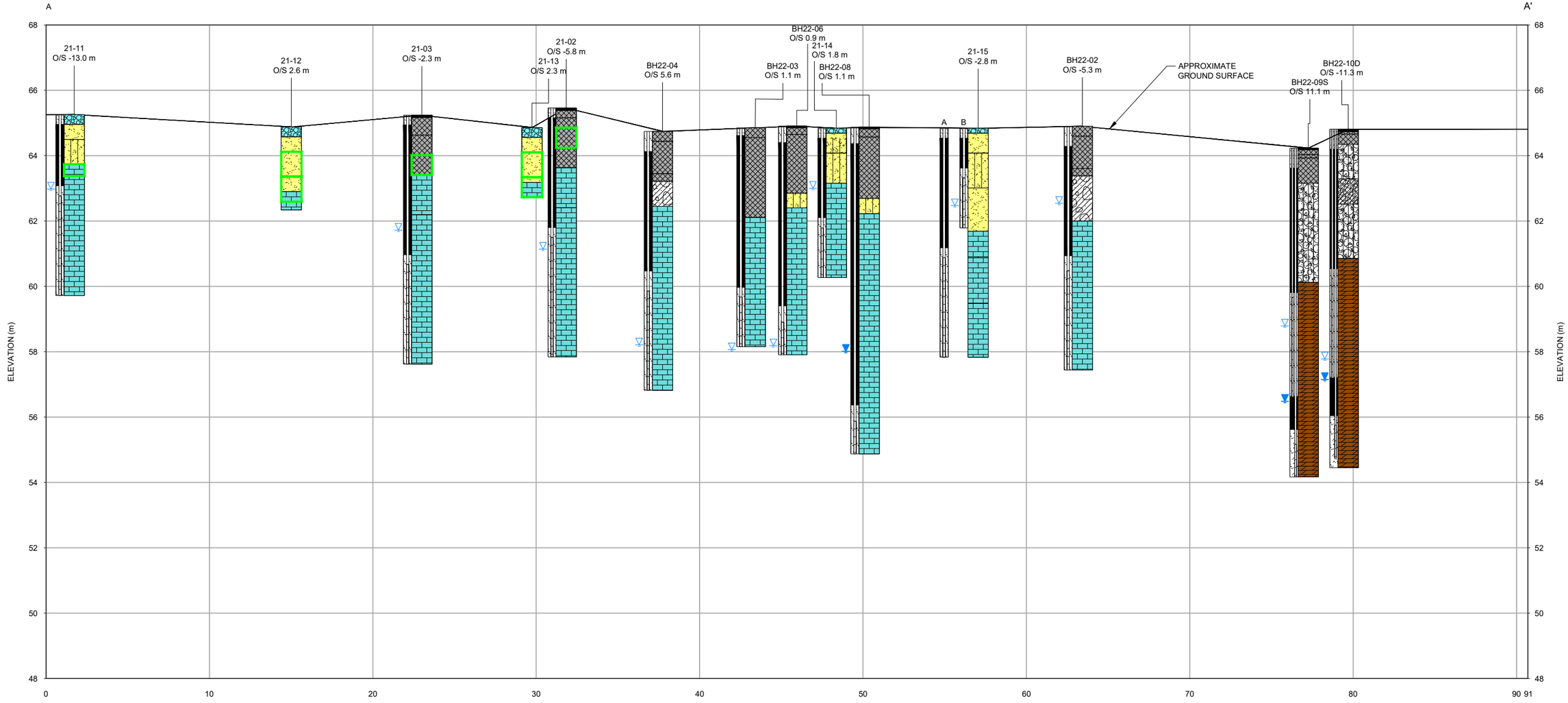
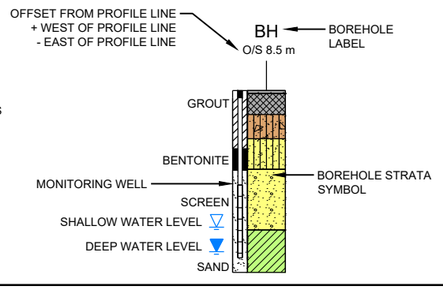


SOIL STRATIGRAPHY

- ASPHALT
- FILL
- SAND
- SILTY SAND
- SILT
- GRAVEL
- GRAVELLY CLAYEY SAND
- GRAVELLY SILTY SAND TILL
- GLACIAL TILL
- LIMESTONE
- DOLOMITE
- SOIL SAMPLE MEETS APPLICABLE STANDARDS

LEGEND



0 2.5 5
1:125 VERTICAL SCALE METRES

0 5 10
1:250 HORIZONTAL SCALE METRES

CLIENT
1047 RICHMOND NOMINEE INC.

CONSULTANT
wsp

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	MK
REVIEWED	DS
APPROVED	KS

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
CROSS SECTION A-A' (SOIL EXCEEDANCES - METALS AND HYDRIDE FORMING METALS AND ORP, EXCLUDING SAR)

PROJECT NO.	CONTROL	REV.	FIGURE
21494078		----	11B

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25 mm

0

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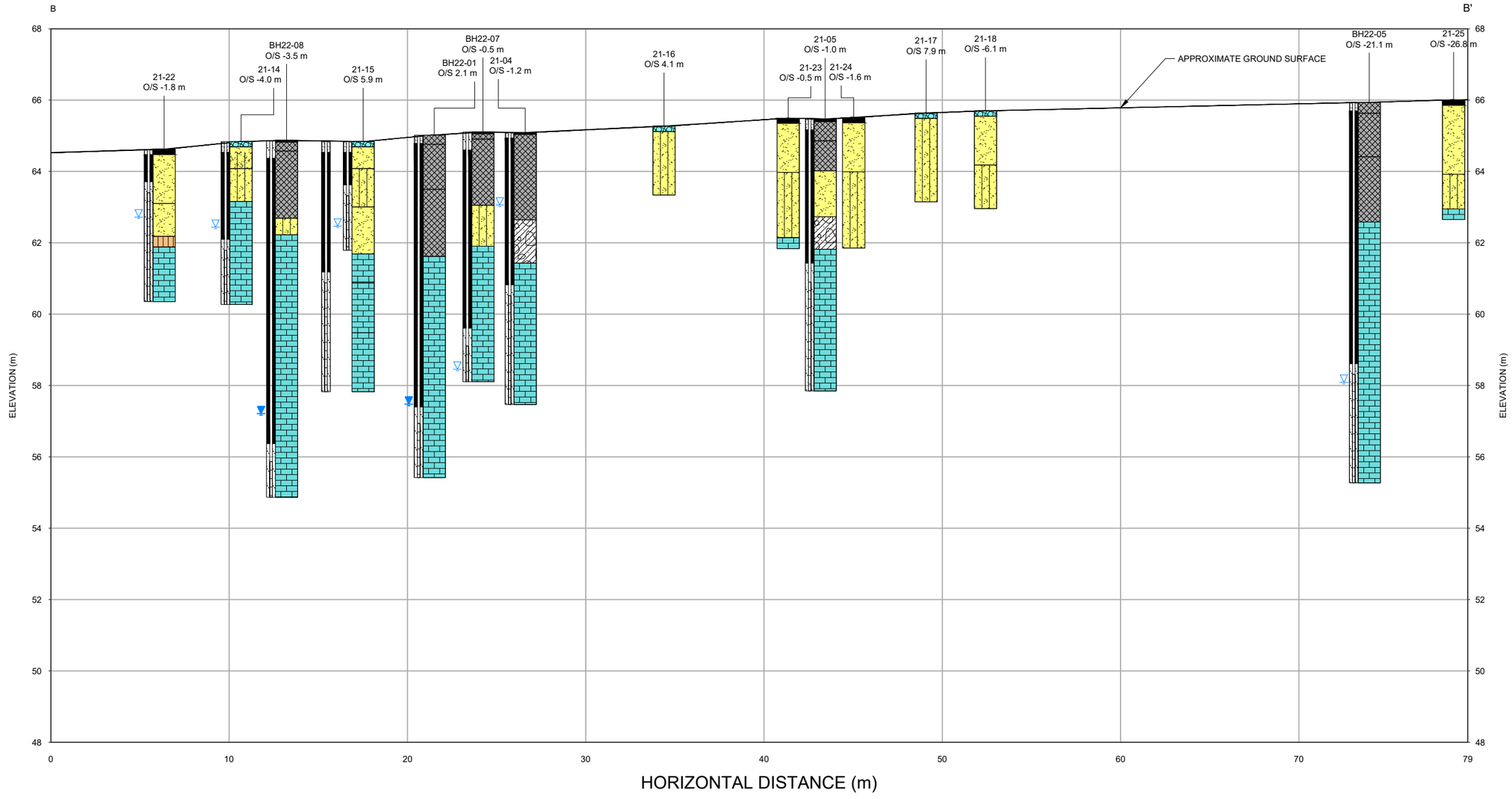

SOIL STRATIGRAPHY

- ASPHALT
- FILL
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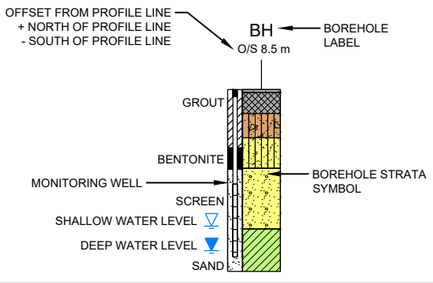
- SILTY SAND
- SILT
- GRAVEL
- GRAVELLY CLAYEY SAND
- GRAVELLY SILTY SAND TILL
- GLACIAL TILL
- LIMESTONE
- DOLOMITE

LEGEND



0 2.5 5
1:125 VERTICAL SCALE METRES

0 5 10
1:250 HORIZONTAL SCALE METRES

CLIENT
1047 RICHMOND NOMINEE INC.

CONSULTANT
wsp

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	MK
REVIEWED	DS
APPROVED	KS

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
CROSS SECTION B-B' (SOIL EXCEEDANCES - METALS AND HYDRIDE FORMING METALS AND ORP, EXCLUDING SAR)

PROJECT NO.	CONTROL	REV.	FIGURE
21494078		----	11C

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25 mm

0

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Parameter	Unit	REG153 (11) T7-R/P/I SOIL COARSE [1]	BH21-05 22-Sep-2021 21-5 SA2	BH21-05 22-Sep-2021 Field Duplicate of SA2	BH21-05 22-Sep-2021 21-5 SA3
Sample Depth	**m**		0.6 - 1.22	0.6 - 1.22	0.6 - 1.22
PHC-F2 (C10-C16)	ug/g	98	-	260	No exceedences
PHC - F3 (C16-C34)	ug/g	300	1500	25000	No exceedences
PHC - F3 (C34-C50)	ug/g	2800	-	8100	No exceedences

Parameter	Unit	REG153 (11) T7-R/P/I SOIL COARSE [1]	BH21-24 21-Dec-2021 21-24 SA4
Sample Depth	**m**		2.28 - 3.04.
PHC - F1 (C6-C10)	ug/g	55	**154**
PHC - F2 (C10-C16)	ug/g	98	-
PHC - F3 (C16-C34)	ug/g	300	1500
PHC - F3 (C34-C50)	ug/g	2800	170

LEGEND

- APPROXIMATE BOREHOLE LOCATION
- APPROXIMATE TEST PIT LOCATION
- LOCATION WHERE ALL SAMPLES MEET APPLICABLE STANDARDS
- LOCATION WHERE ONE OR MORE SAMPLES EXCEEDS APPLICABLE STANDARDS
- APPROXIMATE SITE BOUNDARY

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE
2. BOLD AND SHADED VALUE INDICATES PARAMETER IS GREATER THAN REG153, TABLE 7 I/C/C STANDARDS
3. UNDERLINED VALUE INDICATES PARAMETER IS GREATER THAN REG153, TABLE 7 R/P/I STANDARDS
4. [1]O.REG 153 (2011) TABLE 7 STANDARDS FOR INDUSTRIAL/COMMERCIAL/COMMUNITY (I/C/C) PROPERTY USE FOR COARSE TEXTURED SOIL IN GENERIC SITE CONDITION FOR SHALLOW SOILS IN A NON-POTABLE GROUND WATER CONDITION
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6. * OTHER PARAMETERS CONSIST OF: CONDUCTIVITY, CYANIDE (WAD), pH, SODIUM ADSORPTION RATIO (SAR)
7. - INDICATES PARAMETER IS NOT ANALYZED OR NOT APPLICABLE

REFERENCE(S)

1. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2020
2. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: MTM ZONE 9, VERTICAL DATUM: CGVD28

0 10 20 40
1:750 METRES

CLIENT
1047 RICHMOND NOMINEE INC.

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
SOIL ANALYTICAL RESULTS - PETROLEUM HYDROCARBONS

CONSULTANT

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	JEM
REVIEWED	DS
APPROVED	PH

PROJECT NO.	CONTROL	REV.	FIGURE
21494078	0002	0	**12A**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM:
0 25mm

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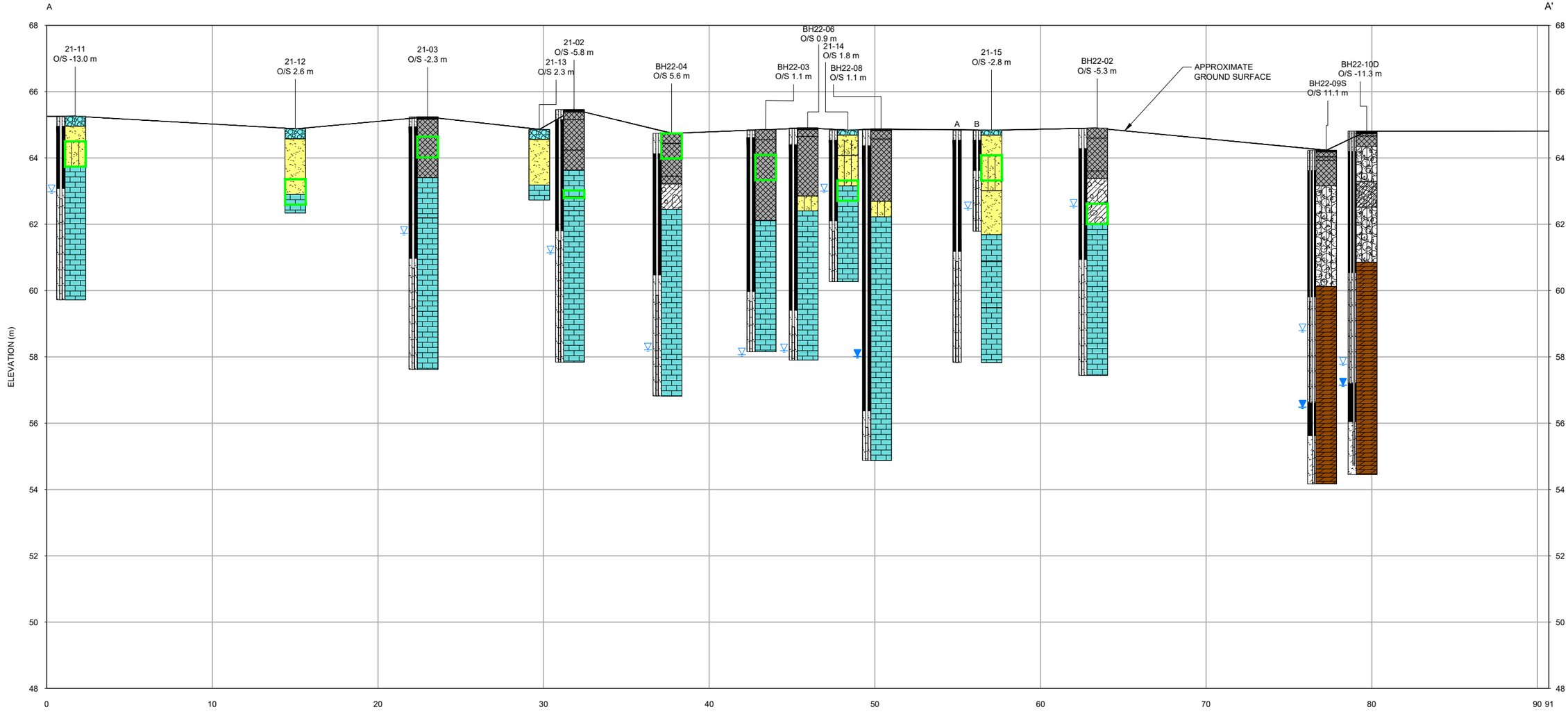
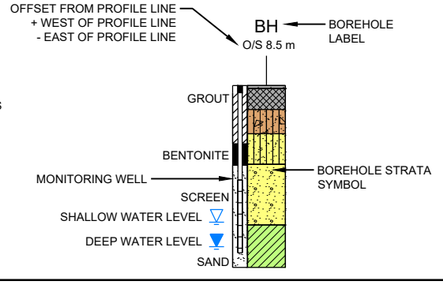


SOIL STRATIGRAPHY

- ASPHALT
- FILL
- SAND
- SILTY SAND
- SILT
- GRAVEL
- GRAVELLY CLAYEY SAND
- GRAVELLY SILTY SAND TILL
- GLACIAL TILL
- LIMESTONE
- DOLOMITE
- SOIL SAMPLE MEETS APPLICABLE STANDARDS

LEGEND



0 2.5 5
1:125 VERTICAL SCALE METRES

0 5 10
1:250 HORIZONTAL SCALE METRES

CLIENT
1047 RICHMOND NOMINEE INC.

CONSULTANT
wsp

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	MK
REVIEWED	DS
APPROVED	KS

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
CROSS SECTION A-A' (SOIL EXCEEDANCES - PETROLEUM HYDROCARBON AND BTEX)

PROJECT NO.	CONTROL	REV.	FIGURE
21494078		----	12B

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

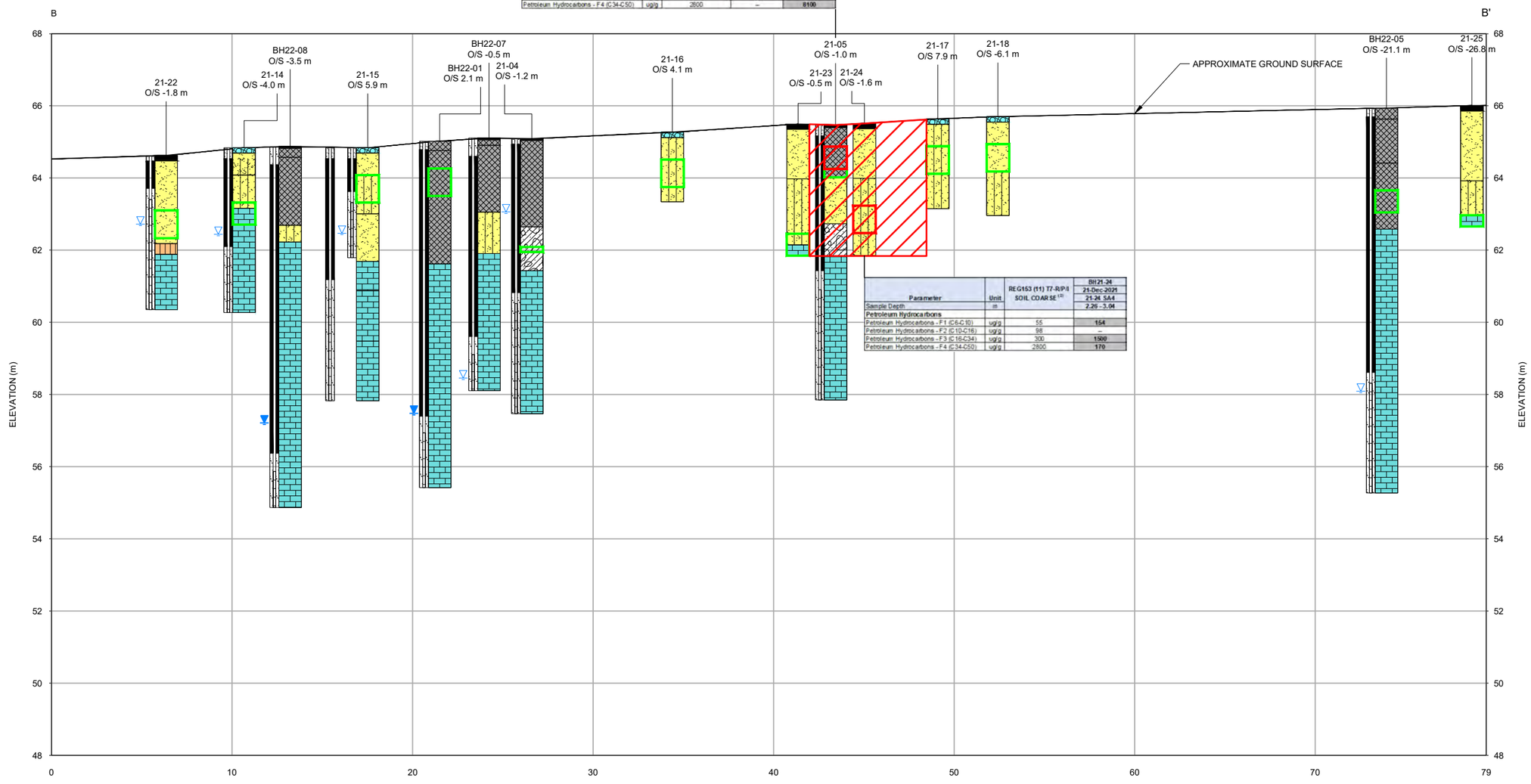
25 mm

0

Path: \\pdde.gdi\ccomplexdata\office\Ontario\SMI\Clients\Fengate\1047_Richmond_Rd\99_PRO\21494078_Fengate_GeoEnviro\0007_PhaseTwo_ESA_2023\ | File Name: 21494078-0007-HS-0012B.dwg

Parameter	Unit	REG153 (11) T7-R/P/I SOIL COARSE[10]	BH21-06 22-Sep-2021 21-5 SA2	BH21-05 22-Sep-2021 21-5 DUP-1
Sample Depth	m		0.6 - 1.22	0.6 - 1.22
Petroleum Hydrocarbons				
Petroleum Hydrocarbons - F2 (C10-C16)	ug/g	98	–	260
Petroleum Hydrocarbons - F3 (C16-C34)	ug/g	300	1500	25000
Petroleum Hydrocarbons - F4 (C34-C50)	ug/g	2800	–	8100

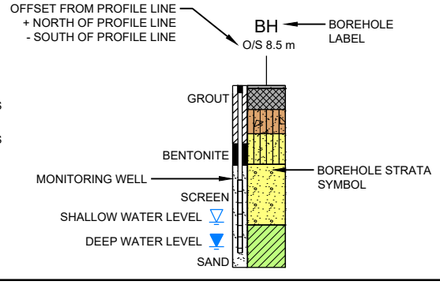
Parameter	Unit	REG153 (11) T7-R/P/I SOIL COARSE[10]	BH21-24 21-Dec-2021 21-24 SA4
Sample Depth	m		2.26 - 3.04
Petroleum Hydrocarbons			
Petroleum Hydrocarbons - F1 (C6-C10)	ug/g	55	154
Petroleum Hydrocarbons - F2 (C10-C16)	ug/g	98	–
Petroleum Hydrocarbons - F3 (C16-C34)	ug/g	300	1500
Petroleum Hydrocarbons - F4 (C34-C50)	ug/g	2800	170



SOIL STRATIGRAPHY

- ASPHALT
- FILL
- SAND
- SILTY SAND
- SILT
- GRAVEL
- GRAVELLY CLAYEY SAND
- GRAVELLY SILTY SAND TILL
- GLACIAL TILL
- LIMESTONE
- DOLOMITE
- SOIL SAMPLE MEETS APPLICABLE STANDARDS
- SOIL SAMPLE EXCEEDS APPLICABLE STANDARDS

LEGEND



0 2.5 5
1:125 VERTICAL SCALE METRES

0 5 10
1:250 HORIZONTAL SCALE METRES

CLIENT
1047 RICHMOND NOMINEE INC.

CONSULTANT
wsp

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	MK
REVIEWED	DS
APPROVED	KS

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
CROSS SECTION B-B' (SOIL EXCEEDANCES - PETROLEUM HYDROCARBON AND BTEX)

PROJECT NO.	CONTROL	REV.	FIGURE
21494078		----	12C

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25 mm

0

Path: \\golder.gds\corp\exdata\ofltce\Ontario\SIM\Clients\Fengate\1047_Richmond_Rd\99_PROJ\21494078_Fengate_GeoEnviro\0007_PhaseTwo_ESA_2023\ | File Name: 21494078-0007-HS-0012B.dwg

Parameter	Unit	REG153 (11) T7-R/P/I SOIL COARSE [1]	BH21-05 22-Sep-2021 21-5 SA2	BH21-05 22-Sep-2021 Field Duplicate of SA2
Sample Depth	m		0.6 - 1.22	0.6 - 1.22
1, 4-Dichlorobenzene	ug/g	0.083	-	0.093

LEGEND

- APPROXIMATE BOREHOLE LOCATION
- APPROXIMATE TEST PIT LOCATION
- LOCATION WHERE ALL SAMPLES MEET APPLICABLE STANDARDS
- LOCATION WHERE ONE OR MORE SAMPLES EXCEEDS APPLICABLE STANDARDS
- APPROXIMATE SITE BOUNDARY

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE
2. BOLD AND SHADED VALUE INDICATES PARAMETER IS GREATER THAN REG153, TABLE 7 I/C/C STANDARDS
3. UNDERLINED VALUE INDICATES PARAMETER IS GREATER THAN REG153, TABLE 7 R/P/I STANDARDS
4. [1]O.REG 153 (2011) TABLE 7 STANDARDS FOR INDUSTRIAL/COMMERCIAL/COMMUNITY (I/C/C) PROPERTY USE FOR COARSE TEXTURED SOIL IN GENERIC SITE CONDITION FOR SHALLOW SOILS IN A NON-POTABLE GROUND WATER CONDITION
5. [2]O.REG 153 (2011) TABLE STANDARDS FOR RESIDENTIAL/PARKLAND/INSTITUTIONAL (R/P/I) PROPERTY USE FOR COARSE TEXTURED SOIL IN GENERIC SITE CONDITION FOR SHALLOW SOILS IN A NON-POTABLE GROUND WATER CONDITION
6. * OTHER PARAMETERS CONSIST OF: CONDUCTIVITY, CYANIDE (WAD), pH, SODIUM ADSORPTION RATIO (SAR)
7. - INDICATES PARAMETER IS NOT ANALYZED OR NOT APPLICABLE

REFERENCE(S)

1. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2020
2. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: MTM ZONE 9, VERTICAL DATUM: CGVD28

0 10 20 40
1:750 METRES

CLIENT
1047 RICHMOND NOMINEE INC.

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
SOIL ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS

CONSULTANT

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	JEM
REVIEWED	DS
APPROVED	PH

PROJECT NO.	CONTROL	REV.	FIGURE
21494078	0002	0	**13A**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 0 25mm

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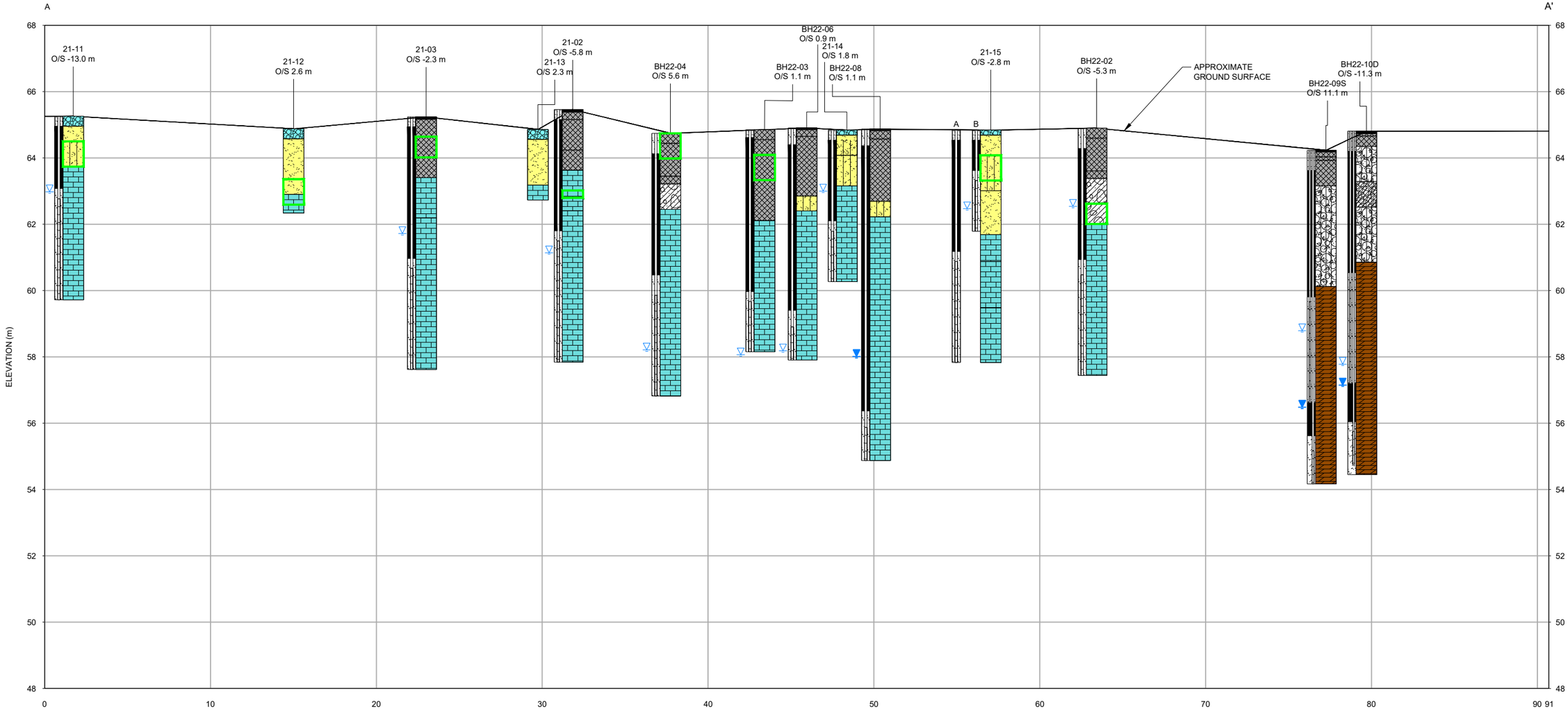
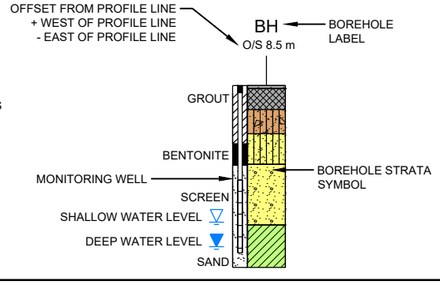


SOIL STRATIGRAPHY

- ASPHALT
- FILL
- SAND
- SILTY SAND
- SILT
- GRAVEL
- GRAVELLY CLAYEY SAND
- GRAVELLY SILTY SAND TILL
- GLACIAL TILL
- LIMESTONE
- DOLOMITE
- SOIL SAMPLE MEETS APPLICABLE STANDARDS

LEGEND



0 2.5 5
1:125 VERTICAL SCALE METRES

0 5 10
1:250 HORIZONTAL SCALE METRES

CLIENT
1047 RICHMOND NOMINEE INC.

CONSULTANT
wsp

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	MK
REVIEWED	DS
APPROVED	KS

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
CROSS SECTION A-A' (SOIL EXCEEDANCES - VOLATILE ORGANIC COMPOUNDS)

PROJECT NO.	CONTROL	REV.	FIGURE
21494078		----	13B

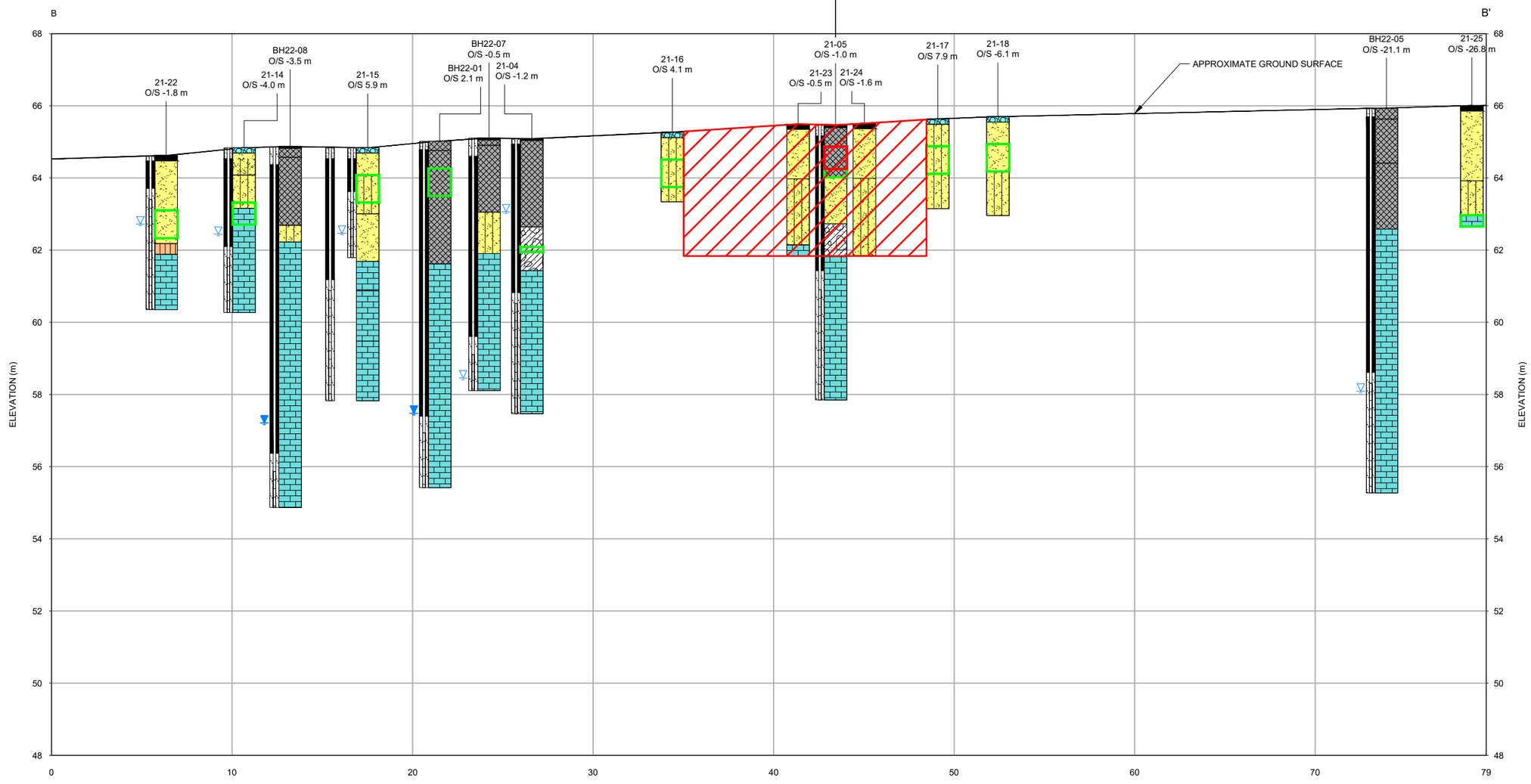
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25 mm

0

Path: \\pdde.gdi\ccomplexdata\office\Ontario\SMK\Clients\Fengate\1047_Richmond_Rd\99_PRO\21494078_Fengate_GeoEnviro\0007_PhaseTwo_ESA_2023\ | File Name: 21494078-0007-HS-0013B.dwg

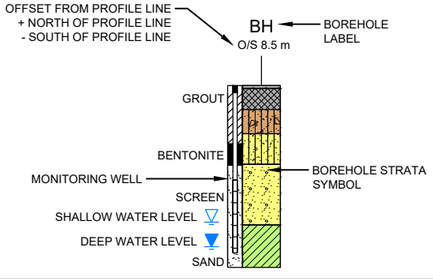
Parameter	Unit	REG153 (t1) T7-R/P/I	BH21-05 22-Sep-2021 21-5 SA2	BH21-05 22-Sep-2021 21-5 DUP-1
Sample Depth	m	SOIL COARSE [2]	0.6 - 1.22	0.6 - 1.22
VOCs				
1,4-Dichlorobenzene	ug/g	0.083	–	0.093



SOIL STRATIGRAPHY

- ASPHALT
- FILL
- SAND
- SILTY SAND
- SILT
- GRAVEL
- GRAVELLY CLAYEY SAND
- GRAVELLY SILTY SAND TILL
- GLACIAL TILL
- LIMESTONE
- DOLOMITE
- SOIL SAMPLE MEETS APPLICABLE STANDARDS
- SOIL SAMPLE EXCEEDS APPLICABLE STANDARDS

LEGEND



0 2.5 5
1:125 VERTICAL SCALE METRES

0 5 10
1:250 HORIZONTAL SCALE METRES

CLIENT
1047 RICHMOND NOMINEE INC.

CONSULTANT
wsp

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	MK
REVIEWED	DS
APPROVED	KS

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
CROSS SECTION B-B' (SOIL EXCEEDANCES - VOLATILE ORGANIC COMPOUNDS)

PROJECT NO.	CONTROL	REV.	FIGURE
21494078		----	13C

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25 mm

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LEGEND

- APPROXIMATE BOREHOLE LOCATION
- APPROXIMATE TEST PIT LOCATION
- LOCATION WHERE SAMPLE MEETS APPLICABLE STANDARDS
- APPROXIMATE SITE BOUNDARY

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE
2. BOLD AND SHADED VALUE INDICATES PARAMETER IS GREATER THAN REG153, TABLE 7 I/C/C STANDARDS
3. UNDERLINED VALUE INDICATES PARAMETER IS GREATER THAN REG153, TABLE 7 R/P/I STANDARDS
4. [1]O.REG 153 (2011) TABLE 7 STANDARDS FOR INDUSTRIAL/COMMERCIAL/COMMUNITY (I/C/C) PROPERTY USE FOR COARSE TEXTURED SOIL IN GENERIC SITE CONDITION FOR SHALLOW SOILS IN A NON-POTABLE GROUND WATER CONDITION
5. [2]O.REG 153 (2011) TABLE STANDARDS FOR RESIDENTIAL/PARKLAND/INSTITUTIONAL (R/P/I) PROPERTY USE FOR COARSE TEXTURED SOIL IN GENERIC SITE CONDITION FOR SHALLOW SOILS IN A NON-POTABLE GROUND WATER CONDITION
6. * OTHER PARAMETERS CONSIST OF: CONDUCTIVITY, CYANIDE (WAD), pH, SODIUM ADSORPTION RATIO (SAR)
7. - INDICATES PARAMETER IS NOT ANALYZED OR NOT APPLICABLE

REFERENCE(S)

1. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2020
2. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: MTM ZONE 9, VERTICAL DATUM: CGVD28

0 10 20 40
1:750 METRES

CLIENT
1047 RICHMOND NOMINEE INC.

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
SOIL ANALYTICAL RESULTS - POLYCHLORINATED BIPHENYL'S

CONSULTANT

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	JEM
REVIEWED	DS
APPROVED	PH

PROJECT NO.	CONTROL	REV.	FIGURE
21494078	0002	0	**14**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM:
25mm
0

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LEGEND

- APPROXIMATE BOREHOLE LOCATION
- APPROXIMATE TEST PIT LOCATION
- LOCATION WHERE ALL SAMPLES MEET APPLICABLE STANDARDS
- APPROXIMATE SITE BOUNDARY

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE
2. (1)O.REG 153 (2011) TABLE 7 STANDARDS FOR ALL TYPES OF PROPERTY USE FOR GROUNDWATER IN GENERIC SITE CONDITION FOR SHALLOW SOILS IN A NON-POTABLE GROUNDWATER CONDITION
3. BOLD AND SHADED INDICATES PARAMETER IS GREATER THAN REG153 (11) T7-GW
4. mbgs: METRES BELOW GROUND SURFACE

REFERENCE(S)

1. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2020
2. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: MTM ZONE 9, VERTICAL DATUM: CGVD28

0 10 20 40

1:750 METRES

CLIENT

1047 RICHMOND NOMINEE INC.

PROJECT

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE

GROUNDWATER ANALYTICAL RESULTS - METALS AND HYDRIDE FORMING METALS AND ORP

CONSULTANT

wsp

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	JEM
REVIEWED	DS
APPROVED	PH

PROJECT NO.	CONTROL	REV.	FIGURE
21494078	0002	0	**15A**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm

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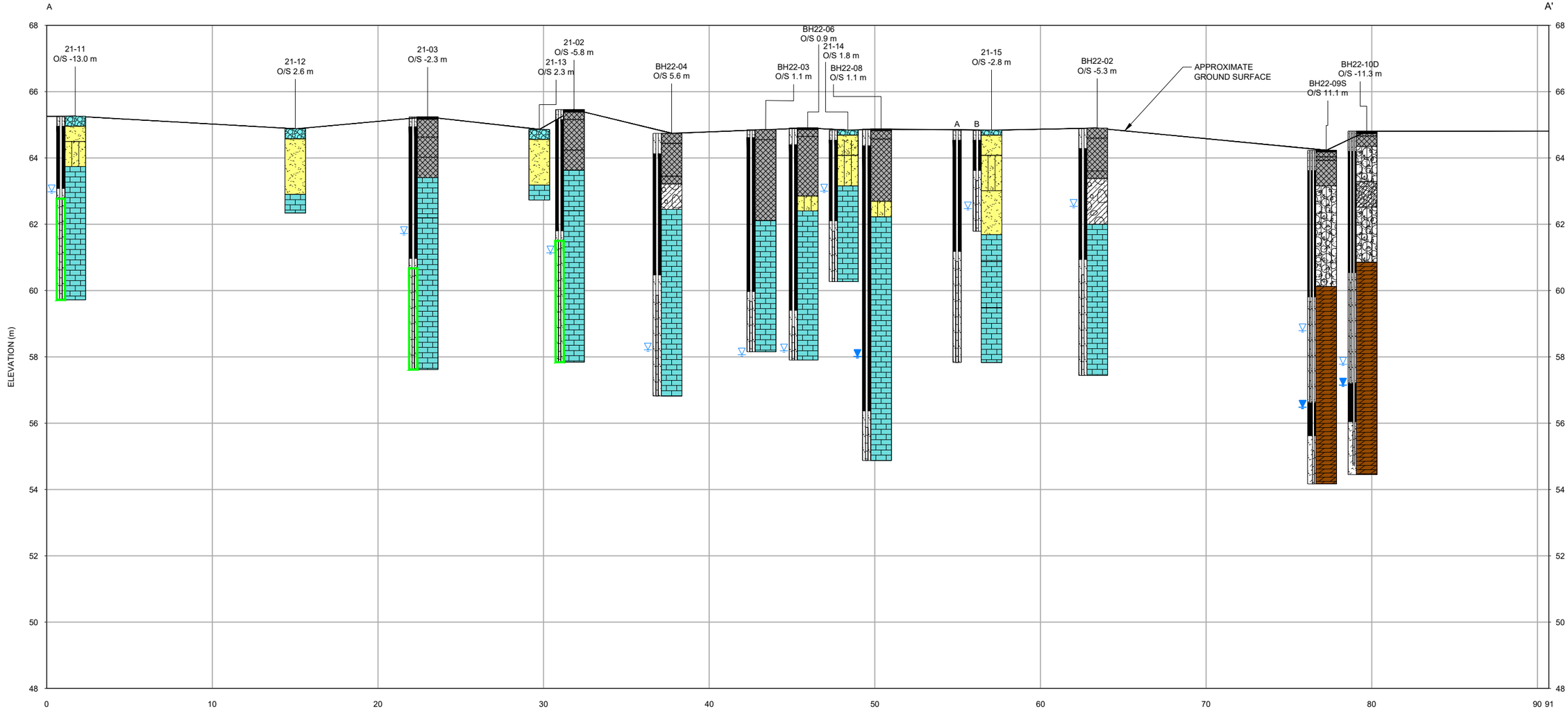
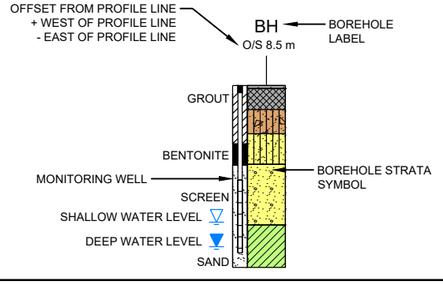


SOIL STRATIGRAPHY

- ASPHALT
- FILL
- SAND
- SILTY SAND
- SILT
- GRAVEL
- GRAVELLY CLAYEY SAND
- GRAVELLY SILTY SAND TILL
- GLACIAL TILL
- LIMESTONE
- DOLOMITE
- GROUNDWATER SAMPLE MEETS APPLICABLE STANDARDS

LEGEND



0 2.5 5
1:125 VERTICAL SCALE METRES

0 5 10
1:250 HORIZONTAL SCALE METRES

CLIENT
1047 RICHMOND NOMINEE INC.

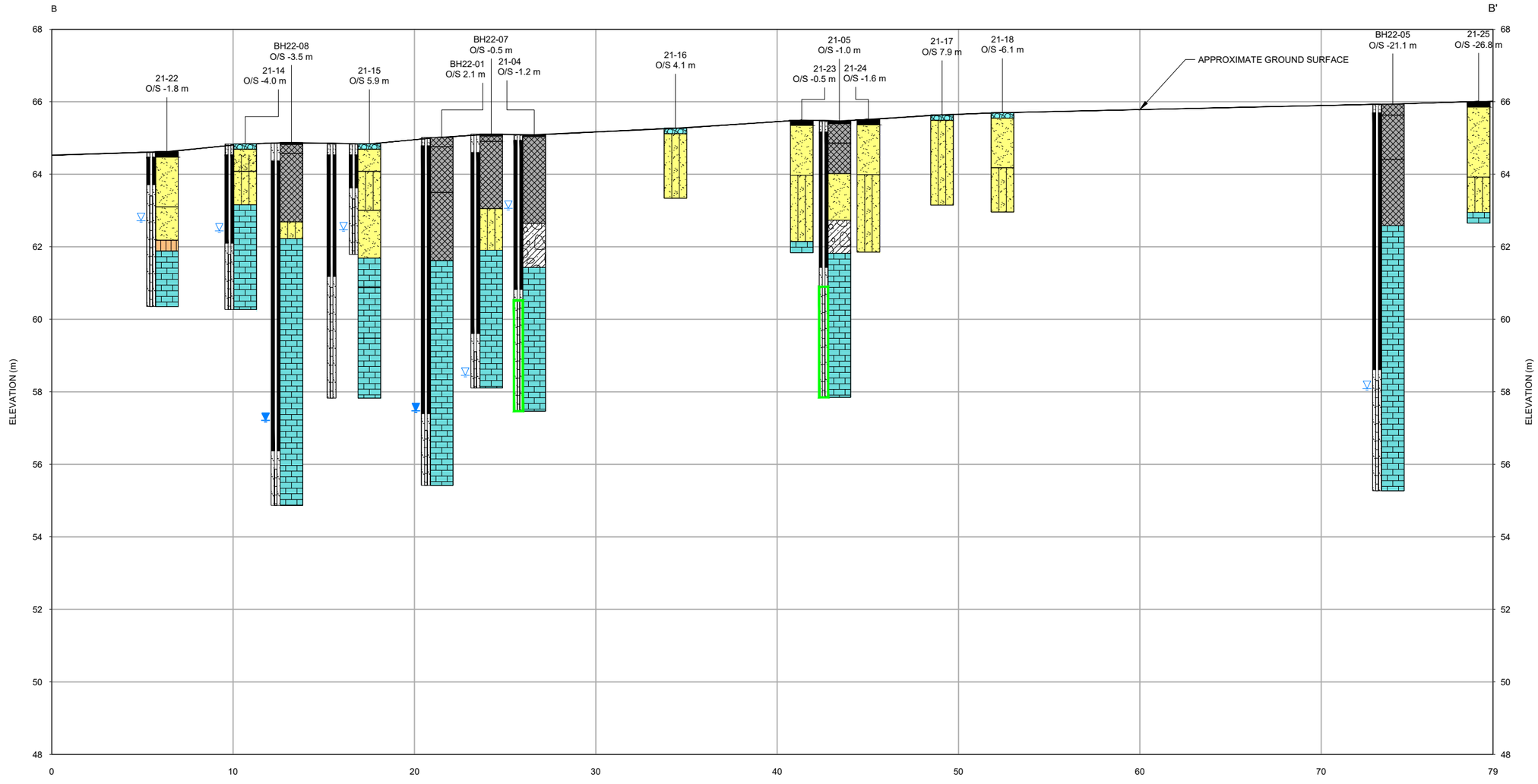
CONSULTANT
wsp

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	MK
REVIEWED	DS
APPROVED	KS

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
CROSS SECTION A-A' (GROUNDWATER EXCEEDANCES - METALS AND HYDRIDE FORMING METALS AND ORP)

PROJECT NO.	CONTROL	REV.	FIGURE
21494078		----	15B



SOIL STRATIGRAPHY

- ASPHALT
- FILL
- SAND
- SILTY SAND
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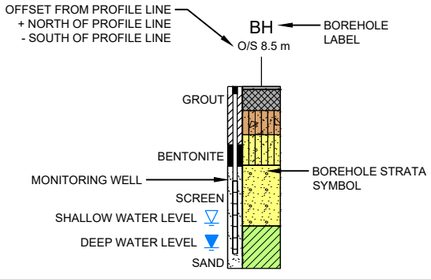
- GRAVEL
- GRAVELLY CLAYEY SAND
- GRAVELLY SILTY SAND TILL
- GLACIAL TILL
- LIMESTONE
- DOLOMITE
- GROUNDWATER SAMPLE MEETS APPLICABLE STANDARDS

LEGEND



0 2.5 5
1:125 VERTICAL SCALE METRES

0 5 10
1:250 HORIZONTAL SCALE METRES

CLIENT
1047 RICHMOND NOMINEE INC.

CONSULTANT
wsp

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	MK
REVIEWED	DS
APPROVED	KS

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
CROSS SECTION B-B' (GROUNDWATER EXCEEDANCES - METALS AND HYDRIDE FORMING METALS AND ORP)

PROJECT NO.	CONTROL	REV.	FIGURE
21494078		----	15C

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

0 25 mm

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Parameter	Unit	REG153 (11) T7-GW COARSE [1]	BH22-04	BH22-04	BH22-04	BH22-04	BH22-05
			26-May-2022	15-Nov-2022	7-Jul-2023	7-Jul-2023	15-Aug-2023
			22-4	22-4	22-4	DUP-2	22-04
Screened Interval (mbgs)			4.87 - 7.92	4.87 - 7.92	4.87 - 7.92	4.87 - 7.92	4.87 - 7.93
PHC F3	ug/l	500	No exceedance	No exceedance	**542**	**569**	No exceedance

LEGEND

- APPROXIMATE BOREHOLE LOCATION
- APPROXIMATE TEST PIT LOCATION
- LOCATION WHERE ALL SAMPLES MEET APPLICABLE STANDARDS
- LOCATION WHERE ONE OR MORE SAMPLES EXCEED APPLICABLE STANDARDS
- APPROXIMATE SITE BOUNDARY

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE
2. [1]O.REG 153 (2011) TABLE 7 STANDARDS FOR ALL TYPES OF PROPERTY USE FOR GROUNDWATER IN GENERIC SITE CONDITION FOR SHALLOW SOILS IN A NON-POTABLE GROUNDWATER CONDITION
3. BOLD AND SHADED INDICATES PARAMETER IS GREATER THAN REG153 (11) T7-GW
4. mbgs: METRES BELOW GROUND SURFACE

REFERENCE(S)

1. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2020
2. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: MTM ZONE 9, VERTICAL DATUM: CGVD28

0 10 20 40
1:750 METRES

CLIENT
1047 RICHMOND NOMINEE INC.

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
GROUNDWATER ANALYTICAL RESULTS - PETROLEUM HYDROCARBONS

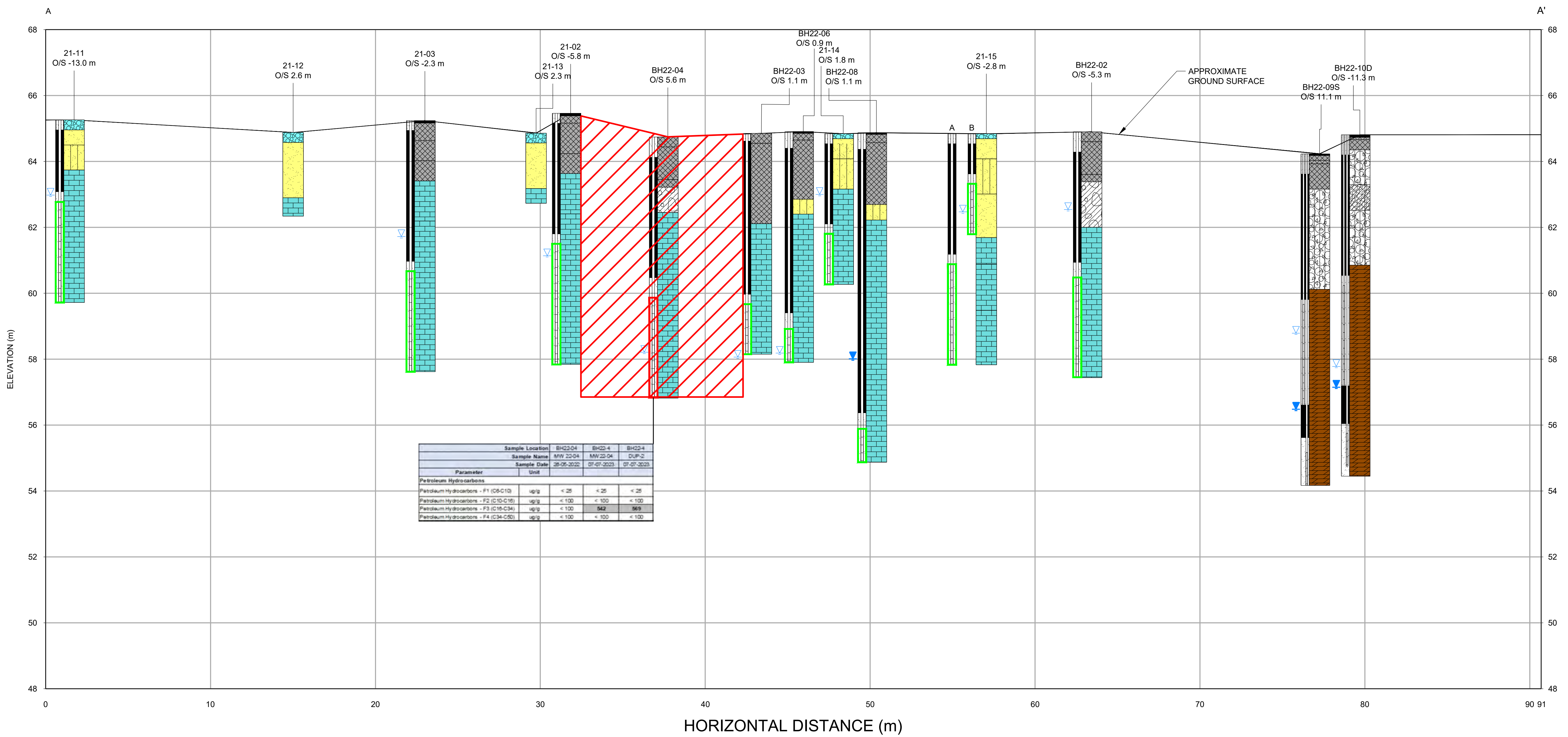
CONSULTANT

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	RRD
REVIEWED	DS
APPROVED	PH

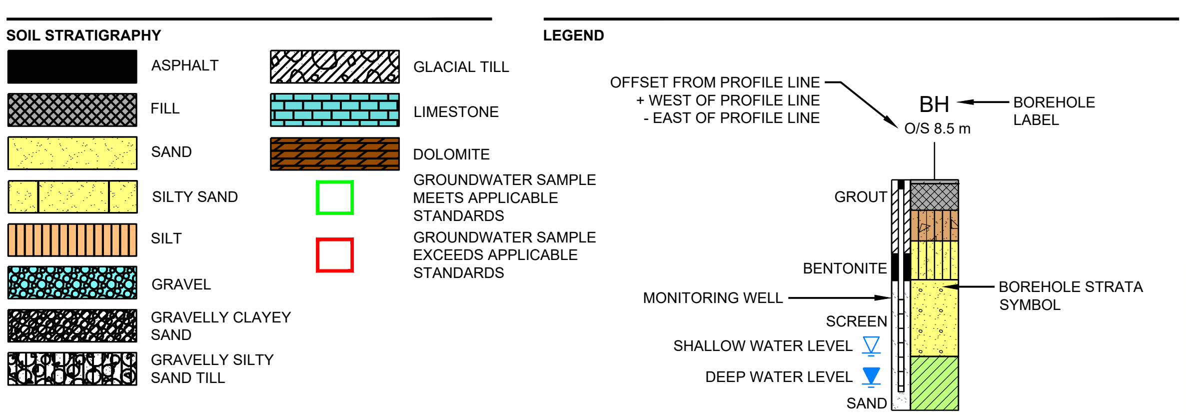
PROJECT NO.	CONTROL	REV.	FIGURE
21494078	0002	0	**16A**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM:
25mm
0

Path: S:\Clients\Fengate\1047_Richmond_Rd\99_PRO\21494078_Fengate_GeoEnviro\0002_PhaseTwo_ESA\21494078-0002-HS-0016A.mxd



Sample Location		BH22-04	BH22-4	BH22-4
Sample Name		MW 22-04	MW 22-04	DUP-2
Sample Date		28-06-2022	07-07-2023	07-07-2023
Parameter	Unit			
Petroleum Hydrocarbons				
Petroleum Hydrocarbons - F1 (C6-C10)	ug/g	< 25	< 25	< 25
Petroleum Hydrocarbons - F2 (C10-C16)	ug/g	< 100	< 100	< 100
Petroleum Hydrocarbons - F3 (C16-C34)	ug/g	< 100	542	569
Petroleum Hydrocarbons - F4 (C34-C50)	ug/g	< 100	< 100	< 100



0 2.5 5
1:125 VERTICAL SCALE METRES

0 5 10
1:250 HORIZONTAL SCALE METRES

CLIENT
1047 RICHMOND NOMINEE INC.

CONSULTANT

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	MK
REVIEWED	DS
APPROVED	KS

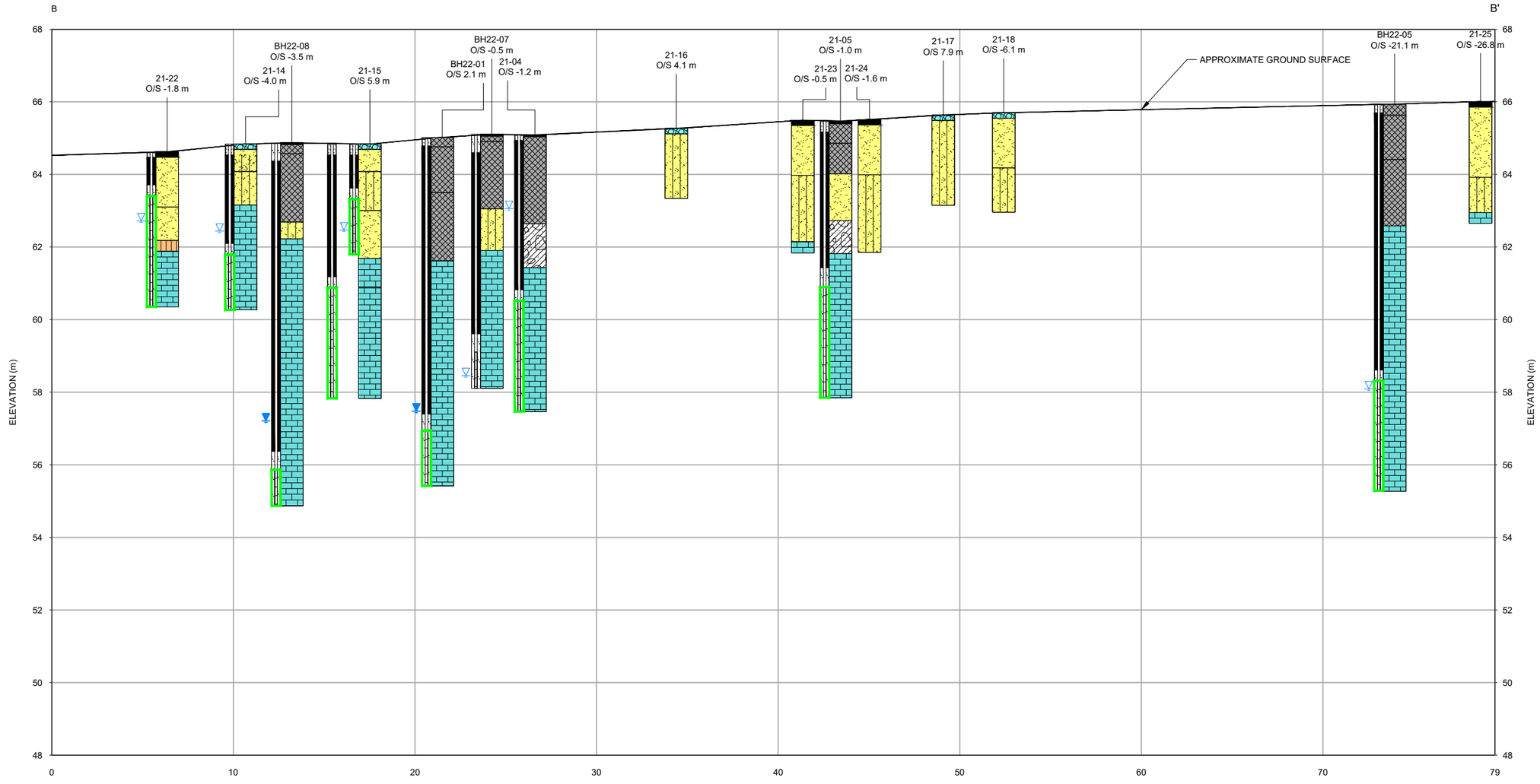
PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
CROSS SECTION A-A' (GROUNDWATER EXCEEDANCES - PETROLEUM HYDROCARBONS)

PROJECT NO.	CONTROL	REV.	FIGURE
21494078		----	16B

Path: \\golder.gds\gal\ottawa\active\SIM\Clients\Fengate\1047_Richmond_Rd\99_PROJ\21494078_Fengate_GeoEnviro\0007_PhaseTwo_ESA_2023\ | File Name: 21494078-0007-HS-0016B.dwg

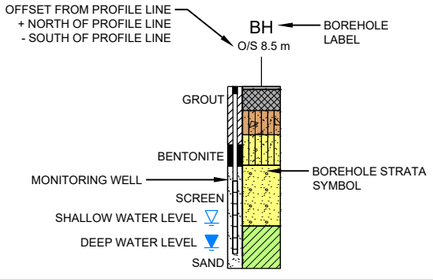
25 mm | IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



SOIL STRATIGRAPHY

- ASPHALT
- FILL
- SAND
- SILTY SAND
- SILT
- GRAVEL
- GRAVELLY CLAYEY SAND
- GRAVELLY SILTY SAND TILL
- GLACIAL TILL
- LIMESTONE
- DOLOMITE
- GROUNDWATER SAMPLE MEETS APPLICABLE STANDARDS

LEGEND



0 2.5 5
1:125 VERTICAL SCALE METRES

0 5 10
1:250 HORIZONTAL SCALE METRES

CLIENT
1047 RICHMOND NOMINEE INC.

CONSULTANT
wsp

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	MK
REVIEWED	DS
APPROVED	KS

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
CROSS SECTION B-B' (GROUNDWATER EXCEEDANCES - PETROLEUM HYDROCARBONS)

PROJECT NO.	CONTROL	REV.	FIGURE
21494078		----	16C

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25 mm

0

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Parameter	Unit	REG153 (11) T7-GW COARSE [1]	BH21-04	BH21-04	BH21-04	BH21-04	BH21-04	BH21-04	BH21-04	BH21-04
			04-Oct-2021	30-Nov-2021	30-Nov-2021	9-Dec-2021	22-Dec-2021	26-May-2022	15-Nov-2022	07-July-2023
			21-4	DUP-1	21-4	BH21-4	BH21-4	BH21-4	21-4	MW21-04
Screened Interval (mbgs)			4.57 - 7.62	4.57 - 7.62	4.57 - 7.62	4.57 - 7.62	4.57 - 7.62	4.57 - 7.62	4.57 - 7.62	4.57 - 7.62
Benzene	ug/l	0.5	No exceedence	1.86	1.66	2.81	No exceedence	2.39	No exceedance	No exceedance

LEGEND

- APPROXIMATE BOREHOLE LOCATION
- APPROXIMATE TEST PIT LOCATION
- LOCATION WHERE ALL SAMPLES MEET APPLICABLE STANDARDS
- LOCATION WHERE ONE OR MORE SAMPLES EXCEED APPLICABLE STANDARDS
- APPROXIMATE SITE BOUNDARY

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE
2. [1]O.REG 153 (2011) TABLE 7 STANDARDS FOR ALL TYPES OF PROPERTY USE FOR GROUNDWATER IN GENERIC SITE CONDITION FOR SHALLOW SOILS IN A NON-POTABLE GROUNDWATER CONDITION
3. BOLD AND SHADED INDICATES PARAMETER IS GREATER THAN REG153 (11) T7-GW
4. mbgs: METRES BELOW GROUND SURFACE

REFERENCE(S)

1. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2020
2. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: MTM ZONE 9, VERTICAL DATUM: CGVD28

0 10 20 40
1:750 METRES

CLIENT
1047 RICHMOND NOMINEE INC.

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
GROUNDWATER ANALYTICAL RESULTS - BTEX

CONSULTANT

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	RRD
REVIEWED	DS
APPROVED	PH

PROJECT NO.	CONTROL	REV.	FIGURE
21494078	0002	0	**17A**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm

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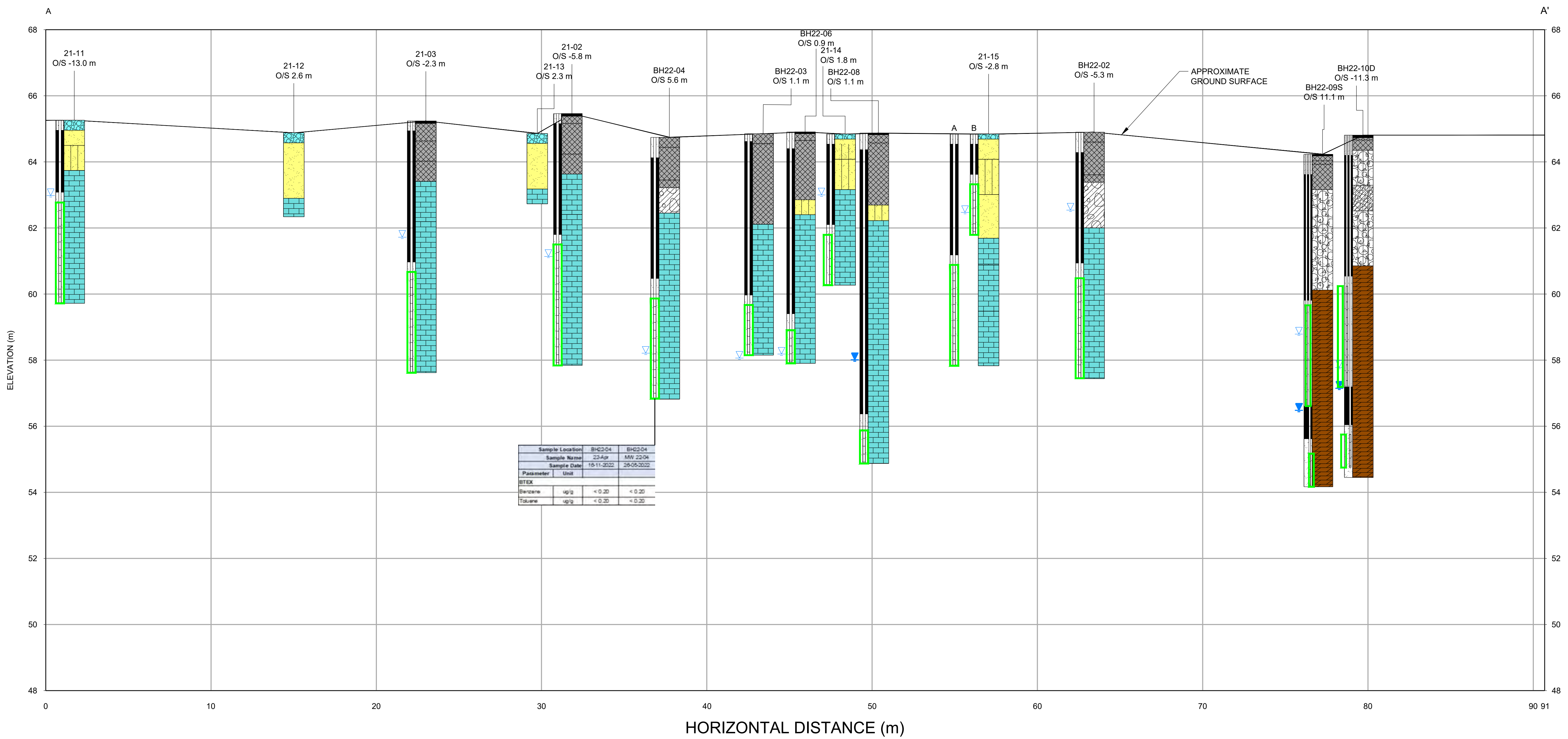
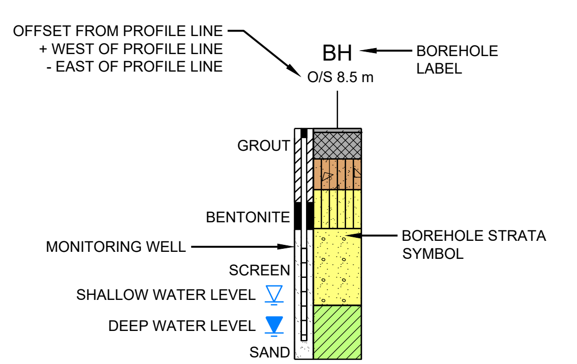


Sample Location		BH22-04	BH22-04
Sample Name		22-Apr	MW 22-04
Sample Date		16-11-2022	26-05-2022
Parameter	Unit		
BTEX			
Benzene	ug/g	< 0.20	< 0.20
Toluene	ug/g	< 0.20	< 0.20

SOIL STRATIGRAPHY

- ASPHALT
- FILL
- SAND
- SILTY SAND
- SILT
- GRAVEL
- GRAVELLY CLAYEY SAND
- GRAVELLY SILTY SAND TILL
- GLACIAL TILL
- LIMESTONE
- DOLOMITE
- GROUNDWATER SAMPLE MEETS APPLICABLE STANDARDS
- GROUNDWATER SAMPLE EXCEEDS APPLICABLE STANDARDS

LEGEND



0 2.5 5
1:125 VERTICAL SCALE METRES

0 5 10
1:250 HORIZONTAL SCALE METRES

CLIENT
1047 RICHMOND NOMINEE INC.

CONSULTANT
wsp

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	MK
REVIEWED	DS
APPROVED	KS

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
CROSS SECTION A-A' (GROUNDWATER EXCEEDANCES - BTEX)

PROJECT NO.	CONTROL	REV.	FIGURE
21494078		----	17B

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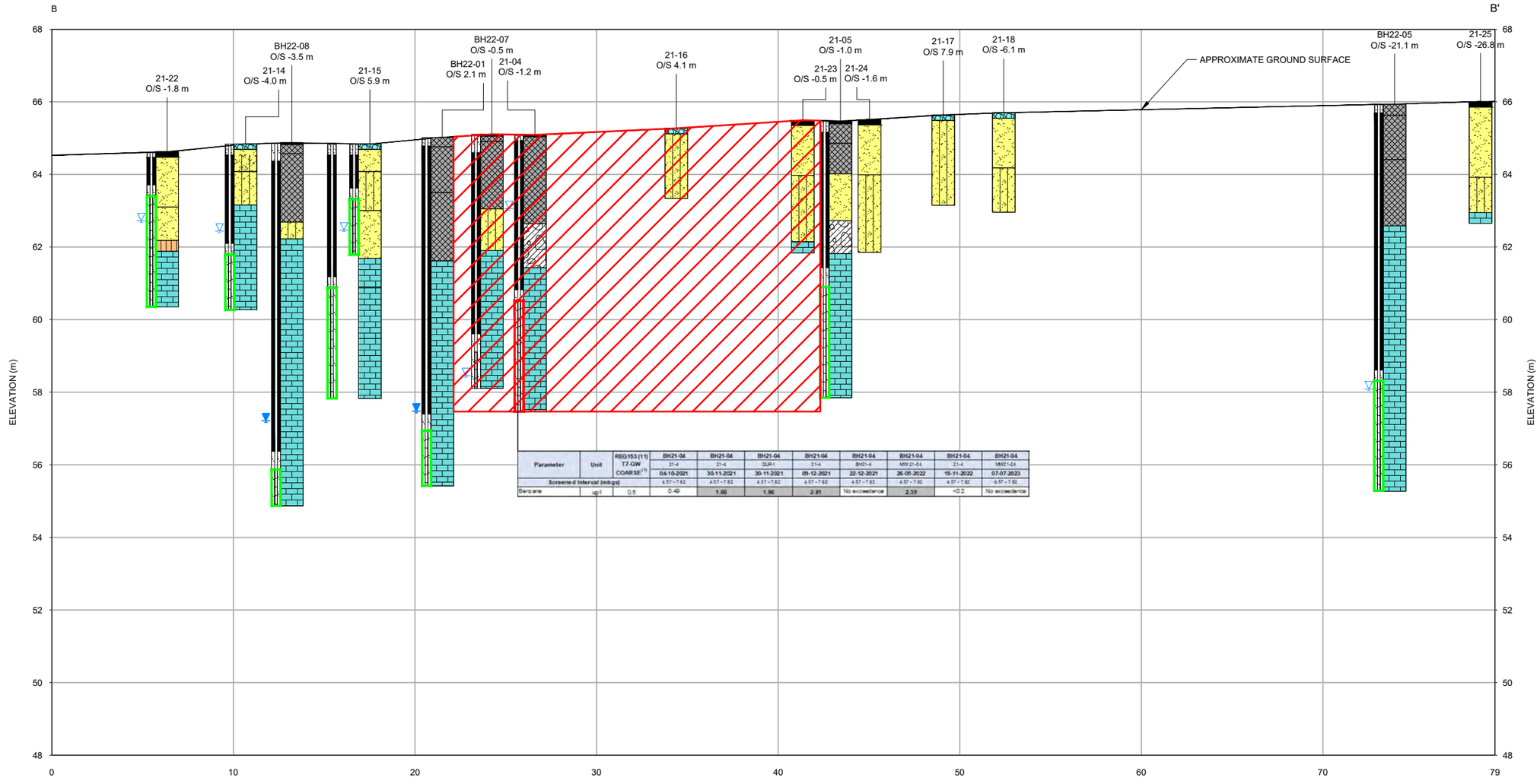
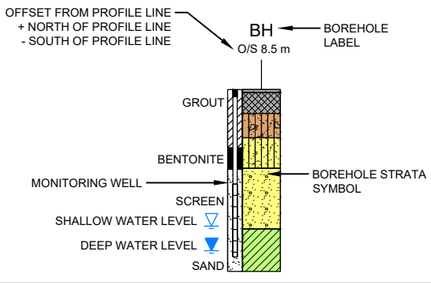


Parameter	Unit	REG153 (11) T7-GW COARSE[1)]	BH21-04 21-4 04-10-2021	BH21-04 21-4 30-11-2021	BH21-04 DUP-1 30-11-2021	BH21-04 21-4 08-12-2021	BH21-04 BH21-4 22-12-2021	BH21-04 MW 21-04 26-05-2022	BH21-04 21-4 15-11-2022	BH21-04 MW21-04 07-07-2023
Screened Interval (mbgs)			4.57 - 7.62	4.57 - 7.62	4.57 - 7.62	4.57 - 7.62	4.57 - 7.62	4.57 - 7.62	4.57 - 7.62	4.57 - 7.62
Benzene	ug/l	0.5	0.49	1.66	1.86	2.81	No exceedance	2.39	<0.2	No exceedance

SOIL STRATIGRAPHY

- ASPHALT
- FILL
- SAND
- SILTY SAND
- SILT
- GRAVEL
- GRAVELLY CLAYEY SAND
- GRAVELLY SILTY SAND TILL
- GLACIAL TILL
- LIMESTONE
- DOLOMITE
- GROUNDWATER SAMPLE MEETS APPLICABLE STANDARDS
- GROUNDWATER SAMPLE EXCEEDS APPLICABLE STANDARDS

LEGEND



0 2.5 5
1:125 VERTICAL SCALE METRES

0 5 10
1:250 HORIZONTAL SCALE METRES

CLIENT
1047 RICHMOND NOMINEE INC.

CONSULTANT
wsp

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	MK
REVIEWED	DS
APPROVED	KS

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
CROSS SECTION B-B' (GROUNDWATER EXCEEDANCES - BTEX)

PROJECT NO.	CONTROL	REV.	FIGURE
21494078		----	17C

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25 mm

0

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Parameter	Unit	REG153 (11) T7-GW COARSE [1]	BH21-14	BH21-14	BH21-14	BH21-14	BH21-14	BH21-14	BH21-14	BH21-14
			30-Nov-2021	09-Dec-2021	09-Dec-2021	22-Dec-2021	26-May-2022	15-Nov-2022	07-Jul-2023	07-Jul-2023
			21-14	BH21-14	DUP	BH21-14	BH21-14	BH21-14	21-14	Dup 1
Screened Interval (mbgs)			3.07 - 4.57	3.07 - 4.57	3.07 - 4.57	3.07 - 4.57	3.07 - 4.57	3.07 - 4.57	3.07 - 4.57	3.07 - 4.57
1,2-Dichloroethane	ug/l	0.5	No exceedence	No exceedence	No exceedence	No exceedence	No exceedence	1.45	No exceedence	No exceedance
Trichloroethene	ug/l	0.5	No exceedence	2.11	1.99	No exceedence	No exceedence	No exceedence	No exceedence	No exceedance

Parameter	Unit	REG153 (11) T7-GW COARSE [1]	BH22-08	BH22-08	BH22-08
			15-Nov-2022	15-Nov-2022	25-May-2023
			22-8	dup 2	MW22-8
Screened Interval (mbgs)			5.18 - 6.7	5.18 - 6.7	5.18 - 6.7
1,2-Dichloroethane	ug/l	0.5	No exceedence	7.39	No exceedence

Parameter	Unit	REG153 (11) T7-GW COARSE [1]	BH22-02	BH22-02	BH22-02	BH22-02	BH22-02	BH22-02	BH22-2
			26-May-2022	16-Nov-2022	09-Feb-2023	16-Mar-2023	09-Feb-2023	09-Feb-2023	07-Jul-2023
			MW 22-02	22-2	MW22-02	DUP-1	MW 22-02	DUP-1	MW22-02
Screened Interval (mbgs)			4.41 - 7.46	4.41 - 7.46	4.41 - 7.46	4.41 - 7.46	4.41 - 7.46	4.41 - 7.46	4.41 - 7.46
Carbon Tetrachloride	ug/l	0.2	No exceedence	No exceedence	No exceedence	No exceedence	< 0.40	< 0.40	No exceedence
1,1-Dichloroethene	ug/l	0.5	No exceedence	No exceedence	No exceedence	No exceedence	< 0.60	< 0.60	No exceedence
1,2-Dichloroethane	ug/l	0.5	No exceedence	7.69	2.48	2.58	5.03	5.17	4.26

Parameter	Unit	REG153 (11) T7-GW COARSE [1]	BH22-03
			26-May-2022
			22-3
Screened Interval (mbgs)			5.18 - 6.7
1,2-Dichloroethane	ug/l	0.5	3.14

Parameter	Unit	REG153 (11) T7-GW COARSE [1]	BH21-04	BH21-04	BH21-04	BH21-04	BH21-04	BH21-04	BH21-04	BH21-04
			04-Oct-2021	30-Nov-2021	30-Nov-2021	9-Dec-2021	22-Dec-2021	26-May-2022	15-Nov-2022	07-Jul-2023
			21-4	DUP-1	21-4	BH21-4	BH21-4	dup2	BH21-4	MW21-4
Screened Interval (mbgs)			4.57 - 7.62	4.57 - 7.62	4.57 - 7.62	4.57 - 7.62	4.57 - 7.62	4.57 - 7.62	4.57 - 7.62	4.57 - 7.62
Carbon Tetrachloride	ug/l	0.2	No exceedence	No exceedence	No exceedence	<0.40	No exceedence	No exceedence	No exceedence	No exceedence
1,2-Dichloroethane	ug/l	0.5	9.3	No exceedence	No exceedence	40.5	2.51	3.99	7.67	4.11
Trichloroethene	ug/l	0.5	No exceedence	No exceedence	No exceedence	4.26	No exceedence	No exceedence	No exceedence	No exceedence

LEGEND

- APPROXIMATE BOREHOLE LOCATION
- APPROXIMATE TEST PIT LOCATION
- LOCATION WHERE ALL SAMPLES MEET APPLICABLE STANDARDS
- LOCATION WHERE ONE OR MORE SAMPLES EXCEED APPLICABLE STANDARDS
- APPROXIMATE SITE BOUNDARY

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE
2. [1]O.REG 153 (2011) TABLE 7 STANDARDS FOR ALL TYPES OF PROPERTY USE FOR GROUNDWATER IN GENERIC SITE CONDITION FOR SHALLOW SOILS IN A NON-POTABLE GROUNDWATER CONDITION
3. BOLD AND SHADED INDICATES PARAMETER IS GREATER THAN REG153 (11) T7-GW
4. mbgs: METRES BELOW GROUND SURFACE

REFERENCE(S)

1. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2020
2. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: MTM ZONE 9, VERTICAL DATUM: CGVD28

0 10 20 40
1:750 METRES

CLIENT
1047 RICHMOND NOMINEE INC.

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
GROUNDWATER ANALYTICAL RESULTS – VOLATILE ORGANIC COMPOUNDS

CONSULTANT

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	RRD
REVIEWED	DS
APPROVED	PH

PROJECT NO.	CONTROL	REV.	FIGURE
21494078	0002	0	**18A**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm

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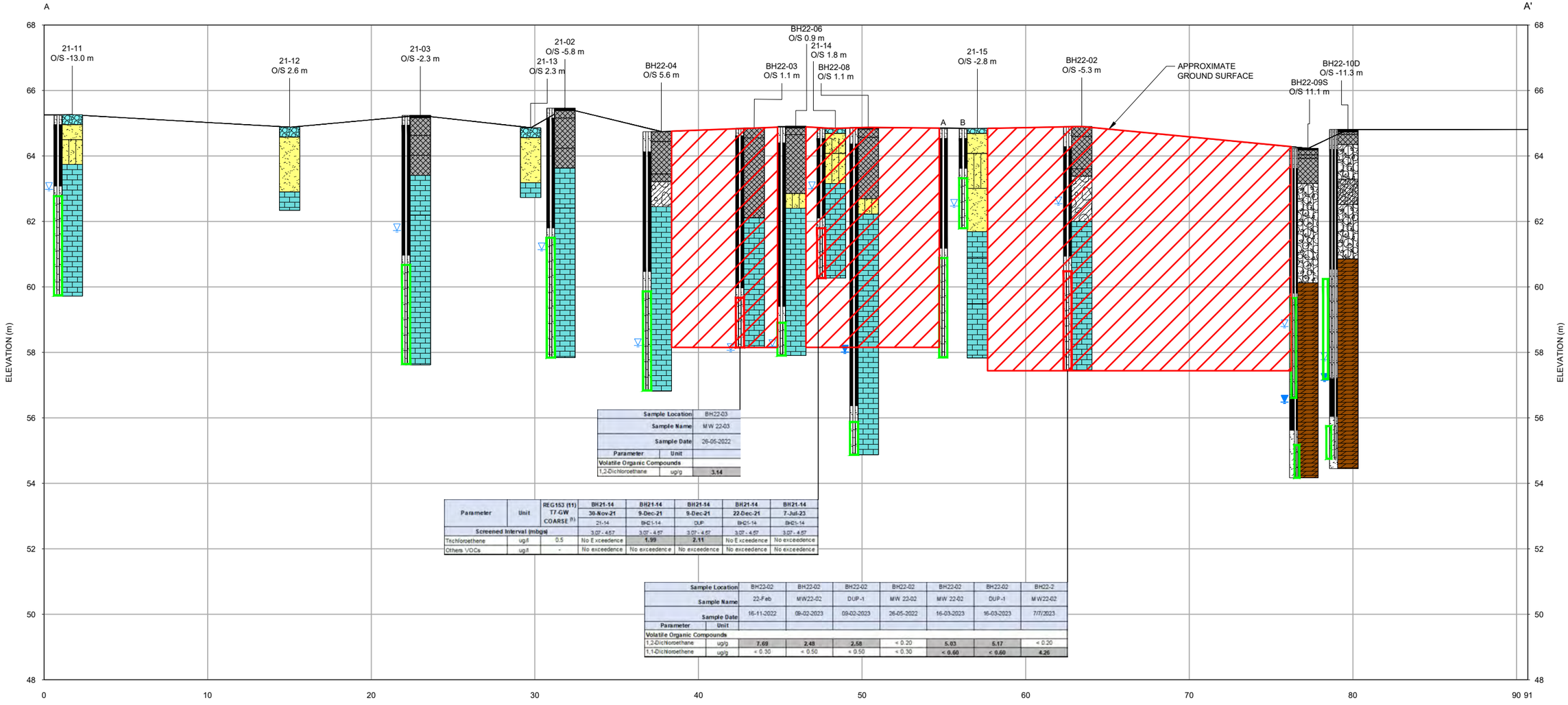
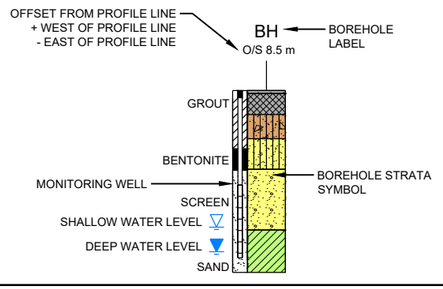


SOIL STRATIGRAPHY

- ASPHALT
- FILL
- SAND
- SILTY SAND
- SILT
- GRAVEL
- GRAVELLY CLAYEY SAND
- GRAVELLY SILTY SAND TILL
- GLACIAL TILL
- LIMESTONE
- DOLOMITE
- GROUNDWATER SAMPLE MEETS APPLICABLE STANDARDS
- GROUNDWATER SAMPLE EXCEEDS APPLICABLE STANDARDS

LEGEND



0 2.5 5
1:125 VERTICAL SCALE METRES

0 5 10
1:250 HORIZONTAL SCALE METRES

CLIENT
1047 RICHMOND NOMINEE INC.

CONSULTANT
wsp

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	MK
REVIEWED	DS
APPROVED	KS

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
CROSS SECTION A-A' (GROUNDWATER EXCEEDANCES - VOLATILE ORGANIC COMPOUNDS)

PROJECT NO.	CONTROL	REV.	FIGURE
21494078		----	18B

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25 mm 0

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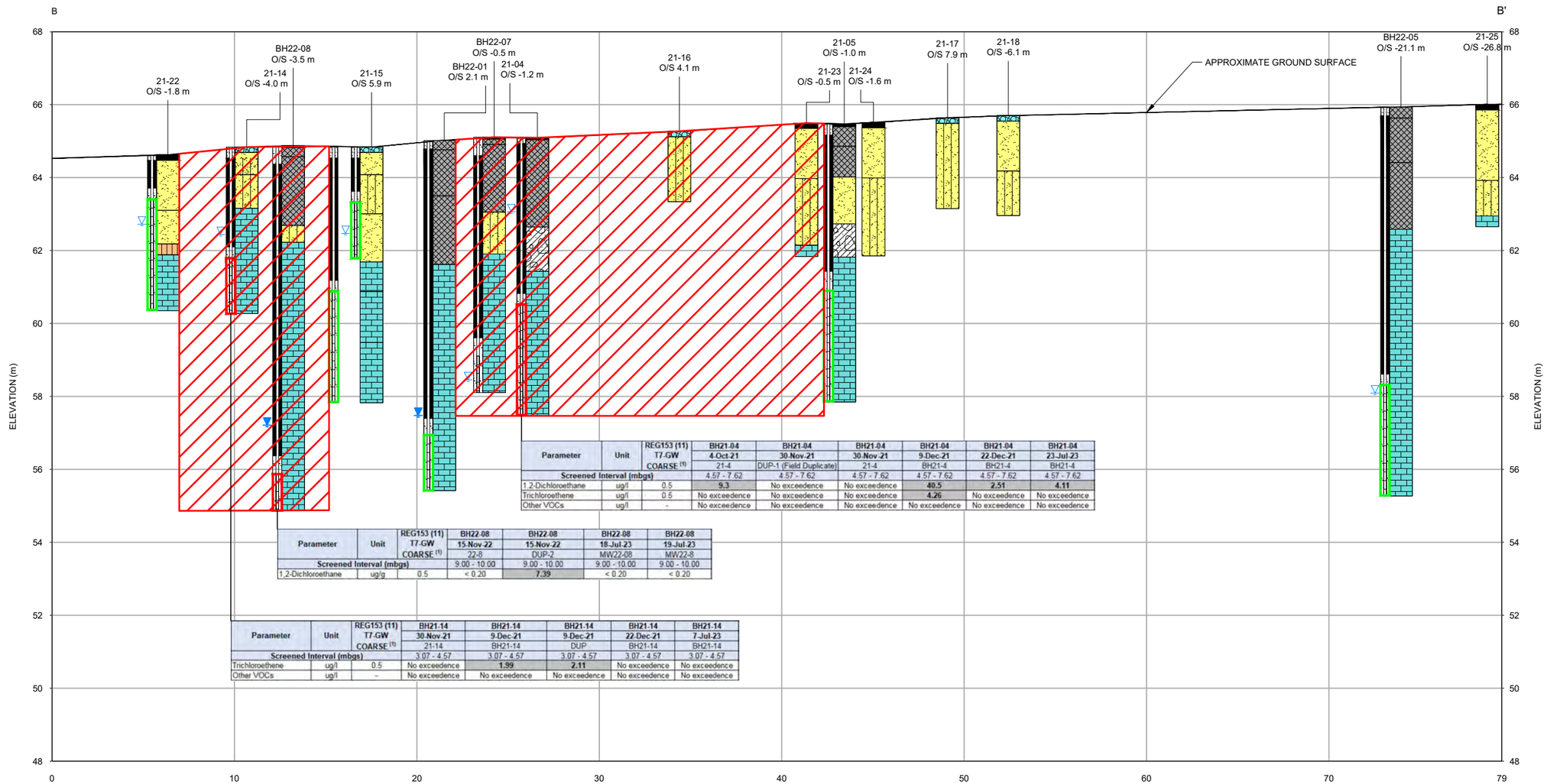


Parameter	Unit	REG153 (11) T7-GW COARSE (1)	BH21-04	BH21-04	BH21-04	BH21-04	BH21-04	BH21-04
			4-Oct-21	30-Nov-21	30-Nov-21	9-Dec-21	22-Dec-21	23-Jul-23
			21-4	DUP-1 (Field Duplicate)	21-4	BH21-4	BH21-4	BH21-4
Screened Interval (mbgs)			4.57 - 7.62	4.57 - 7.62	4.57 - 7.62	4.57 - 7.62	4.57 - 7.62	4.57 - 7.62
1,2-Dichloroethane	ug/l	0.5	**9.3**	No exceedence	No exceedence	**40.5**	**2.51**	**4.11**
Trichloroethene	ug/l	0.5	No exceedence	No exceedence	No exceedence	**4.26**	No exceedence	No exceedence
Other VOCs	ug/l	-	No exceedence	No exceedence	No exceedence	No exceedence	No exceedence	No exceedence

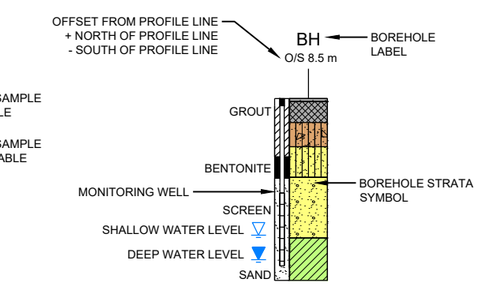
Parameter	Unit	REG153 (11) T7-GW COARSE (1)	BH22-08	BH22-08	BH22-08	BH22-08
			15-Nov-22	15-Nov-22	18-Jul-23	19-Jul-23
			22-8	DUP-2	MW22-08	MW22-8
Screened Interval (mbgs)			9.00 - 10.00	9.00 - 10.00	9.00 - 10.00	9.00 - 10.00
1,2-Dichloroethane	ug/g	0.5	< 0.20	**7.39**	< 0.20	< 0.20

Parameter	Unit	REG153 (11) T7-GW COARSE (1)	BH21-14	BH21-14	BH21-14	BH21-14	BH21-14
			30-Nov-21	9-Dec-21	9-Dec-21	22-Dec-21	7-Jul-23
			21-14	BH21-14	DUP	BH21-14	BH21-14
Screened Interval (mbgs)			3.07 - 4.57	3.07 - 4.57	3.07 - 4.57	3.07 - 4.57	3.07 - 4.57
Trichloroethene	ug/l	0.5	No exceedence	**1.99**	**2.11**	No exceedence	No exceedence
Other VOCs	ug/l	-	No exceedence	No exceedence	No exceedence	No exceedence	No exceedence

SOIL STRATIGRAPHY

- ASPHALT
- FILL
- SAND
- SILTY SAND
- SILT
- GRAVEL
- GRAVELLY CLAYEY SAND
- GRAVELLY SILTY SAND TILL
- GLACIAL TILL
- LIMESTONE
- DOLOMITE
- GROUNDWATER SAMPLE MEETS APPLICABLE STANDARDS
- GROUNDWATER SAMPLE EXCEEDS APPLICABLE STANDARDS

LEGEND



0 2.5 5
1:125 VERTICAL SCALE METRES

0 5 10
1:250 HORIZONTAL SCALE METRES

CLIENT
1047 RICHMOND NOMINEE INC.

CONSULTANT
wsp

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

YYYY-MM-DD	2023-08-28
DESIGNED	DS
PREPARED	MK
REVIEWED	DS
APPROVED	KS

TITLE
CROSS SECTION B-B' (GROUNDWATER EXCEEDANCES - VOLATILE ORGANIC COMPOUNDS)

PROJECT NO.	CONTROL	REV.	FIGURE
21494078		----	18C

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25 mm 0

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LEGEND

- APPROXIMATE SAMPLE LOCATION
- LOCATIONS WHERE ALL SAMPLES MEET APPLICABLE STANDARDS
- SLOPE 2:1
- EXCAVATION AREA

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE
2. O.REG 153 (2011) TABLE STANDARDS FOR RESIDENTIAL/PARKLAND/INSTITUTIONAL (R/P/I) PROPERTY USE FOR COARSE TEXTURED SOIL IN GENERIC SITE CONDITION FOR SHALLOW SOILS IN A NON-POTABLE GROUND WATER CONDITION.

REFERENCE(S)

1. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2020
2. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: MTM ZONE 9, VERTICAL DATUM: CGVD28

0 1.5 3 6
1:125 METRES

CLIENT
1047 RICHMOND NOMINEE INC.

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
SITE EXCAVATION AREA AND CONFIRMATORY SAMPLE LOCATION

CONSULTANT

YYYY-MM-DD	9/27/2023
DESIGNED	RF
PREPARED	JT
REVIEWED	DS
APPROVED	KS

PROJECT NO.	CONTROL	REV.	FIGURE
21494078	0008	0	**19**

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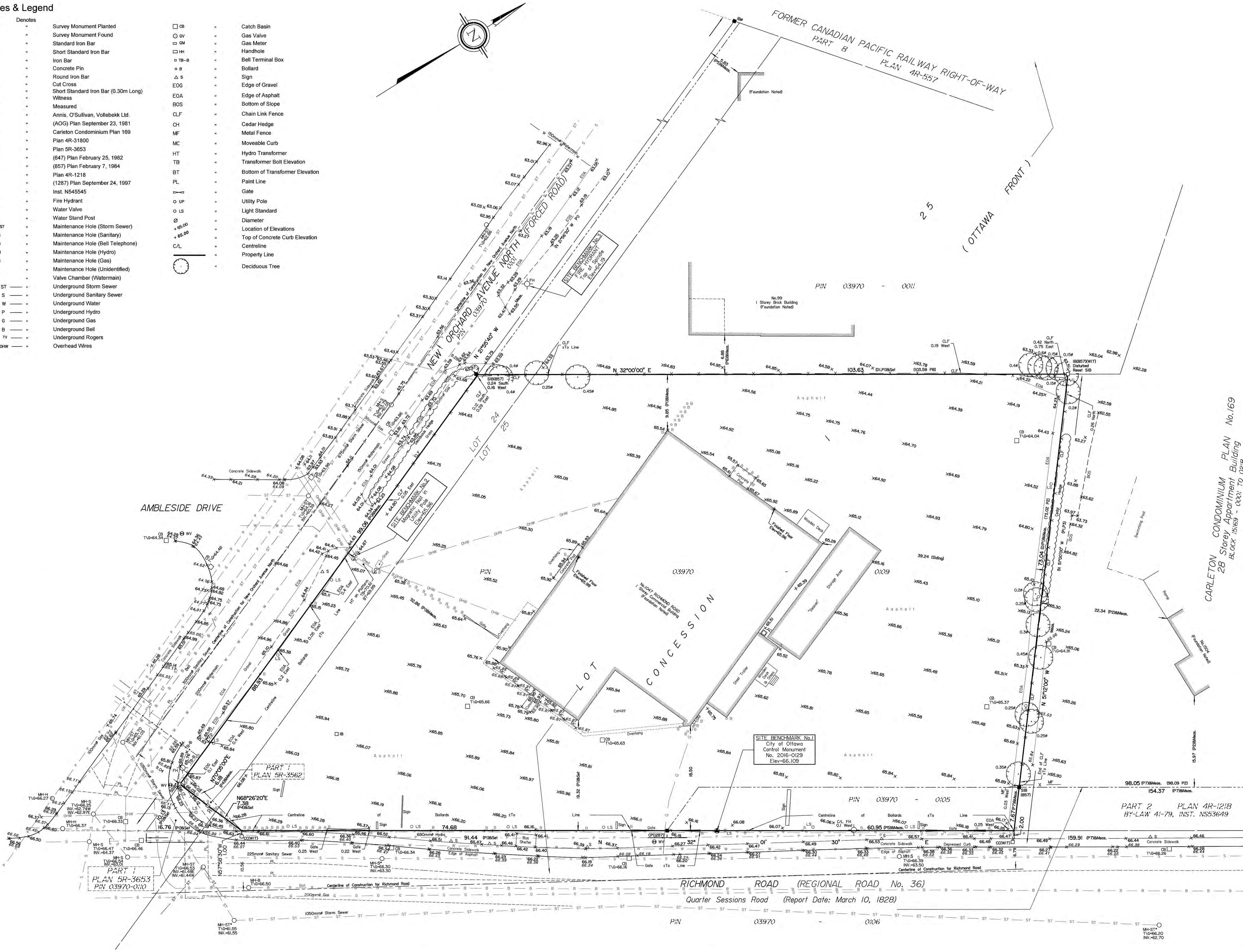
APPENDIX A

Legal Plan of Survey

Notes & Legend

	Denotes	
—□—	"	Survey Monument Planted
—■—	"	Survey Monument Found
SIB	"	Standard Iron Bar
SSIB	"	Short Standard Iron Bar
IB	"	Iron Bar
CP	"	Concrete Pin
IBø	"	Round Iron Bar
CC	"	Cut Cross
SSIB*	"	Short Standard Iron Bar (0.30m Long)
(WIT)	"	Witness
Meas.	"	Measured
(AOG)	"	Annis, O'Sullivan, Vollebekk Ltd.
(PI)	"	(AOG) Plan September 23, 1981
(P2)	"	Carleton Condominium Plan 169
(P3)	"	Plan 4R-31800
(P4)	"	Plan 5R-3653
(P5)	"	(647) Plan February 25, 1982
(P6)	"	(857) Plan February 7, 1984
(P7)	"	Plan 4R-1218
(P8)	"	(1287) Plan September 24, 1997
(DI)	"	Inst. N545545
FH	"	Fire Hydrant
WV	"	Water Valve
SP	"	Water Stand Post
MH-ST	"	Maintenance Hole (Storm Sewer)
MH-S	"	Maintenance Hole (Sanitary)
MH-B	"	Maintenance Hole (Bell Telephone)
MH-H	"	Maintenance Hole (Hydro)
MH-G	"	Maintenance Hole (Gas)
MH	"	Maintenance Hole (Unidentified)
VC	"	Valve Chamber (Watermain)
—— ST ——	"	Underground Storm Sewer
—— S ——	"	Underground Sanitary Sewer
—— W ——	"	Underground Water
—— P ——	"	Underground Hydro
—— G ——	"	Underground Gas
—— B ——	"	Underground Bell
—— TV ——	"	Underground Rogers
—— OHW ——	"	Overhead Wires

	Denotes	
CB	"	Catch Basin
GV	"	Gas Valve
GM	"	Gas Meter
HH	"	Handhole
TB-B	"	Bell Terminal Box
B	"	Bollard
S	"	Sign
EOG	"	Edge of Gravel
EOA	"	Edge of Asphalt
BOS	"	Bottom of Slope
CLF	"	Chain Link Fence
CH	"	Cedar Hedge
MF	"	Metal Fence
MC	"	Moveable Curb
HT	"	Hydro Transformer
TB	"	Transformer Bolt Elevation
BT	"	Bottom of Transformer Elevation
PL	"	Paint Line
⊳⊲	"	Gate
UP	"	Utility Pole
LS	"	Light Standard
Ø	"	Diameter
+ 65.00	"	Location of Elevations
+ 65.00	"	Top of Concrete Curb Elevation
C/L	"	Centreline
——	"	Property Line
⊙	"	Deciduous Tree



TOPOGRAPHICAL PLAN OF SURVEY OF

PART OF LOTS 24 AND 25 CONCESSION 1 (OTTAWA FRONT)
GEOGRAPHIC TOWNSHIP OF NEPEAN
CITY OF OTTAWA

Surveyed by Annis, O'Sullivan, Vollebekk Ltd.

Scale 1 : 300

12 9 6 3 0 6 12 Metres

Metric

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

Surveyor's Certificate

I CERTIFY THAT :

1. This survey and plan are correct and in accordance with the Surveys Act and the Surveyors Act and the regulations made under them.
2. The survey was completed on the 29th day of September, 2021.

Oct.1,2021 — Date

E. H. Herweyer
Ontario Land Surveyor

Distances shown on this plan are ground distances and can be converted to grid distances by multiplying by the combined scale factor of 0.999982.

For bearing comparisons, a rotation of 0°01'00" counter-clockwise was applied to bearings on P1,P4 & P5.
For bearing comparisons, a rotation of 0°19'10" counter-clockwise was applied to bearings on P6.
For bearing comparisons, a rotation of 0°01'30" counter-clockwise was applied to bearings on P2 & P7.

Coordinates are derived from Can-Net 2016 Real Time Network GPS observations referenced to Specified Control Points 01919680005 and 01919750705, MTM Zone 9 (76°30' West Longitude) NAD-83 (original).

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
V-16989

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

ELEVATION NOTES

1. Elevations shown are geodetic derived from City of Ottawa Monument No.2016-0129 with a published elevation of 66.109m and are referred to the CGVD28 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. Underground utility data derived from City of Ottawa utility sheet reference E-01-09.
4. Sanitary and storm sewer grades and inverts were derived from Plan 2353 (Sheet 4, 5 & 6 of 6) & Plan I-10-c-1.
5. A field location of underground plant by the pertinent utility authority is mandatory before any work involving breaking ground, probing, excavating etc.
6. Manholes noted with a " * " were not located in the field due to field conditions and construction work. The location of these manholes is derived per the noted drawings above.

Ontario Land Surveyors
ANNIS, O'SULLIVAN, VOLLEBEKK LTD.
14 Concourse Gate, Suite 500
Nepean, Ont. K2E 7S6
Phone: (613) 727-0850 / Fax: (613) 727-1079
Email: Nepean@aovltd.com

Job No. 21985-21 FengateDvlpmnt PrtLts24 25 Con1 OF T F | DG

APPENDIX B

Laboratory Certificates of Analysis

Your Project #: 21494078
Site Location: 1047 RICHMOND
Your C.O.C. #: na

Attention: Daniel Stabile

Golder Associates Ltd
100 Scotia Crt
Whitby, ON
CANADA L1N 8Y6

Report Date: 2021/10/13
Report #: R6851793
Version: 4 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C1S1463
Received: 2021/09/28, 15:20

Sample Matrix: Soil
Samples Received: 13

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Hot Water Extractable Boron (1)	5	2021/10/01	2021/10/01	CAM SOP-00408	R153 Ana. Prot. 2011
1,3-Dichloropropene Sum (1)	6	N/A	2021/10/01		EPA 8260C m
Free (WAD) Cyanide (1)	5	2021/10/01	2021/10/01	CAM SOP-00457	OMOE E3015 m
Conductivity (1)	5	2021/10/01	2021/10/01	CAM SOP-00414	OMOE E3530 v1 m
Hexavalent Chromium in Soil by IC (1, 2)	5	2021/10/01	2021/10/01	CAM SOP-00436	EPA 3060/7199 m
Petroleum Hydro. CCME F1 & BTEX in Soil (1, 3)	1	N/A	2021/10/13	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydro. CCME F1 & BTEX in Soil (1, 3)	2	N/A	2021/09/30	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Soil (1, 4)	1	2021/10/08	2021/10/11	CAM SOP-00316	CCME CWS m
Petroleum Hydrocarbons F2-F4 in Soil (1, 4)	1	2021/09/30	2021/10/01	CAM SOP-00316	CCME CWS m
Petroleum Hydrocarbons F2-F4 in Soil (1, 4)	5	2021/09/30	2021/09/30	CAM SOP-00316	CCME CWS m
Acid Extractable Metals by ICPMS (1)	5	2021/10/01	2021/10/01	CAM SOP-00447	EPA 6020B m
Moisture (1)	8	N/A	2021/09/29	CAM SOP-00445	Carter 2nd ed 51.2 m
Moisture (1)	5	N/A	2021/09/30	CAM SOP-00445	Carter 2nd ed 51.2 m
pH CaCl2 EXTRACT (1)	5	2021/10/01	2021/10/01	CAM SOP-00413	EPA 9045 D m
Sodium Adsorption Ratio (SAR) (1)	5	N/A	2021/10/01	CAM SOP-00102	EPA 6010C
Sodium Adsorption Ratio (SAR) (1)	8	N/A	2021/10/12	CAM SOP-00102	EPA 6010C
Volatile Organic Compounds and F1 PHCs (1)	4	N/A	2021/10/01	CAM SOP-00230	EPA 8260C m
Volatile Organic Compounds in Soil (1)	1	N/A	2021/10/01	CAM SOP-00228	EPA 8260C m
Volatile Organic Compounds in Soil (1)	1	N/A	2021/09/30	CAM SOP-00228	EPA 8260C m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless

Your Project #: 21494078
Site Location: 1047 RICHMOND
Your C.O.C. #: na

Attention: Daniel Stabile

Golder Associates Ltd
100 Scotia Crt
Whitby, ON
CANADA L1N 8Y6

Report Date: 2021/10/13
Report #: R6851793
Version: 4 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C1S1463
Received: 2021/09/28, 15:20

otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd , Mississauga, ON, L5N 2L8
(2) Soils are reported on a dry weight basis unless otherwise specified.
(3) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is the date sampled unless otherwise stated.
(4) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Ema Gitej, Senior Project Manager
Email: emese.gitej@bureauveritas.com
Phone# (905)817-5829
==========
BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

BV Labs Job #: C1S1463
Report Date: 2021/10/13

Golder Associates Ltd
Client Project #: 21494078
Site Location: 1047 RICHMOND
Sampler Initials: DG

O.REG 153 METALS & INORGANICS PKG (SOIL)

BV Labs ID		QUD247	QUD251			QUD251			QUD254		
Sampling Date		2021/09/24 11:00	2021/09/21 11:30			2021/09/21 11:30			2021/09/24 08:05		
COC Number		na	na			na			na		
	UNITS	21-1 SA1	21-2 SA2	RDL	QC Batch	21-2 SA2 Lab-Dup	RDL	QC Batch	21-5 SA3	RDL	QC Batch
Calculated Parameters											
Sodium Adsorption Ratio	N/A	3.6	0.88		7607144				0.36		7607144
Inorganics											
Conductivity	mS/cm	0.54	0.26	0.002	7612428				0.27	0.002	7612428
Moisture	%	22	4.7	1.0	7610577	5.7	1.0	7610577	14	1.0	7610577
Available (CaCl2) pH	pH	7.51	6.97		7612293				7.42		7612293
WAD Cyanide (Free)	ug/g	<0.01	<0.01	0.01	7612164				<0.01	0.01	7612164
Chromium (VI)	ug/g	<0.18	<0.18	0.18	7611943				<0.18	0.18	7611943
Metals											
Hot Water Ext. Boron (B)	ug/g	0.38	0.15	0.050	7612002				0.40	0.050	7612002
Acid Extractable Antimony (Sb)	ug/g	<0.20	<0.20	0.20	7611998				0.23	0.20	7611998
Acid Extractable Arsenic (As)	ug/g	<1.0	<1.0	1.0	7611998				1.3	1.0	7611998
Acid Extractable Barium (Ba)	ug/g	72	21	0.50	7611998				89	0.50	7611998
Acid Extractable Beryllium (Be)	ug/g	0.49	<0.20	0.20	7611998				0.40	0.20	7611998
Acid Extractable Boron (B)	ug/g	9.8	<5.0	5.0	7611998				6.9	5.0	7611998
Acid Extractable Cadmium (Cd)	ug/g	<0.10	<0.10	0.10	7611998				0.54	0.10	7611998
Acid Extractable Chromium (Cr)	ug/g	25	8.3	1.0	7611998				22	1.0	7611998
Acid Extractable Cobalt (Co)	ug/g	7.6	3.1	0.10	7611998				7.9	0.10	7611998
Acid Extractable Copper (Cu)	ug/g	12	4.6	0.50	7611998				14	0.50	7611998
Acid Extractable Lead (Pb)	ug/g	5.6	2.0	1.0	7611998				85	1.0	7611998
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	<0.50	0.50	7611998				1.2	0.50	7611998
Acid Extractable Nickel (Ni)	ug/g	22	5.5	0.50	7611998				16	0.50	7611998
Acid Extractable Selenium (Se)	ug/g	<0.50	<0.50	0.50	7611998				<0.50	0.50	7611998
Acid Extractable Silver (Ag)	ug/g	<0.20	<0.20	0.20	7611998				<0.20	0.20	7611998
Acid Extractable Thallium (Tl)	ug/g	0.10	<0.050	0.050	7611998				0.12	0.050	7611998
Acid Extractable Uranium (U)	ug/g	0.50	0.45	0.050	7611998				0.53	0.050	7611998
Acid Extractable Vanadium (V)	ug/g	30	20	5.0	7611998				30	5.0	7611998
Acid Extractable Zinc (Zn)	ug/g	33	16	5.0	7611998				43	5.0	7611998
Acid Extractable Mercury (Hg)	ug/g	<0.050	<0.050	0.050	7611998				<0.050	0.050	7611998

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

O.REG 153 METALS & INORGANICS PKG (SOIL)

BV Labs ID		QUD258		QUD259		
Sampling Date		2021/09/22 08:30		2021/09/22		
COC Number		na		na		
	UNITS	21-3 SA3	QC Batch	21-3 DUP-1	RDL	QC Batch
Calculated Parameters						
Sodium Adsorption Ratio	N/A	6.1	7607144	9.6		7610400
Inorganics						
Conductivity	mS/cm	0.34	7612428	0.41	0.002	7612465
Moisture	%	16	7610577	15	1.0	7611396
Available (CaCl2) pH	pH	7.54	7612293	7.43		7612293
WAD Cyanide (Free)	ug/g	<0.01	7612164	<0.01	0.01	7612164
Chromium (VI)	ug/g	<0.18	7611943	<0.18	0.18	7611943
Metals						
Hot Water Ext. Boron (B)	ug/g	0.87	7612002	0.67	0.050	7612310
Acid Extractable Antimony (Sb)	ug/g	0.33	7611998	0.46	0.20	7612314
Acid Extractable Arsenic (As)	ug/g	1.7	7611998	2.8	1.0	7612314
Acid Extractable Barium (Ba)	ug/g	99	7611998	110	0.50	7612314
Acid Extractable Beryllium (Be)	ug/g	0.52	7611998	0.72	0.20	7612314
Acid Extractable Boron (B)	ug/g	7.8	7611998	12	5.0	7612314
Acid Extractable Cadmium (Cd)	ug/g	0.45	7611998	0.37	0.10	7612314
Acid Extractable Chromium (Cr)	ug/g	27	7611998	33	1.0	7612314
Acid Extractable Cobalt (Co)	ug/g	13	7611998	14	0.10	7612314
Acid Extractable Copper (Cu)	ug/g	18	7611998	60	0.50	7612314
Acid Extractable Lead (Pb)	ug/g	23	7611998	48	1.0	7612314
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	7611998	0.52	0.50	7612314
Acid Extractable Nickel (Ni)	ug/g	25	7611998	34	0.50	7612314
Acid Extractable Selenium (Se)	ug/g	<0.50	7611998	<0.50	0.50	7612314
Acid Extractable Silver (Ag)	ug/g	<0.20	7611998	<0.20	0.20	7612314
Acid Extractable Thallium (Tl)	ug/g	0.14	7611998	0.21	0.050	7612314
Acid Extractable Uranium (U)	ug/g	0.49	7611998	0.64	0.050	7612314
Acid Extractable Vanadium (V)	ug/g	26	7611998	29	5.0	7612314
Acid Extractable Zinc (Zn)	ug/g	54	7611998	89	5.0	7612314
Acid Extractable Mercury (Hg)	ug/g	0.063	7611998	0.077	0.050	7612314

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

BV Labs Job #: C1S1463
Report Date: 2021/10/13

Golder Associates Ltd
Client Project #: 21494078
Site Location: 1047 RICHMOND
Sampler Initials: DG

O.REG 153 PHCS, BTEX/F1-F4 (SOIL)

BV Labs ID		QUD250			QUD254			QUD257		
Sampling Date		2021/09/21 10:40			2021/09/24 08:05			2021/09/22 08:15		
COC Number		na			na			na		
	UNITS	21-4 SA6	RDL	QC Batch	21-5 SA3	RDL	QC Batch	21-3 SA2	RDL	QC Batch
Inorganics										
Moisture	%	9.6	1.0	7609199				5.6	1.0	7608490
BTEX & F1 Hydrocarbons										
Benzene	ug/g	<0.020	0.020	7610488	<0.020	0.020	7632544	<0.020	0.020	7610488
Toluene	ug/g	<0.020	0.020	7610488	<0.020	0.020	7632544	<0.020	0.020	7610488
Ethylbenzene	ug/g	<0.020	0.020	7610488	<0.020	0.020	7632544	<0.020	0.020	7610488
o-Xylene	ug/g	<0.020	0.020	7610488	<0.020	0.020	7632544	<0.020	0.020	7610488
p+m-Xylene	ug/g	<0.040	0.040	7610488	<0.040	0.040	7632544	<0.040	0.040	7610488
Total Xylenes	ug/g	<0.040	0.040	7610488	<0.040	0.040	7632544	<0.040	0.040	7610488
F1 (C6-C10)	ug/g	<10	10	7610488	<10	10	7632544	<10	10	7610488
F1 (C6-C10) - BTEX	ug/g	<10	10	7610488	<10	10	7632544	<10	10	7610488
F2-F4 Hydrocarbons										
F2 (C10-C16 Hydrocarbons)	ug/g	<10	10	7609831	<10	10	7628860	<10	10	7609831
F3 (C16-C34 Hydrocarbons)	ug/g	<50	50	7609831	200	50	7628860	<50	50	7609831
F4 (C34-C50 Hydrocarbons)	ug/g	<50	50	7609831	76	50	7628860	<50	50	7609831
Reached Baseline at C50	ug/g	Yes		7609831	Yes		7628860	Yes		7609831
Surrogate Recovery (%)										
1,4-Difluorobenzene	%	100		7610488	106		7632544	103		7610488
4-Bromofluorobenzene	%	102		7610488	90		7632544	94		7610488
D10-o-Xylene	%	93		7610488	78		7632544	103		7610488
D4-1,2-Dichloroethane	%	95		7610488	106		7632544	96		7610488
o-Terphenyl	%	106		7609831	90		7628860	100		7609831

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

O.REG 153 PHCS, BTEX/F1-F4 (SOIL)

BV Labs ID		QUD257		
Sampling Date		2021/09/22 08:15		
COC Number		na		
	UNITS	21-3 SA2 Lab-Dup	RDL	QC Batch
Inorganics				
Moisture	%	5.1	1.0	7608490

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

O.REG 153 VOCS BY HS & F1-F4 (SOIL)

BV Labs ID		QUD248	QUD252	QUD253	QUD255		
Sampling Date		2021/09/24 11:30	2021/09/21 12:00	2021/09/22 10:50	2021/09/22 10:50		
COC Number		na	na	na	na		
	UNITS	21-1 SA3	21-2 SA5	21-5 SA2	21-5 DUP-1	RDL	QC Batch
Inorganics							
Moisture	%	17	7.6	10	9.3	1.0	7609199
Calculated Parameters							
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	7607143
Volatile Organics							
Acetone (2-Propanone)	ug/g	<0.49	<0.49	<0.49	<0.49	0.49	7612202
Benzene	ug/g	<0.0060	<0.0060	<0.0060	<0.0060	0.0060	7612202
Bromodichloromethane	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	7612202
Bromoform	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	7612202
Bromomethane	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	7612202
Carbon Tetrachloride	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	7612202
Chlorobenzene	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	7612202
Chloroform	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	7612202
Dibromochloromethane	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	7612202
1,2-Dichlorobenzene	ug/g	<0.040	<0.040	0.12	0.15	0.040	7612202
1,3-Dichlorobenzene	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	7612202
1,4-Dichlorobenzene	ug/g	<0.040	<0.040	0.073	0.093	0.040	7612202
Dichlorodifluoromethane (FREON 12)	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	7612202
1,1-Dichloroethane	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	7612202
1,2-Dichloroethane	ug/g	<0.049	<0.049	<0.049	<0.049	0.049	7612202
1,1-Dichloroethylene	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	7612202
cis-1,2-Dichloroethylene	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	7612202
trans-1,2-Dichloroethylene	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	7612202
1,2-Dichloropropane	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	7612202
cis-1,3-Dichloropropene	ug/g	<0.030	<0.030	<0.030	<0.030	0.030	7612202
trans-1,3-Dichloropropene	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	7612202
Ethylbenzene	ug/g	<0.010	<0.010	<0.010	<0.010	0.010	7612202
Ethylene Dibromide	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	7612202
Hexane	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	7612202
Methylene Chloride(Dichloromethane)	ug/g	<0.049	<0.049	<0.049	<0.049	0.049	7612202
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.40	<0.40	<0.40	<0.40	0.40	7612202
Methyl Isobutyl Ketone	ug/g	<0.40	<0.40	<0.40	<0.40	0.40	7612202
Methyl t-butyl ether (MTBE)	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	7612202
Styrene	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	7612202

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

O.REG 153 VOCS BY HS & F1-F4 (SOIL)

BV Labs ID		QUD248	QUD252	QUD253	QUD255		
Sampling Date		2021/09/24 11:30	2021/09/21 12:00	2021/09/22 10:50	2021/09/22 10:50		
COC Number		na	na	na	na		
	UNITS	21-1 SA3	21-2 SA5	21-5 SA2	21-5 DUP-1	RDL	QC Batch
1,1,1,2-Tetrachloroethane	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	7612202
1,1,2,2-Tetrachloroethane	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	7612202
Tetrachloroethylene	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	7612202
Toluene	ug/g	<0.020	<0.020	<0.020	<0.020	0.020	7612202
1,1,1-Trichloroethane	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	7612202
1,1,2-Trichloroethane	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	7612202
Trichloroethylene	ug/g	<0.010	<0.010	<0.010	<0.010	0.010	7612202
Trichlorofluoromethane (FREON 11)	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	7612202
Vinyl Chloride	ug/g	<0.019	<0.019	<0.019	<0.019	0.019	7612202
p+m-Xylene	ug/g	<0.020	<0.020	<0.020	<0.020	0.020	7612202
o-Xylene	ug/g	<0.020	<0.020	<0.020	<0.020	0.020	7612202
Total Xylenes	ug/g	<0.020	<0.020	<0.020	<0.020	0.020	7612202
F1 (C6-C10)	ug/g	<10	<10	<10	<10	10	7612202
F1 (C6-C10) - BTEX	ug/g	<10	<10	<10	<10	10	7612202
F2-F4 Hydrocarbons							
F2 (C10-C16 Hydrocarbons)	ug/g	<10	<10	<10	260	10	7609831
F3 (C16-C34 Hydrocarbons)	ug/g	<50	<50	1500	25000	50	7609831
F4 (C34-C50 Hydrocarbons)	ug/g	<50	<50	520	8100	50	7609831
Reached Baseline at C50	ug/g	Yes	Yes	Yes	Yes		7609831
Surrogate Recovery (%)							
o-Terphenyl	%	101	101	92	99		7609831
4-Bromofluorobenzene	%	91	91	90	90		7612202
D10-o-Xylene	%	86	81	88	74		7612202
D4-1,2-Dichloroethane	%	116	115	118	117		7612202
D8-Toluene	%	90	89	89	90		7612202

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

O.REG 153 VOCS BY HS (SOIL)

BV Labs ID		QUD249			QUD249			QUD256		
Sampling Date		2021/09/21 09:40			2021/09/21 09:40			2021/09/22 08:00		
COC Number		na			na			na		
	UNITS	21-4 SA1	RDL	QC Batch	21-4 SA1 Lab-Dup	RDL	QC Batch	21-3 SA1	RDL	QC Batch
Inorganics										
Moisture	%	6.6	1.0	7608769	6.7	1.0	7608769	3.4	1.0	7608769
Calculated Parameters										
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	0.050	7607143				<0.050	0.050	7607143
Volatile Organics										
Acetone (2-Propanone)	ug/g	<0.49	0.49	7609853	<0.49	0.49	7609853	<0.49	0.49	7612260
Benzene	ug/g	<0.0060	0.0060	7609853	<0.0060	0.0060	7609853	<0.0060	0.0060	7612260
Bromodichloromethane	ug/g	<0.040	0.040	7609853	<0.040	0.040	7609853	<0.040	0.040	7612260
Bromoform	ug/g	<0.040	0.040	7609853	<0.040	0.040	7609853	<0.040	0.040	7612260
Bromomethane	ug/g	<0.040	0.040	7609853	<0.040	0.040	7609853	<0.040	0.040	7612260
Carbon Tetrachloride	ug/g	<0.040	0.040	7609853	<0.040	0.040	7609853	<0.040	0.040	7612260
Chlorobenzene	ug/g	<0.040	0.040	7609853	<0.040	0.040	7609853	<0.040	0.040	7612260
Chloroform	ug/g	<0.040	0.040	7609853	<0.040	0.040	7609853	<0.040	0.040	7612260
Dibromochloromethane	ug/g	<0.040	0.040	7609853	<0.040	0.040	7609853	<0.040	0.040	7612260
1,2-Dichlorobenzene	ug/g	<0.040	0.040	7609853	<0.040	0.040	7609853	<0.040	0.040	7612260
1,3-Dichlorobenzene	ug/g	<0.040	0.040	7609853	<0.040	0.040	7609853	<0.040	0.040	7612260
1,4-Dichlorobenzene	ug/g	<0.040	0.040	7609853	<0.040	0.040	7609853	<0.040	0.040	7612260
Dichlorodifluoromethane (FREON 12)	ug/g	<0.040	0.040	7609853	<0.040	0.040	7609853	<0.040	0.040	7612260
1,1-Dichloroethane	ug/g	<0.040	0.040	7609853	<0.040	0.040	7609853	<0.040	0.040	7612260
1,2-Dichloroethane	ug/g	<0.049	0.049	7609853	<0.049	0.049	7609853	<0.049	0.049	7612260
1,1-Dichloroethylene	ug/g	<0.040	0.040	7609853	<0.040	0.040	7609853	<0.040	0.040	7612260
cis-1,2-Dichloroethylene	ug/g	<0.040	0.040	7609853	<0.040	0.040	7609853	<0.040	0.040	7612260
trans-1,2-Dichloroethylene	ug/g	<0.040	0.040	7609853	<0.040	0.040	7609853	<0.040	0.040	7612260
1,2-Dichloropropane	ug/g	<0.040	0.040	7609853	<0.040	0.040	7609853	<0.040	0.040	7612260
cis-1,3-Dichloropropene	ug/g	<0.030	0.030	7609853	<0.030	0.030	7609853	<0.030	0.030	7612260
trans-1,3-Dichloropropene	ug/g	<0.040	0.040	7609853	<0.040	0.040	7609853	<0.040	0.040	7612260
Ethylbenzene	ug/g	<0.010	0.010	7609853	<0.010	0.010	7609853	<0.010	0.010	7612260
Ethylene Dibromide	ug/g	<0.040	0.040	7609853	<0.040	0.040	7609853	<0.040	0.040	7612260
Hexane	ug/g	<0.040	0.040	7609853	<0.040	0.040	7609853	0.19	0.040	7612260
Methylene Chloride(Dichloromethane)	ug/g	<0.049	0.049	7609853	<0.049	0.049	7609853	<0.049	0.049	7612260
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.40	0.40	7609853	<0.40	0.40	7609853	<0.40	0.40	7612260
Methyl Isobutyl Ketone	ug/g	<0.40	0.40	7609853	<0.40	0.40	7609853	<0.40	0.40	7612260
Methyl t-butyl ether (MTBE)	ug/g	<0.040	0.040	7609853	<0.040	0.040	7609853	<0.040	0.040	7612260

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

O.REG 153 VOCS BY HS (SOIL)

BV Labs ID		QUD249			QUD249			QUD256		
Sampling Date		2021/09/21 09:40			2021/09/21 09:40			2021/09/22 08:00		
COC Number		na			na			na		
	UNITS	21-4 SA1	RDL	QC Batch	21-4 SA1 Lab-Dup	RDL	QC Batch	21-3 SA1	RDL	QC Batch
Styrene	ug/g	<0.040	0.040	7609853	<0.040	0.040	7609853	<0.040	0.040	7612260
1,1,1,2-Tetrachloroethane	ug/g	<0.040	0.040	7609853	<0.040	0.040	7609853	<0.040	0.040	7612260
1,1,2,2-Tetrachloroethane	ug/g	<0.040	0.040	7609853	<0.040	0.040	7609853	<0.040	0.040	7612260
Tetrachloroethylene	ug/g	<0.040	0.040	7609853	<0.040	0.040	7609853	<0.040	0.040	7612260
Toluene	ug/g	<0.020	0.020	7609853	<0.020	0.020	7609853	0.039	0.020	7612260
1,1,1-Trichloroethane	ug/g	<0.040	0.040	7609853	<0.040	0.040	7609853	<0.040	0.040	7612260
1,1,2-Trichloroethane	ug/g	<0.040	0.040	7609853	<0.040	0.040	7609853	<0.040	0.040	7612260
Trichloroethylene	ug/g	<0.010	0.010	7609853	<0.010	0.010	7609853	<0.010	0.010	7612260
Trichlorofluoromethane (FREON 11)	ug/g	<0.040	0.040	7609853	<0.040	0.040	7609853	<0.040	0.040	7612260
Vinyl Chloride	ug/g	<0.019	0.019	7609853	<0.019	0.019	7609853	<0.019	0.019	7612260
p+m-Xylene	ug/g	<0.020	0.020	7609853	<0.020	0.020	7609853	0.045	0.020	7612260
o-Xylene	ug/g	<0.020	0.020	7609853	<0.020	0.020	7609853	<0.020	0.020	7612260
Total Xylenes	ug/g	<0.020	0.020	7609853	<0.020	0.020	7609853	0.045	0.020	7612260
Surrogate Recovery (%)										
4-Bromofluorobenzene	%	106		7609853	105		7609853	87		7612260
D10-o-Xylene	%	99		7609853	95		7609853	97		7612260
D4-1,2-Dichloroethane	%	101		7609853	102		7609853	104		7612260
D8-Toluene	%	96		7609853	95		7609853	94		7612260

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

O.REG 153 VOCS BY HS (SOIL)

BV Labs ID		QUD256		
Sampling Date		2021/09/22 08:00		
COC Number		na		
	UNITS	21-3 SA1 Lab-Dup	RDL	QC Batch
Volatile Organics				
Acetone (2-Propanone)	ug/g	<0.49	0.49	7612260
Benzene	ug/g	<0.0060	0.0060	7612260
Bromodichloromethane	ug/g	<0.040	0.040	7612260
Bromoform	ug/g	<0.040	0.040	7612260
Bromomethane	ug/g	<0.040	0.040	7612260
Carbon Tetrachloride	ug/g	<0.040	0.040	7612260
Chlorobenzene	ug/g	<0.040	0.040	7612260
Chloroform	ug/g	<0.040	0.040	7612260
Dibromochloromethane	ug/g	<0.040	0.040	7612260
1,2-Dichlorobenzene	ug/g	<0.040	0.040	7612260
1,3-Dichlorobenzene	ug/g	<0.040	0.040	7612260
1,4-Dichlorobenzene	ug/g	<0.040	0.040	7612260
Dichlorodifluoromethane (FREON 12)	ug/g	<0.040	0.040	7612260
1,1-Dichloroethane	ug/g	<0.040	0.040	7612260
1,2-Dichloroethane	ug/g	<0.049	0.049	7612260
1,1-Dichloroethylene	ug/g	<0.040	0.040	7612260
cis-1,2-Dichloroethylene	ug/g	<0.040	0.040	7612260
trans-1,2-Dichloroethylene	ug/g	<0.040	0.040	7612260
1,2-Dichloropropane	ug/g	<0.040	0.040	7612260
cis-1,3-Dichloropropene	ug/g	<0.030	0.030	7612260
trans-1,3-Dichloropropene	ug/g	<0.040	0.040	7612260
Ethylbenzene	ug/g	<0.010	0.010	7612260
Ethylene Dibromide	ug/g	<0.040	0.040	7612260
Hexane	ug/g	0.18	0.040	7612260
Methylene Chloride(Dichloromethane)	ug/g	<0.049	0.049	7612260
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.40	0.40	7612260
Methyl Isobutyl Ketone	ug/g	<0.40	0.40	7612260
Methyl t-butyl ether (MTBE)	ug/g	<0.040	0.040	7612260
Styrene	ug/g	<0.040	0.040	7612260
1,1,1,2-Tetrachloroethane	ug/g	<0.040	0.040	7612260

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

O.REG 153 VOCS BY HS (SOIL)

BV Labs ID		QUD256		
Sampling Date		2021/09/22 08:00		
COC Number		na		
	UNITS	21-3 SA1 Lab-Dup	RDL	QC Batch
1,1,2,2-Tetrachloroethane	ug/g	<0.040	0.040	7612260
Tetrachloroethylene	ug/g	<0.040	0.040	7612260
Toluene	ug/g	0.036	0.020	7612260
1,1,1-Trichloroethane	ug/g	<0.040	0.040	7612260
1,1,2-Trichloroethane	ug/g	<0.040	0.040	7612260
Trichloroethylene	ug/g	<0.010	0.010	7612260
Trichlorofluoromethane (FREON 11)	ug/g	<0.040	0.040	7612260
Vinyl Chloride	ug/g	<0.019	0.019	7612260
p+m-Xylene	ug/g	0.046	0.020	7612260
o-Xylene	ug/g	<0.020	0.020	7612260
Total Xylenes	ug/g	0.046	0.020	7612260
Surrogate Recovery (%)				
4-Bromofluorobenzene	%	86		7612260
D10-o-Xylene	%	95		7612260
D4-1,2-Dichloroethane	%	103		7612260
D8-Toluene	%	94		7612260

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

BV Labs Job #: C1S1463
Report Date: 2021/10/13

Golder Associates Ltd
Client Project #: 21494078
Site Location: 1047 RICHMOND
Sampler Initials: DG

RESULTS OF ANALYSES OF SOIL

BV Labs ID		QUD248	QUD249	QUD250	QUD252	QUD253	QUD255	QUD256	
Sampling Date		2021/09/24 11:30	2021/09/21 09:40	2021/09/21 10:40	2021/09/21 12:00	2021/09/22 10:50	2021/09/22 10:50	2021/09/22 08:00	
COC Number		na	na	na	na	na	na	na	
	UNITS	21-1 SA3	21-4 SA1	21-4 SA6	21-2 SA5	21-5 SA2	21-5 DUP-1	21-3 SA1	QC Batch
Calculated Parameters									
Sodium Adsorption Ratio	N/A	2.3	0.46 (1)	0.34 (1)	4.1	0.24 (1)	0.21 (1)	0.29	7626412

QC Batch = Quality Control Batch
(1) Sodium was not detected. To report SAR the sodium detection limit was used in the calculation. This value represents a maximum ratio.

BV Labs ID		QUD257	
Sampling Date		2021/09/22 08:15	
COC Number		na	
	UNITS	21-3 SA2	QC Batch
Calculated Parameters			
Sodium Adsorption Ratio	N/A	5.3	7626412

QC Batch = Quality Control Batch

BV Labs Job #: C1S1463
Report Date: 2021/10/13

Golder Associates Ltd
Client Project #: 21494078
Site Location: 1047 RICHMOND
Sampler Initials: DG

TEST SUMMARY

BV Labs ID: QUD247
Sample ID: 21-1 SA1
Matrix: Soil

Collected: 2021/09/24
Shipped:
Received: 2021/09/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	7612002	2021/10/01	2021/10/01	Archana Patel
Free (WAD) Cyanide	TECH	7612164	2021/10/01	2021/10/01	Aditiben Patel
Conductivity	AT	7612428	2021/10/01	2021/10/01	Neil Dassanayake
Hexavalent Chromium in Soil by IC	IC/SPEC	7611943	2021/10/01	2021/10/01	Violeta Porcila
Acid Extractable Metals by ICPMS	ICP/MS	7611998	2021/10/01	2021/10/01	Daniel Teclu
Moisture	BAL	7610577	N/A	2021/09/30	Abhijot Kaur
pH CaCl2 EXTRACT	AT	7612293	2021/10/01	2021/10/01	Taslima Aktar
Sodium Adsorption Ratio (SAR)	CALC/MET	7607144	N/A	2021/10/01	Automated Statchk

BV Labs ID: QUD248
Sample ID: 21-1 SA3
Matrix: Soil

Collected: 2021/09/24
Shipped:
Received: 2021/09/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7607143	N/A	2021/10/01	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	7609831	2021/09/30	2021/09/30	Agnieszka Brzuzy-Snopko
Moisture	BAL	7609199	N/A	2021/09/29	Kruti Jitesh Patel
Sodium Adsorption Ratio (SAR)	CALC/MET	7626412	N/A	2021/10/12	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7612202	N/A	2021/10/01	Denis Reid

BV Labs ID: QUD249
Sample ID: 21-4 SA1
Matrix: Soil

Collected: 2021/09/21
Shipped:
Received: 2021/09/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7607143	N/A	2021/10/01	Automated Statchk
Moisture	BAL	7608769	N/A	2021/09/29	Kruti Jitesh Patel
Sodium Adsorption Ratio (SAR)	CALC/MET	7626412	N/A	2021/10/12	Automated Statchk
Volatile Organic Compounds in Soil	GC/MS	7609853	N/A	2021/09/30	Juan Pangilinan

BV Labs ID: QUD249 Dup
Sample ID: 21-4 SA1
Matrix: Soil

Collected: 2021/09/21
Shipped:
Received: 2021/09/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	7608769	N/A	2021/09/29	Kruti Jitesh Patel
Volatile Organic Compounds in Soil	GC/MS	7609853	N/A	2021/09/30	Juan Pangilinan

BV Labs ID: QUD250
Sample ID: 21-4 SA6
Matrix: Soil

Collected: 2021/09/21
Shipped:
Received: 2021/09/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	7610488	N/A	2021/09/30	Haibin Wu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	7609831	2021/09/30	2021/09/30	Agnieszka Brzuzy-Snopko
Moisture	BAL	7609199	N/A	2021/09/29	Kruti Jitesh Patel

TEST SUMMARY

BV Labs ID: QUD250
Sample ID: 21-4 SA6
Matrix: Soil

Collected: 2021/09/21
Shipped:
Received: 2021/09/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Sodium Adsorption Ratio (SAR)	CALC/MET	7626412	N/A	2021/10/12	Automated Statchk

BV Labs ID: QUD251
Sample ID: 21-2 SA2
Matrix: Soil

Collected: 2021/09/21
Shipped:
Received: 2021/09/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	7612002	2021/10/01	2021/10/01	Archana Patel
Free (WAD) Cyanide	TECH	7612164	2021/10/01	2021/10/01	Aditiben Patel
Conductivity	AT	7612428	2021/10/01	2021/10/01	Neil Dassanayake
Hexavalent Chromium in Soil by IC	IC/SPEC	7611943	2021/10/01	2021/10/01	Violeta Porcila
Acid Extractable Metals by ICPMS	ICP/MS	7611998	2021/10/01	2021/10/01	Daniel Teclu
Moisture	BAL	7610577	N/A	2021/09/30	Abhijot Kaur
pH CaCl2 EXTRACT	AT	7612293	2021/10/01	2021/10/01	Taslima Aktar
Sodium Adsorption Ratio (SAR)	CALC/MET	7607144	N/A	2021/10/01	Automated Statchk

BV Labs ID: QUD251 Dup
Sample ID: 21-2 SA2
Matrix: Soil

Collected: 2021/09/21
Shipped:
Received: 2021/09/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	7610577	N/A	2021/09/30	Abhijot Kaur

BV Labs ID: QUD252
Sample ID: 21-2 SA5
Matrix: Soil

Collected: 2021/09/21
Shipped:
Received: 2021/09/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7607143	N/A	2021/10/01	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	7609831	2021/09/30	2021/09/30	Agnieszka Brzuzy-Snopko
Moisture	BAL	7609199	N/A	2021/09/29	Kruti Jitesh Patel
Sodium Adsorption Ratio (SAR)	CALC/MET	7626412	N/A	2021/10/12	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7612202	N/A	2021/10/01	Denis Reid

BV Labs ID: QUD253
Sample ID: 21-5 SA2
Matrix: Soil

Collected: 2021/09/22
Shipped:
Received: 2021/09/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7607143	N/A	2021/10/01	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	7609831	2021/09/30	2021/09/30	Agnieszka Brzuzy-Snopko
Moisture	BAL	7609199	N/A	2021/09/29	Kruti Jitesh Patel
Sodium Adsorption Ratio (SAR)	CALC/MET	7626412	N/A	2021/10/12	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7612202	N/A	2021/10/01	Denis Reid

BV Labs Job #: C1S1463
Report Date: 2021/10/13

Golder Associates Ltd
Client Project #: 21494078
Site Location: 1047 RICHMOND
Sampler Initials: DG

TEST SUMMARY

BV Labs ID: QUD254
Sample ID: 21-5 SA3
Matrix: Soil

Collected: 2021/09/24
Shipped:
Received: 2021/09/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	7612002	2021/10/01	2021/10/01	Archana Patel
Free (WAD) Cyanide	TECH	7612164	2021/10/01	2021/10/01	Aditiben Patel
Conductivity	AT	7612428	2021/10/01	2021/10/01	Neil Dassanayake
Hexavalent Chromium in Soil by IC	IC/SPEC	7611943	2021/10/01	2021/10/01	Violeta Porcila
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	7632544	N/A	2021/10/13	Haibin Wu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	7628860	2021/10/08	2021/10/11	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	7611998	2021/10/01	2021/10/01	Daniel Teclu
Moisture	BAL	7610577	N/A	2021/09/30	Abhijot Kaur
pH CaCl2 EXTRACT	AT	7612293	2021/10/01	2021/10/01	Taslima Aktar
Sodium Adsorption Ratio (SAR)	CALC/MET	7607144	N/A	2021/10/01	Automated Statchk

BV Labs ID: QUD255
Sample ID: 21-5 DUP-1
Matrix: Soil

Collected: 2021/09/22
Shipped:
Received: 2021/09/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7607143	N/A	2021/10/01	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	7609831	2021/09/30	2021/09/30	Agnieszka Brzuzy-Snopko
Moisture	BAL	7609199	N/A	2021/09/29	Kruti Jitesh Patel
Sodium Adsorption Ratio (SAR)	CALC/MET	7626412	N/A	2021/10/12	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7612202	N/A	2021/10/01	Denis Reid

BV Labs ID: QUD256
Sample ID: 21-3 SA1
Matrix: Soil

Collected: 2021/09/22
Shipped:
Received: 2021/09/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7607143	N/A	2021/10/01	Automated Statchk
Moisture	BAL	7608769	N/A	2021/09/29	Kruti Jitesh Patel
Sodium Adsorption Ratio (SAR)	CALC/MET	7626412	N/A	2021/10/12	Automated Statchk
Volatile Organic Compounds in Soil	GC/MS	7612260	N/A	2021/10/01	Karen Hughes

BV Labs ID: QUD256 Dup
Sample ID: 21-3 SA1
Matrix: Soil

Collected: 2021/09/22
Shipped:
Received: 2021/09/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Volatile Organic Compounds in Soil	GC/MS	7612260	N/A	2021/10/01	Karen Hughes

BV Labs ID: QUD257
Sample ID: 21-3 SA2
Matrix: Soil

Collected: 2021/09/22
Shipped:
Received: 2021/09/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	7610488	N/A	2021/09/30	Haibin Wu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	7609831	2021/09/30	2021/10/01	Agnieszka Brzuzy-Snopko

TEST SUMMARY

BV Labs ID: QUD257
Sample ID: 21-3 SA2
Matrix: Soil

Collected: 2021/09/22
Shipped:
Received: 2021/09/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	7608490	N/A	2021/09/29	Kruti Jitesh Patel
Sodium Adsorption Ratio (SAR)	CALC/MET	7626412	N/A	2021/10/12	Automated Statchk

BV Labs ID: QUD257 Dup
Sample ID: 21-3 SA2
Matrix: Soil

Collected: 2021/09/22
Shipped:
Received: 2021/09/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	7608490	N/A	2021/09/29	Kruti Jitesh Patel

BV Labs ID: QUD258
Sample ID: 21-3 SA3
Matrix: Soil

Collected: 2021/09/22
Shipped:
Received: 2021/09/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	7612002	2021/10/01	2021/10/01	Archana Patel
Free (WAD) Cyanide	TECH	7612164	2021/10/01	2021/10/01	Aditiben Patel
Conductivity	AT	7612428	2021/10/01	2021/10/01	Neil Dassanayake
Hexavalent Chromium in Soil by IC	IC/SPEC	7611943	2021/10/01	2021/10/01	Violeta Porcila
Acid Extractable Metals by ICPMS	ICP/MS	7611998	2021/10/01	2021/10/01	Daniel Teclu
Moisture	BAL	7610577	N/A	2021/09/30	Abhijot Kaur
pH CaCl2 EXTRACT	AT	7612293	2021/10/01	2021/10/01	Taslima Aktar
Sodium Adsorption Ratio (SAR)	CALC/MET	7607144	N/A	2021/10/01	Automated Statchk

BV Labs ID: QUD259
Sample ID: 21-3 DUP-1
Matrix: Soil

Collected: 2021/09/22
Shipped:
Received: 2021/09/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	7612310	2021/10/01	2021/10/01	Archana Patel
Free (WAD) Cyanide	TECH	7612164	2021/10/01	2021/10/01	Aditiben Patel
Conductivity	AT	7612465	2021/10/01	2021/10/01	Neil Dassanayake
Hexavalent Chromium in Soil by IC	IC/SPEC	7611943	2021/10/01	2021/10/01	Violeta Porcila
Acid Extractable Metals by ICPMS	ICP/MS	7612314	2021/10/01	2021/10/01	Viviana Canzonieri
Moisture	BAL	7611396	N/A	2021/09/30	Abhijot Kaur
pH CaCl2 EXTRACT	AT	7612293	2021/10/01	2021/10/01	Taslima Aktar
Sodium Adsorption Ratio (SAR)	CALC/MET	7610400	N/A	2021/10/01	Automated Statchk

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	9.0°C

Revised Report [2021/10/13]: Samples 21-1 SA3, 21-4 SA1, SA-4 SA6, SA-2 SA5, 21-5 SA2, 21-5 DUP-1, 21-3 SA1 and 21-3 SA2 have been analyzed for SAR; sample 21-5 SA3 has been analyzed for Reg.153 PHCs as per client request.

Sample QUD250 [21-4 SA6] : F1/BTEX Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

Sample QUD254 [21-5 SA3] : F1/BTEX Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

Sample QUD259 [21-3 DUP-1] : Sample analyzed for Reg. 153 Metals & Inorganics as per client request.

Results relate only to the items tested.

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7608490	MUC	RPD [QUD257-02]	Moisture	2021/09/29	9.3		%	20
7608769	MYG	RPD [QUD249-01]	Moisture	2021/09/29	1.5		%	20
7609199	MUC	RPD	Moisture	2021/09/29	9.2		%	20
7609831	ABS	Matrix Spike	o-Terphenyl	2021/09/30		91	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2021/09/30		96	%	50 - 130
			F3 (C16-C34 Hydrocarbons)	2021/09/30		97	%	50 - 130
			F4 (C34-C50 Hydrocarbons)	2021/09/30		98	%	50 - 130
7609831	ABS	Spiked Blank	o-Terphenyl	2021/09/30		93	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2021/09/30		97	%	80 - 120
			F3 (C16-C34 Hydrocarbons)	2021/09/30		98	%	80 - 120
			F4 (C34-C50 Hydrocarbons)	2021/09/30		99	%	80 - 120
7609831	ABS	Method Blank	o-Terphenyl	2021/09/30		93	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2021/09/30	<10		ug/g	
			F3 (C16-C34 Hydrocarbons)	2021/09/30	<50		ug/g	
			F4 (C34-C50 Hydrocarbons)	2021/09/30	<50		ug/g	
7609831	ABS	RPD	F2 (C10-C16 Hydrocarbons)	2021/09/30	NC		%	30
			F3 (C16-C34 Hydrocarbons)	2021/09/30	NC		%	30
			F4 (C34-C50 Hydrocarbons)	2021/09/30	NC		%	30
7609853	JPN	Matrix Spike [QUD249-02]	4-Bromofluorobenzene	2021/09/30		112	%	60 - 140
			D10-o-Xylene	2021/09/30		106	%	60 - 130
			D4-1,2-Dichloroethane	2021/09/30		98	%	60 - 140
			D8-Toluene	2021/09/30		106	%	60 - 140
			Acetone (2-Propanone)	2021/09/30		94	%	60 - 140
			Benzene	2021/09/30		92	%	60 - 140
			Bromodichloromethane	2021/09/30		100	%	60 - 140
			Bromoform	2021/09/30		95	%	60 - 140
			Bromomethane	2021/09/30		99	%	60 - 140
			Carbon Tetrachloride	2021/09/30		103	%	60 - 140
			Chlorobenzene	2021/09/30		99	%	60 - 140
			Chloroform	2021/09/30		99	%	60 - 140
			Dibromochloromethane	2021/09/30		90	%	60 - 140
			1,2-Dichlorobenzene	2021/09/30		96	%	60 - 140
			1,3-Dichlorobenzene	2021/09/30		98	%	60 - 140
			1,4-Dichlorobenzene	2021/09/30		114	%	60 - 140
			Dichlorodifluoromethane (FREON 12)	2021/09/30		106	%	60 - 140
			1,1-Dichloroethane	2021/09/30		96	%	60 - 140
			1,2-Dichloroethane	2021/09/30		93	%	60 - 140
			1,1-Dichloroethylene	2021/09/30		101	%	60 - 140
			cis-1,2-Dichloroethylene	2021/09/30		100	%	60 - 140
			trans-1,2-Dichloroethylene	2021/09/30		103	%	60 - 140
			1,2-Dichloropropane	2021/09/30		96	%	60 - 140
			cis-1,3-Dichloropropene	2021/09/30		80	%	60 - 140
			trans-1,3-Dichloropropene	2021/09/30		84	%	60 - 140
			Ethylbenzene	2021/09/30		92	%	60 - 140
			Ethylene Dibromide	2021/09/30		92	%	60 - 140
			Hexane	2021/09/30		104	%	60 - 140
			Methylene Chloride(Dichloromethane)	2021/09/30		110	%	60 - 140
			Methyl Ethyl Ketone (2-Butanone)	2021/09/30		96	%	60 - 140
			Methyl Isobutyl Ketone	2021/09/30		93	%	60 - 140
			Methyl t-butyl ether (MTBE)	2021/09/30		89	%	60 - 140
			Styrene	2021/09/30		108	%	60 - 140
			1,1,1,2-Tetrachloroethane	2021/09/30		102	%	60 - 140

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			1,1,2,2-Tetrachloroethane	2021/09/30		92	%	60 - 140
			Tetrachloroethylene	2021/09/30		99	%	60 - 140
			Toluene	2021/09/30		95	%	60 - 140
			1,1,1-Trichloroethane	2021/09/30		104	%	60 - 140
			1,1,2-Trichloroethane	2021/09/30		99	%	60 - 140
			Trichloroethylene	2021/09/30		107	%	60 - 140
			Trichlorofluoromethane (FREON 11)	2021/09/30		106	%	60 - 140
			Vinyl Chloride	2021/09/30		106	%	60 - 140
			p+m-Xylene	2021/09/30		98	%	60 - 140
			o-Xylene	2021/09/30		92	%	60 - 140
7609853	JPN	Spiked Blank	4-Bromofluorobenzene	2021/09/30		113	%	60 - 140
			D10-o-Xylene	2021/09/30		112	%	60 - 130
			D4-1,2-Dichloroethane	2021/09/30		103	%	60 - 140
			D8-Toluene	2021/09/30		104	%	60 - 140
			Acetone (2-Propanone)	2021/09/30		98	%	60 - 140
			Benzene	2021/09/30		94	%	60 - 130
			Bromodichloromethane	2021/09/30		105	%	60 - 130
			Bromoform	2021/09/30		104	%	60 - 130
			Bromomethane	2021/09/30		106	%	60 - 140
			Carbon Tetrachloride	2021/09/30		102	%	60 - 130
			Chlorobenzene	2021/09/30		101	%	60 - 130
			Chloroform	2021/09/30		103	%	60 - 130
			Dibromochloromethane	2021/09/30		114	%	60 - 130
			1,2-Dichlorobenzene	2021/09/30		98	%	60 - 130
			1,3-Dichlorobenzene	2021/09/30		98	%	60 - 130
			1,4-Dichlorobenzene	2021/09/30		114	%	60 - 130
			Dichlorodifluoromethane (FREON 12)	2021/09/30		106	%	60 - 140
			1,1-Dichloroethane	2021/09/30		98	%	60 - 130
			1,2-Dichloroethane	2021/09/30		99	%	60 - 130
			1,1-Dichloroethylene	2021/09/30		99	%	60 - 130
			cis-1,2-Dichloroethylene	2021/09/30		104	%	60 - 130
			trans-1,2-Dichloroethylene	2021/09/30		103	%	60 - 130
			1,2-Dichloropropane	2021/09/30		100	%	60 - 130
			cis-1,3-Dichloropropene	2021/09/30		91	%	60 - 130
			trans-1,3-Dichloropropene	2021/09/30		98	%	60 - 130
			Ethylbenzene	2021/09/30		91	%	60 - 130
			Ethylene Dibromide	2021/09/30		100	%	60 - 130
			Hexane	2021/09/30		102	%	60 - 130
			Methylene Chloride(Dichloromethane)	2021/09/30		115	%	60 - 130
			Methyl Ethyl Ketone (2-Butanone)	2021/09/30		105	%	60 - 140
			Methyl Isobutyl Ketone	2021/09/30		106	%	60 - 130
			Methyl t-butyl ether (MTBE)	2021/09/30		92	%	60 - 130
			Styrene	2021/09/30		111	%	60 - 130
			1,1,1,2-Tetrachloroethane	2021/09/30		105	%	60 - 130
			1,1,2,2-Tetrachloroethane	2021/09/30		101	%	60 - 130
			Tetrachloroethylene	2021/09/30		98	%	60 - 130
			Toluene	2021/09/30		96	%	60 - 130
			1,1,1-Trichloroethane	2021/09/30		105	%	60 - 130
			1,1,2-Trichloroethane	2021/09/30		106	%	60 - 130
			Trichloroethylene	2021/09/30		108	%	60 - 130
			Trichlorofluoromethane (FREON 11)	2021/09/30		105	%	60 - 130
			Vinyl Chloride	2021/09/30		106	%	60 - 130
			p+m-Xylene	2021/09/30		97	%	60 - 130

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			o-Xylene	2021/09/30		92	%	60 - 130
7609853	JPN	Method Blank	4-Bromofluorobenzene	2021/09/30		106	%	60 - 140
			D10-o-Xylene	2021/09/30		103	%	60 - 130
			D4-1,2-Dichloroethane	2021/09/30		108	%	60 - 140
			D8-Toluene	2021/09/30		93	%	60 - 140
			Acetone (2-Propanone)	2021/09/30	<0.49		ug/g	
			Benzene	2021/09/30	<0.0060		ug/g	
			Bromodichloromethane	2021/09/30	<0.040		ug/g	
			Bromoform	2021/09/30	<0.040		ug/g	
			Bromomethane	2021/09/30	<0.040		ug/g	
			Carbon Tetrachloride	2021/09/30	<0.040		ug/g	
			Chlorobenzene	2021/09/30	<0.040		ug/g	
			Chloroform	2021/09/30	<0.040		ug/g	
			Dibromochloromethane	2021/09/30	<0.040		ug/g	
			1,2-Dichlorobenzene	2021/09/30	<0.040		ug/g	
			1,3-Dichlorobenzene	2021/09/30	<0.040		ug/g	
			1,4-Dichlorobenzene	2021/09/30	<0.040		ug/g	
			Dichlorodifluoromethane (FREON 12)	2021/09/30	<0.040		ug/g	
			1,1-Dichloroethane	2021/09/30	<0.040		ug/g	
			1,2-Dichloroethane	2021/09/30	<0.049		ug/g	
			1,1-Dichloroethylene	2021/09/30	<0.040		ug/g	
			cis-1,2-Dichloroethylene	2021/09/30	<0.040		ug/g	
			trans-1,2-Dichloroethylene	2021/09/30	<0.040		ug/g	
			1,2-Dichloropropane	2021/09/30	<0.040		ug/g	
			cis-1,3-Dichloropropene	2021/09/30	<0.030		ug/g	
			trans-1,3-Dichloropropene	2021/09/30	<0.040		ug/g	
			Ethylbenzene	2021/09/30	<0.010		ug/g	
			Ethylene Dibromide	2021/09/30	<0.040		ug/g	
			Hexane	2021/09/30	<0.040		ug/g	
			Methylene Chloride(Dichloromethane)	2021/09/30	<0.049		ug/g	
			Methyl Ethyl Ketone (2-Butanone)	2021/09/30	<0.40		ug/g	
			Methyl Isobutyl Ketone	2021/09/30	<0.40		ug/g	
			Methyl t-butyl ether (MTBE)	2021/09/30	<0.040		ug/g	
			Styrene	2021/09/30	<0.040		ug/g	
			1,1,1,2-Tetrachloroethane	2021/09/30	<0.040		ug/g	
			1,1,2,2-Tetrachloroethane	2021/09/30	<0.040		ug/g	
			Tetrachloroethylene	2021/09/30	<0.040		ug/g	
			Toluene	2021/09/30	<0.020		ug/g	
			1,1,1-Trichloroethane	2021/09/30	<0.040		ug/g	
			1,1,2-Trichloroethane	2021/09/30	<0.040		ug/g	
			Trichloroethylene	2021/09/30	<0.010		ug/g	
			Trichlorofluoromethane (FREON 11)	2021/09/30	<0.040		ug/g	
			Vinyl Chloride	2021/09/30	<0.019		ug/g	
			p+m-Xylene	2021/09/30	<0.020		ug/g	
			o-Xylene	2021/09/30	<0.020		ug/g	
			Total Xylenes	2021/09/30	<0.020		ug/g	
7609853	JPN	RPD [QUD249-02]	Acetone (2-Propanone)	2021/09/30	NC		%	50
			Benzene	2021/09/30	NC		%	50
			Bromodichloromethane	2021/09/30	NC		%	50
			Bromoform	2021/09/30	NC		%	50
			Bromomethane	2021/09/30	NC		%	50
			Carbon Tetrachloride	2021/09/30	NC		%	50
			Chlorobenzene	2021/09/30	NC		%	50

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Chloroform	2021/09/30	NC		%	50
			Dibromochloromethane	2021/09/30	NC		%	50
			1,2-Dichlorobenzene	2021/09/30	NC		%	50
			1,3-Dichlorobenzene	2021/09/30	NC		%	50
			1,4-Dichlorobenzene	2021/09/30	NC		%	50
			Dichlorodifluoromethane (FREON 12)	2021/09/30	NC		%	50
			1,1-Dichloroethane	2021/09/30	NC		%	50
			1,2-Dichloroethane	2021/09/30	NC		%	50
			1,1-Dichloroethylene	2021/09/30	NC		%	50
			cis-1,2-Dichloroethylene	2021/09/30	NC		%	50
			trans-1,2-Dichloroethylene	2021/09/30	NC		%	50
			1,2-Dichloropropane	2021/09/30	NC		%	50
			cis-1,3-Dichloropropene	2021/09/30	NC		%	50
			trans-1,3-Dichloropropene	2021/09/30	NC		%	50
			Ethylbenzene	2021/09/30	NC		%	50
			Ethylene Dibromide	2021/09/30	NC		%	50
			Hexane	2021/09/30	NC		%	50
			Methylene Chloride(Dichloromethane)	2021/09/30	NC		%	50
			Methyl Ethyl Ketone (2-Butanone)	2021/09/30	NC		%	50
			Methyl Isobutyl Ketone	2021/09/30	NC		%	50
			Methyl t-butyl ether (MTBE)	2021/09/30	NC		%	50
			Styrene	2021/09/30	NC		%	50
			1,1,1,2-Tetrachloroethane	2021/09/30	NC		%	50
			1,1,2,2-Tetrachloroethane	2021/09/30	NC		%	50
			Tetrachloroethylene	2021/09/30	NC		%	50
			Toluene	2021/09/30	NC		%	50
			1,1,1-Trichloroethane	2021/09/30	NC		%	50
			1,1,2-Trichloroethane	2021/09/30	NC		%	50
			Trichloroethylene	2021/09/30	NC		%	50
			Trichlorofluoromethane (FREON 11)	2021/09/30	NC		%	50
			Vinyl Chloride	2021/09/30	NC		%	50
			p+m-Xylene	2021/09/30	NC		%	50
			o-Xylene	2021/09/30	NC		%	50
			Total Xylenes	2021/09/30	NC		%	50
7610488	H_W	Matrix Spike	1,4-Difluorobenzene	2021/09/30		97	%	60 - 140
			4-Bromofluorobenzene	2021/09/30		103	%	60 - 140
			D10-o-Xylene	2021/09/30		111	%	60 - 140
			D4-1,2-Dichloroethane	2021/09/30		91	%	60 - 140
			Benzene	2021/09/30		107	%	50 - 140
			Toluene	2021/09/30		111	%	50 - 140
			Ethylbenzene	2021/09/30		124	%	50 - 140
			o-Xylene	2021/09/30		119	%	50 - 140
			p+m-Xylene	2021/09/30		119	%	50 - 140
			F1 (C6-C10)	2021/09/30		105	%	60 - 140
7610488	H_W	Spiked Blank	1,4-Difluorobenzene	2021/09/30		96	%	60 - 140
			4-Bromofluorobenzene	2021/09/30		104	%	60 - 140
			D10-o-Xylene	2021/09/30		106	%	60 - 140
			D4-1,2-Dichloroethane	2021/09/30		86	%	60 - 140
			Benzene	2021/09/30		102	%	50 - 140
			Toluene	2021/09/30		107	%	50 - 140
			Ethylbenzene	2021/09/30		120	%	50 - 140
			o-Xylene	2021/09/30		115	%	50 - 140
			p+m-Xylene	2021/09/30		115	%	50 - 140

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			F1 (C6-C10)	2021/09/30		96	%	80 - 120
7610488	H_W	Method Blank	1,4-Difluorobenzene	2021/09/30		104	%	60 - 140
			4-Bromofluorobenzene	2021/09/30		96	%	60 - 140
			D10-o-Xylene	2021/09/30		102	%	60 - 140
			D4-1,2-Dichloroethane	2021/09/30		95	%	60 - 140
			Benzene	2021/09/30	<0.020		ug/g	
			Toluene	2021/09/30	<0.020		ug/g	
			Ethylbenzene	2021/09/30	<0.020		ug/g	
			o-Xylene	2021/09/30	<0.020		ug/g	
			p+m-Xylene	2021/09/30	<0.040		ug/g	
			Total Xylenes	2021/09/30	<0.040		ug/g	
			F1 (C6-C10)	2021/09/30	<10		ug/g	
			F1 (C6-C10) - BTEX	2021/09/30	<10		ug/g	
7610488	H_W	RPD	Benzene	2021/09/30	NC		%	50
			Toluene	2021/09/30	NC		%	50
			Ethylbenzene	2021/09/30	NC		%	50
			o-Xylene	2021/09/30	NC		%	50
			p+m-Xylene	2021/09/30	NC		%	50
			Total Xylenes	2021/09/30	NC		%	50
			F1 (C6-C10)	2021/09/30	NC		%	30
			F1 (C6-C10) - BTEX	2021/09/30	NC		%	30
7610577	MUC	RPD [QUD251-02]	Moisture	2021/09/30	19		%	20
7611396	MUC	RPD	Moisture	2021/09/30	2.2		%	20
7611943	VP2	Matrix Spike	Chromium (VI)	2021/10/01		28 (1)	%	70 - 130
7611943	VP2	Spiked Blank	Chromium (VI)	2021/10/01		92	%	80 - 120
7611943	VP2	Method Blank	Chromium (VI)	2021/10/01	<0.18		ug/g	
7611943	VP2	RPD	Chromium (VI)	2021/10/01	NC		%	35
7611998	DT1	Matrix Spike	Acid Extractable Antimony (Sb)	2021/10/01		85	%	75 - 125
			Acid Extractable Arsenic (As)	2021/10/01		100	%	75 - 125
			Acid Extractable Barium (Ba)	2021/10/01		NC	%	75 - 125
			Acid Extractable Beryllium (Be)	2021/10/01		101	%	75 - 125
			Acid Extractable Boron (B)	2021/10/01		86	%	75 - 125
			Acid Extractable Cadmium (Cd)	2021/10/01		95	%	75 - 125
			Acid Extractable Chromium (Cr)	2021/10/01		93	%	75 - 125
			Acid Extractable Cobalt (Co)	2021/10/01		92	%	75 - 125
			Acid Extractable Copper (Cu)	2021/10/01		NC	%	75 - 125
			Acid Extractable Lead (Pb)	2021/10/01		NC	%	75 - 125
			Acid Extractable Molybdenum (Mo)	2021/10/01		94	%	75 - 125
			Acid Extractable Nickel (Ni)	2021/10/01		91	%	75 - 125
			Acid Extractable Selenium (Se)	2021/10/01		98	%	75 - 125
			Acid Extractable Silver (Ag)	2021/10/01		98	%	75 - 125
			Acid Extractable Thallium (Tl)	2021/10/01		98	%	75 - 125
			Acid Extractable Uranium (U)	2021/10/01		98	%	75 - 125
			Acid Extractable Vanadium (V)	2021/10/01		NC	%	75 - 125
			Acid Extractable Zinc (Zn)	2021/10/01		NC	%	75 - 125
			Acid Extractable Mercury (Hg)	2021/10/01		88	%	75 - 125
7611998	DT1	Spiked Blank	Acid Extractable Antimony (Sb)	2021/10/01		101	%	80 - 120
			Acid Extractable Arsenic (As)	2021/10/01		104	%	80 - 120
			Acid Extractable Barium (Ba)	2021/10/01		104	%	80 - 120
			Acid Extractable Beryllium (Be)	2021/10/01		99	%	80 - 120
			Acid Extractable Boron (B)	2021/10/01		95	%	80 - 120
			Acid Extractable Cadmium (Cd)	2021/10/01		98	%	80 - 120
			Acid Extractable Chromium (Cr)	2021/10/01		100	%	80 - 120

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Acid Extractable Cobalt (Co)	2021/10/01		100	%	80 - 120
			Acid Extractable Copper (Cu)	2021/10/01		99	%	80 - 120
			Acid Extractable Lead (Pb)	2021/10/01		100	%	80 - 120
			Acid Extractable Molybdenum (Mo)	2021/10/01		96	%	80 - 120
			Acid Extractable Nickel (Ni)	2021/10/01		99	%	80 - 120
			Acid Extractable Selenium (Se)	2021/10/01		103	%	80 - 120
			Acid Extractable Silver (Ag)	2021/10/01		101	%	80 - 120
			Acid Extractable Thallium (Tl)	2021/10/01		104	%	80 - 120
			Acid Extractable Uranium (U)	2021/10/01		101	%	80 - 120
			Acid Extractable Vanadium (V)	2021/10/01		106	%	80 - 120
			Acid Extractable Zinc (Zn)	2021/10/01		102	%	80 - 120
			Acid Extractable Mercury (Hg)	2021/10/01		95	%	80 - 120
7611998	DT1	Method Blank	Acid Extractable Antimony (Sb)	2021/10/01	<0.20		ug/g	
			Acid Extractable Arsenic (As)	2021/10/01	<1.0		ug/g	
			Acid Extractable Barium (Ba)	2021/10/01	<0.50		ug/g	
			Acid Extractable Beryllium (Be)	2021/10/01	<0.20		ug/g	
			Acid Extractable Boron (B)	2021/10/01	<5.0		ug/g	
			Acid Extractable Cadmium (Cd)	2021/10/01	<0.10		ug/g	
			Acid Extractable Chromium (Cr)	2021/10/01	<1.0		ug/g	
			Acid Extractable Cobalt (Co)	2021/10/01	<0.10		ug/g	
			Acid Extractable Copper (Cu)	2021/10/01	<0.50		ug/g	
			Acid Extractable Lead (Pb)	2021/10/01	<1.0		ug/g	
			Acid Extractable Molybdenum (Mo)	2021/10/01	<0.50		ug/g	
			Acid Extractable Nickel (Ni)	2021/10/01	<0.50		ug/g	
			Acid Extractable Selenium (Se)	2021/10/01	<0.50		ug/g	
			Acid Extractable Silver (Ag)	2021/10/01	<0.20		ug/g	
			Acid Extractable Thallium (Tl)	2021/10/01	<0.050		ug/g	
			Acid Extractable Uranium (U)	2021/10/01	<0.050		ug/g	
			Acid Extractable Vanadium (V)	2021/10/01	<5.0		ug/g	
			Acid Extractable Zinc (Zn)	2021/10/01	<5.0		ug/g	
			Acid Extractable Mercury (Hg)	2021/10/01	<0.050		ug/g	
7611998	DT1	RPD	Acid Extractable Antimony (Sb)	2021/10/01	1.1		%	30
			Acid Extractable Arsenic (As)	2021/10/01	0.021		%	30
			Acid Extractable Barium (Ba)	2021/10/01	0.25		%	30
			Acid Extractable Beryllium (Be)	2021/10/01	1.3		%	30
			Acid Extractable Boron (B)	2021/10/01	7.7		%	30
			Acid Extractable Cadmium (Cd)	2021/10/01	19		%	30
			Acid Extractable Chromium (Cr)	2021/10/01	2.1		%	30
			Acid Extractable Cobalt (Co)	2021/10/01	0.43		%	30
			Acid Extractable Copper (Cu)	2021/10/01	1.5		%	30
			Acid Extractable Lead (Pb)	2021/10/01	2.1		%	30
			Acid Extractable Molybdenum (Mo)	2021/10/01	12		%	30
			Acid Extractable Nickel (Ni)	2021/10/01	0.088		%	30
			Acid Extractable Selenium (Se)	2021/10/01	NC		%	30
			Acid Extractable Silver (Ag)	2021/10/01	NC		%	30
			Acid Extractable Thallium (Tl)	2021/10/01	4.6		%	30
			Acid Extractable Uranium (U)	2021/10/01	3.8		%	30
			Acid Extractable Vanadium (V)	2021/10/01	1.5		%	30
			Acid Extractable Zinc (Zn)	2021/10/01	13		%	30
			Acid Extractable Mercury (Hg)	2021/10/01	9.4		%	30
7612002	APT	Matrix Spike	Hot Water Ext. Boron (B)	2021/10/01		98	%	75 - 125
7612002	APT	Spiked Blank	Hot Water Ext. Boron (B)	2021/10/01		94	%	75 - 125
7612002	APT	Method Blank	Hot Water Ext. Boron (B)	2021/10/01	<0.050		ug/g	

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7612002	APT	RPD	Hot Water Ext. Boron (B)	2021/10/01	3.9		%	40
7612164	ABP	Matrix Spike	WAD Cyanide (Free)	2021/10/01		104	%	75 - 125
7612164	ABP	Spiked Blank	WAD Cyanide (Free)	2021/10/01		100	%	80 - 120
7612164	ABP	Method Blank	WAD Cyanide (Free)	2021/10/01	<0.01		ug/g	
7612164	ABP	RPD	WAD Cyanide (Free)	2021/10/01	NC		%	35
7612202	DR1	Matrix Spike	4-Bromofluorobenzene	2021/10/01		102	%	60 - 140
			D10-o-Xylene	2021/10/01		100	%	60 - 130
			D4-1,2-Dichloroethane	2021/10/01		111	%	60 - 140
			D8-Toluene	2021/10/01		105	%	60 - 140
			Acetone (2-Propanone)	2021/10/01		114	%	60 - 140
			Benzene	2021/10/01		95	%	60 - 140
			Bromodichloromethane	2021/10/01		104	%	60 - 140
			Bromoform	2021/10/01		98	%	60 - 140
			Bromomethane	2021/10/01		111	%	60 - 140
			Carbon Tetrachloride	2021/10/01		100	%	60 - 140
			Chlorobenzene	2021/10/01		94	%	60 - 140
			Chloroform	2021/10/01		104	%	60 - 140
			Dibromochloromethane	2021/10/01		95	%	60 - 140
			1,2-Dichlorobenzene	2021/10/01		95	%	60 - 140
			1,3-Dichlorobenzene	2021/10/01		90	%	60 - 140
			1,4-Dichlorobenzene	2021/10/01		103	%	60 - 140
			Dichlorodifluoromethane (FREON 12)	2021/10/01		105	%	60 - 140
			1,1-Dichloroethane	2021/10/01		101	%	60 - 140
			1,2-Dichloroethane	2021/10/01		103	%	60 - 140
			1,1-Dichloroethylene	2021/10/01		103	%	60 - 140
			cis-1,2-Dichloroethylene	2021/10/01		105	%	60 - 140
			trans-1,2-Dichloroethylene	2021/10/01		103	%	60 - 140
			1,2-Dichloropropane	2021/10/01		103	%	60 - 140
			cis-1,3-Dichloropropene	2021/10/01		100	%	60 - 140
			trans-1,3-Dichloropropene	2021/10/01		107	%	60 - 140
			Ethylbenzene	2021/10/01		88	%	60 - 140
			Ethylene Dibromide	2021/10/01		98	%	60 - 140
			Hexane	2021/10/01		104	%	60 - 140
			Methylene Chloride(Dichloromethane)	2021/10/01		118	%	60 - 140
			Methyl Ethyl Ketone (2-Butanone)	2021/10/01		114	%	60 - 140
			Methyl Isobutyl Ketone	2021/10/01		101	%	60 - 140
			Methyl t-butyl ether (MTBE)	2021/10/01		93	%	60 - 140
			Styrene	2021/10/01		102	%	60 - 140
			1,1,1,2-Tetrachloroethane	2021/10/01		95	%	60 - 140
			1,1,2,2-Tetrachloroethane	2021/10/01		106	%	60 - 140
			Tetrachloroethylene	2021/10/01		95	%	60 - 140
			Toluene	2021/10/01		101	%	60 - 140
			1,1,1-Trichloroethane	2021/10/01		104	%	60 - 140
			1,1,2-Trichloroethane	2021/10/01		102	%	60 - 140
			Trichloroethylene	2021/10/01		104	%	60 - 140
			Trichlorofluoromethane (FREON 11)	2021/10/01		105	%	60 - 140
			Vinyl Chloride	2021/10/01		110	%	60 - 140
			p+m-Xylene	2021/10/01		92	%	60 - 140
			o-Xylene	2021/10/01		89	%	60 - 140
			F1 (C6-C10)	2021/10/01		86	%	60 - 140
7612202	DR1	Spiked Blank	4-Bromofluorobenzene	2021/10/01		103	%	60 - 140
			D10-o-Xylene	2021/10/01		100	%	60 - 130
			D4-1,2-Dichloroethane	2021/10/01		113	%	60 - 140

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			D8-Toluene	2021/10/01		104	%	60 - 140
			Acetone (2-Propanone)	2021/10/01		125	%	60 - 140
			Benzene	2021/10/01		94	%	60 - 130
			Bromodichloromethane	2021/10/01		105	%	60 - 130
			Bromoform	2021/10/01		102	%	60 - 130
			Bromomethane	2021/10/01		107	%	60 - 140
			Carbon Tetrachloride	2021/10/01		98	%	60 - 130
			Chlorobenzene	2021/10/01		93	%	60 - 130
			Chloroform	2021/10/01		104	%	60 - 130
			Dibromochloromethane	2021/10/01		97	%	60 - 130
			1,2-Dichlorobenzene	2021/10/01		94	%	60 - 130
			1,3-Dichlorobenzene	2021/10/01		87	%	60 - 130
			1,4-Dichlorobenzene	2021/10/01		101	%	60 - 130
			Dichlorodifluoromethane (FREON 12)	2021/10/01		98	%	60 - 140
			1,1-Dichloroethane	2021/10/01		101	%	60 - 130
			1,2-Dichloroethane	2021/10/01		106	%	60 - 130
			1,1-Dichloroethylene	2021/10/01		99	%	60 - 130
			cis-1,2-Dichloroethylene	2021/10/01		106	%	60 - 130
			trans-1,2-Dichloroethylene	2021/10/01		101	%	60 - 130
			1,2-Dichloropropane	2021/10/01		104	%	60 - 130
			cis-1,3-Dichloropropene	2021/10/01		97	%	60 - 130
			trans-1,3-Dichloropropene	2021/10/01		102	%	60 - 130
			Ethylbenzene	2021/10/01		85	%	60 - 130
			Ethylene Dibromide	2021/10/01		101	%	60 - 130
			Hexane	2021/10/01		100	%	60 - 130
			Methylene Chloride(Dichloromethane)	2021/10/01		118	%	60 - 130
			Methyl Ethyl Ketone (2-Butanone)	2021/10/01		128	%	60 - 140
			Methyl Isobutyl Ketone	2021/10/01		112	%	60 - 130
			Methyl t-butyl ether (MTBE)	2021/10/01		92	%	60 - 130
			Styrene	2021/10/01		103	%	60 - 130
			1,1,1,2-Tetrachloroethane	2021/10/01		94	%	60 - 130
			1,1,2,2-Tetrachloroethane	2021/10/01		111	%	60 - 130
			Tetrachloroethylene	2021/10/01		91	%	60 - 130
			Toluene	2021/10/01		98	%	60 - 130
			1,1,1-Trichloroethane	2021/10/01		102	%	60 - 130
			1,1,2-Trichloroethane	2021/10/01		105	%	60 - 130
			Trichloroethylene	2021/10/01		102	%	60 - 130
			Trichlorofluoromethane (FREON 11)	2021/10/01		101	%	60 - 130
			Vinyl Chloride	2021/10/01		105	%	60 - 130
			p+m-Xylene	2021/10/01		90	%	60 - 130
			o-Xylene	2021/10/01		88	%	60 - 130
			F1 (C6-C10)	2021/10/01		92	%	80 - 120
7612202	DR1	Method Blank	4-Bromofluorobenzene	2021/10/01		91	%	60 - 140
			D10-o-Xylene	2021/10/01		83	%	60 - 130
			D4-1,2-Dichloroethane	2021/10/01		115	%	60 - 140
			D8-Toluene	2021/10/01		90	%	60 - 140
			Acetone (2-Propanone)	2021/10/01	<0.49		ug/g	
			Benzene	2021/10/01	<0.0060		ug/g	
			Bromodichloromethane	2021/10/01	<0.040		ug/g	
			Bromoform	2021/10/01	<0.040		ug/g	
			Bromomethane	2021/10/01	<0.040		ug/g	
			Carbon Tetrachloride	2021/10/01	<0.040		ug/g	
			Chlorobenzene	2021/10/01	<0.040		ug/g	

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Chloroform	2021/10/01	<0.040		ug/g	
			Dibromochloromethane	2021/10/01	<0.040		ug/g	
			1,2-Dichlorobenzene	2021/10/01	<0.040		ug/g	
			1,3-Dichlorobenzene	2021/10/01	<0.040		ug/g	
			1,4-Dichlorobenzene	2021/10/01	<0.040		ug/g	
			Dichlorodifluoromethane (FREON 12)	2021/10/01	<0.040		ug/g	
			1,1-Dichloroethane	2021/10/01	<0.040		ug/g	
			1,2-Dichloroethane	2021/10/01	<0.049		ug/g	
			1,1-Dichloroethylene	2021/10/01	<0.040		ug/g	
			cis-1,2-Dichloroethylene	2021/10/01	<0.040		ug/g	
			trans-1,2-Dichloroethylene	2021/10/01	<0.040		ug/g	
			1,2-Dichloropropane	2021/10/01	<0.040		ug/g	
			cis-1,3-Dichloropropene	2021/10/01	<0.030		ug/g	
			trans-1,3-Dichloropropene	2021/10/01	<0.040		ug/g	
			Ethylbenzene	2021/10/01	<0.010		ug/g	
			Ethylene Dibromide	2021/10/01	<0.040		ug/g	
			Hexane	2021/10/01	<0.040		ug/g	
			Methylene Chloride(Dichloromethane)	2021/10/01	<0.049		ug/g	
			Methyl Ethyl Ketone (2-Butanone)	2021/10/01	<0.40		ug/g	
			Methyl Isobutyl Ketone	2021/10/01	<0.40		ug/g	
			Methyl t-butyl ether (MTBE)	2021/10/01	<0.040		ug/g	
			Styrene	2021/10/01	<0.040		ug/g	
			1,1,1,2-Tetrachloroethane	2021/10/01	<0.040		ug/g	
			1,1,2,2-Tetrachloroethane	2021/10/01	<0.040		ug/g	
			Tetrachloroethylene	2021/10/01	<0.040		ug/g	
			Toluene	2021/10/01	<0.020		ug/g	
			1,1,1-Trichloroethane	2021/10/01	<0.040		ug/g	
			1,1,2-Trichloroethane	2021/10/01	<0.040		ug/g	
			Trichloroethylene	2021/10/01	<0.010		ug/g	
			Trichlorofluoromethane (FREON 11)	2021/10/01	<0.040		ug/g	
			Vinyl Chloride	2021/10/01	<0.019		ug/g	
			p+m-Xylene	2021/10/01	<0.020		ug/g	
			o-Xylene	2021/10/01	<0.020		ug/g	
			Total Xylenes	2021/10/01	<0.020		ug/g	
			F1 (C6-C10)	2021/10/01	<10		ug/g	
			F1 (C6-C10) - BTEX	2021/10/01	<10		ug/g	
7612202	DR1	RPD	Acetone (2-Propanone)	2021/10/01	NC		%	50
			Benzene	2021/10/01	NC		%	50
			Bromodichloromethane	2021/10/01	NC		%	50
			Bromoform	2021/10/01	NC		%	50
			Bromomethane	2021/10/01	NC		%	50
			Carbon Tetrachloride	2021/10/01	NC		%	50
			Chlorobenzene	2021/10/01	NC		%	50
			Chloroform	2021/10/01	NC		%	50
			Dibromochloromethane	2021/10/01	NC		%	50
			1,2-Dichlorobenzene	2021/10/01	NC		%	50
			1,3-Dichlorobenzene	2021/10/01	NC		%	50
			1,4-Dichlorobenzene	2021/10/01	NC		%	50
			Dichlorodifluoromethane (FREON 12)	2021/10/01	NC		%	50
			1,1-Dichloroethane	2021/10/01	NC		%	50
			1,2-Dichloroethane	2021/10/01	NC		%	50
			1,1-Dichloroethylene	2021/10/01	NC		%	50
			cis-1,2-Dichloroethylene	2021/10/01	NC		%	50

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			trans-1,2-Dichloroethylene	2021/10/01	NC		%	50
			1,2-Dichloropropane	2021/10/01	NC		%	50
			cis-1,3-Dichloropropene	2021/10/01	NC		%	50
			trans-1,3-Dichloropropene	2021/10/01	NC		%	50
			Ethylbenzene	2021/10/01	NC		%	50
			Ethylene Dibromide	2021/10/01	NC		%	50
			Hexane	2021/10/01	NC		%	50
			Methylene Chloride(Dichloromethane)	2021/10/01	NC		%	50
			Methyl Ethyl Ketone (2-Butanone)	2021/10/01	NC		%	50
			Methyl Isobutyl Ketone	2021/10/01	NC		%	50
			Methyl t-butyl ether (MTBE)	2021/10/01	1.8		%	50
			Styrene	2021/10/01	NC		%	50
			1,1,1,2-Tetrachloroethane	2021/10/01	NC		%	50
			1,1,2,2-Tetrachloroethane	2021/10/01	NC		%	50
			Tetrachloroethylene	2021/10/01	NC		%	50
			Toluene	2021/10/01	NC		%	50
			1,1,1-Trichloroethane	2021/10/01	NC		%	50
			1,1,2-Trichloroethane	2021/10/01	NC		%	50
			Trichloroethylene	2021/10/01	NC		%	50
			Trichlorofluoromethane (FREON 11)	2021/10/01	NC		%	50
			Vinyl Chloride	2021/10/01	NC		%	50
			p+m-Xylene	2021/10/01	NC		%	50
			o-Xylene	2021/10/01	NC		%	50
			Total Xylenes	2021/10/01	NC		%	50
			F1 (C6-C10)	2021/10/01	NC		%	30
			F1 (C6-C10) - BTEX	2021/10/01	NC		%	30
7612260	KH2	Matrix Spike [QUD256-03]	4-Bromofluorobenzene	2021/10/01		113	%	60 - 140
			D10-o-Xylene	2021/10/01		101	%	60 - 130
			D4-1,2-Dichloroethane	2021/10/01		100	%	60 - 140
			D8-Toluene	2021/10/01		104	%	60 - 140
			Acetone (2-Propanone)	2021/10/01		91	%	60 - 140
			Benzene	2021/10/01		91	%	60 - 140
			Bromodichloromethane	2021/10/01		99	%	60 - 140
			Bromoform	2021/10/01		95	%	60 - 140
			Bromomethane	2021/10/01		104	%	60 - 140
			Carbon Tetrachloride	2021/10/01		101	%	60 - 140
			Chlorobenzene	2021/10/01		96	%	60 - 140
			Chloroform	2021/10/01		98	%	60 - 140
			Dibromochloromethane	2021/10/01		106	%	60 - 140
			1,2-Dichlorobenzene	2021/10/01		93	%	60 - 140
			1,3-Dichlorobenzene	2021/10/01		95	%	60 - 140
			1,4-Dichlorobenzene	2021/10/01		111	%	60 - 140
			Dichlorodifluoromethane (FREON 12)	2021/10/01		95	%	60 - 140
			1,1-Dichloroethane	2021/10/01		94	%	60 - 140
			1,2-Dichloroethane	2021/10/01		93	%	60 - 140
			1,1-Dichloroethylene	2021/10/01		97	%	60 - 140
			cis-1,2-Dichloroethylene	2021/10/01		99	%	60 - 140
			trans-1,2-Dichloroethylene	2021/10/01		101	%	60 - 140
			1,2-Dichloropropane	2021/10/01		94	%	60 - 140
			cis-1,3-Dichloropropene	2021/10/01		93	%	60 - 140
			trans-1,3-Dichloropropene	2021/10/01		99	%	60 - 140
			Ethylbenzene	2021/10/01		88	%	60 - 140

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Ethylene Dibromide	2021/10/01		92	%	60 - 140
			Hexane	2021/10/01		99	%	60 - 140
			Methylene Chloride(Dichloromethane)	2021/10/01		109	%	60 - 140
			Methyl Ethyl Ketone (2-Butanone)	2021/10/01		95	%	60 - 140
			Methyl Isobutyl Ketone	2021/10/01		93	%	60 - 140
			Methyl t-butyl ether (MTBE)	2021/10/01		87	%	60 - 140
			Styrene	2021/10/01		105	%	60 - 140
			1,1,1,2-Tetrachloroethane	2021/10/01		100	%	60 - 140
			1,1,2,2-Tetrachloroethane	2021/10/01		91	%	60 - 140
			Tetrachloroethylene	2021/10/01		97	%	60 - 140
			Toluene	2021/10/01		92	%	60 - 140
			1,1,1-Trichloroethane	2021/10/01		103	%	60 - 140
			1,1,2-Trichloroethane	2021/10/01		98	%	60 - 140
			Trichloroethylene	2021/10/01		105	%	60 - 140
			Trichlorofluoromethane (FREON 11)	2021/10/01		103	%	60 - 140
			Vinyl Chloride	2021/10/01		101	%	60 - 140
			p+m-Xylene	2021/10/01		94	%	60 - 140
			o-Xylene	2021/10/01		89	%	60 - 140
7612260	KH2	Spiked Blank	4-Bromofluorobenzene	2021/10/01		114	%	60 - 140
			D10-o-Xylene	2021/10/01		107	%	60 - 130
			D4-1,2-Dichloroethane	2021/10/01		104	%	60 - 140
			D8-Toluene	2021/10/01		103	%	60 - 140
			Acetone (2-Propanone)	2021/10/01		101	%	60 - 140
			Benzene	2021/10/01		95	%	60 - 130
			Bromodichloromethane	2021/10/01		107	%	60 - 130
			Bromoform	2021/10/01		106	%	60 - 130
			Bromomethane	2021/10/01		108	%	60 - 140
			Carbon Tetrachloride	2021/10/01		103	%	60 - 130
			Chlorobenzene	2021/10/01		99	%	60 - 130
			Chloroform	2021/10/01		104	%	60 - 130
			Dibromochloromethane	2021/10/01		113	%	60 - 130
			1,2-Dichlorobenzene	2021/10/01		97	%	60 - 130
			1,3-Dichlorobenzene	2021/10/01		96	%	60 - 130
			1,4-Dichlorobenzene	2021/10/01		113	%	60 - 130
			Dichlorodifluoromethane (FREON 12)	2021/10/01		102	%	60 - 140
			1,1-Dichloroethane	2021/10/01		99	%	60 - 130
			1,2-Dichloroethane	2021/10/01		102	%	60 - 130
			1,1-Dichloroethylene	2021/10/01		99	%	60 - 130
			cis-1,2-Dichloroethylene	2021/10/01		106	%	60 - 130
			trans-1,2-Dichloroethylene	2021/10/01		104	%	60 - 130
			1,2-Dichloropropane	2021/10/01		101	%	60 - 130
			cis-1,3-Dichloropropene	2021/10/01		98	%	60 - 130
			trans-1,3-Dichloropropene	2021/10/01		102	%	60 - 130
			Ethylbenzene	2021/10/01		88	%	60 - 130
			Ethylene Dibromide	2021/10/01		99	%	60 - 130
			Hexane	2021/10/01		101	%	60 - 130
			Methylene Chloride(Dichloromethane)	2021/10/01		116	%	60 - 130
			Methyl Ethyl Ketone (2-Butanone)	2021/10/01		110	%	60 - 140
			Methyl Isobutyl Ketone	2021/10/01		111	%	60 - 130
			Methyl t-butyl ether (MTBE)	2021/10/01		92	%	60 - 130
			Styrene	2021/10/01		110	%	60 - 130
			1,1,1,2-Tetrachloroethane	2021/10/01		104	%	60 - 130
			1,1,2,2-Tetrachloroethane	2021/10/01		102	%	60 - 130

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Tetrachloroethylene	2021/10/01		96	%	60 - 130
			Toluene	2021/10/01		94	%	60 - 130
			1,1,1-Trichloroethane	2021/10/01		105	%	60 - 130
			1,1,2-Trichloroethane	2021/10/01		105	%	60 - 130
			Trichloroethylene	2021/10/01		109	%	60 - 130
			Trichlorofluoromethane (FREON 11)	2021/10/01		105	%	60 - 130
			Vinyl Chloride	2021/10/01		105	%	60 - 130
			p+m-Xylene	2021/10/01		95	%	60 - 130
			o-Xylene	2021/10/01		90	%	60 - 130
7612260	KH2	Method Blank	4-Bromofluorobenzene	2021/10/01		107	%	60 - 140
			D10-o-Xylene	2021/10/01		99	%	60 - 130
			D4-1,2-Dichloroethane	2021/10/01		110	%	60 - 140
			D8-Toluene	2021/10/01		91	%	60 - 140
			Acetone (2-Propanone)	2021/10/01	<0.49		ug/g	
			Benzene	2021/10/01	<0.0060		ug/g	
			Bromodichloromethane	2021/10/01	<0.040		ug/g	
			Bromoform	2021/10/01	<0.040		ug/g	
			Bromomethane	2021/10/01	<0.040		ug/g	
			Carbon Tetrachloride	2021/10/01	<0.040		ug/g	
			Chlorobenzene	2021/10/01	<0.040		ug/g	
			Chloroform	2021/10/01	<0.040		ug/g	
			Dibromochloromethane	2021/10/01	<0.040		ug/g	
			1,2-Dichlorobenzene	2021/10/01	<0.040		ug/g	
			1,3-Dichlorobenzene	2021/10/01	<0.040		ug/g	
			1,4-Dichlorobenzene	2021/10/01	<0.040		ug/g	
			Dichlorodifluoromethane (FREON 12)	2021/10/01	<0.040		ug/g	
			1,1-Dichloroethane	2021/10/01	<0.040		ug/g	
			1,2-Dichloroethane	2021/10/01	<0.049		ug/g	
			1,1-Dichloroethylene	2021/10/01	<0.040		ug/g	
			cis-1,2-Dichloroethylene	2021/10/01	<0.040		ug/g	
			trans-1,2-Dichloroethylene	2021/10/01	<0.040		ug/g	
			1,2-Dichloropropane	2021/10/01	<0.040		ug/g	
			cis-1,3-Dichloropropene	2021/10/01	<0.030		ug/g	
			trans-1,3-Dichloropropene	2021/10/01	<0.040		ug/g	
			Ethylbenzene	2021/10/01	<0.010		ug/g	
			Ethylene Dibromide	2021/10/01	<0.040		ug/g	
			Hexane	2021/10/01	<0.040		ug/g	
			Methylene Chloride(Dichloromethane)	2021/10/01	<0.049		ug/g	
			Methyl Ethyl Ketone (2-Butanone)	2021/10/01	<0.40		ug/g	
			Methyl Isobutyl Ketone	2021/10/01	<0.40		ug/g	
			Methyl t-butyl ether (MTBE)	2021/10/01	<0.040		ug/g	
			Styrene	2021/10/01	<0.040		ug/g	
			1,1,1,2-Tetrachloroethane	2021/10/01	<0.040		ug/g	
			1,1,2,2-Tetrachloroethane	2021/10/01	<0.040		ug/g	
			Tetrachloroethylene	2021/10/01	<0.040		ug/g	
			Toluene	2021/10/01	<0.020		ug/g	
			1,1,1-Trichloroethane	2021/10/01	<0.040		ug/g	
			1,1,2-Trichloroethane	2021/10/01	<0.040		ug/g	
			Trichloroethylene	2021/10/01	<0.010		ug/g	
			Trichlorofluoromethane (FREON 11)	2021/10/01	<0.040		ug/g	
			Vinyl Chloride	2021/10/01	<0.019		ug/g	
			p+m-Xylene	2021/10/01	<0.020		ug/g	
			o-Xylene	2021/10/01	<0.020		ug/g	

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Xylenes	2021/10/01	<0.020		ug/g	
7612260	KH2	RPD [QUD256-03]	Acetone (2-Propanone)	2021/10/01	NC		%	50
			Benzene	2021/10/01	NC		%	50
			Bromodichloromethane	2021/10/01	NC		%	50
			Bromoform	2021/10/01	NC		%	50
			Bromomethane	2021/10/01	NC		%	50
			Carbon Tetrachloride	2021/10/01	NC		%	50
			Chlorobenzene	2021/10/01	NC		%	50
			Chloroform	2021/10/01	NC		%	50
			Dibromochloromethane	2021/10/01	NC		%	50
			1,2-Dichlorobenzene	2021/10/01	NC		%	50
			1,3-Dichlorobenzene	2021/10/01	NC		%	50
			1,4-Dichlorobenzene	2021/10/01	NC		%	50
			Dichlorodifluoromethane (FREON 12)	2021/10/01	NC		%	50
			1,1-Dichloroethane	2021/10/01	NC		%	50
			1,2-Dichloroethane	2021/10/01	NC		%	50
			1,1-Dichloroethylene	2021/10/01	NC		%	50
			cis-1,2-Dichloroethylene	2021/10/01	NC		%	50
			trans-1,2-Dichloroethylene	2021/10/01	NC		%	50
			1,2-Dichloropropane	2021/10/01	NC		%	50
			cis-1,3-Dichloropropene	2021/10/01	NC		%	50
			trans-1,3-Dichloropropene	2021/10/01	NC		%	50
			Ethylbenzene	2021/10/01	NC		%	50
			Ethylene Dibromide	2021/10/01	NC		%	50
			Hexane	2021/10/01	1.8		%	50
			Methylene Chloride(Dichloromethane)	2021/10/01	NC		%	50
			Methyl Ethyl Ketone (2-Butanone)	2021/10/01	NC		%	50
			Methyl Isobutyl Ketone	2021/10/01	NC		%	50
			Methyl t-butyl ether (MTBE)	2021/10/01	NC		%	50
			Styrene	2021/10/01	NC		%	50
			1,1,1,2-Tetrachloroethane	2021/10/01	NC		%	50
			1,1,2,2-Tetrachloroethane	2021/10/01	NC		%	50
			Tetrachloroethylene	2021/10/01	NC		%	50
			Toluene	2021/10/01	7.4		%	50
			1,1,1-Trichloroethane	2021/10/01	NC		%	50
			1,1,2-Trichloroethane	2021/10/01	NC		%	50
			Trichloroethylene	2021/10/01	NC		%	50
			Trichlorofluoromethane (FREON 11)	2021/10/01	NC		%	50
			Vinyl Chloride	2021/10/01	NC		%	50
			p+m-Xylene	2021/10/01	1.1		%	50
			o-Xylene	2021/10/01	NC		%	50
			Total Xylenes	2021/10/01	1.1		%	50
7612293	TAK	Spiked Blank	Available (CaCl2) pH	2021/10/01		100	%	97 - 103
7612293	TAK	RPD	Available (CaCl2) pH	2021/10/01	0.084		%	N/A
7612310	APT	Matrix Spike	Hot Water Ext. Boron (B)	2021/10/01		96	%	75 - 125
7612310	APT	Spiked Blank	Hot Water Ext. Boron (B)	2021/10/01		93	%	75 - 125
7612310	APT	Method Blank	Hot Water Ext. Boron (B)	2021/10/01	<0.050		ug/g	
7612310	APT	RPD	Hot Water Ext. Boron (B)	2021/10/01	0.19		%	40
7612314	VIV	Matrix Spike	Acid Extractable Antimony (Sb)	2021/10/01		84	%	75 - 125
			Acid Extractable Arsenic (As)	2021/10/01		100	%	75 - 125
			Acid Extractable Barium (Ba)	2021/10/01		NC	%	75 - 125
			Acid Extractable Beryllium (Be)	2021/10/01		111	%	75 - 125
			Acid Extractable Boron (B)	2021/10/01		105	%	75 - 125

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Acid Extractable Cadmium (Cd)	2021/10/01		96	%	75 - 125
			Acid Extractable Chromium (Cr)	2021/10/01		NC	%	75 - 125
			Acid Extractable Cobalt (Co)	2021/10/01		94	%	75 - 125
			Acid Extractable Copper (Cu)	2021/10/01		89	%	75 - 125
			Acid Extractable Lead (Pb)	2021/10/01		100	%	75 - 125
			Acid Extractable Molybdenum (Mo)	2021/10/01		95	%	75 - 125
			Acid Extractable Nickel (Ni)	2021/10/01		95	%	75 - 125
			Acid Extractable Selenium (Se)	2021/10/01		102	%	75 - 125
			Acid Extractable Silver (Ag)	2021/10/01		99	%	75 - 125
			Acid Extractable Thallium (Tl)	2021/10/01		99	%	75 - 125
			Acid Extractable Uranium (U)	2021/10/01		101	%	75 - 125
			Acid Extractable Vanadium (V)	2021/10/01		NC	%	75 - 125
			Acid Extractable Zinc (Zn)	2021/10/01		NC	%	75 - 125
			Acid Extractable Mercury (Hg)	2021/10/01		98	%	75 - 125
7612314	VIV	Spiked Blank	Acid Extractable Antimony (Sb)	2021/10/01		93	%	80 - 120
			Acid Extractable Arsenic (As)	2021/10/01		102	%	80 - 120
			Acid Extractable Barium (Ba)	2021/10/01		100	%	80 - 120
			Acid Extractable Beryllium (Be)	2021/10/01		100	%	80 - 120
			Acid Extractable Boron (B)	2021/10/01		94	%	80 - 120
			Acid Extractable Cadmium (Cd)	2021/10/01		92	%	80 - 120
			Acid Extractable Chromium (Cr)	2021/10/01		93	%	80 - 120
			Acid Extractable Cobalt (Co)	2021/10/01		94	%	80 - 120
			Acid Extractable Copper (Cu)	2021/10/01		91	%	80 - 120
			Acid Extractable Lead (Pb)	2021/10/01		98	%	80 - 120
			Acid Extractable Molybdenum (Mo)	2021/10/01		94	%	80 - 120
			Acid Extractable Nickel (Ni)	2021/10/01		94	%	80 - 120
			Acid Extractable Selenium (Se)	2021/10/01		103	%	80 - 120
			Acid Extractable Silver (Ag)	2021/10/01		96	%	80 - 120
			Acid Extractable Thallium (Tl)	2021/10/01		98	%	80 - 120
			Acid Extractable Uranium (U)	2021/10/01		98	%	80 - 120
			Acid Extractable Vanadium (V)	2021/10/01		101	%	80 - 120
			Acid Extractable Zinc (Zn)	2021/10/01		95	%	80 - 120
			Acid Extractable Mercury (Hg)	2021/10/01		96	%	80 - 120
7612314	VIV	Method Blank	Acid Extractable Antimony (Sb)	2021/10/01	<0.20		ug/g	
			Acid Extractable Arsenic (As)	2021/10/01	<1.0		ug/g	
			Acid Extractable Barium (Ba)	2021/10/01	<0.50		ug/g	
			Acid Extractable Beryllium (Be)	2021/10/01	<0.20		ug/g	
			Acid Extractable Boron (B)	2021/10/01	<5.0		ug/g	
			Acid Extractable Cadmium (Cd)	2021/10/01	<0.10		ug/g	
			Acid Extractable Chromium (Cr)	2021/10/01	<1.0		ug/g	
			Acid Extractable Cobalt (Co)	2021/10/01	<0.10		ug/g	
			Acid Extractable Copper (Cu)	2021/10/01	<0.50		ug/g	
			Acid Extractable Lead (Pb)	2021/10/01	<1.0		ug/g	
			Acid Extractable Molybdenum (Mo)	2021/10/01	<0.50		ug/g	
			Acid Extractable Nickel (Ni)	2021/10/01	<0.50		ug/g	
			Acid Extractable Selenium (Se)	2021/10/01	<0.50		ug/g	
			Acid Extractable Silver (Ag)	2021/10/01	<0.20		ug/g	
			Acid Extractable Thallium (Tl)	2021/10/01	<0.050		ug/g	
			Acid Extractable Uranium (U)	2021/10/01	<0.050		ug/g	
			Acid Extractable Vanadium (V)	2021/10/01	<5.0		ug/g	
			Acid Extractable Zinc (Zn)	2021/10/01	<5.0		ug/g	
			Acid Extractable Mercury (Hg)	2021/10/01	<0.050		ug/g	
7612314	VIV	RPD	Acid Extractable Antimony (Sb)	2021/10/01	NC		%	30

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Acid Extractable Arsenic (As)	2021/10/01	6.0		%	30
			Acid Extractable Barium (Ba)	2021/10/01	0.62		%	30
			Acid Extractable Beryllium (Be)	2021/10/01	2.6		%	30
			Acid Extractable Boron (B)	2021/10/01	1.4		%	30
			Acid Extractable Cadmium (Cd)	2021/10/01	23		%	30
			Acid Extractable Chromium (Cr)	2021/10/01	7.5		%	30
			Acid Extractable Cobalt (Co)	2021/10/01	3.7		%	30
			Acid Extractable Copper (Cu)	2021/10/01	1.5		%	30
			Acid Extractable Lead (Pb)	2021/10/01	0.12		%	30
			Acid Extractable Molybdenum (Mo)	2021/10/01	NC		%	30
			Acid Extractable Nickel (Ni)	2021/10/01	5.5		%	30
			Acid Extractable Selenium (Se)	2021/10/01	NC		%	30
			Acid Extractable Silver (Ag)	2021/10/01	NC		%	30
			Acid Extractable Thallium (Tl)	2021/10/01	9.2		%	30
			Acid Extractable Uranium (U)	2021/10/01	5.4		%	30
			Acid Extractable Vanadium (V)	2021/10/01	3.3		%	30
			Acid Extractable Zinc (Zn)	2021/10/01	2.9		%	30
			Acid Extractable Mercury (Hg)	2021/10/01	NC		%	30
7612428	NYS	Spiked Blank	Conductivity	2021/10/01		100	%	90 - 110
7612428	NYS	Method Blank	Conductivity	2021/10/01	<0.002		mS/cm	
7612428	NYS	RPD	Conductivity	2021/10/01	2.4		%	10
7612465	NYS	Spiked Blank	Conductivity	2021/10/01		100	%	90 - 110
7612465	NYS	Method Blank	Conductivity	2021/10/01	<0.002		mS/cm	
7612465	NYS	RPD	Conductivity	2021/10/01	0		%	10
7628860	DN0	Spiked Blank	o-Terphenyl	2021/10/11		94	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2021/10/11		104	%	80 - 120
			F3 (C16-C34 Hydrocarbons)	2021/10/11		101	%	80 - 120
			F4 (C34-C50 Hydrocarbons)	2021/10/11		105	%	80 - 120
7628860	DN0	RPD	F2 (C10-C16 Hydrocarbons)	2021/10/11	2.7		%	30
			F3 (C16-C34 Hydrocarbons)	2021/10/11	3.1		%	30
			F4 (C34-C50 Hydrocarbons)	2021/10/11	3.4		%	30
7628860	DN0	Method Blank	o-Terphenyl	2021/10/11		91	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2021/10/11	<10		ug/g	
			F3 (C16-C34 Hydrocarbons)	2021/10/11	<50		ug/g	
			F4 (C34-C50 Hydrocarbons)	2021/10/11	<50		ug/g	
7632544	H_W	Spiked Blank	1,4-Difluorobenzene	2021/10/13		99	%	60 - 140
			4-Bromofluorobenzene	2021/10/13		100	%	60 - 140
			D10-o-Xylene	2021/10/13		91	%	60 - 140
			D4-1,2-Dichloroethane	2021/10/13		107	%	60 - 140
			Benzene	2021/10/13		103	%	50 - 140
			Toluene	2021/10/13		102	%	50 - 140
			Ethylbenzene	2021/10/13		115	%	50 - 140
			o-Xylene	2021/10/13		109	%	50 - 140
			p+m-Xylene	2021/10/13		111	%	50 - 140
			F1 (C6-C10)	2021/10/13		89	%	80 - 120
7632544	H_W	RPD	Benzene	2021/10/13	2.2		%	50
			Toluene	2021/10/13	1.7		%	50
			Ethylbenzene	2021/10/13	2.9		%	50
			o-Xylene	2021/10/13	0.60		%	50
			p+m-Xylene	2021/10/13	2.2		%	50
			F1 (C6-C10)	2021/10/13	1.3		%	30
			Benzene	2021/10/13	NC		%	50
			Toluene	2021/10/13	NC		%	50

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Ethylbenzene	2021/10/13	NC		%	50
			o-Xylene	2021/10/13	NC		%	50
			p+m-Xylene	2021/10/13	NC		%	50
			Total Xylenes	2021/10/13	NC		%	50
			F1 (C6-C10)	2021/10/13	NC		%	30
			F1 (C6-C10) - BTEX	2021/10/13	NC		%	30
7632544	H_W	Method Blank	1,4-Difluorobenzene	2021/10/13		107	%	60 - 140
			4-Bromofluorobenzene	2021/10/13		94	%	60 - 140
			D10-o-Xylene	2021/10/13		78	%	60 - 140
			D4-1,2-Dichloroethane	2021/10/13		107	%	60 - 140
			Benzene	2021/10/13	<0.020		ug/g	
			Toluene	2021/10/13	<0.020		ug/g	
			Ethylbenzene	2021/10/13	<0.020		ug/g	
			o-Xylene	2021/10/13	<0.020		ug/g	
			p+m-Xylene	2021/10/13	<0.040		ug/g	
			Total Xylenes	2021/10/13	<0.040		ug/g	
			F1 (C6-C10)	2021/10/13	<10		ug/g	
			F1 (C6-C10) - BTEX	2021/10/13	<10		ug/g	

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) The matrix spike recovery was below the lower control limit. This may be due in part to the reducing environment of the sample. The sample was reanalyzed with the same results

BV Labs Job #: C1S1463
Report Date: 2021/10/13

Golder Associates Ltd
Client Project #: 21494078
Site Location: 1047 RICHMOND
Sampler Initials: DG

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Anastassia Hamanov, Scientific Specialist

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Laboratories 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvlabs.com

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6740 Campobello Road, Mississauga, Ontario L5N 2L8
Phone: 905-817-5700 Fax: 905-817-5779 Toll Free: 800-563-6266

CHAIN OF CUSTODY RECORD
ENV COC - 00014v2

Page 1 of 2

Invoice Information	Invoice to (requires report) ☐	Report Information (if differs from invoice)		Project Information	
Company :	Golder	Company:		Quotation #:	
Contact Name:	Daniel Stabile	Contact Name:		P.O. #/ AFE#:	
Street Address:		Street Address:		Project #:	21494078
City:	Prov: Postal Code:	City: Prov: Postal Code:		Site #:	
Phone:	905-213-4732	Phone:		Site Location:	1047 Richmond
Email:	dstabile@golder.com	Email:		Site Location Province:	Ontario
Copies:		Copies:		Sampled By:	DG

28-Sep-21 15:20
Ema Gitej
C1S1463
ENV-1188

Regulatory Criteria

REG 153: ☑ Table 1 ☐ Table 2 ☒ Table 3 ☐ Table _____ | ☑ Res/Park ☐ Ind/Comm ☐ Agri/other | ☐ Med/Fine ☑ Course ☐ For RSC

OTHER: ☐ CCME ☐ Reg 558* *min 3 day TAT ☐ MISA ☐ PWQO | ☐ Reg 406, Table: _____ ☐ Sanitary Sewer Bylaw ☐ Storm Sewer Bylaw Municipality _____ ☐ Other:

Include Criteria on Certificate of Analysis (check if yes): ☐

SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

Regular Turnaround Time (TAT)
☐ 5 to 7 Day ☐ 10 Day

Rush Turnaround Time (TAT) Surcharges apply
☐ Same Day ☐ 1 Day ☐ 2 Day ☑ 3 Day ☐ 4 Day

Date Required: YY MM DD

Comments

	Sample Identification	Date Sampled YY	MM	DD	Time (24hr) HH	MM	Matrix	1 FIELD FILTERED	2 FIELD PRESERVED	3 LAB FILTRATION REQUIRED	4 BTEX/ F1	5 F2 - F4	6 VOCs	7 Reg 153 metals and inorganics	8 Reg 153 ICPMS metals	9 Reg 153 metals (Hg, Cr VI, ICPMS metals, HWS - B)	10 metals and ORP (see email)	11	12	13	14	15	16	17	18	19	20	21 # OF CONTAINERS SUBMITTED	22 HOLD - DO NOT ANALYZE
1	21-1 SA1	21	9	24	11	0	Soil	NA	Y	N							X										4	
2	21-1 SA3	21	9	24	11	30	Soil	NA	Y	N	X	X	X														4	
3	21-4 SA1	21	9	21	9	40	Soil	NA	Y	N			X														3	
4	21-4 SA6	21	9	21	10	40	Soil	NA	Y	N	X	X															3	
5	21-2 SA2	21	9	21	11	30	Soil	NA	Y	N							X										4	
6	21-2 SA5	21	9	21	12	0	Soil	NA	Y	N	X	X	X														3	
7	21-5 SA2	21	9	22	10	50	Soil	NA	Y	N	X	X	X														4	
8	21-5 SA3	21	9	24	8	5	Soil	NA	Y	N							X										4	
9	21-5 Dup-1	21	9	22	10	50	Soil	NA	Y	N	X	X	X														4	
10	21-3 SA1	21	9	22	8	0	Soil	NA	Y	N			X														4	
11	21-3 SA2	21	9	22	8	15	Soil	NA	Y	N	X	X															4	
12	21-3 SA3	21	9	22	8	30	Soil	NA	Y	N							X										4	

RECEIVED IN OTTAWA

*UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS AND CONDITIONS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/TERMS-AND-CONDITIONS OR BY CALLING THE LABORATORY LISTED ABOVE TO OBTAIN A COPY

LAB USE ONLY	Yes	No	°C	1	2	3
Seal present						
Seal intact						
Cooling media present						

LAB USE ONLY	Yes	No	°C	1	2	3
Seal present						
Seal intact						
Cooling media present						

LAB USE ONLY	Yes	No	°C	1	2	3	Temperature reading by:
Seal present		✓					
Seal intact		✓					
Cooling media present ICE	✓			9	9	9	QWW

	Relinquished by: (Signature/ Print)	Date YY	MM	DD	Time HH	MM	Received by: (Signature/ Print)	Date YY	MM	DD	Time HH	MM	Special Instructions
1	Tonyla	2021	09	28			AISLINN MULLAHY QWW	2021	09	28	15	20	
2								2021	09	29	08	00	

3/3/4°C

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Phone: 905-817-5700 Fax: 905-817-5779 Toll Free: 800-563-6266

CHAIN OF CUSTODY RECORD

ENV COC - 00014v2

CONTINUED

[PAGE 1 REFERENCE]

Company:	Golder
Contact Name:	Daniel Stabile
Project #:	21494078

SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

	Sample Identification	Date Sampled YY	MM	DD	Time (24hr) HH	MM	Matrix	1 FIELD FILTERED	2 FIELD PRESERVED	3 LAB FILTRATION REQUIRED	4 BTEX/F1	5 F2 - F4	6 VOCs	7 Reg 153 metals and inorganics	8 Reg 153 ICPMS metals	9 Reg 153 metals (Hg, CrVI, ICPMS metals, HWS - B)	10	11	12	13	14	15	16	17	18	19	20	21 # OF CONTAINERS SUBMITTED	22 HOLD - DO NOT ANALYZE	Same as above / Comments
13	21-3 SA3	21	9	22	8	30	Soil	NA	N	N							X											1		
14																														
15																														
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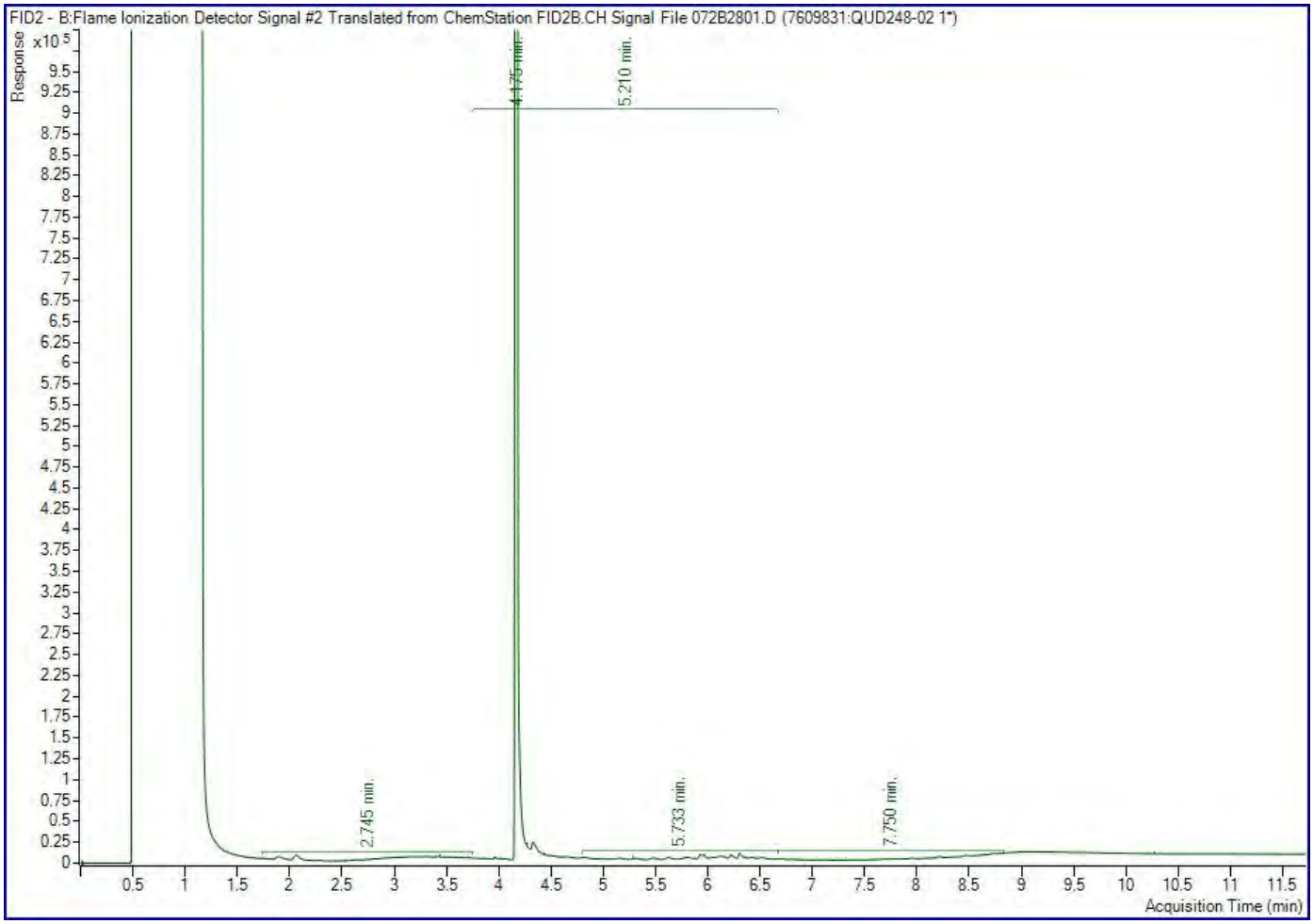
see page 1.

BV Labs Job #: C1S1463
Report Date: 2021/10/13
BV Labs Sample: QUD248

Golder Associates Ltd
Client Project #: 21494078
Project name: 1047 RICHMOND
Client ID: 21-1 SA3

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

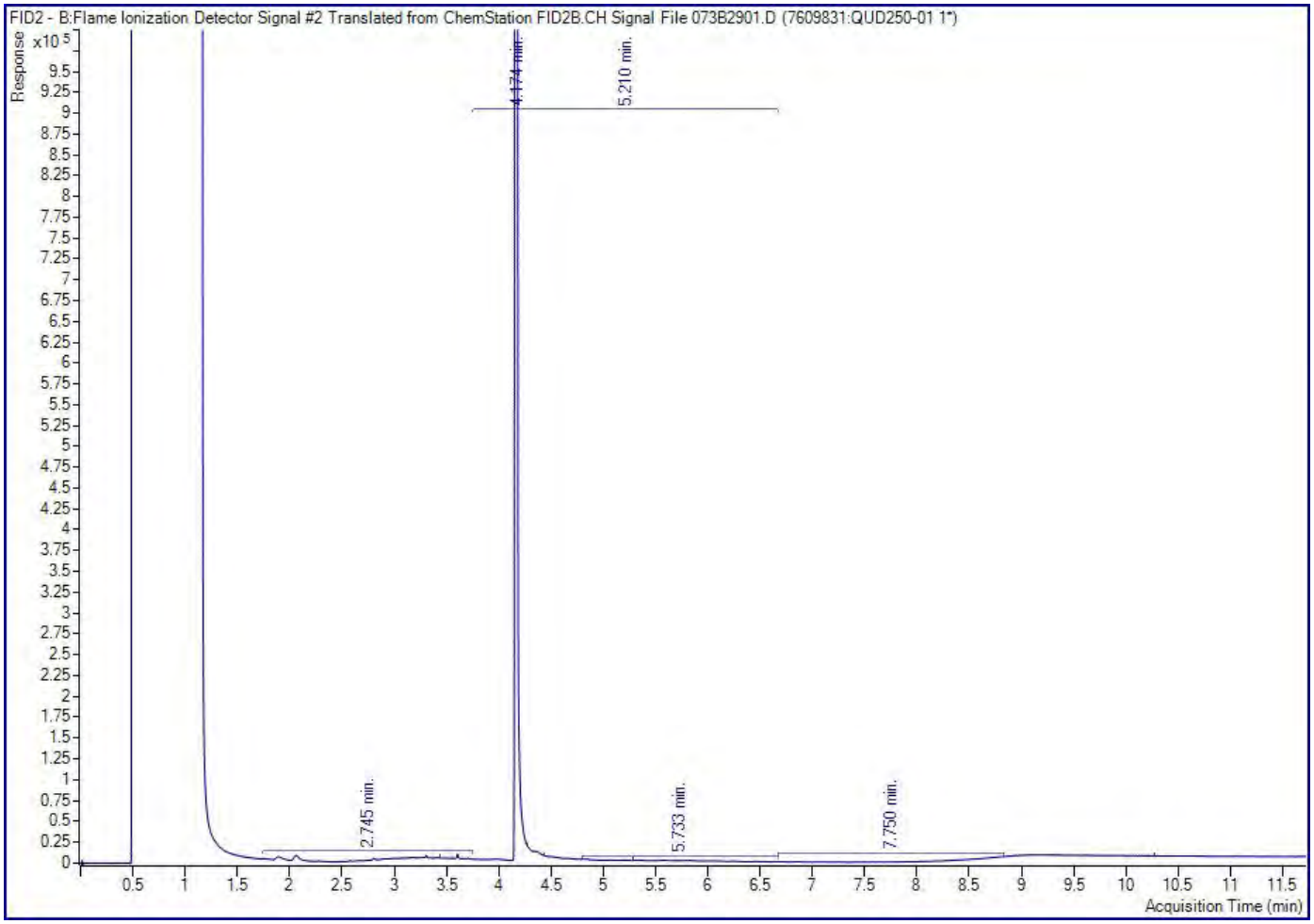


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1S1463
Report Date: 2021/10/13
BV Labs Sample: QUD250

Golder Associates Ltd
Client Project #: 21494078
Project name: 1047 RICHMOND
Client ID: 21-4 SA6

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

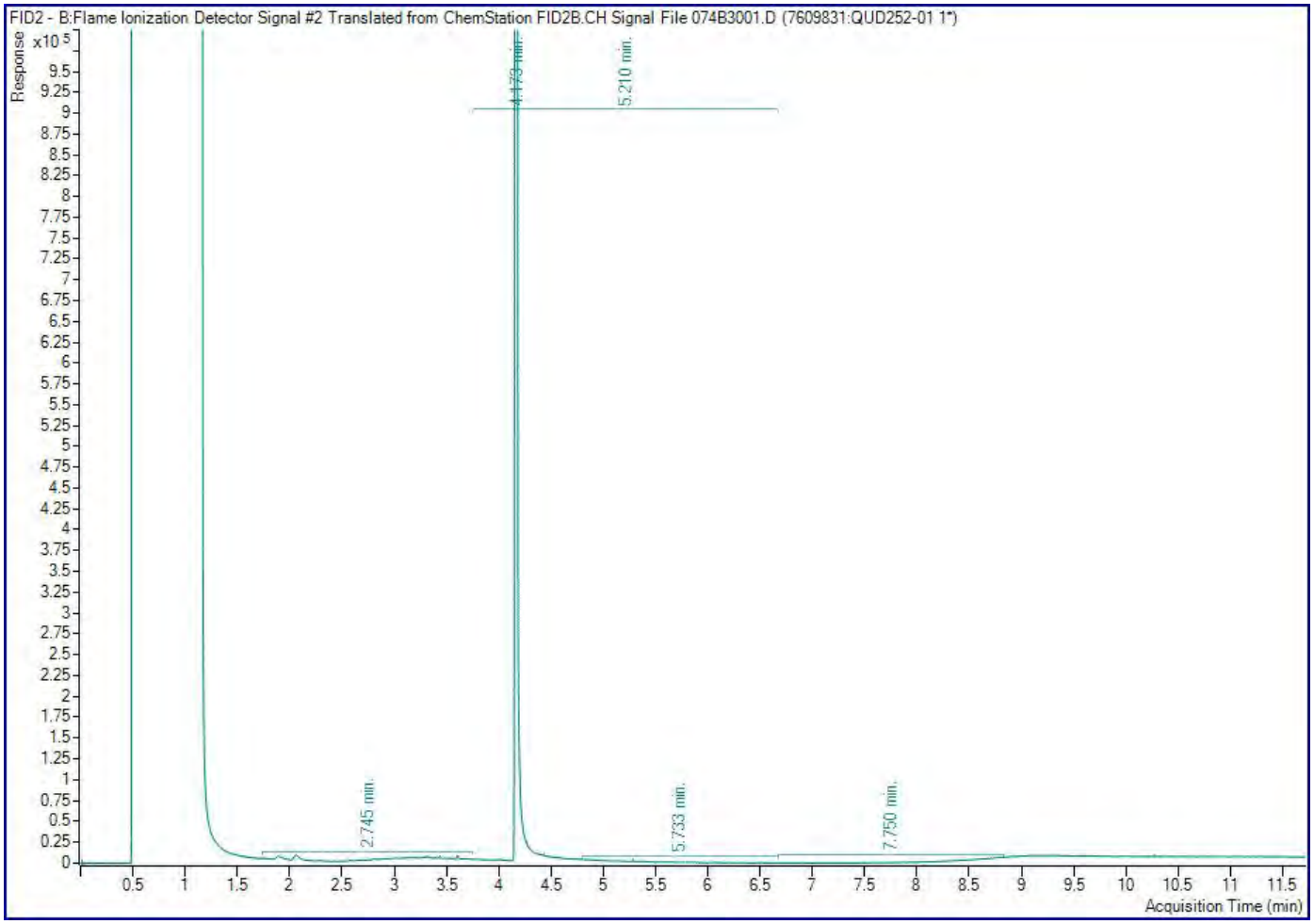


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1S1463
Report Date: 2021/10/13
BV Labs Sample: QUD252

Golder Associates Ltd
Client Project #: 21494078
Project name: 1047 RICHMOND
Client ID: 21-2 SA5

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



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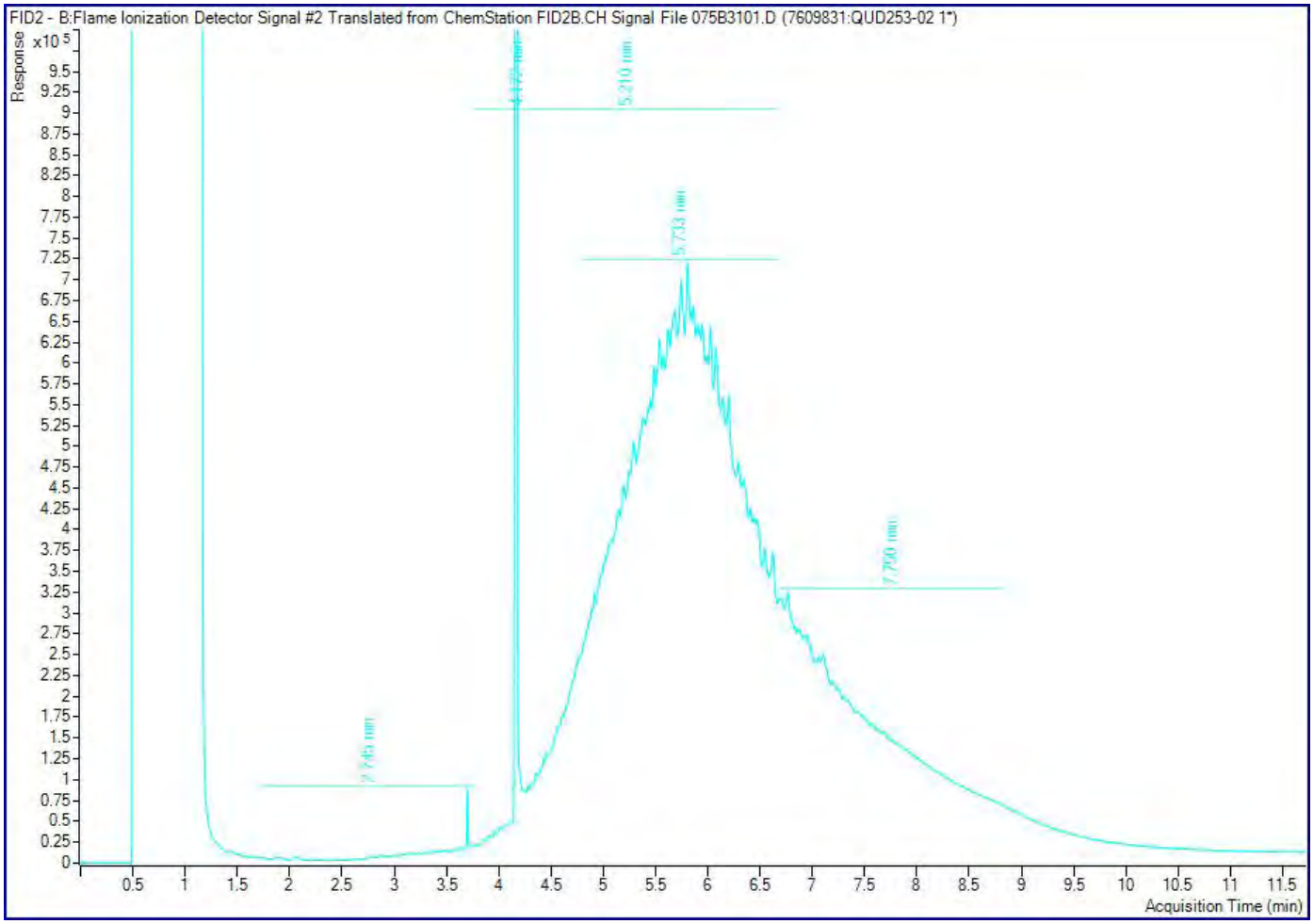
BV Labs Job #: C1S1463
Report Date: 2021/10/13
BV Labs Sample: QUD253

Golder Associates Ltd
Client Project #: 21494078
Project name: 1047 RICHMOND
Client ID: 21-5 SA2

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



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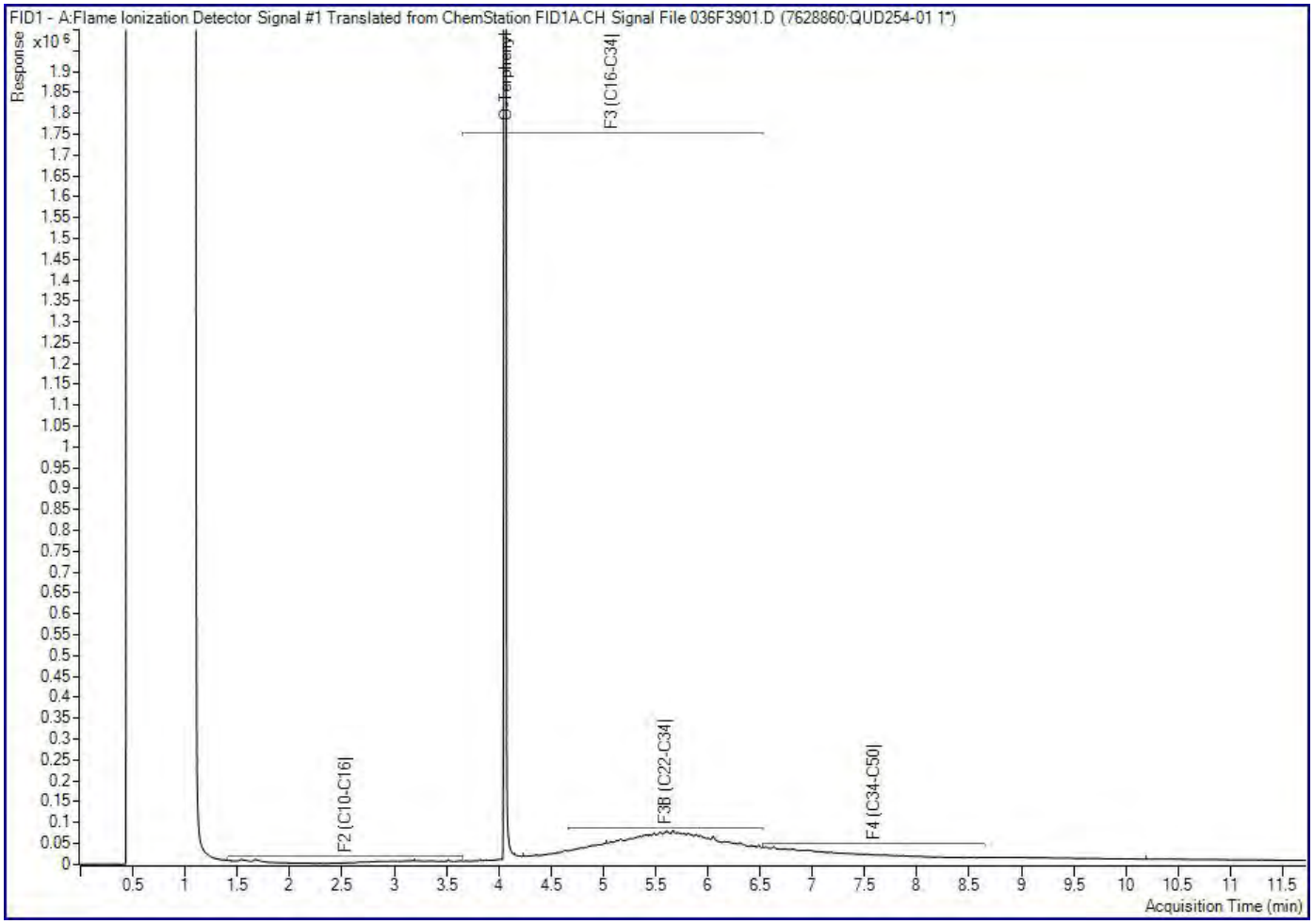
BV Labs Job #: C1S1463
Report Date: 2021/10/13
BV Labs Sample: QUD254

Golder Associates Ltd
Client Project #: 21494078
Project name: 1047 RICHMOND
Client ID: 21-5 SA3

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



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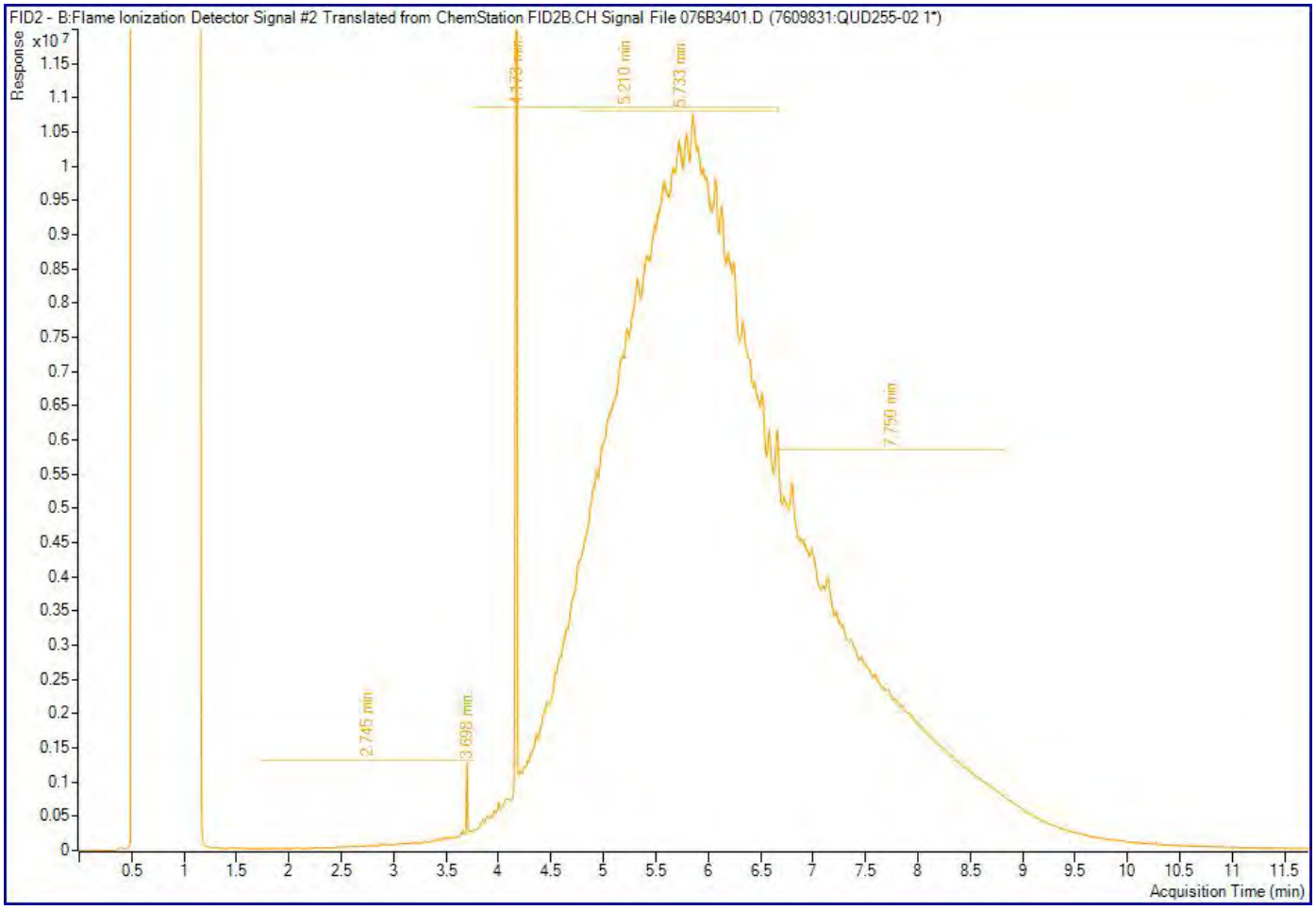
BV Labs Job #: C1S1463
Report Date: 2021/10/13
BV Labs Sample: QUD255

Golder Associates Ltd
Client Project #: 21494078
Project name: 1047 RICHMOND
Client ID: 21-5 DUP-1

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



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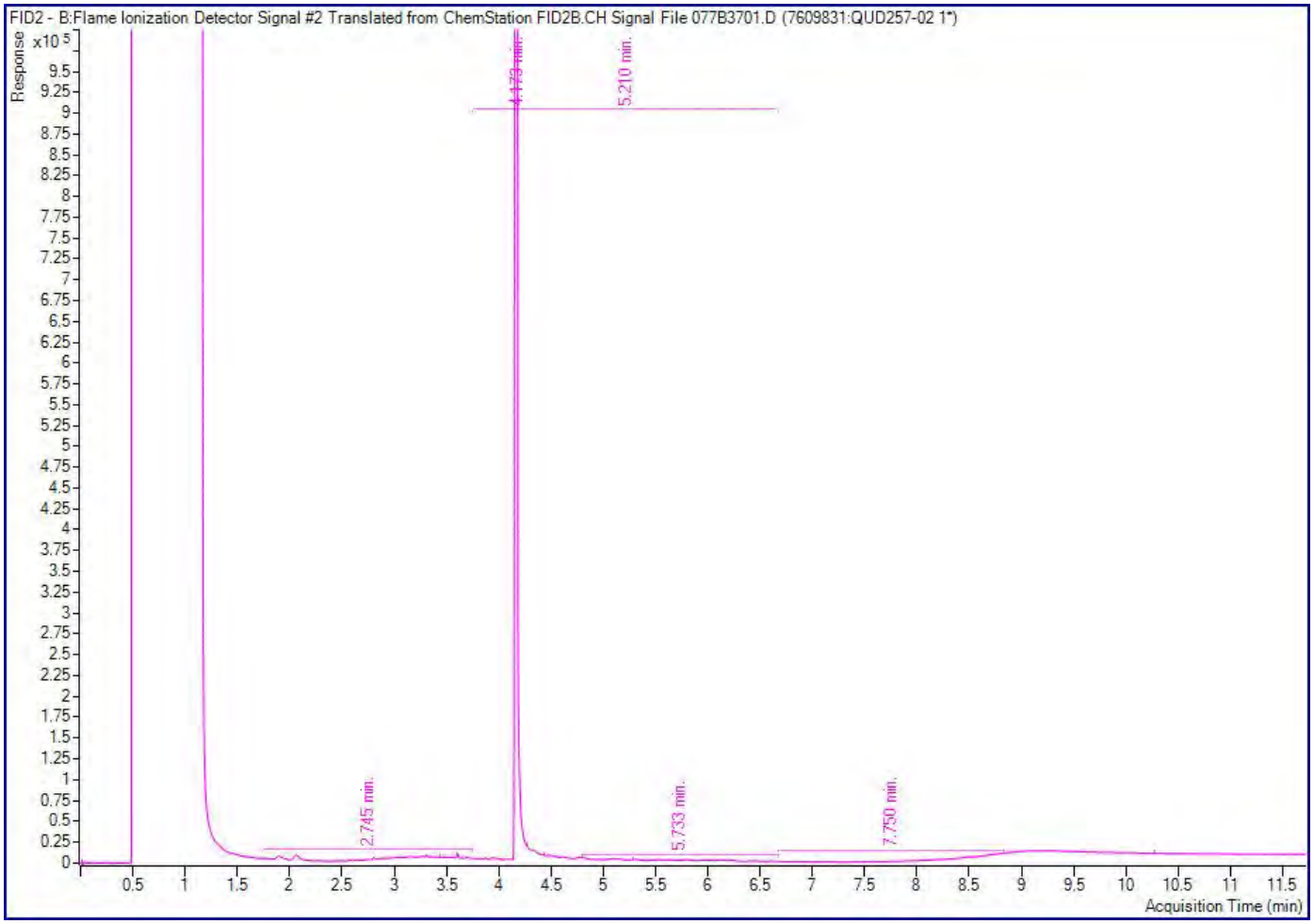
BV Labs Job #: C1S1463
Report Date: 2021/10/13
BV Labs Sample: QUD257

Golder Associates Ltd
Client Project #: 21494078
Project name: 1047 RICHMOND
Client ID: 21-3 SA2

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Your Project #: 21484078
Your C.O.C. #: 849032-01-01

Attention: Daniel Stabile

Golder Associates Ltd
100 Scotia Crt
Whitby, ON
CANADA L1N 8Y6

Report Date: 2021/10/06
Report #: R6842743
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1S7480
Received: 2021/10/04, 15:40

Sample Matrix: Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
1,3-Dichloropropene Sum (1)	5	N/A	2021/10/05		EPA 8260C m
Chloride by Automated Colourimetry (1)	5	N/A	2021/10/05	CAM SOP-00463	SM 23 4500-Cl E m
Chromium (VI) in Water (1)	5	N/A	2021/10/05	CAM SOP-00436	EPA 7199 m
Free (WAD) Cyanide (1)	5	N/A	2021/10/05	CAM SOP-00457	OMOE E3015 m
Petroleum Hydrocarbons F2-F4 in Water (1, 2)	5	2021/10/05	2021/10/06	CAM SOP-00316	CCME PHC-CWS m
Mercury (1)	5	2021/10/05	2021/10/05	CAM SOP-00453	EPA 7470A m
Dissolved Metals by ICPMS (1)	5	N/A	2021/10/05	CAM SOP-00447	EPA 6020B m
Volatile Organic Compounds and F1 PHCs (1)	7	N/A	2021/10/05	CAM SOP-00230	EPA 8260C m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd , Mississauga, ON, L5N 2L8
(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods

Your Project #: 21484078
Your C.O.C. #: 849032-01-01

Attention: Daniel Stabile

Golder Associates Ltd
100 Scotia Crt
Whitby, ON
CANADA L1N 8Y6

Report Date: 2021/10/06
Report #: R6842743
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1S7480
Received: 2021/10/04, 15:40

September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Ema Gitej, Senior Project Manager
Email: emese.gitej@bureauveritas.com
Phone# (905)817-5829
==========
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BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

VOLATILE ORGANICS BY GC/MS (WATER)

BV Labs ID		QVN124	QVN125		
Sampling Date		2021/10/04 13:15	2021/10/04		
COC Number		849032-01-01	849032-01-01		
	UNITS	F- BLANK	TRIP BLANK	RDL	QC Batch
Volatile Organics					
Acetone (2-Propanone)	ug/L	<10	<10	10	7614573
Benzene	ug/L	<0.17	<0.17	0.17	7614573
Bromodichloromethane	ug/L	<0.50	<0.50	0.50	7614573
Bromoform	ug/L	<1.0	<1.0	1.0	7614573
Bromomethane	ug/L	<0.50	<0.50	0.50	7614573
Carbon Tetrachloride	ug/L	<0.20	<0.20	0.20	7614573
Chlorobenzene	ug/L	<0.20	<0.20	0.20	7614573
Chloroform	ug/L	<0.20	<0.20	0.20	7614573
Dibromochloromethane	ug/L	<0.50	<0.50	0.50	7614573
1,2-Dichlorobenzene	ug/L	<0.50	<0.50	0.50	7614573
1,3-Dichlorobenzene	ug/L	<0.50	<0.50	0.50	7614573
1,4-Dichlorobenzene	ug/L	<0.50	<0.50	0.50	7614573
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	<1.0	1.0	7614573
1,1-Dichloroethane	ug/L	<0.20	<0.20	0.20	7614573
1,2-Dichloroethane	ug/L	<0.50	<0.50	0.50	7614573
1,1-Dichloroethylene	ug/L	<0.20	<0.20	0.20	7614573
cis-1,2-Dichloroethylene	ug/L	<0.50	<0.50	0.50	7614573
trans-1,2-Dichloroethylene	ug/L	<0.50	<0.50	0.50	7614573
1,2-Dichloropropane	ug/L	<0.20	<0.20	0.20	7614573
cis-1,3-Dichloropropene	ug/L	<0.30	<0.30	0.30	7614573
trans-1,3-Dichloropropene	ug/L	<0.40	<0.40	0.40	7614573
Ethylbenzene	ug/L	<0.20	<0.20	0.20	7614573
Ethylene Dibromide	ug/L	<0.20	<0.20	0.20	7614573
Hexane	ug/L	<1.0	<1.0	1.0	7614573
Methylene Chloride(Dichloromethane)	ug/L	<2.0	<2.0	2.0	7614573
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	<10	10	7614573
Methyl Isobutyl Ketone	ug/L	<5.0	<5.0	5.0	7614573
Methyl t-butyl ether (MTBE)	ug/L	<0.50	<0.50	0.50	7614573
Styrene	ug/L	<0.50	<0.50	0.50	7614573
1,1,1,2-Tetrachloroethane	ug/L	<0.50	<0.50	0.50	7614573
1,1,2,2-Tetrachloroethane	ug/L	<0.50	<0.50	0.50	7614573
Tetrachloroethylene	ug/L	<0.20	<0.20	0.20	7614573
Toluene	ug/L	<0.20	<0.20	0.20	7614573
1,1,1-Trichloroethane	ug/L	<0.20	<0.20	0.20	7614573
1,1,2-Trichloroethane	ug/L	<0.50	<0.50	0.50	7614573

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

VOLATILE ORGANICS BY GC/MS (WATER)

BV Labs ID		QVN124	QVN125		
Sampling Date		2021/10/04 13:15	2021/10/04		
COC Number		849032-01-01	849032-01-01		
	UNITS	F- BLANK	TRIP BLANK	RDL	QC Batch
Trichloroethylene	ug/L	<0.20	<0.20	0.20	7614573
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	<0.50	0.50	7614573
Vinyl Chloride	ug/L	<0.20	<0.20	0.20	7614573
p+m-Xylene	ug/L	<0.20	<0.20	0.20	7614573
o-Xylene	ug/L	<0.20	<0.20	0.20	7614573
Total Xylenes	ug/L	<0.20	<0.20	0.20	7614573
F1 (C6-C10)	ug/L	<25	<25	25	7614573
F1 (C6-C10) - BTEX	ug/L	<25	<25	25	7614573
Surrogate Recovery (%)					
4-Bromofluorobenzene	%	83	83		7614573
D4-1,2-Dichloroethane	%	99	100		7614573
D8-Toluene	%	97	96		7614573

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

O.REG 153 METALS & INORGANICS PKG (WTR)

BV Labs ID		QVN119			QVN119			QVN120		
Sampling Date		2021/10/04 08:00			2021/10/04 08:00			2021/10/04 11:35		
COC Number		849032-01-01			849032-01-01			849032-01-01		
	UNITS	21-5	RDL	QC Batch	21-5 Lab-Dup	RDL	QC Batch	21-4	RDL	QC Batch
Inorganics										
WAD Cyanide (Free)	ug/L	<1	1	7618434	<1	1	7618434	<1	1	7618434
Dissolved Chloride (Cl-)	mg/L	36	1.0	7618326				47	1.0	7618326
Metals										
Chromium (VI)	ug/L	<0.50	0.50	7616546	<0.50	0.50	7616546	<0.50	0.50	7616546
Mercury (Hg)	ug/L	<0.10	0.10	7618346				<0.10	0.10	7618346
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	7618322				<0.50	0.50	7618322
Dissolved Arsenic (As)	ug/L	<1.0	1.0	7618322				<1.0	1.0	7618322
Dissolved Barium (Ba)	ug/L	77	2.0	7618322				140	2.0	7618322
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	7618322				<0.40	0.40	7618322
Dissolved Boron (B)	ug/L	150	10	7618322				91	10	7618322
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	7618322				<0.090	0.090	7618322
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	7618322				<5.0	5.0	7618322
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	7618322				4.2	0.50	7618322
Dissolved Copper (Cu)	ug/L	<0.90	0.90	7618322				<0.90	0.90	7618322
Dissolved Lead (Pb)	ug/L	<0.50	0.50	7618322				<0.50	0.50	7618322
Dissolved Molybdenum (Mo)	ug/L	<0.50	0.50	7618322				<0.50	0.50	7618322
Dissolved Nickel (Ni)	ug/L	<1.0	1.0	7618322				2.7	1.0	7618322
Dissolved Selenium (Se)	ug/L	<2.0	2.0	7618322				<2.0	2.0	7618322
Dissolved Silver (Ag)	ug/L	<0.090	0.090	7618322				<0.090	0.090	7618322
Dissolved Sodium (Na)	ug/L	65000	100	7618322				34000	100	7618322
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	7618322				<0.050	0.050	7618322
Dissolved Uranium (U)	ug/L	0.54	0.10	7618322				0.52	0.10	7618322
Dissolved Vanadium (V)	ug/L	<0.50	0.50	7618322				<0.50	0.50	7618322
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	7618322				<5.0	5.0	7618322

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

BV Labs Job #: C1S7480
Report Date: 2021/10/06

Golder Associates Ltd
Client Project #: 21484078
Sampler Initials: ALE

O.REG 153 METALS & INORGANICS PKG (WTR)

BV Labs ID		QVN121		QVN122	QVN123			QVN123		
Sampling Date		2021/10/04 12:40		2021/10/04 13:15	2021/10/04			2021/10/04		
COC Number		849032-01-01		849032-01-01	849032-01-01			849032-01-01		
	UNITS	21-2	RDL	21-3	DUP-1	RDL	QC Batch	DUP-1 Lab-Dup	RDL	QC Batch
Inorganics										
WAD Cyanide (Free)	ug/L	<1	1	<1	<1	1	7618434			
Dissolved Chloride (Cl-)	mg/L	150	2.0	47	36	1.0	7618326			
Metals										
Chromium (VI)	ug/L	<0.50	0.50	<0.50	<0.50	0.50	7616546			
Mercury (Hg)	ug/L	<0.10	0.10	<0.10	<0.10	0.10	7618346			
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	<0.50	<0.50	0.50	7618322	<0.50	0.50	7618322
Dissolved Arsenic (As)	ug/L	<1.0	1.0	<1.0	<1.0	1.0	7618322	<1.0	1.0	7618322
Dissolved Barium (Ba)	ug/L	55	2.0	36	77	2.0	7618322	75	2.0	7618322
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	<0.40	<0.40	0.40	7618322	<0.40	0.40	7618322
Dissolved Boron (B)	ug/L	82	10	86	140	10	7618322	150	10	7618322
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	<0.090	<0.090	0.090	7618322	<0.090	0.090	7618322
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	<5.0	<5.0	5.0	7618322	<5.0	5.0	7618322
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	<0.50	<0.50	0.50	7618322	<0.50	0.50	7618322
Dissolved Copper (Cu)	ug/L	1.6	0.90	<0.90	<0.90	0.90	7618322	<0.90	0.90	7618322
Dissolved Lead (Pb)	ug/L	<0.50	0.50	<0.50	<0.50	0.50	7618322	<0.50	0.50	7618322
Dissolved Molybdenum (Mo)	ug/L	<0.50	0.50	0.57	<0.50	0.50	7618322	<0.50	0.50	7618322
Dissolved Nickel (Ni)	ug/L	1.6	1.0	1.1	1.0	1.0	7618322	<1.0	1.0	7618322
Dissolved Selenium (Se)	ug/L	<2.0	2.0	<2.0	<2.0	2.0	7618322	<2.0	2.0	7618322
Dissolved Silver (Ag)	ug/L	<0.090	0.090	<0.090	<0.090	0.090	7618322	<0.090	0.090	7618322
Dissolved Sodium (Na)	ug/L	170000	100	87000	64000	100	7618322	65000	100	7618322
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	<0.050	<0.050	0.050	7618322	<0.050	0.050	7618322
Dissolved Uranium (U)	ug/L	0.69	0.10	0.64	0.54	0.10	7618322	0.51	0.10	7618322
Dissolved Vanadium (V)	ug/L	<0.50	0.50	<0.50	<0.50	0.50	7618322	<0.50	0.50	7618322
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	<5.0	<5.0	5.0	7618322	<5.0	5.0	7618322

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

O.REG 153 VOCS BY HS & F1-F4 (WATER)

BV Labs ID		QVN119	QVN120			QVN120		
Sampling Date		2021/10/04 08:00	2021/10/04 11:35			2021/10/04 11:35		
COC Number		849032-01-01	849032-01-01			849032-01-01		
	UNITS	21-5	21-4	RDL	QC Batch	21-4 Lab-Dup	RDL	QC Batch
Calculated Parameters								
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	<0.50	0.50	7618207			
Volatile Organics								
Acetone (2-Propanone)	ug/L	<10	<10	10	7614573	<10	10	7614573
Benzene	ug/L	<0.17	0.49	0.17	7614573	0.42	0.17	7614573
Bromodichloromethane	ug/L	<0.50	<0.50	0.50	7614573	<0.50	0.50	7614573
Bromoform	ug/L	<1.0	<1.0	1.0	7614573	<1.0	1.0	7614573
Bromomethane	ug/L	<0.50	<0.50	0.50	7614573	<0.50	0.50	7614573
Carbon Tetrachloride	ug/L	<0.20	<0.20	0.20	7614573	<0.20	0.20	7614573
Chlorobenzene	ug/L	<0.20	5.5	0.20	7614573	4.8	0.20	7614573
Chloroform	ug/L	<0.20	<0.20	0.20	7614573	<0.20	0.20	7614573
Dibromochloromethane	ug/L	<0.50	<0.50	0.50	7614573	<0.50	0.50	7614573
1,2-Dichlorobenzene	ug/L	<0.50	6.3	0.50	7614573	5.7	0.50	7614573
1,3-Dichlorobenzene	ug/L	<0.50	<0.50	0.50	7614573	<0.50	0.50	7614573
1,4-Dichlorobenzene	ug/L	<0.50	<0.50	0.50	7614573	<0.50	0.50	7614573
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	<1.0	1.0	7614573	<1.0	1.0	7614573
1,1-Dichloroethane	ug/L	<0.20	<0.20	0.20	7614573	<0.20	0.20	7614573
1,2-Dichloroethane	ug/L	<0.50	9.3	0.50	7614573	8.3	0.50	7614573
1,1-Dichloroethylene	ug/L	<0.20	<0.20	0.20	7614573	<0.20	0.20	7614573
cis-1,2-Dichloroethylene	ug/L	<0.50	<0.50	0.50	7614573	<0.50	0.50	7614573
trans-1,2-Dichloroethylene	ug/L	<0.50	<0.50	0.50	7614573	<0.50	0.50	7614573
1,2-Dichloropropane	ug/L	<0.20	<0.20	0.20	7614573	<0.20	0.20	7614573
cis-1,3-Dichloropropene	ug/L	<0.30	<0.30	0.30	7614573	<0.30	0.30	7614573
trans-1,3-Dichloropropene	ug/L	<0.40	<0.40	0.40	7614573	<0.40	0.40	7614573
Ethylbenzene	ug/L	<0.20	<0.20	0.20	7614573	<0.20	0.20	7614573
Ethylene Dibromide	ug/L	<0.20	<0.20	0.20	7614573	<0.20	0.20	7614573
Hexane	ug/L	<1.0	<1.0	1.0	7614573	<1.0	1.0	7614573
Methylene Chloride(Dichloromethane)	ug/L	<2.0	<2.0	2.0	7614573	<2.0	2.0	7614573
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	<10	10	7614573	<10	10	7614573
Methyl Isobutyl Ketone	ug/L	<5.0	<5.0	5.0	7614573	<5.0	5.0	7614573
Methyl t-butyl ether (MTBE)	ug/L	<0.50	<0.50	0.50	7614573	<0.50	0.50	7614573
Styrene	ug/L	<0.50	<0.50	0.50	7614573	<0.50	0.50	7614573
1,1,1,2-Tetrachloroethane	ug/L	<0.50	<0.50	0.50	7614573	<0.50	0.50	7614573
1,1,2,2-Tetrachloroethane	ug/L	<0.50	<0.50	0.50	7614573	<0.50	0.50	7614573
Tetrachloroethylene	ug/L	<0.20	<0.20	0.20	7614573	<0.20	0.20	7614573

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

O.REG 153 VOCS BY HS & F1-F4 (WATER)

BV Labs ID		QVN119	QVN120			QVN120		
Sampling Date		2021/10/04 08:00	2021/10/04 11:35			2021/10/04 11:35		
COC Number		849032-01-01	849032-01-01			849032-01-01		
	UNITS	21-5	21-4	RDL	QC Batch	21-4 Lab-Dup	RDL	QC Batch
Toluene	ug/L	<0.20	<0.20	0.20	7614573	<0.20	0.20	7614573
1,1,1-Trichloroethane	ug/L	<0.20	<0.20	0.20	7614573	<0.20	0.20	7614573
1,1,2-Trichloroethane	ug/L	<0.50	<0.50	0.50	7614573	<0.50	0.50	7614573
Trichloroethylene	ug/L	<0.20	<0.20	0.20	7614573	<0.20	0.20	7614573
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	<0.50	0.50	7614573	<0.50	0.50	7614573
Vinyl Chloride	ug/L	<0.20	<0.20	0.20	7614573	<0.20	0.20	7614573
p+m-Xylene	ug/L	<0.20	<0.20	0.20	7614573	<0.20	0.20	7614573
o-Xylene	ug/L	<0.20	<0.20	0.20	7614573	<0.20	0.20	7614573
Total Xylenes	ug/L	<0.20	<0.20	0.20	7614573	<0.20	0.20	7614573
F1 (C6-C10)	ug/L	<25	<25	25	7614573	<25	25	7614573
F1 (C6-C10) - BTEX	ug/L	<25	<25	25	7614573	<25	25	7614573
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/L	<100	<100	100	7619044			
F3 (C16-C34 Hydrocarbons)	ug/L	<200	<200	200	7619044			
F4 (C34-C50 Hydrocarbons)	ug/L	<200	<200	200	7619044			
Reached Baseline at C50	ug/L	Yes	Yes		7619044			
Surrogate Recovery (%)								
o-Terphenyl	%	93	98		7619044			
4-Bromofluorobenzene	%	84	86		7614573	86		7614573
D4-1,2-Dichloroethane	%	123	120		7614573	123		7614573
D8-Toluene	%	91	91		7614573	90		7614573

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

O.REG 153 VOCS BY HS & F1-F4 (WATER)

BV Labs ID		QVN121	QVN122	QVN123		
Sampling Date		2021/10/04 12:40	2021/10/04 13:15	2021/10/04		
COC Number		849032-01-01	849032-01-01	849032-01-01		
	UNITS	21-2	21-3	DUP-1	RDL	QC Batch
Calculated Parameters						
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	<0.50	<0.50	0.50	7618207
Volatile Organics						
Acetone (2-Propanone)	ug/L	<10	<10	<10	10	7614573
Benzene	ug/L	<0.17	<0.17	<0.17	0.17	7614573
Bromodichloromethane	ug/L	<0.50	<0.50	<0.50	0.50	7614573
Bromoform	ug/L	<1.0	<1.0	<1.0	1.0	7614573
Bromomethane	ug/L	<0.50	<0.50	<0.50	0.50	7614573
Carbon Tetrachloride	ug/L	<0.20	<0.20	<0.20	0.20	7614573
Chlorobenzene	ug/L	<0.20	<0.20	<0.20	0.20	7614573
Chloroform	ug/L	<0.20	<0.20	<0.20	0.20	7614573
Dibromochloromethane	ug/L	<0.50	<0.50	<0.50	0.50	7614573
1,2-Dichlorobenzene	ug/L	<0.50	<0.50	<0.50	0.50	7614573
1,3-Dichlorobenzene	ug/L	<0.50	<0.50	<0.50	0.50	7614573
1,4-Dichlorobenzene	ug/L	<0.50	<0.50	<0.50	0.50	7614573
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	<1.0	<1.0	1.0	7614573
1,1-Dichloroethane	ug/L	<0.20	<0.20	<0.20	0.20	7614573
1,2-Dichloroethane	ug/L	<0.50	<0.50	<0.50	0.50	7614573
1,1-Dichloroethylene	ug/L	<0.20	<0.20	<0.20	0.20	7614573
cis-1,2-Dichloroethylene	ug/L	<0.50	<0.50	<0.50	0.50	7614573
trans-1,2-Dichloroethylene	ug/L	<0.50	<0.50	<0.50	0.50	7614573
1,2-Dichloropropane	ug/L	<0.20	<0.20	<0.20	0.20	7614573
cis-1,3-Dichloropropene	ug/L	<0.30	<0.30	<0.30	0.30	7614573
trans-1,3-Dichloropropene	ug/L	<0.40	<0.40	<0.40	0.40	7614573
Ethylbenzene	ug/L	<0.20	<0.20	<0.20	0.20	7614573
Ethylene Dibromide	ug/L	<0.20	<0.20	<0.20	0.20	7614573
Hexane	ug/L	<1.0	<1.0	<1.0	1.0	7614573
Methylene Chloride(Dichloromethane)	ug/L	<2.0	<2.0	<2.0	2.0	7614573
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	<10	<10	10	7614573
Methyl Isobutyl Ketone	ug/L	<5.0	<5.0	<5.0	5.0	7614573
Methyl t-butyl ether (MTBE)	ug/L	<0.50	<0.50	<0.50	0.50	7614573
Styrene	ug/L	<0.50	<0.50	<0.50	0.50	7614573
1,1,1,2-Tetrachloroethane	ug/L	<0.50	<0.50	<0.50	0.50	7614573
1,1,2,2-Tetrachloroethane	ug/L	<0.50	<0.50	<0.50	0.50	7614573
Tetrachloroethylene	ug/L	<0.20	<0.20	<0.20	0.20	7614573
Toluene	ug/L	<0.20	<0.20	<0.20	0.20	7614573

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

O.REG 153 VOCS BY HS & F1-F4 (WATER)

BV Labs ID		QVN121	QVN122	QVN123		
Sampling Date		2021/10/04 12:40	2021/10/04 13:15	2021/10/04		
COC Number		849032-01-01	849032-01-01	849032-01-01		
	UNITS	21-2	21-3	DUP-1	RDL	QC Batch
1,1,1-Trichloroethane	ug/L	<0.20	<0.20	<0.20	0.20	7614573
1,1,2-Trichloroethane	ug/L	<0.50	<0.50	<0.50	0.50	7614573
Trichloroethylene	ug/L	<0.20	<0.20	<0.20	0.20	7614573
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	<0.50	<0.50	0.50	7614573
Vinyl Chloride	ug/L	<0.20	<0.20	<0.20	0.20	7614573
p+m-Xylene	ug/L	<0.20	<0.20	<0.20	0.20	7614573
o-Xylene	ug/L	<0.20	<0.20	<0.20	0.20	7614573
Total Xylenes	ug/L	<0.20	<0.20	<0.20	0.20	7614573
F1 (C6-C10)	ug/L	<25	<25	<25	25	7614573
F1 (C6-C10) - BTEX	ug/L	<25	<25	<25	25	7614573
F2-F4 Hydrocarbons						
F2 (C10-C16 Hydrocarbons)	ug/L	<100	<100	<100	100	7619044
F3 (C16-C34 Hydrocarbons)	ug/L	<200	<200	<200	200	7619044
F4 (C34-C50 Hydrocarbons)	ug/L	<200	<200	<200	200	7619044
Reached Baseline at C50	ug/L	Yes	Yes	Yes		7619044
Surrogate Recovery (%)						
o-Terphenyl	%	94	96	98		7619044
4-Bromofluorobenzene	%	83	83	83		7614573
D4-1,2-Dichloroethane	%	120	126	120		7614573
D8-Toluene	%	93	91	93		7614573

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

BV Labs Job #: C1S7480
Report Date: 2021/10/06

Golder Associates Ltd
Client Project #: 21484078
Sampler Initials: ALE

TEST SUMMARY

BV Labs ID: QVN119
Sample ID: 21-5
Matrix: Water

Collected: 2021/10/04
Shipped:
Received: 2021/10/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7618207	N/A	2021/10/05	Automated Statchk
Chloride by Automated Colourimetry	KONE	7618326	N/A	2021/10/05	Alina Dobreanu
Chromium (VI) in Water	IC	7616546	N/A	2021/10/05	Lang Le
Free (WAD) Cyanide	SKAL/CN	7618434	N/A	2021/10/05	Louise Harding
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7619044	2021/10/05	2021/10/06	Anna Stuglik-Rolland
Mercury	CV/AA	7618346	2021/10/05	2021/10/05	Gagandeep Rai
Dissolved Metals by ICPMS	ICP/MS	7618322	N/A	2021/10/05	Arefa Dabhad
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7614573	N/A	2021/10/05	Yang (Philip) Yu

BV Labs ID: QVN119 Dup
Sample ID: 21-5
Matrix: Water

Collected: 2021/10/04
Shipped:
Received: 2021/10/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chromium (VI) in Water	IC	7616546	N/A	2021/10/05	Lang Le
Free (WAD) Cyanide	SKAL/CN	7618434	N/A	2021/10/05	Louise Harding

BV Labs ID: QVN120
Sample ID: 21-4
Matrix: Water

Collected: 2021/10/04
Shipped:
Received: 2021/10/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7618207	N/A	2021/10/05	Automated Statchk
Chloride by Automated Colourimetry	KONE	7618326	N/A	2021/10/05	Alina Dobreanu
Chromium (VI) in Water	IC	7616546	N/A	2021/10/05	Lang Le
Free (WAD) Cyanide	SKAL/CN	7618434	N/A	2021/10/05	Louise Harding
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7619044	2021/10/05	2021/10/06	Anna Stuglik-Rolland
Mercury	CV/AA	7618346	2021/10/05	2021/10/05	Gagandeep Rai
Dissolved Metals by ICPMS	ICP/MS	7618322	N/A	2021/10/05	Arefa Dabhad
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7614573	N/A	2021/10/05	Yang (Philip) Yu

BV Labs ID: QVN120 Dup
Sample ID: 21-4
Matrix: Water

Collected: 2021/10/04
Shipped:
Received: 2021/10/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7614573	N/A	2021/10/05	Yang (Philip) Yu

BV Labs ID: QVN121
Sample ID: 21-2
Matrix: Water

Collected: 2021/10/04
Shipped:
Received: 2021/10/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7618207	N/A	2021/10/05	Automated Statchk
Chloride by Automated Colourimetry	KONE	7618326	N/A	2021/10/05	Alina Dobreanu
Chromium (VI) in Water	IC	7616546	N/A	2021/10/05	Lang Le
Free (WAD) Cyanide	SKAL/CN	7618434	N/A	2021/10/05	Louise Harding

TEST SUMMARY

BV Labs ID: QVN121 **Collected:** 2021/10/04
Sample ID: 21-2 **Shipped:**
Matrix: Water **Received:** 2021/10/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7619044	2021/10/05	2021/10/06	Anna Stuglik-Rolland
Mercury	CV/AA	7618346	2021/10/05	2021/10/05	Gagandeep Rai
Dissolved Metals by ICPMS	ICP/MS	7618322	N/A	2021/10/05	Arefa Dabhad
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7614573	N/A	2021/10/05	Yang (Philip) Yu

BV Labs ID: QVN122 **Collected:** 2021/10/04
Sample ID: 21-3 **Shipped:**
Matrix: Water **Received:** 2021/10/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7618207	N/A	2021/10/05	Automated Statchk
Chloride by Automated Colourimetry	KONE	7618326	N/A	2021/10/05	Alina Dobreanu
Chromium (VI) in Water	IC	7616546	N/A	2021/10/05	Lang Le
Free (WAD) Cyanide	SKAL/CN	7618434	N/A	2021/10/05	Louise Harding
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7619044	2021/10/05	2021/10/06	Anna Stuglik-Rolland
Mercury	CV/AA	7618346	2021/10/05	2021/10/05	Gagandeep Rai
Dissolved Metals by ICPMS	ICP/MS	7618322	N/A	2021/10/05	Arefa Dabhad
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7614573	N/A	2021/10/05	Yang (Philip) Yu

BV Labs ID: QVN123 **Collected:** 2021/10/04
Sample ID: DUP-1 **Shipped:**
Matrix: Water **Received:** 2021/10/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7618207	N/A	2021/10/05	Automated Statchk
Chloride by Automated Colourimetry	KONE	7618326	N/A	2021/10/05	Alina Dobreanu
Chromium (VI) in Water	IC	7616546	N/A	2021/10/05	Lang Le
Free (WAD) Cyanide	SKAL/CN	7618434	N/A	2021/10/05	Louise Harding
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7619044	2021/10/05	2021/10/06	Anna Stuglik-Rolland
Mercury	CV/AA	7618346	2021/10/05	2021/10/05	Gagandeep Rai
Dissolved Metals by ICPMS	ICP/MS	7618322	N/A	2021/10/05	Arefa Dabhad
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7614573	N/A	2021/10/05	Yang (Philip) Yu

BV Labs ID: QVN123 Dup **Collected:** 2021/10/04
Sample ID: DUP-1 **Shipped:**
Matrix: Water **Received:** 2021/10/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Metals by ICPMS	ICP/MS	7618322	N/A	2021/10/05	Arefa Dabhad

BV Labs ID: QVN124 **Collected:** 2021/10/04
Sample ID: F- BLANK **Shipped:**
Matrix: Water **Received:** 2021/10/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7614573	N/A	2021/10/05	Yang (Philip) Yu

BV Labs Job #: C1S7480
Report Date: 2021/10/06

Golder Associates Ltd
Client Project #: 21484078
Sampler Initials: ALE

TEST SUMMARY

BV Labs ID: QVN125
Sample ID: TRIP BLANK
Matrix: Water

Collected: 2021/10/04
Shipped:
Received: 2021/10/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7614573	N/A	2021/10/05	Yang (Philip) Yu

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	8.0°C

Methyl Mercury analysis not completed as per client request.

Results relate only to the items tested.

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7614573	YY	Matrix Spike [QVN119-08]	4-Bromofluorobenzene	2021/10/05		100	%	70 - 130
			D4-1,2-Dichloroethane	2021/10/05		109	%	70 - 130
			D8-Toluene	2021/10/05		105	%	70 - 130
			Acetone (2-Propanone)	2021/10/05		114	%	60 - 140
			Benzene	2021/10/05		96	%	70 - 130
			Bromodichloromethane	2021/10/05		110	%	70 - 130
			Bromoform	2021/10/05		102	%	70 - 130
			Bromomethane	2021/10/05		99	%	60 - 140
			Carbon Tetrachloride	2021/10/05		102	%	70 - 130
			Chlorobenzene	2021/10/05		99	%	70 - 130
			Chloroform	2021/10/05		105	%	70 - 130
			Dibromochloromethane	2021/10/05		130 (1)	%	70 - 130
			1,2-Dichlorobenzene	2021/10/05		102	%	70 - 130
			1,3-Dichlorobenzene	2021/10/05		102	%	70 - 130
			1,4-Dichlorobenzene	2021/10/05		101	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2021/10/05		74	%	60 - 140
			1,1-Dichloroethane	2021/10/05		104	%	70 - 130
			1,2-Dichloroethane	2021/10/05		104	%	70 - 130
			1,1-Dichloroethylene	2021/10/05		103	%	70 - 130
			cis-1,2-Dichloroethylene	2021/10/05		105	%	70 - 130
			trans-1,2-Dichloroethylene	2021/10/05		102	%	70 - 130
			1,2-Dichloropropane	2021/10/05		104	%	70 - 130
			cis-1,3-Dichloropropene	2021/10/05		99	%	70 - 130
			trans-1,3-Dichloropropene	2021/10/05		106	%	70 - 130
			Ethylbenzene	2021/10/05		90	%	70 - 130
			Ethylene Dibromide	2021/10/05		100	%	70 - 130
			Hexane	2021/10/05		101	%	70 - 130
			Methylene Chloride(Dichloromethane)	2021/10/05		114	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2021/10/05		106	%	60 - 140
			Methyl Isobutyl Ketone	2021/10/05		88	%	70 - 130
			Methyl t-butyl ether (MTBE)	2021/10/05		91	%	70 - 130
			Styrene	2021/10/05		82	%	70 - 130
			1,1,1,2-Tetrachloroethane	2021/10/05		104	%	70 - 130
			1,1,2,2-Tetrachloroethane	2021/10/05		106	%	70 - 130
			Tetrachloroethylene	2021/10/05		97	%	70 - 130
			Toluene	2021/10/05		95	%	70 - 130
			1,1,1-Trichloroethane	2021/10/05		107	%	70 - 130
			1,1,2-Trichloroethane	2021/10/05		116	%	70 - 130
			Trichloroethylene	2021/10/05		104	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2021/10/05		102	%	70 - 130
			Vinyl Chloride	2021/10/05		97	%	70 - 130
			p+m-Xylene	2021/10/05		93	%	70 - 130
			o-Xylene	2021/10/05		93	%	70 - 130
			F1 (C6-C10)	2021/10/05		107	%	60 - 140
7614573	YY	Spiked Blank	4-Bromofluorobenzene	2021/10/05		101	%	70 - 130
			D4-1,2-Dichloroethane	2021/10/05		111	%	70 - 130
			D8-Toluene	2021/10/05		107	%	70 - 130
			Acetone (2-Propanone)	2021/10/05		122	%	60 - 140
			Benzene	2021/10/05		92	%	70 - 130
			Bromodichloromethane	2021/10/05		106	%	70 - 130
			Bromoform	2021/10/05		101	%	70 - 130
			Bromomethane	2021/10/05		94	%	60 - 140
			Carbon Tetrachloride	2021/10/05		97	%	70 - 130

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Chlorobenzene	2021/10/05		95	%	70 - 130
			Chloroform	2021/10/05		101	%	70 - 130
			Dibromochloromethane	2021/10/05		127	%	70 - 130
			1,2-Dichlorobenzene	2021/10/05		99	%	70 - 130
			1,3-Dichlorobenzene	2021/10/05		98	%	70 - 130
			1,4-Dichlorobenzene	2021/10/05		100	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2021/10/05		75	%	60 - 140
			1,1-Dichloroethane	2021/10/05		99	%	70 - 130
			1,2-Dichloroethane	2021/10/05		102	%	70 - 130
			1,1-Dichloroethylene	2021/10/05		98	%	70 - 130
			cis-1,2-Dichloroethylene	2021/10/05		103	%	70 - 130
			trans-1,2-Dichloroethylene	2021/10/05		98	%	70 - 130
			1,2-Dichloropropane	2021/10/05		102	%	70 - 130
			cis-1,3-Dichloropropene	2021/10/05		96	%	70 - 130
			trans-1,3-Dichloropropene	2021/10/05		102	%	70 - 130
			Ethylbenzene	2021/10/05		89	%	70 - 130
			Ethylene Dibromide	2021/10/05		99	%	70 - 130
			Hexane	2021/10/05		99	%	70 - 130
			Methylene Chloride(Dichloromethane)	2021/10/05		110	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2021/10/05		114	%	60 - 140
			Methyl Isobutyl Ketone	2021/10/05		97	%	70 - 130
			Methyl t-butyl ether (MTBE)	2021/10/05		90	%	70 - 130
			Styrene	2021/10/05		85	%	70 - 130
			1,1,1,2-Tetrachloroethane	2021/10/05		100	%	70 - 130
			1,1,2,2-Tetrachloroethane	2021/10/05		105	%	70 - 130
			Tetrachloroethylene	2021/10/05		90	%	70 - 130
			Toluene	2021/10/05		93	%	70 - 130
			1,1,1-Trichloroethane	2021/10/05		101	%	70 - 130
			1,1,2-Trichloroethane	2021/10/05		113	%	70 - 130
			Trichloroethylene	2021/10/05		99	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2021/10/05		97	%	70 - 130
			Vinyl Chloride	2021/10/05		94	%	70 - 130
			p+m-Xylene	2021/10/05		91	%	70 - 130
			o-Xylene	2021/10/05		91	%	70 - 130
			F1 (C6-C10)	2021/10/05		100	%	60 - 140
7614573	YY	Method Blank	4-Bromofluorobenzene	2021/10/05		85	%	70 - 130
			D4-1,2-Dichloroethane	2021/10/05		119	%	70 - 130
			D8-Toluene	2021/10/05		91	%	70 - 130
			Acetone (2-Propanone)	2021/10/05	<10		ug/L	
			Benzene	2021/10/05	<0.17		ug/L	
			Bromodichloromethane	2021/10/05	<0.50		ug/L	
			Bromoform	2021/10/05	<1.0		ug/L	
			Bromomethane	2021/10/05	<0.50		ug/L	
			Carbon Tetrachloride	2021/10/05	<0.20		ug/L	
			Chlorobenzene	2021/10/05	<0.20		ug/L	
			Chloroform	2021/10/05	<0.20		ug/L	
			Dibromochloromethane	2021/10/05	<0.50		ug/L	
			1,2-Dichlorobenzene	2021/10/05	<0.50		ug/L	
			1,3-Dichlorobenzene	2021/10/05	<0.50		ug/L	
			1,4-Dichlorobenzene	2021/10/05	<0.50		ug/L	
			Dichlorodifluoromethane (FREON 12)	2021/10/05	<1.0		ug/L	
			1,1-Dichloroethane	2021/10/05	<0.20		ug/L	
			1,2-Dichloroethane	2021/10/05	<0.50		ug/L	
			1,1-Dichloroethylene	2021/10/05	<0.20		ug/L	

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			cis-1,2-Dichloroethylene	2021/10/05	<0.50		ug/L	
			trans-1,2-Dichloroethylene	2021/10/05	<0.50		ug/L	
			1,2-Dichloropropane	2021/10/05	<0.20		ug/L	
			cis-1,3-Dichloropropene	2021/10/05	<0.30		ug/L	
			trans-1,3-Dichloropropene	2021/10/05	<0.40		ug/L	
			Ethylbenzene	2021/10/05	<0.20		ug/L	
			Ethylene Dibromide	2021/10/05	<0.20		ug/L	
			Hexane	2021/10/05	<1.0		ug/L	
			Methylene Chloride(Dichloromethane)	2021/10/05	<2.0		ug/L	
			Methyl Ethyl Ketone (2-Butanone)	2021/10/05	<10		ug/L	
			Methyl Isobutyl Ketone	2021/10/05	<5.0		ug/L	
			Methyl t-butyl ether (MTBE)	2021/10/05	<0.50		ug/L	
			Styrene	2021/10/05	<0.50		ug/L	
			1,1,1,2-Tetrachloroethane	2021/10/05	<0.50		ug/L	
			1,1,2,2-Tetrachloroethane	2021/10/05	<0.50		ug/L	
			Tetrachloroethylene	2021/10/05	<0.20		ug/L	
			Toluene	2021/10/05	<0.20		ug/L	
			1,1,1-Trichloroethane	2021/10/05	<0.20		ug/L	
			1,1,2-Trichloroethane	2021/10/05	<0.50		ug/L	
			Trichloroethylene	2021/10/05	<0.20		ug/L	
			Trichlorofluoromethane (FREON 11)	2021/10/05	<0.50		ug/L	
			Vinyl Chloride	2021/10/05	<0.20		ug/L	
			p+m-Xylene	2021/10/05	<0.20		ug/L	
			o-Xylene	2021/10/05	<0.20		ug/L	
			Total Xylenes	2021/10/05	<0.20		ug/L	
			F1 (C6-C10)	2021/10/05	<25		ug/L	
			F1 (C6-C10) - BTEX	2021/10/05	<25		ug/L	
7614573	YY	RPD [QVN120-08]	Acetone (2-Propanone)	2021/10/05	NC		%	30
			Benzene	2021/10/05	16		%	30
			Bromodichloromethane	2021/10/05	NC		%	30
			Bromoform	2021/10/05	NC		%	30
			Bromomethane	2021/10/05	NC		%	30
			Carbon Tetrachloride	2021/10/05	NC		%	30
			Chlorobenzene	2021/10/05	13		%	30
			Chloroform	2021/10/05	NC		%	30
			Dibromochloromethane	2021/10/05	NC		%	30
			1,2-Dichlorobenzene	2021/10/05	11		%	30
			1,3-Dichlorobenzene	2021/10/05	NC		%	30
			1,4-Dichlorobenzene	2021/10/05	NC		%	30
			Dichlorodifluoromethane (FREON 12)	2021/10/05	NC		%	30
			1,1-Dichloroethane	2021/10/05	NC		%	30
			1,2-Dichloroethane	2021/10/05	11		%	30
			1,1-Dichloroethylene	2021/10/05	NC		%	30
			cis-1,2-Dichloroethylene	2021/10/05	NC		%	30
			trans-1,2-Dichloroethylene	2021/10/05	NC		%	30
			1,2-Dichloropropane	2021/10/05	NC		%	30
			cis-1,3-Dichloropropene	2021/10/05	NC		%	30
			trans-1,3-Dichloropropene	2021/10/05	NC		%	30
			Ethylbenzene	2021/10/05	NC		%	30
			Ethylene Dibromide	2021/10/05	NC		%	30
			Hexane	2021/10/05	NC		%	30
			Methylene Chloride(Dichloromethane)	2021/10/05	NC		%	30
			Methyl Ethyl Ketone (2-Butanone)	2021/10/05	NC		%	30
			Methyl Isobutyl Ketone	2021/10/05	NC		%	30

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Methyl t-butyl ether (MTBE)	2021/10/05	NC		%	30
			Styrene	2021/10/05	NC		%	30
			1,1,1,2-Tetrachloroethane	2021/10/05	NC		%	30
			1,1,2,2-Tetrachloroethane	2021/10/05	NC		%	30
			Tetrachloroethylene	2021/10/05	NC		%	30
			Toluene	2021/10/05	NC		%	30
			1,1,1-Trichloroethane	2021/10/05	NC		%	30
			1,1,2-Trichloroethane	2021/10/05	NC		%	30
			Trichloroethylene	2021/10/05	NC		%	30
			Trichlorofluoromethane (FREON 11)	2021/10/05	NC		%	30
			Vinyl Chloride	2021/10/05	NC		%	30
			p+m-Xylene	2021/10/05	NC		%	30
			o-Xylene	2021/10/05	NC		%	30
			Total Xylenes	2021/10/05	NC		%	30
			F1 (C6-C10)	2021/10/05	NC		%	30
			F1 (C6-C10) - BTEX	2021/10/05	NC		%	30
7616546	LLE	Matrix Spike [QVN119-06]	Chromium (VI)	2021/10/05		91	%	80 - 120
7616546	LLE	Spiked Blank	Chromium (VI)	2021/10/05		101	%	80 - 120
7616546	LLE	Method Blank	Chromium (VI)	2021/10/05	<0.50		ug/L	
7616546	LLE	RPD [QVN119-06]	Chromium (VI)	2021/10/05	NC		%	20
7618322	ADA	Matrix Spike [QVN123-05]	Dissolved Antimony (Sb)	2021/10/05		105	%	80 - 120
			Dissolved Arsenic (As)	2021/10/05		102	%	80 - 120
			Dissolved Barium (Ba)	2021/10/05		104	%	80 - 120
			Dissolved Beryllium (Be)	2021/10/05		100	%	80 - 120
			Dissolved Boron (B)	2021/10/05		95	%	80 - 120
			Dissolved Cadmium (Cd)	2021/10/05		102	%	80 - 120
			Dissolved Chromium (Cr)	2021/10/05		97	%	80 - 120
			Dissolved Cobalt (Co)	2021/10/05		96	%	80 - 120
			Dissolved Copper (Cu)	2021/10/05		94	%	80 - 120
			Dissolved Lead (Pb)	2021/10/05		97	%	80 - 120
			Dissolved Molybdenum (Mo)	2021/10/05		105	%	80 - 120
			Dissolved Nickel (Ni)	2021/10/05		95	%	80 - 120
			Dissolved Selenium (Se)	2021/10/05		102	%	80 - 120
			Dissolved Silver (Ag)	2021/10/05		97	%	80 - 120
			Dissolved Sodium (Na)	2021/10/05		NC	%	80 - 120
			Dissolved Thallium (Tl)	2021/10/05		96	%	80 - 120
			Dissolved Uranium (U)	2021/10/05		100	%	80 - 120
			Dissolved Vanadium (V)	2021/10/05		101	%	80 - 120
			Dissolved Zinc (Zn)	2021/10/05		98	%	80 - 120
7618322	ADA	Spiked Blank	Dissolved Antimony (Sb)	2021/10/05		105	%	80 - 120
			Dissolved Arsenic (As)	2021/10/05		105	%	80 - 120
			Dissolved Barium (Ba)	2021/10/05		107	%	80 - 120
			Dissolved Beryllium (Be)	2021/10/05		101	%	80 - 120
			Dissolved Boron (B)	2021/10/05		97	%	80 - 120
			Dissolved Cadmium (Cd)	2021/10/05		103	%	80 - 120
			Dissolved Chromium (Cr)	2021/10/05		99	%	80 - 120
			Dissolved Cobalt (Co)	2021/10/05		100	%	80 - 120
			Dissolved Copper (Cu)	2021/10/05		97	%	80 - 120
			Dissolved Lead (Pb)	2021/10/05		97	%	80 - 120
			Dissolved Molybdenum (Mo)	2021/10/05		105	%	80 - 120
			Dissolved Nickel (Ni)	2021/10/05		98	%	80 - 120
			Dissolved Selenium (Se)	2021/10/05		101	%	80 - 120

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Dissolved Silver (Ag)	2021/10/05		99	%	80 - 120
			Dissolved Sodium (Na)	2021/10/05		102	%	80 - 120
			Dissolved Thallium (Tl)	2021/10/05		101	%	80 - 120
			Dissolved Uranium (U)	2021/10/05		99	%	80 - 120
			Dissolved Vanadium (V)	2021/10/05		104	%	80 - 120
			Dissolved Zinc (Zn)	2021/10/05		104	%	80 - 120
7618322	ADA	Method Blank	Dissolved Antimony (Sb)	2021/10/05	<0.50		ug/L	
			Dissolved Arsenic (As)	2021/10/05	<1.0		ug/L	
			Dissolved Barium (Ba)	2021/10/05	<2.0		ug/L	
			Dissolved Beryllium (Be)	2021/10/05	<0.40		ug/L	
			Dissolved Boron (B)	2021/10/05	<10		ug/L	
			Dissolved Cadmium (Cd)	2021/10/05	<0.090		ug/L	
			Dissolved Chromium (Cr)	2021/10/05	<5.0		ug/L	
			Dissolved Cobalt (Co)	2021/10/05	<0.50		ug/L	
			Dissolved Copper (Cu)	2021/10/05	<0.90		ug/L	
			Dissolved Lead (Pb)	2021/10/05	<0.50		ug/L	
			Dissolved Molybdenum (Mo)	2021/10/05	<0.50		ug/L	
			Dissolved Nickel (Ni)	2021/10/05	<1.0		ug/L	
			Dissolved Selenium (Se)	2021/10/05	<2.0		ug/L	
			Dissolved Silver (Ag)	2021/10/05	<0.090		ug/L	
			Dissolved Sodium (Na)	2021/10/05	<100		ug/L	
			Dissolved Thallium (Tl)	2021/10/05	<0.050		ug/L	
			Dissolved Uranium (U)	2021/10/05	<0.10		ug/L	
			Dissolved Vanadium (V)	2021/10/05	<0.50		ug/L	
			Dissolved Zinc (Zn)	2021/10/05	<5.0		ug/L	
7618322	ADA	RPD [QVN123-05]	Dissolved Antimony (Sb)	2021/10/05	NC		%	20
			Dissolved Arsenic (As)	2021/10/05	NC		%	20
			Dissolved Barium (Ba)	2021/10/05	2.6		%	20
			Dissolved Beryllium (Be)	2021/10/05	NC		%	20
			Dissolved Boron (B)	2021/10/05	1.6		%	20
			Dissolved Cadmium (Cd)	2021/10/05	NC		%	20
			Dissolved Chromium (Cr)	2021/10/05	NC		%	20
			Dissolved Cobalt (Co)	2021/10/05	NC		%	20
			Dissolved Copper (Cu)	2021/10/05	NC		%	20
			Dissolved Lead (Pb)	2021/10/05	NC		%	20
			Dissolved Molybdenum (Mo)	2021/10/05	NC		%	20
			Dissolved Nickel (Ni)	2021/10/05	0.70		%	20
			Dissolved Selenium (Se)	2021/10/05	NC		%	20
			Dissolved Silver (Ag)	2021/10/05	NC		%	20
			Dissolved Sodium (Na)	2021/10/05	1.9		%	20
			Dissolved Thallium (Tl)	2021/10/05	NC		%	20
			Dissolved Uranium (U)	2021/10/05	6.3		%	20
			Dissolved Vanadium (V)	2021/10/05	NC		%	20
			Dissolved Zinc (Zn)	2021/10/05	NC		%	20
7618326	ADB	Matrix Spike	Dissolved Chloride (Cl-)	2021/10/05		NC	%	80 - 120
7618326	ADB	Spiked Blank	Dissolved Chloride (Cl-)	2021/10/05		102	%	80 - 120
7618326	ADB	Method Blank	Dissolved Chloride (Cl-)	2021/10/05	<1.0		mg/L	
7618326	ADB	RPD	Dissolved Chloride (Cl-)	2021/10/05	1.1		%	20
7618346	GR1	Matrix Spike	Mercury (Hg)	2021/10/05		98	%	75 - 125
7618346	GR1	Spiked Blank	Mercury (Hg)	2021/10/05		97	%	80 - 120
7618346	GR1	Method Blank	Mercury (Hg)	2021/10/05	<0.10		ug/L	
7618346	GR1	RPD	Mercury (Hg)	2021/10/05	NC		%	20
7618434	LHA	Matrix Spike [QVN119-07]	WAD Cyanide (Free)	2021/10/05		105	%	80 - 120

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7618434	LHA	Spiked Blank	WAD Cyanide (Free)	2021/10/05		104	%	80 - 120
7618434	LHA	Method Blank	WAD Cyanide (Free)	2021/10/05	<1		ug/L	
7618434	LHA	RPD [QVN119-07]	WAD Cyanide (Free)	2021/10/05	NC		%	20
7619044	AS2	Matrix Spike	o-Terphenyl	2021/10/06		98	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2021/10/06		105	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2021/10/06		104	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2021/10/06		108	%	60 - 130
7619044	AS2	Spiked Blank	o-Terphenyl	2021/10/06		96	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2021/10/06		102	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2021/10/06		103	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2021/10/06		105	%	60 - 130
7619044	AS2	Method Blank	o-Terphenyl	2021/10/06		98	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2021/10/06	<100		ug/L	
			F3 (C16-C34 Hydrocarbons)	2021/10/06	<200		ug/L	
			F4 (C34-C50 Hydrocarbons)	2021/10/06	<200		ug/L	
7619044	AS2	RPD	F2 (C10-C16 Hydrocarbons)	2021/10/06	NC		%	30
			F3 (C16-C34 Hydrocarbons)	2021/10/06	NC		%	30
			F4 (C34-C50 Hydrocarbons)	2021/10/06	NC		%	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

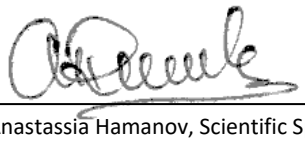
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) The recovery was above the upper control limit. This may represent a high bias in some results for this specific analyte. For results that were not detected (ND), this potential bias has no impact.

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Anastassia Hamanov, Scientific Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Laboratories 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvlabs.com

RUSH!

Bureau Veritas Laboratories
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel (905) 817-5700 Toll-free 800-563-6266 Fax (905) 817-5777 www.bvlabs.com

Page 1 of 1

04-Oct-21 15:40

Ema Gitej

C1S7480

M2K ENV-601

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name	#2292 Golder Associates Ltd	Company Name		Quotation #	B80683
Attention	Accounts Payable	Attention	Daniel Stabile	P.O. #	
Address	100 Scotia Crt	Address		Project	21484078
	Whitby ON L1N 8Y6			Project Name	
Tel	(905) 723-2727 Fax (905) 723-2182	Tel	Fax	Site #	
Email	CanadaAccountsPayableInvoices@golder.com	Email	Daniel_Stabile@golder.com	Sampled By	AB

Bottle Order #: 849032

COC #: C#849032-01-01

Project Manager: Ema Gitej

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BV LABS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)	Other Regulations	Special Instructions
[X] Table 1 [ ] Res/Park [ ] Medium/Fine	[ ] CCME [ ] Sanitary Sewer Bylaw	
[ ] Table 2 [ ] Ind/Comm [ ] Coarse	[ ] Reg 558 [ ] Storm Sewer Bylaw	
[ ] Table 3 [ ] Agri/Other [X] For RSC	[ ] MISA Municipality	
[ ] Table	[ ] PWQO [ ] Reg 406 Table	
	[ ] Other	

Include Criteria on Certificate of Analysis (Y/N)? ____

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT:
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: 4 hr Time Required: X
Rush Confirmation Number: ____ (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	O Reg 153 VOCs by HS & F1-F4	O Reg 153 Metals & Inorganics Pkg	Methyl Mercury	# of Bottles	Comments
1		21-5	Oct 4/21	900	GW	Y	X	X	X	11	
2		21-4		1135		Y	X	X	X	11	
3		21-2		1240		Y	X	X	X	11	
4		21-3		1315		Y	X	X	X	11	
5		DUP-1		/		Y	X	X	X	11	
6		F-Blank	Oct 4/21	1315	/	N	X			3	
7		Trip Blank	/	/	/	N	X			2	
8											
9											
10											

RECEIVED IN OTTAWA

On Ice 2021/10/04

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Aaron Trakhtman	Oct 4/21	1535	Aisling Mulcahy Maudy	2021/10/04 2021/10/05	15:40 08:40	0

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal Present	Yes	No
	8 8 8	Intact	✓	

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS

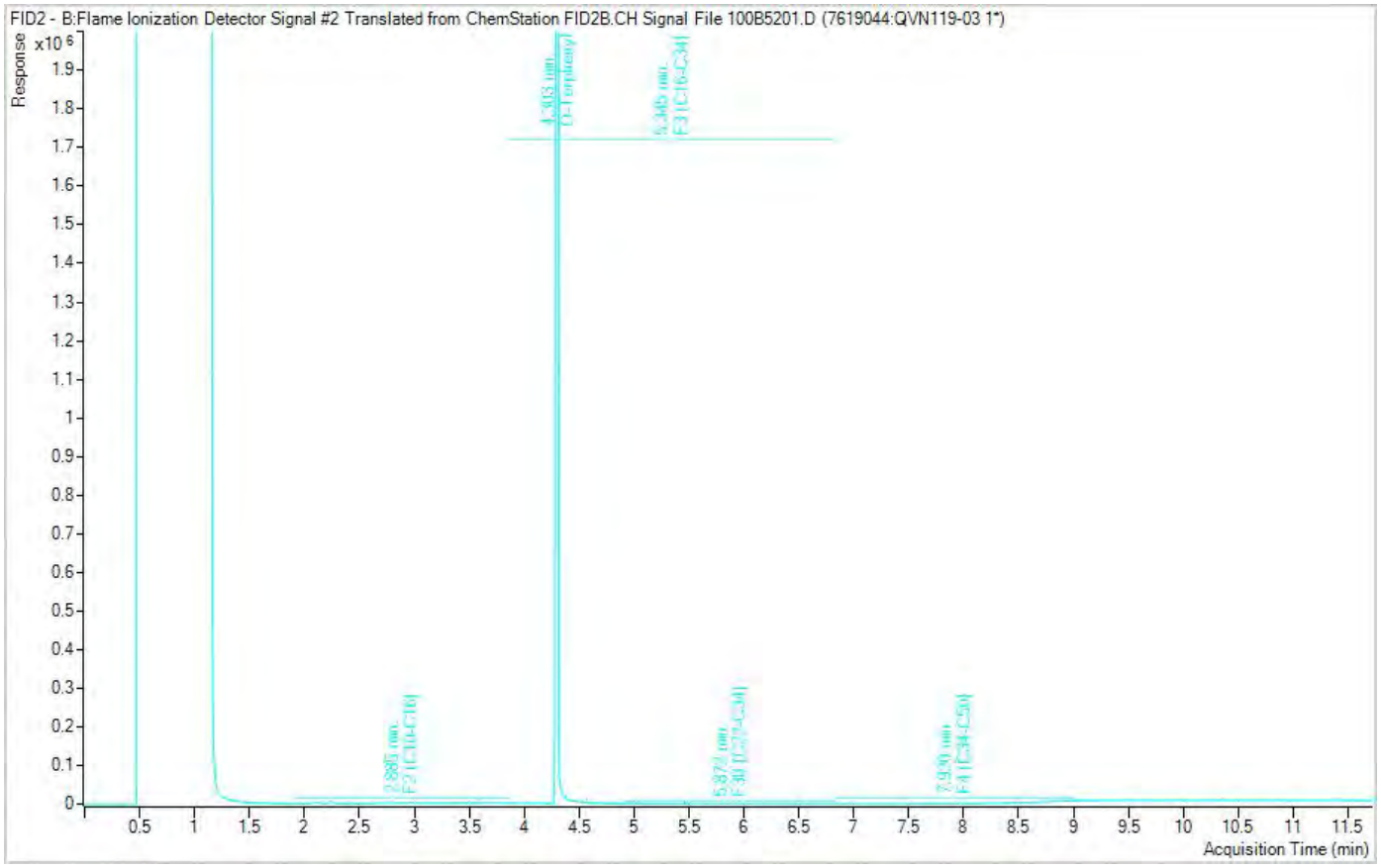
SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

White: BV Labs Yellow: Client

BV Labs Job #: C1S7480
Report Date: 2021/10/06
BV Labs Sample: QVN119

Golder Associates Ltd
Client Project #: 21484078
Client ID: 21-5

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

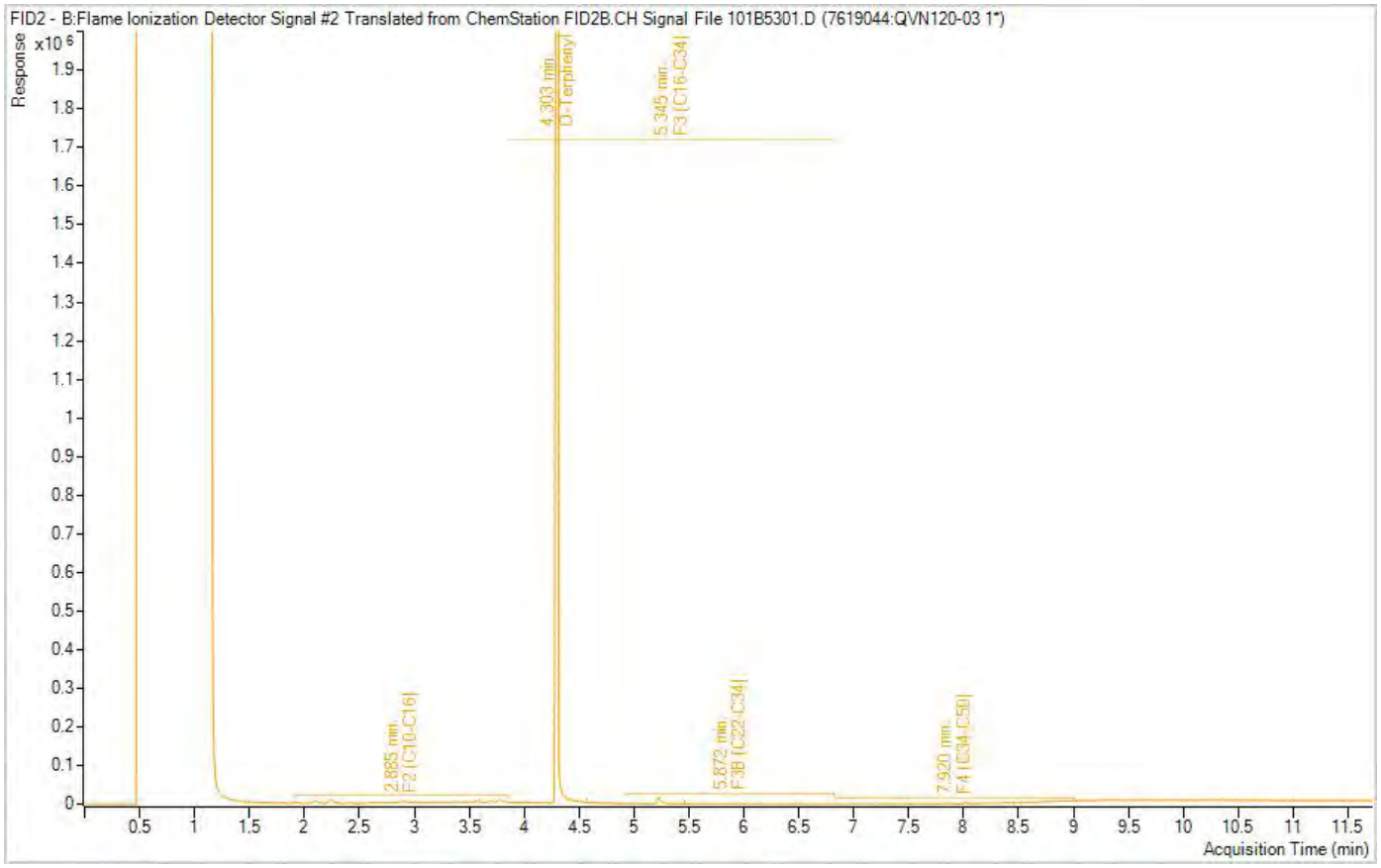


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1S7480
Report Date: 2021/10/06
BV Labs Sample: QVN120

Golder Associates Ltd
Client Project #: 21484078
Client ID: 21-4

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

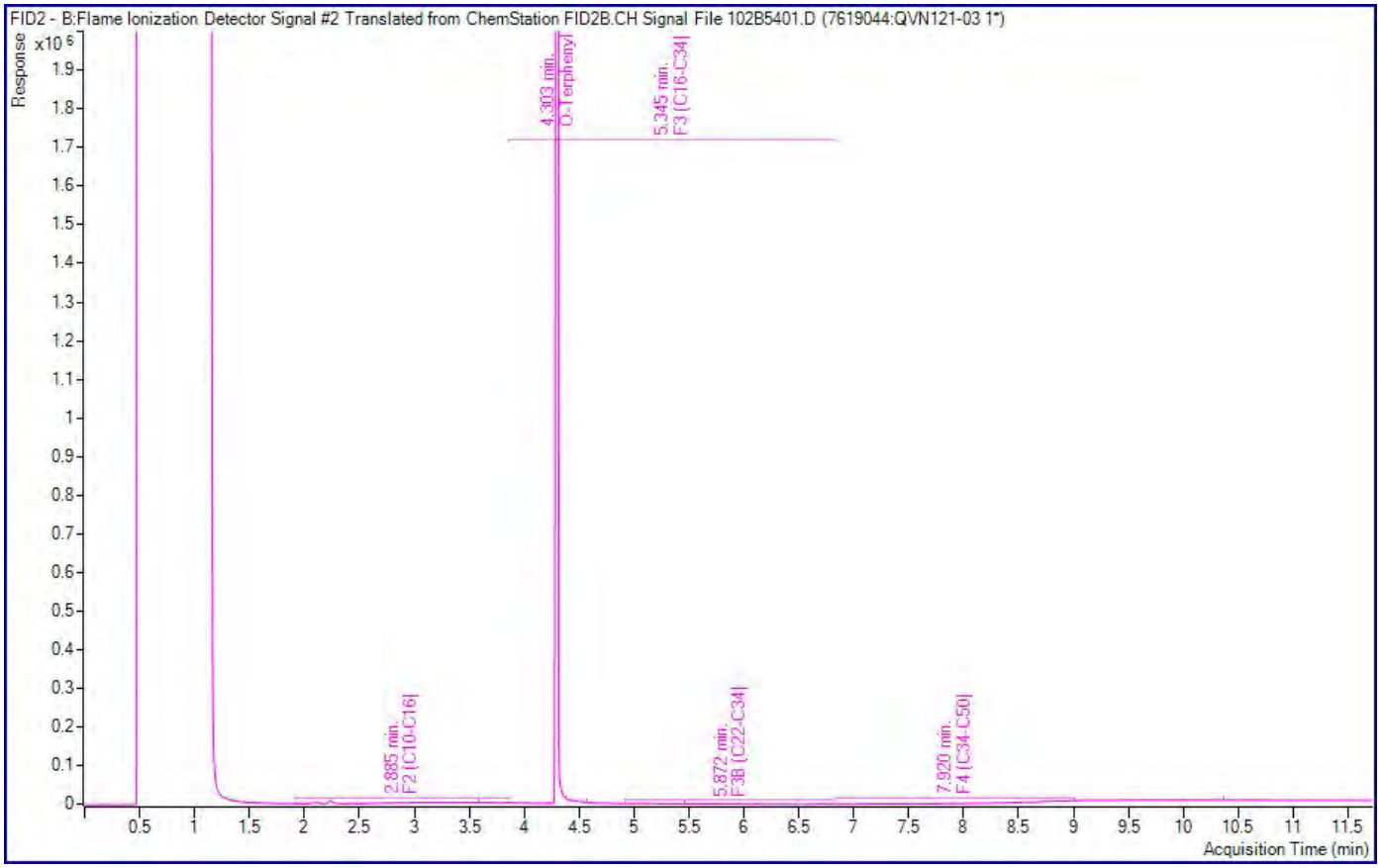


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1S7480
Report Date: 2021/10/06
BV Labs Sample: QVN121

Golder Associates Ltd
Client Project #: 21484078
Client ID: 21-2

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

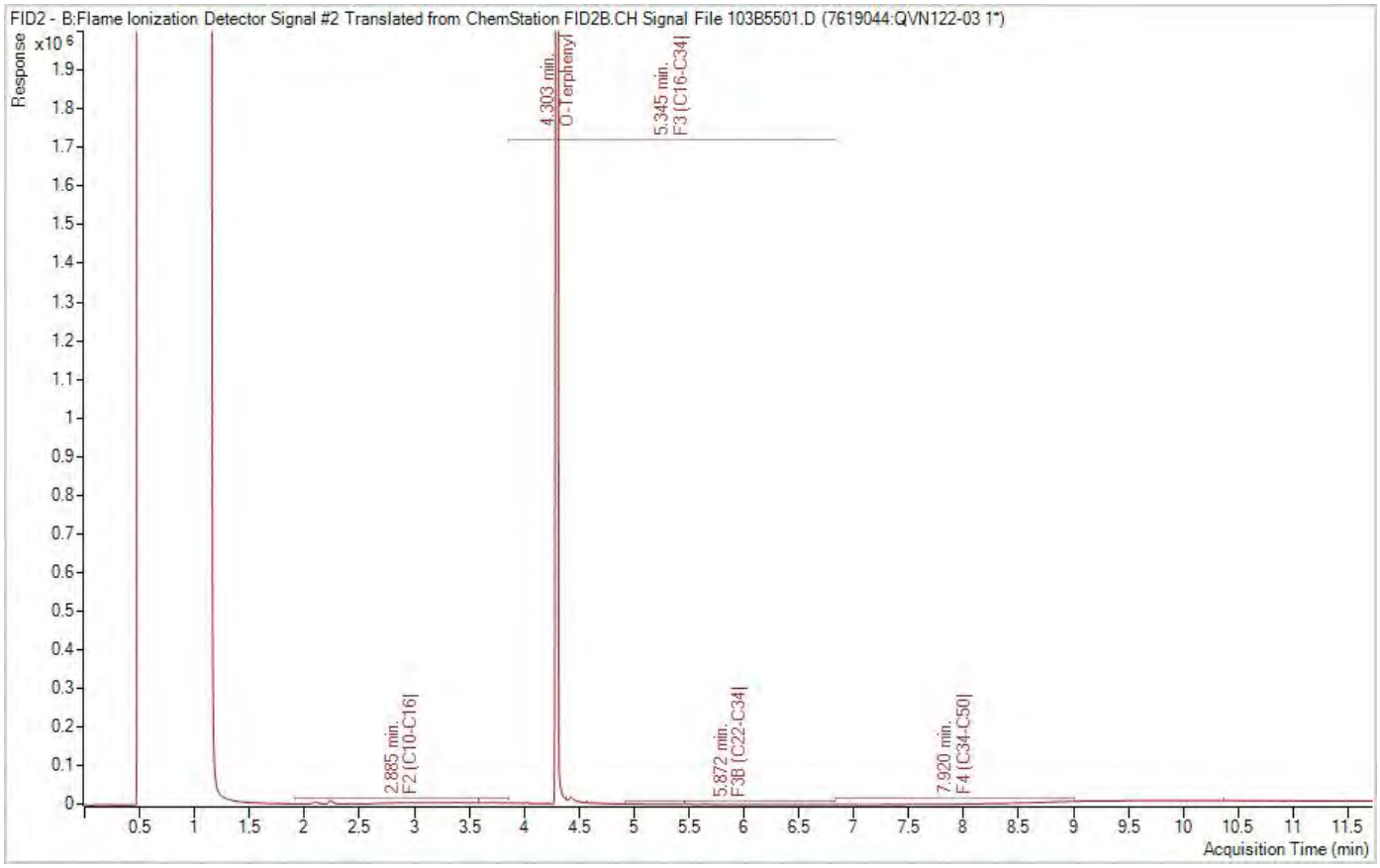


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1S7480
Report Date: 2021/10/06
BV Labs Sample: QVN122

Golder Associates Ltd
Client Project #: 21484078
Client ID: 21-3

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

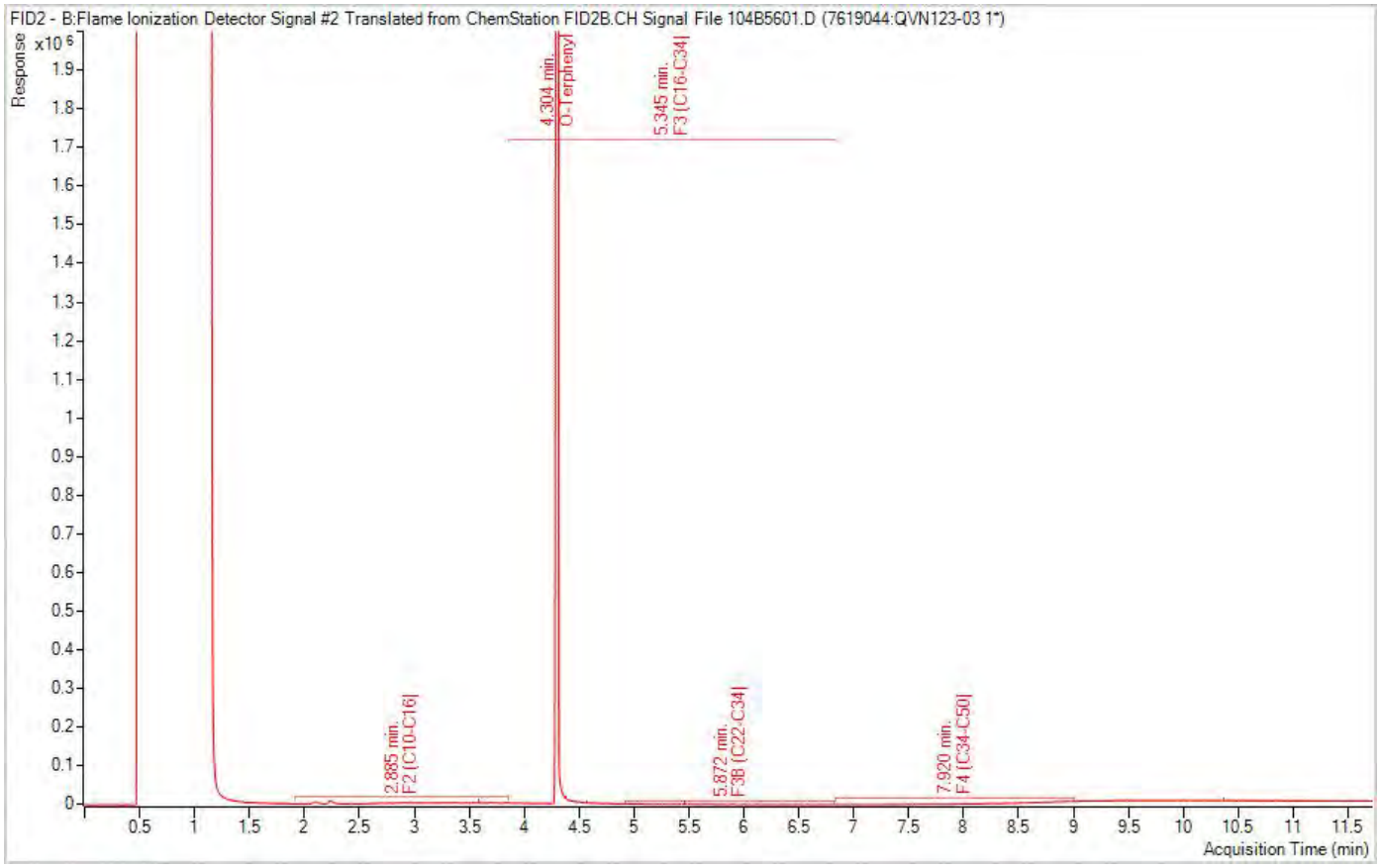


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1S7480
Report Date: 2021/10/06
BV Labs Sample: QVN123

Golder Associates Ltd
Client Project #: 21484078
Client ID: DUP-1

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Your Project #: 21494078
Your C.O.C. #: 855386-01-01, 855386-02-01

Attention: Daniel Stabile

Golder Associates Ltd
100 Scotia Crt
Whitby, ON
CANADA L1N 8Y6

Report Date: 2022/01/11
Report #: R6957298
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1X6358
Received: 2021/11/15, 13:20

Sample Matrix: Soil
Samples Received: 11

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Hot Water Extractable Boron (1)	6	2021/11/17	2021/11/17	CAM SOP-00408	R153 Ana. Prot. 2011
1,3-Dichloropropene Sum (1)	7	N/A	2021/11/17		EPA 8260C m
Free (WAD) Cyanide (1)	6	2021/11/17	2021/11/17	CAM SOP-00457	OMOE E3015 m
Conductivity (1)	6	2021/11/17	2021/11/17	CAM SOP-00414	OMOE E3530 v1 m
Hexavalent Chromium in Soil by IC (1, 2)	6	2021/11/17	2021/11/17	CAM SOP-00436	EPA 3060/7199 m
Petroleum Hydrocarbons F2-F4 in Soil (1, 3)	7	2021/11/16	2021/11/17	CAM SOP-00316	CCME CWS m
F4G (CCME Hydrocarbons Gravimetric) (1)	2	2021/11/18	2021/11/18	CAM SOP-00316	CCME PHC-CWS m
Acid Extractable Metals by ICPMS (1)	6	2021/11/17	2021/11/17	CAM SOP-00447	EPA 6020B m
Moisture (1)	11	N/A	2021/11/16	CAM SOP-00445	Carter 2nd ed 51.2 m
pH CaCl2 EXTRACT (1)	6	2021/11/17	2021/11/17	CAM SOP-00413	EPA 9045 D m
Sodium Adsorption Ratio (SAR) (1)	6	N/A	2021/11/17	CAM SOP-00102	EPA 6010C
Volatile Organic Compounds and F1 PHCs (1)	7	N/A	2021/11/17	CAM SOP-00230	EPA 8260C m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.

Your Project #: 21494078
Your C.O.C. #: 855386-01-01, 855386-02-01

Attention: Daniel Stabile

Golder Associates Ltd
100 Scotia Crt
Whitby, ON
CANADA L1N 8Y6

Report Date: 2022/01/11
Report #: R6957298
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1X6358
Received: 2021/11/15, 13:20

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd , Mississauga, ON, L5N 2L8
(2) Soils are reported on a dry weight basis unless otherwise specified.
(3) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Ema Gitej, Senior Project Manager
Email: emese.gitej@bureauveritas.com
Phone# (905)817-5829
==========
BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID		RFW712			RFW713	RFW714		
Sampling Date		2021/11/12 12:30			2021/11/12 13:00	2021/11/11 14:00		
COC Number		855386-01-01			855386-01-01	855386-01-01		
	UNITS	21-11 SA2	RDL	QC Batch	21-11 SA3	21-12 SA2	RDL	QC Batch
Calculated Parameters								
Sodium Adsorption Ratio	N/A	6.6		7704789	5.9	0.71		7704789
Inorganics								
Conductivity	mS/cm	0.33	0.002	7705253	0.37	0.13	0.002	7705253
Moisture	%				16	8.7	1.0	7704833
Available (CaCl2) pH	pH	7.41		7705354	7.61	6.99		7705354
WAD Cyanide (Free)	ug/g	<0.01	0.01	7705073	<0.01	<0.01	0.01	7705073
Chromium (VI)	ug/g	<0.18	0.18	7705099	<0.18	<0.18	0.18	7705099
Metals								
Hot Water Ext. Boron (B)	ug/g	0.60	0.050	7705250	0.61	0.13	0.050	7705250
Acid Extractable Antimony (Sb)	ug/g	0.53	0.20	7705373	<0.20	<0.20	0.20	7705373
Acid Extractable Arsenic (As)	ug/g	1.1	1.0	7705373	<1.0	<1.0	1.0	7705373
Acid Extractable Barium (Ba)	ug/g	110	0.50	7705373	76	49	0.50	7705373
Acid Extractable Beryllium (Be)	ug/g	0.61	0.20	7705373	0.46	0.31	0.20	7705373
Acid Extractable Boron (B)	ug/g	8.1	5.0	7705373	6.9	<5.0	5.0	7705373
Acid Extractable Cadmium (Cd)	ug/g	0.29	0.10	7705373	0.20	<0.10	0.10	7705373
Acid Extractable Chromium (Cr)	ug/g	26	1.0	7705373	24	15	1.0	7705373
Acid Extractable Cobalt (Co)	ug/g	11	0.10	7705373	7.2	4.3	0.10	7705373
Acid Extractable Copper (Cu)	ug/g	22	0.50	7705373	15	8.6	0.50	7705373
Acid Extractable Lead (Pb)	ug/g	54	1.0	7705373	20	2.7	1.0	7705373
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	0.50	7705373	0.73	<0.50	0.50	7705373
Acid Extractable Nickel (Ni)	ug/g	26	0.50	7705373	22	8.6	0.50	7705373
Acid Extractable Selenium (Se)	ug/g	<0.50	0.50	7705373	<0.50	<0.50	0.50	7705373
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	7705373	<0.20	<0.20	0.20	7705373
Acid Extractable Thallium (Tl)	ug/g	0.15	0.050	7705373	0.11	0.060	0.050	7705373
Acid Extractable Uranium (U)	ug/g	0.42	0.050	7705373	0.39	0.55	0.050	7705373
Acid Extractable Vanadium (V)	ug/g	27	5.0	7705373	28	27	5.0	7705373
Acid Extractable Zinc (Zn)	ug/g	80	5.0	7705373	60	21	5.0	7705373
Acid Extractable Mercury (Hg)	ug/g	<0.050	0.050	7705373	<0.050	<0.050	0.050	7705373

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID		RFW715			RFW715			RFW716		
Sampling Date		2021/11/11 14:10			2021/11/11 14:10			2021/11/11 15:00		
COC Number		855386-01-01			855386-01-01			855386-01-01		
	UNITS	21-12 SA3	RDL	QC Batch	21-12 SA3 Lab-Dup	RDL	QC Batch	21-13 SA2	RDL	QC Batch
Calculated Parameters										
Sodium Adsorption Ratio	N/A	0.70		7704789				0.54		7704789
Inorganics										
Conductivity	mS/cm	0.59	0.002	7705253	0.61	0.002	7705253	0.060	0.002	7705253
Moisture	%							6.2	1.0	7704833
Available (CaCl2) pH	pH	7.58		7705354				6.88		7705354
WAD Cyanide (Free)	ug/g	<0.01	0.01	7705073				<0.01	0.01	7705073
Chromium (VI)	ug/g	<0.18	0.18	7705099				<0.18	0.18	7705099
Metals										
Hot Water Ext. Boron (B)	ug/g	0.51	0.050	7705250	0.56	0.050	7705250	0.14	0.050	7705250
Acid Extractable Antimony (Sb)	ug/g	<0.20	0.20	7705373	<0.20	0.20	7705373	<0.20	0.20	7705373
Acid Extractable Arsenic (As)	ug/g	<1.0	1.0	7705373	1.1	1.0	7705373	<1.0	1.0	7705373
Acid Extractable Barium (Ba)	ug/g	77	0.50	7705373	74	0.50	7705373	24	0.50	7705373
Acid Extractable Beryllium (Be)	ug/g	0.54	0.20	7705373	0.56	0.20	7705373	<0.20	0.20	7705373
Acid Extractable Boron (B)	ug/g	9.2	5.0	7705373	9.8	5.0	7705373	<5.0	5.0	7705373
Acid Extractable Cadmium (Cd)	ug/g	<0.10	0.10	7705373	<0.10	0.10	7705373	<0.10	0.10	7705373
Acid Extractable Chromium (Cr)	ug/g	39	1.0	7705373	40	1.0	7705373	7.0	1.0	7705373
Acid Extractable Cobalt (Co)	ug/g	8.5	0.10	7705373	8.5	0.10	7705373	2.8	0.10	7705373
Acid Extractable Copper (Cu)	ug/g	17	0.50	7705373	17	0.50	7705373	5.3	0.50	7705373
Acid Extractable Lead (Pb)	ug/g	6.7	1.0	7705373	6.6	1.0	7705373	1.9	1.0	7705373
Acid Extractable Molybdenum (Mo)	ug/g	4.6	0.50	7705373	4.6	0.50	7705373	<0.50	0.50	7705373
Acid Extractable Nickel (Ni)	ug/g	18	0.50	7705373	18	0.50	7705373	4.9	0.50	7705373
Acid Extractable Selenium (Se)	ug/g	<0.50	0.50	7705373	<0.50	0.50	7705373	<0.50	0.50	7705373
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	7705373	<0.20	0.20	7705373	<0.20	0.20	7705373
Acid Extractable Thallium (Tl)	ug/g	0.11	0.050	7705373	0.11	0.050	7705373	<0.050	0.050	7705373
Acid Extractable Uranium (U)	ug/g	0.54	0.050	7705373	0.51	0.050	7705373	0.40	0.050	7705373
Acid Extractable Vanadium (V)	ug/g	27	5.0	7705373	26	5.0	7705373	15	5.0	7705373
Acid Extractable Zinc (Zn)	ug/g	32	5.0	7705373	31	5.0	7705373	12	5.0	7705373
Acid Extractable Mercury (Hg)	ug/g	<0.050	0.050	7705373	<0.050	0.050	7705373	<0.050	0.050	7705373

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID		RFW717		
Sampling Date		2021/11/11 15:10		
COC Number		855386-01-01		
	UNITS	21-13 SA3	RDL	QC Batch
Calculated Parameters				
Sodium Adsorption Ratio	N/A	7.3		7704789
Inorganics				
Conductivity	mS/cm	0.38	0.002	7705253
Moisture	%	10	1.0	7704833
Available (CaCl2) pH	pH	7.68		7705354
WAD Cyanide (Free)	ug/g	<0.01	0.01	7705073
Chromium (VI)	ug/g	<0.18	0.18	7705099
Metals				
Hot Water Ext. Boron (B)	ug/g	0.41	0.050	7705250
Acid Extractable Antimony (Sb)	ug/g	<0.20	0.20	7705373
Acid Extractable Arsenic (As)	ug/g	2.0	1.0	7705373
Acid Extractable Barium (Ba)	ug/g	81	0.50	7705373
Acid Extractable Beryllium (Be)	ug/g	1.1	0.20	7705373
Acid Extractable Boron (B)	ug/g	16	5.0	7705373
Acid Extractable Cadmium (Cd)	ug/g	<0.10	0.10	7705373
Acid Extractable Chromium (Cr)	ug/g	41	1.0	7705373
Acid Extractable Cobalt (Co)	ug/g	20	0.10	7705373
Acid Extractable Copper (Cu)	ug/g	7.8	0.50	7705373
Acid Extractable Lead (Pb)	ug/g	5.2	1.0	7705373
Acid Extractable Molybdenum (Mo)	ug/g	0.76	0.50	7705373
Acid Extractable Nickel (Ni)	ug/g	47	0.50	7705373
Acid Extractable Selenium (Se)	ug/g	<0.50	0.50	7705373
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	7705373
Acid Extractable Thallium (Tl)	ug/g	0.21	0.050	7705373
Acid Extractable Uranium (U)	ug/g	0.31	0.050	7705373
Acid Extractable Vanadium (V)	ug/g	27	5.0	7705373
Acid Extractable Zinc (Zn)	ug/g	35	5.0	7705373
Acid Extractable Mercury (Hg)	ug/g	<0.050	0.050	7705373

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

O.REG 153 VOCS BY HS & F1-F4 (SOIL)

Bureau Veritas ID		RFW712	RFW715	RFW718	RFW719	RFW721		
Sampling Date		2021/11/12 12:30	2021/11/11 14:10	2021/11/12 16:00	2021/11/12 15:00	2021/11/11 16:00		
COC Number		855386-01-01	855386-01-01	855386-01-01	855386-01-01	855386-01-01		
	UNITS	21-11 SA2	21-12 SA3	21-14 SA3	21-15 SA3	21-16 SA2	RDL	QC Batch
Inorganics								
Moisture	%	18	15	17	11	8.5	1.0	7704833
Calculated Parameters								
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	7704186
Volatile Organics								
Acetone (2-Propanone)	ug/g	<0.49	<0.49	<0.49	<0.49	<0.49	0.49	7705309
Benzene	ug/g	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	0.0060	7705309
Bromodichloromethane	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7705309
Bromoform	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7705309
Bromomethane	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7705309
Carbon Tetrachloride	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7705309
Chlorobenzene	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7705309
Chloroform	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7705309
Dibromochloromethane	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7705309
1,2-Dichlorobenzene	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7705309
1,3-Dichlorobenzene	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7705309
1,4-Dichlorobenzene	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7705309
Dichlorodifluoromethane (FREON 12)	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7705309
1,1-Dichloroethane	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7705309
1,2-Dichloroethane	ug/g	<0.049	<0.049	<0.049	<0.049	<0.049	0.049	7705309
1,1-Dichloroethylene	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7705309
cis-1,2-Dichloroethylene	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7705309
trans-1,2-Dichloroethylene	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7705309
1,2-Dichloropropane	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7705309
cis-1,3-Dichloropropene	ug/g	<0.030	<0.030	<0.030	<0.030	<0.030	0.030	7705309
trans-1,3-Dichloropropene	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7705309
Ethylbenzene	ug/g	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	7705309
Ethylene Dibromide	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7705309
Hexane	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7705309
Methylene Chloride(Dichloromethane)	ug/g	<0.049	<0.049	<0.049	<0.049	<0.049	0.049	7705309
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.40	<0.40	<0.40	<0.40	<0.40	0.40	7705309
Methyl Isobutyl Ketone	ug/g	<0.40	<0.40	<0.40	<0.40	<0.40	0.40	7705309
Methyl t-butyl ether (MTBE)	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7705309
Styrene	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7705309
1,1,1,2-Tetrachloroethane	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7705309

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

O.REG 153 VOCS BY HS & F1-F4 (SOIL)

Bureau Veritas ID		RFW712	RFW715	RFW718	RFW719	RFW721		
Sampling Date		2021/11/12 12:30	2021/11/11 14:10	2021/11/12 16:00	2021/11/12 15:00	2021/11/11 16:00		
COC Number		855386-01-01	855386-01-01	855386-01-01	855386-01-01	855386-01-01		
	UNITS	21-11 SA2	21-12 SA3	21-14 SA3	21-15 SA3	21-16 SA2	RDL	QC Batch
1,1,2,2-Tetrachloroethane	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7705309
Tetrachloroethylene	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7705309
Toluene	ug/g	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7705309
1,1,1-Trichloroethane	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7705309
1,1,2-Trichloroethane	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7705309
Trichloroethylene	ug/g	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	7705309
Trichlorofluoromethane (FREON 11)	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7705309
Vinyl Chloride	ug/g	<0.019	<0.019	<0.019	<0.019	<0.019	0.019	7705309
p+m-Xylene	ug/g	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7705309
o-Xylene	ug/g	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7705309
Total Xylenes	ug/g	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7705309
F1 (C6-C10)	ug/g	<10	<10	<10	<10	<10	10	7705309
F1 (C6-C10) - BTEX	ug/g	<10	<10	<10	<10	<10	10	7705309
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/g	<10	<10	<10	<10	<10	10	7704766
F3 (C16-C34 Hydrocarbons)	ug/g	<50	140	<50	300	100	50	7704766
F4 (C34-C50 Hydrocarbons)	ug/g	<50	310	<50	780	<50	50	7704766
Reached Baseline at C50	ug/g	Yes	No	Yes	No	Yes		7704766
Surrogate Recovery (%)								
o-Terphenyl	%	101	92	101	101	102		7704766
4-Bromofluorobenzene	%	92	91	91	91	91		7705309
D10-o-Xylene	%	80	81	83	81	82		7705309
D4-1,2-Dichloroethane	%	107	108	108	107	107		7705309
D8-Toluene	%	89	90	90	90	90		7705309

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

O.REG 153 VOCS BY HS & F1-F4 (SOIL)

Bureau Veritas ID		RFW734	RFW735			RFW735		
Sampling Date		2021/11/11 17:00	2021/11/11 18:00			2021/11/11 18:00		
COC Number		855386-02-01	855386-02-01			855386-02-01		
	UNITS	21-17 SA2	21-18 SA2	RDL	QC Batch	21-18 SA2 Lab-Dup	RDL	QC Batch
Inorganics								
Moisture	%	15	9.9	1.0	7704833	9.6	1.0	7704833
Calculated Parameters								
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	<0.050	0.050	7704186			
Volatile Organics								
Acetone (2-Propanone)	ug/g	<0.49	<0.49	0.49	7705309			
Benzene	ug/g	<0.0060	<0.0060	0.0060	7705309			
Bromodichloromethane	ug/g	<0.040	<0.040	0.040	7705309			
Bromoform	ug/g	<0.040	<0.040	0.040	7705309			
Bromomethane	ug/g	<0.040	<0.040	0.040	7705309			
Carbon Tetrachloride	ug/g	<0.040	<0.040	0.040	7705309			
Chlorobenzene	ug/g	<0.040	<0.040	0.040	7705309			
Chloroform	ug/g	<0.040	<0.040	0.040	7705309			
Dibromochloromethane	ug/g	<0.040	<0.040	0.040	7705309			
1,2-Dichlorobenzene	ug/g	<0.040	<0.040	0.040	7705309			
1,3-Dichlorobenzene	ug/g	<0.040	<0.040	0.040	7705309			
1,4-Dichlorobenzene	ug/g	<0.040	<0.040	0.040	7705309			
Dichlorodifluoromethane (FREON 12)	ug/g	<0.040	<0.040	0.040	7705309			
1,1-Dichloroethane	ug/g	<0.040	<0.040	0.040	7705309			
1,2-Dichloroethane	ug/g	<0.049	<0.049	0.049	7705309			
1,1-Dichloroethylene	ug/g	<0.040	<0.040	0.040	7705309			
cis-1,2-Dichloroethylene	ug/g	<0.040	<0.040	0.040	7705309			
trans-1,2-Dichloroethylene	ug/g	<0.040	<0.040	0.040	7705309			
1,2-Dichloropropane	ug/g	<0.040	<0.040	0.040	7705309			
cis-1,3-Dichloropropene	ug/g	<0.030	<0.030	0.030	7705309			
trans-1,3-Dichloropropene	ug/g	<0.040	<0.040	0.040	7705309			
Ethylbenzene	ug/g	<0.010	<0.010	0.010	7705309			
Ethylene Dibromide	ug/g	<0.040	<0.040	0.040	7705309			
Hexane	ug/g	<0.040	<0.040	0.040	7705309			
Methylene Chloride(Dichloromethane)	ug/g	<0.049	<0.049	0.049	7705309			
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.40	<0.40	0.40	7705309			
Methyl Isobutyl Ketone	ug/g	<0.40	<0.40	0.40	7705309			
Methyl t-butyl ether (MTBE)	ug/g	<0.040	<0.040	0.040	7705309			
Styrene	ug/g	<0.040	<0.040	0.040	7705309			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

O.REG 153 VOCS BY HS & F1-F4 (SOIL)

Bureau Veritas ID		RFW734	RFW735			RFW735		
Sampling Date		2021/11/11 17:00	2021/11/11 18:00			2021/11/11 18:00		
COC Number		855386-02-01	855386-02-01			855386-02-01		
	UNITS	21-17 SA2	21-18 SA2	RDL	QC Batch	21-18 SA2 Lab-Dup	RDL	QC Batch
1,1,1,2-Tetrachloroethane	ug/g	<0.040	<0.040	0.040	7705309			
1,1,2,2-Tetrachloroethane	ug/g	<0.040	<0.040	0.040	7705309			
Tetrachloroethylene	ug/g	<0.040	<0.040	0.040	7705309			
Toluene	ug/g	<0.020	<0.020	0.020	7705309			
1,1,1-Trichloroethane	ug/g	<0.040	<0.040	0.040	7705309			
1,1,2-Trichloroethane	ug/g	<0.040	<0.040	0.040	7705309			
Trichloroethylene	ug/g	<0.010	<0.010	0.010	7705309			
Trichlorofluoromethane (FREON 11)	ug/g	<0.040	<0.040	0.040	7705309			
Vinyl Chloride	ug/g	<0.019	<0.019	0.019	7705309			
p+m-Xylene	ug/g	<0.020	<0.020	0.020	7705309			
o-Xylene	ug/g	<0.020	<0.020	0.020	7705309			
Total Xylenes	ug/g	<0.020	<0.020	0.020	7705309			
F1 (C6-C10)	ug/g	<10	<10	10	7705309			
F1 (C6-C10) - BTEX	ug/g	<10	<10	10	7705309			
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/g	<10	<10	10	7704766			
F3 (C16-C34 Hydrocarbons)	ug/g	260	<50	50	7704766			
F4 (C34-C50 Hydrocarbons)	ug/g	87	<50	50	7704766			
Reached Baseline at C50	ug/g	Yes	Yes		7704766			
Surrogate Recovery (%)								
o-Terphenyl	%	99	103		7704766			
4-Bromofluorobenzene	%	90	92		7705309			
D10-o-Xylene	%	77	83		7705309			
D4-1,2-Dichloroethane	%	109	107		7705309			
D8-Toluene	%	89	90		7705309			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID		RFW715	RFW719		
Sampling Date		2021/11/11 14:10	2021/11/12 15:00		
COC Number		855386-01-01	855386-01-01		
	UNITS	21-12 SA3	21-15 SA3	RDL	QC Batch
F2-F4 Hydrocarbons					
F4G-sg (Grav. Heavy Hydrocarbons)	ug/g	1400	2200	100	7707684

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

TEST SUMMARY

Bureau Veritas ID: RFW712 **Collected:** 2021/11/12
Sample ID: 21-11 SA2 **Shipped:**
Matrix: Soil **Received:** 2021/11/15

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	7705250	2021/11/17	2021/11/17	Jolly John
1,3-Dichloropropene Sum	CALC	7704186	N/A	2021/11/17	Automated Statchk
Free (WAD) Cyanide	TECH	7705073	2021/11/17	2021/11/17	Louise Harding
Conductivity	AT	7705253	2021/11/17	2021/11/17	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	7705099	2021/11/17	2021/11/17	Violeta Porcila
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	7704766	2021/11/16	2021/11/17	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	7705373	2021/11/17	2021/11/17	Daniel Teclu
Moisture	BAL	7704833	N/A	2021/11/16	Simrat Bhathal
pH CaCl2 EXTRACT	AT	7705354	2021/11/17	2021/11/17	Taslima Aktar
Sodium Adsorption Ratio (SAR)	CALC/MET	7704789	N/A	2021/11/17	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7705309	N/A	2021/11/17	Juan Pangilinan

Bureau Veritas ID: RFW713 **Collected:** 2021/11/12
Sample ID: 21-11 SA3 **Shipped:**
Matrix: Soil **Received:** 2021/11/15

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	7705250	2021/11/17	2021/11/17	Jolly John
Free (WAD) Cyanide	TECH	7705073	2021/11/17	2021/11/17	Louise Harding
Conductivity	AT	7705253	2021/11/17	2021/11/17	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	7705099	2021/11/17	2021/11/17	Violeta Porcila
Acid Extractable Metals by ICPMS	ICP/MS	7705373	2021/11/17	2021/11/17	Daniel Teclu
Moisture	BAL	7704833	N/A	2021/11/16	Simrat Bhathal
pH CaCl2 EXTRACT	AT	7705354	2021/11/17	2021/11/17	Taslima Aktar
Sodium Adsorption Ratio (SAR)	CALC/MET	7704789	N/A	2021/11/17	Automated Statchk

Bureau Veritas ID: RFW714 **Collected:** 2021/11/11
Sample ID: 21-12 SA2 **Shipped:**
Matrix: Soil **Received:** 2021/11/15

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	7705250	2021/11/17	2021/11/17	Jolly John
Free (WAD) Cyanide	TECH	7705073	2021/11/17	2021/11/17	Louise Harding
Conductivity	AT	7705253	2021/11/17	2021/11/17	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	7705099	2021/11/17	2021/11/17	Violeta Porcila
Acid Extractable Metals by ICPMS	ICP/MS	7705373	2021/11/17	2021/11/17	Daniel Teclu
Moisture	BAL	7704833	N/A	2021/11/16	Simrat Bhathal
pH CaCl2 EXTRACT	AT	7705354	2021/11/17	2021/11/17	Taslima Aktar
Sodium Adsorption Ratio (SAR)	CALC/MET	7704789	N/A	2021/11/17	Automated Statchk

Bureau Veritas ID: RFW715 **Collected:** 2021/11/11
Sample ID: 21-12 SA3 **Shipped:**
Matrix: Soil **Received:** 2021/11/15

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	7705250	2021/11/17	2021/11/17	Jolly John

TEST SUMMARY

Bureau Veritas ID: RFW715
Sample ID: 21-12 SA3
Matrix: Soil

Collected: 2021/11/11
Shipped:
Received: 2021/11/15

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7704186	N/A	2021/11/17	Automated Statchk
Free (WAD) Cyanide	TECH	7705073	2021/11/17	2021/11/17	Louise Harding
Conductivity	AT	7705253	2021/11/17	2021/11/17	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	7705099	2021/11/17	2021/11/17	Violeta Porcila
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	7704766	2021/11/16	2021/11/17	Dennis Ngondu
F4G (CCME Hydrocarbons Gravimetric)	BAL	7707684	2021/11/18	2021/11/18	Rashmi Dubey
Acid Extractable Metals by ICPMS	ICP/MS	7705373	2021/11/17	2021/11/17	Daniel Teclu
Moisture	BAL	7704833	N/A	2021/11/16	Simrat Bhathal
pH CaCl2 EXTRACT	AT	7705354	2021/11/17	2021/11/17	Taslima Aktar
Sodium Adsorption Ratio (SAR)	CALC/MET	7704789	N/A	2021/11/17	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7705309	N/A	2021/11/17	Juan Pangilinan

Bureau Veritas ID: RFW715 Dup
Sample ID: 21-12 SA3
Matrix: Soil

Collected: 2021/11/11
Shipped:
Received: 2021/11/15

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	7705250	2021/11/17	2021/11/17	Jolly John
Conductivity	AT	7705253	2021/11/17	2021/11/17	Kien Tran
Acid Extractable Metals by ICPMS	ICP/MS	7705373	2021/11/17	2021/11/17	Daniel Teclu

Bureau Veritas ID: RFW716
Sample ID: 21-13 SA2
Matrix: Soil

Collected: 2021/11/11
Shipped:
Received: 2021/11/15

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	7705250	2021/11/17	2021/11/17	Jolly John
Free (WAD) Cyanide	TECH	7705073	2021/11/17	2021/11/17	Louise Harding
Conductivity	AT	7705253	2021/11/17	2021/11/17	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	7705099	2021/11/17	2021/11/17	Violeta Porcila
Acid Extractable Metals by ICPMS	ICP/MS	7705373	2021/11/17	2021/11/17	Daniel Teclu
Moisture	BAL	7704833	N/A	2021/11/16	Simrat Bhathal
pH CaCl2 EXTRACT	AT	7705354	2021/11/17	2021/11/17	Taslima Aktar
Sodium Adsorption Ratio (SAR)	CALC/MET	7704789	N/A	2021/11/17	Automated Statchk

Bureau Veritas ID: RFW717
Sample ID: 21-13 SA3
Matrix: Soil

Collected: 2021/11/11
Shipped:
Received: 2021/11/15

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	7705250	2021/11/17	2021/11/17	Jolly John
Free (WAD) Cyanide	TECH	7705073	2021/11/17	2021/11/17	Louise Harding
Conductivity	AT	7705253	2021/11/17	2021/11/17	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	7705099	2021/11/17	2021/11/17	Violeta Porcila
Acid Extractable Metals by ICPMS	ICP/MS	7705373	2021/11/17	2021/11/17	Daniel Teclu
Moisture	BAL	7704833	N/A	2021/11/16	Simrat Bhathal

TEST SUMMARY

Bureau Veritas ID: RFW717 **Collected:** 2021/11/11
Sample ID: 21-13 SA3 **Shipped:**
Matrix: Soil **Received:** 2021/11/15

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	7705354	2021/11/17	2021/11/17	Taslima Aktar
Sodium Adsorption Ratio (SAR)	CALC/MET	7704789	N/A	2021/11/17	Automated Statchk

Bureau Veritas ID: RFW718 **Collected:** 2021/11/12
Sample ID: 21-14 SA3 **Shipped:**
Matrix: Soil **Received:** 2021/11/15

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7704186	N/A	2021/11/17	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	7704766	2021/11/16	2021/11/17	Dennis Ngondu
Moisture	BAL	7704833	N/A	2021/11/16	Simrat Bhathal
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7705309	N/A	2021/11/17	Juan Pangilinan

Bureau Veritas ID: RFW719 **Collected:** 2021/11/12
Sample ID: 21-15 SA3 **Shipped:**
Matrix: Soil **Received:** 2021/11/15

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7704186	N/A	2021/11/17	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	7704766	2021/11/16	2021/11/17	Dennis Ngondu
F4G (CCME Hydrocarbons Gravimetric)	BAL	7707684	2021/11/18	2021/11/18	Rashmi Dubey
Moisture	BAL	7704833	N/A	2021/11/16	Simrat Bhathal
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7705309	N/A	2021/11/17	Juan Pangilinan

Bureau Veritas ID: RFW721 **Collected:** 2021/11/11
Sample ID: 21-16 SA2 **Shipped:**
Matrix: Soil **Received:** 2021/11/15

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7704186	N/A	2021/11/17	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	7704766	2021/11/16	2021/11/17	Dennis Ngondu
Moisture	BAL	7704833	N/A	2021/11/16	Simrat Bhathal
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7705309	N/A	2021/11/17	Juan Pangilinan

Bureau Veritas ID: RFW734 **Collected:** 2021/11/11
Sample ID: 21-17 SA2 **Shipped:**
Matrix: Soil **Received:** 2021/11/15

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7704186	N/A	2021/11/17	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	7704766	2021/11/16	2021/11/17	Dennis Ngondu
Moisture	BAL	7704833	N/A	2021/11/16	Simrat Bhathal
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7705309	N/A	2021/11/17	Juan Pangilinan

Bureau Veritas Job #: C1X6358
Report Date: 2022/01/11

Golder Associates Ltd
Client Project #: 21494078
Sampler Initials: ALB

TEST SUMMARY

Bureau Veritas ID: RFW735
Sample ID: 21-18 SA2
Matrix: Soil

Collected: 2021/11/11
Shipped:
Received: 2021/11/15

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7704186	N/A	2021/11/17	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	7704766	2021/11/16	2021/11/17	Dennis Ngondu
Moisture	BAL	7704833	N/A	2021/11/16	Simrat Bhathal
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7705309	N/A	2021/11/17	Juan Pangilinan

Bureau Veritas ID: RFW735 Dup
Sample ID: 21-18 SA2
Matrix: Soil

Collected: 2021/11/11
Shipped:
Received: 2021/11/15

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	7704833	N/A	2021/11/16	Simrat Bhathal

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	7.0°C

Sample RFW712 [21-11 SA2] : One or more of the pre-weighed sample vials in the order had an extra label attached. To determine the original vial weight used in calculating the sample weight, the weight of any extra labels was approximated using the weight of a label similar to the extra label attached.

Sample RFW718 [21-14 SA3] : One or more of the pre-weighed sample vials in the order had an extra label attached. To determine the original vial weight used in calculating the sample weight, the weight of any extra labels was approximated using the weight of a label similar to the extra label attached.

Sample RFW719 [21-15 SA3] : One or more of the pre-weighed sample vials in the order had an extra label attached. To determine the original vial weight used in calculating the sample weight, the weight of any extra labels was approximated using the weight of a label similar to the extra label attached.

Sample RFW721 [21-16 SA2] : One or more of the pre-weighed sample vials in the order had an extra label attached. To determine the original vial weight used in calculating the sample weight, the weight of any extra labels was approximated using the weight of a label similar to the extra label attached.

Sample RFW734 [21-17 SA2] : One or more of the pre-weighed sample vials in the order had an extra label attached. To determine the original vial weight used in calculating the sample weight, the weight of any extra labels was approximated using the weight of a label similar to the extra label attached.

Sample RFW735 [21-18 SA2] : One or more of the pre-weighed sample vials in the order had an extra label attached. To determine the original vial weight used in calculating the sample weight, the weight of any extra labels was approximated using the weight of a label similar to the extra label attached.

Results relate only to the items tested.

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7704766	DN0	Matrix Spike	o-Terphenyl	2021/11/17		98	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2021/11/17		108	%	50 - 130
			F3 (C16-C34 Hydrocarbons)	2021/11/17		114	%	50 - 130
			F4 (C34-C50 Hydrocarbons)	2021/11/17		119	%	50 - 130
7704766	DN0	Spiked Blank	o-Terphenyl	2021/11/17		101	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2021/11/17		109	%	80 - 120
			F3 (C16-C34 Hydrocarbons)	2021/11/17		114	%	80 - 120
			F4 (C34-C50 Hydrocarbons)	2021/11/17		117	%	80 - 120
7704766	DN0	Method Blank	o-Terphenyl	2021/11/17		96	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2021/11/17	<10		ug/g	
			F3 (C16-C34 Hydrocarbons)	2021/11/17	<50		ug/g	
			F4 (C34-C50 Hydrocarbons)	2021/11/17	<50		ug/g	
7704766	DN0	RPD	F2 (C10-C16 Hydrocarbons)	2021/11/17	17		%	30
			F3 (C16-C34 Hydrocarbons)	2021/11/17	10		%	30
			F4 (C34-C50 Hydrocarbons)	2021/11/17	NC		%	30
7704833	MYG	RPD [RFW735-01]	Moisture	2021/11/16	3.1		%	20
7705073	LHA	Matrix Spike	WAD Cyanide (Free)	2021/11/17		96	%	75 - 125
7705073	LHA	Spiked Blank	WAD Cyanide (Free)	2021/11/17		97	%	80 - 120
7705073	LHA	Method Blank	WAD Cyanide (Free)	2021/11/17	<0.01		ug/g	
7705073	LHA	RPD	WAD Cyanide (Free)	2021/11/17	NC		%	35
7705099	VP2	Matrix Spike	Chromium (VI)	2021/11/17		17 (1)	%	70 - 130
7705099	VP2	Spiked Blank	Chromium (VI)	2021/11/17		92	%	80 - 120
7705099	VP2	Method Blank	Chromium (VI)	2021/11/17	<0.18		ug/g	
7705099	VP2	RPD	Chromium (VI)	2021/11/17	NC		%	35
7705250	JOH	Matrix Spike [RFW715-03]	Hot Water Ext. Boron (B)	2021/11/17		109	%	75 - 125
7705250	JOH	Spiked Blank	Hot Water Ext. Boron (B)	2021/11/17		100	%	75 - 125
7705250	JOH	Method Blank	Hot Water Ext. Boron (B)	2021/11/17	<0.050		ug/g	
7705250	JOH	RPD [RFW715-03]	Hot Water Ext. Boron (B)	2021/11/17	8.2		%	40
7705253	KIT	Spiked Blank	Conductivity	2021/11/17		98	%	90 - 110
7705253	KIT	Method Blank	Conductivity	2021/11/17	<0.002		mS/cm	
7705253	KIT	RPD [RFW715-03]	Conductivity	2021/11/17	3.5		%	10
7705309	JPN	Matrix Spike	4-Bromofluorobenzene	2021/11/17		105	%	60 - 140
			D10-o-Xylene	2021/11/17		99	%	60 - 130
			D4-1,2-Dichloroethane	2021/11/17		98	%	60 - 140
			D8-Toluene	2021/11/17		106	%	60 - 140
			Acetone (2-Propanone)	2021/11/17		103	%	60 - 140
			Benzene	2021/11/17		87	%	60 - 140
			Bromodichloromethane	2021/11/17		99	%	60 - 140
			Bromoform	2021/11/17		99	%	60 - 140
			Bromomethane	2021/11/17		93	%	60 - 140
			Carbon Tetrachloride	2021/11/17		95	%	60 - 140
			Chlorobenzene	2021/11/17		97	%	60 - 140
			Chloroform	2021/11/17		96	%	60 - 140
			Dibromochloromethane	2021/11/17		96	%	60 - 140
			1,2-Dichlorobenzene	2021/11/17		96	%	60 - 140
			1,3-Dichlorobenzene	2021/11/17		93	%	60 - 140
			1,4-Dichlorobenzene	2021/11/17		111	%	60 - 140
			Dichlorodifluoromethane (FREON 12)	2021/11/17		85	%	60 - 140
			1,1-Dichloroethane	2021/11/17		93	%	60 - 140
			1,2-Dichloroethane	2021/11/17		91	%	60 - 140
			1,1-Dichloroethylene	2021/11/17		95	%	60 - 140
			cis-1,2-Dichloroethylene	2021/11/17		101	%	60 - 140
			trans-1,2-Dichloroethylene	2021/11/17		95	%	60 - 140

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			1,2-Dichloropropane	2021/11/17		95	%	60 - 140
			cis-1,3-Dichloropropene	2021/11/17		94	%	60 - 140
			trans-1,3-Dichloropropene	2021/11/17		105	%	60 - 140
			Ethylbenzene	2021/11/17		89	%	60 - 140
			Ethylene Dibromide	2021/11/17		94	%	60 - 140
			Hexane	2021/11/17		98	%	60 - 140
			Methylene Chloride(Dichloromethane)	2021/11/17		112	%	60 - 140
			Methyl Ethyl Ketone (2-Butanone)	2021/11/17		110	%	60 - 140
			Methyl Isobutyl Ketone	2021/11/17		102	%	60 - 140
			Methyl t-butyl ether (MTBE)	2021/11/17		90	%	60 - 140
			Styrene	2021/11/17		106	%	60 - 140
			1,1,1,2-Tetrachloroethane	2021/11/17		98	%	60 - 140
			1,1,2,2-Tetrachloroethane	2021/11/17		95	%	60 - 140
			Tetrachloroethylene	2021/11/17		91	%	60 - 140
			Toluene	2021/11/17		89	%	60 - 140
			1,1,1-Trichloroethane	2021/11/17		97	%	60 - 140
			1,1,2-Trichloroethane	2021/11/17		100	%	60 - 140
			Trichloroethylene	2021/11/17		102	%	60 - 140
			Trichlorofluoromethane (FREON 11)	2021/11/17		94	%	60 - 140
			Vinyl Chloride	2021/11/17		94	%	60 - 140
			p+m-Xylene	2021/11/17		92	%	60 - 140
			o-Xylene	2021/11/17		91	%	60 - 140
			F1 (C6-C10)	2021/11/17		98	%	60 - 140
7705309	JPN	Spiked Blank	4-Bromofluorobenzene	2021/11/17		104	%	60 - 140
			D10-o-Xylene	2021/11/17		109	%	60 - 130
			D4-1,2-Dichloroethane	2021/11/17		99	%	60 - 140
			D8-Toluene	2021/11/17		106	%	60 - 140
			Acetone (2-Propanone)	2021/11/17		96	%	60 - 140
			Benzene	2021/11/17		89	%	60 - 130
			Bromodichloromethane	2021/11/17		100	%	60 - 130
			Bromoform	2021/11/17		99	%	60 - 130
			Bromomethane	2021/11/17		90	%	60 - 140
			Carbon Tetrachloride	2021/11/17		98	%	60 - 130
			Chlorobenzene	2021/11/17		98	%	60 - 130
			Chloroform	2021/11/17		98	%	60 - 130
			Dibromochloromethane	2021/11/17		97	%	60 - 130
			1,2-Dichlorobenzene	2021/11/17		96	%	60 - 130
			1,3-Dichlorobenzene	2021/11/17		95	%	60 - 130
			1,4-Dichlorobenzene	2021/11/17		113	%	60 - 130
			Dichlorodifluoromethane (FREON 12)	2021/11/17		87	%	60 - 140
			1,1-Dichloroethane	2021/11/17		95	%	60 - 130
			1,2-Dichloroethane	2021/11/17		92	%	60 - 130
			1,1-Dichloroethylene	2021/11/17		97	%	60 - 130
			cis-1,2-Dichloroethylene	2021/11/17		103	%	60 - 130
			trans-1,2-Dichloroethylene	2021/11/17		98	%	60 - 130
			1,2-Dichloropropane	2021/11/17		97	%	60 - 130
			cis-1,3-Dichloropropene	2021/11/17		88	%	60 - 130
			trans-1,3-Dichloropropene	2021/11/17		95	%	60 - 130
			Ethylbenzene	2021/11/17		90	%	60 - 130
			Ethylene Dibromide	2021/11/17		95	%	60 - 130
			Hexane	2021/11/17		101	%	60 - 130
			Methylene Chloride(Dichloromethane)	2021/11/17		114	%	60 - 130
			Methyl Ethyl Ketone (2-Butanone)	2021/11/17		104	%	60 - 140
			Methyl Isobutyl Ketone	2021/11/17		97	%	60 - 130

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Methyl t-butyl ether (MTBE)	2021/11/17		91	%	60 - 130
			Styrene	2021/11/17		108	%	60 - 130
			1,1,1,2-Tetrachloroethane	2021/11/17		100	%	60 - 130
			1,1,2,2-Tetrachloroethane	2021/11/17		99	%	60 - 130
			Tetrachloroethylene	2021/11/17		94	%	60 - 130
			Toluene	2021/11/17		91	%	60 - 130
			1,1,1-Trichloroethane	2021/11/17		100	%	60 - 130
			1,1,2-Trichloroethane	2021/11/17		101	%	60 - 130
			Trichloroethylene	2021/11/17		105	%	60 - 130
			Trichlorofluoromethane (FREON 11)	2021/11/17		97	%	60 - 130
			Vinyl Chloride	2021/11/17		97	%	60 - 130
			p+m-Xylene	2021/11/17		93	%	60 - 130
			o-Xylene	2021/11/17		92	%	60 - 130
			F1 (C6-C10)	2021/11/17		92	%	80 - 120
7705309	JPN	Method Blank	4-Bromofluorobenzene	2021/11/17		90	%	60 - 140
			D10-o-Xylene	2021/11/17		75	%	60 - 130
			D4-1,2-Dichloroethane	2021/11/17		105	%	60 - 140
			D8-Toluene	2021/11/17		90	%	60 - 140
			Acetone (2-Propanone)	2021/11/17	<0.49		ug/g	
			Benzene	2021/11/17	<0.0060		ug/g	
			Bromodichloromethane	2021/11/17	<0.040		ug/g	
			Bromoform	2021/11/17	<0.040		ug/g	
			Bromomethane	2021/11/17	<0.040		ug/g	
			Carbon Tetrachloride	2021/11/17	<0.040		ug/g	
			Chlorobenzene	2021/11/17	<0.040		ug/g	
			Chloroform	2021/11/17	<0.040		ug/g	
			Dibromochloromethane	2021/11/17	<0.040		ug/g	
			1,2-Dichlorobenzene	2021/11/17	<0.040		ug/g	
			1,3-Dichlorobenzene	2021/11/17	<0.040		ug/g	
			1,4-Dichlorobenzene	2021/11/17	<0.040		ug/g	
			Dichlorodifluoromethane (FREON 12)	2021/11/17	<0.040		ug/g	
			1,1-Dichloroethane	2021/11/17	<0.040		ug/g	
			1,2-Dichloroethane	2021/11/17	<0.049		ug/g	
			1,1-Dichloroethylene	2021/11/17	<0.040		ug/g	
			cis-1,2-Dichloroethylene	2021/11/17	<0.040		ug/g	
			trans-1,2-Dichloroethylene	2021/11/17	<0.040		ug/g	
			1,2-Dichloropropane	2021/11/17	<0.040		ug/g	
			cis-1,3-Dichloropropene	2021/11/17	<0.030		ug/g	
			trans-1,3-Dichloropropene	2021/11/17	<0.040		ug/g	
			Ethylbenzene	2021/11/17	<0.010		ug/g	
			Ethylene Dibromide	2021/11/17	<0.040		ug/g	
			Hexane	2021/11/17	<0.040		ug/g	
			Methylene Chloride(Dichloromethane)	2021/11/17	<0.049		ug/g	
			Methyl Ethyl Ketone (2-Butanone)	2021/11/17	<0.40		ug/g	
			Methyl Isobutyl Ketone	2021/11/17	<0.40		ug/g	
			Methyl t-butyl ether (MTBE)	2021/11/17	<0.040		ug/g	
			Styrene	2021/11/17	<0.040		ug/g	
			1,1,1,2-Tetrachloroethane	2021/11/17	<0.040		ug/g	
			1,1,2,2-Tetrachloroethane	2021/11/17	<0.040		ug/g	
			Tetrachloroethylene	2021/11/17	<0.040		ug/g	
			Toluene	2021/11/17	<0.020		ug/g	
			1,1,1-Trichloroethane	2021/11/17	<0.040		ug/g	
			1,1,2-Trichloroethane	2021/11/17	<0.040		ug/g	
			Trichloroethylene	2021/11/17	<0.010		ug/g	

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Trichlorofluoromethane (FREON 11)	2021/11/17	<0.040		ug/g	
			Vinyl Chloride	2021/11/17	<0.019		ug/g	
			p+m-Xylene	2021/11/17	<0.020		ug/g	
			o-Xylene	2021/11/17	<0.020		ug/g	
			Total Xylenes	2021/11/17	<0.020		ug/g	
			F1 (C6-C10)	2021/11/17	<10		ug/g	
			F1 (C6-C10) - BTEX	2021/11/17	<10		ug/g	
7705309	JPN	RPD	Acetone (2-Propanone)	2021/11/17	NC		%	50
			Benzene	2021/11/17	NC		%	50
			Bromodichloromethane	2021/11/17	NC		%	50
			Bromoform	2021/11/17	NC		%	50
			Bromomethane	2021/11/17	NC		%	50
			Carbon Tetrachloride	2021/11/17	NC		%	50
			Chlorobenzene	2021/11/17	NC		%	50
			Chloroform	2021/11/17	NC		%	50
			Dibromochloromethane	2021/11/17	NC		%	50
			1,2-Dichlorobenzene	2021/11/17	NC		%	50
			1,3-Dichlorobenzene	2021/11/17	NC		%	50
			1,4-Dichlorobenzene	2021/11/17	NC		%	50
			Dichlorodifluoromethane (FREON 12)	2021/11/17	NC		%	50
			1,1-Dichloroethane	2021/11/17	NC		%	50
			1,2-Dichloroethane	2021/11/17	NC		%	50
			1,1-Dichloroethylene	2021/11/17	NC		%	50
			cis-1,2-Dichloroethylene	2021/11/17	NC		%	50
			trans-1,2-Dichloroethylene	2021/11/17	NC		%	50
			1,2-Dichloropropane	2021/11/17	NC		%	50
			cis-1,3-Dichloropropene	2021/11/17	NC		%	50
			trans-1,3-Dichloropropene	2021/11/17	NC		%	50
			Ethylbenzene	2021/11/17	NC		%	50
			Ethylene Dibromide	2021/11/17	NC		%	50
			Hexane	2021/11/17	NC		%	50
			Methylene Chloride(Dichloromethane)	2021/11/17	NC		%	50
			Methyl Ethyl Ketone (2-Butanone)	2021/11/17	NC		%	50
			Methyl Isobutyl Ketone	2021/11/17	NC		%	50
			Methyl t-butyl ether (MTBE)	2021/11/17	NC		%	50
			Styrene	2021/11/17	NC		%	50
			1,1,1,2-Tetrachloroethane	2021/11/17	NC		%	50
			1,1,2,2-Tetrachloroethane	2021/11/17	NC		%	50
			Tetrachloroethylene	2021/11/17	NC		%	50
			Toluene	2021/11/17	NC		%	50
			1,1,1-Trichloroethane	2021/11/17	NC		%	50
			1,1,2-Trichloroethane	2021/11/17	NC		%	50
			Trichloroethylene	2021/11/17	NC		%	50
			Trichlorofluoromethane (FREON 11)	2021/11/17	NC		%	50
			Vinyl Chloride	2021/11/17	NC		%	50
			p+m-Xylene	2021/11/17	NC		%	50
			o-Xylene	2021/11/17	NC		%	50
			Total Xylenes	2021/11/17	NC		%	50
			F1 (C6-C10)	2021/11/17	NC		%	30
			F1 (C6-C10) - BTEX	2021/11/17	NC		%	30
7705354	TAK	Spiked Blank	Available (CaCl2) pH	2021/11/17		100	%	97 - 103
7705354	TAK	RPD	Available (CaCl2) pH	2021/11/17	0.91		%	N/A
7705373	DT1	Matrix Spike [RFW715-03]	Acid Extractable Antimony (Sb)	2021/11/17		93	%	75 - 125

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Acid Extractable Arsenic (As)	2021/11/17		102	%	75 - 125
			Acid Extractable Barium (Ba)	2021/11/17		NC	%	75 - 125
			Acid Extractable Beryllium (Be)	2021/11/17		102	%	75 - 125
			Acid Extractable Boron (B)	2021/11/17		97	%	75 - 125
			Acid Extractable Cadmium (Cd)	2021/11/17		101	%	75 - 125
			Acid Extractable Chromium (Cr)	2021/11/17		NC	%	75 - 125
			Acid Extractable Cobalt (Co)	2021/11/17		102	%	75 - 125
			Acid Extractable Copper (Cu)	2021/11/17		98	%	75 - 125
			Acid Extractable Lead (Pb)	2021/11/17		96	%	75 - 125
			Acid Extractable Molybdenum (Mo)	2021/11/17		100	%	75 - 125
			Acid Extractable Nickel (Ni)	2021/11/17		104	%	75 - 125
			Acid Extractable Selenium (Se)	2021/11/17		100	%	75 - 125
			Acid Extractable Silver (Ag)	2021/11/17		100	%	75 - 125
			Acid Extractable Thallium (Tl)	2021/11/17		96	%	75 - 125
			Acid Extractable Uranium (U)	2021/11/17		98	%	75 - 125
			Acid Extractable Vanadium (V)	2021/11/17		NC	%	75 - 125
			Acid Extractable Zinc (Zn)	2021/11/17		NC	%	75 - 125
			Acid Extractable Mercury (Hg)	2021/11/17		84	%	75 - 125
7705373	DT1	Spiked Blank	Acid Extractable Antimony (Sb)	2021/11/17		104	%	80 - 120
			Acid Extractable Arsenic (As)	2021/11/17		99	%	80 - 120
			Acid Extractable Barium (Ba)	2021/11/17		99	%	80 - 120
			Acid Extractable Beryllium (Be)	2021/11/17		101	%	80 - 120
			Acid Extractable Boron (B)	2021/11/17		101	%	80 - 120
			Acid Extractable Cadmium (Cd)	2021/11/17		98	%	80 - 120
			Acid Extractable Chromium (Cr)	2021/11/17		98	%	80 - 120
			Acid Extractable Cobalt (Co)	2021/11/17		98	%	80 - 120
			Acid Extractable Copper (Cu)	2021/11/17		96	%	80 - 120
			Acid Extractable Lead (Pb)	2021/11/17		96	%	80 - 120
			Acid Extractable Molybdenum (Mo)	2021/11/17		97	%	80 - 120
			Acid Extractable Nickel (Ni)	2021/11/17		100	%	80 - 120
			Acid Extractable Selenium (Se)	2021/11/17		99	%	80 - 120
			Acid Extractable Silver (Ag)	2021/11/17		97	%	80 - 120
			Acid Extractable Thallium (Tl)	2021/11/17		98	%	80 - 120
			Acid Extractable Uranium (U)	2021/11/17		97	%	80 - 120
			Acid Extractable Vanadium (V)	2021/11/17		99	%	80 - 120
			Acid Extractable Zinc (Zn)	2021/11/17		100	%	80 - 120
			Acid Extractable Mercury (Hg)	2021/11/17		85	%	80 - 120
7705373	DT1	Method Blank	Acid Extractable Antimony (Sb)	2021/11/17	<0.20		ug/g	
			Acid Extractable Arsenic (As)	2021/11/17	<1.0		ug/g	
			Acid Extractable Barium (Ba)	2021/11/17	<0.50		ug/g	
			Acid Extractable Beryllium (Be)	2021/11/17	<0.20		ug/g	
			Acid Extractable Boron (B)	2021/11/17	<5.0		ug/g	
			Acid Extractable Cadmium (Cd)	2021/11/17	<0.10		ug/g	
			Acid Extractable Chromium (Cr)	2021/11/17	<1.0		ug/g	
			Acid Extractable Cobalt (Co)	2021/11/17	<0.10		ug/g	
			Acid Extractable Copper (Cu)	2021/11/17	<0.50		ug/g	
			Acid Extractable Lead (Pb)	2021/11/17	<1.0		ug/g	
			Acid Extractable Molybdenum (Mo)	2021/11/17	<0.50		ug/g	
			Acid Extractable Nickel (Ni)	2021/11/17	<0.50		ug/g	
			Acid Extractable Selenium (Se)	2021/11/17	<0.50		ug/g	
			Acid Extractable Silver (Ag)	2021/11/17	<0.20		ug/g	
			Acid Extractable Thallium (Tl)	2021/11/17	<0.050		ug/g	
			Acid Extractable Uranium (U)	2021/11/17	<0.050		ug/g	
			Acid Extractable Vanadium (V)	2021/11/17	<5.0		ug/g	

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Acid Extractable Zinc (Zn)	2021/11/17	<5.0		ug/g	
			Acid Extractable Mercury (Hg)	2021/11/17	<0.050		ug/g	
7705373	DT1	RPD [RFW715-03]	Acid Extractable Antimony (Sb)	2021/11/17	NC		%	30
			Acid Extractable Arsenic (As)	2021/11/17	4.9		%	30
			Acid Extractable Barium (Ba)	2021/11/17	3.0		%	30
			Acid Extractable Beryllium (Be)	2021/11/17	3.3		%	30
			Acid Extractable Boron (B)	2021/11/17	5.6		%	30
			Acid Extractable Cadmium (Cd)	2021/11/17	NC		%	30
			Acid Extractable Chromium (Cr)	2021/11/17	1.6		%	30
			Acid Extractable Cobalt (Co)	2021/11/17	0.95		%	30
			Acid Extractable Copper (Cu)	2021/11/17	0.81		%	30
			Acid Extractable Lead (Pb)	2021/11/17	1.4		%	30
			Acid Extractable Molybdenum (Mo)	2021/11/17	1.0		%	30
			Acid Extractable Nickel (Ni)	2021/11/17	0.81		%	30
			Acid Extractable Selenium (Se)	2021/11/17	NC		%	30
			Acid Extractable Silver (Ag)	2021/11/17	NC		%	30
			Acid Extractable Thallium (Tl)	2021/11/17	1.7		%	30
			Acid Extractable Uranium (U)	2021/11/17	4.1		%	30
			Acid Extractable Vanadium (V)	2021/11/17	3.7		%	30
			Acid Extractable Zinc (Zn)	2021/11/17	1.9		%	30
			Acid Extractable Mercury (Hg)	2021/11/17	NC		%	30
7707684	RDU	Matrix Spike	F4G-sg (Grav. Heavy Hydrocarbons)	2021/11/18		86	%	65 - 135
7707684	RDU	Spiked Blank	F4G-sg (Grav. Heavy Hydrocarbons)	2021/11/18		100	%	65 - 135
7707684	RDU	Method Blank	F4G-sg (Grav. Heavy Hydrocarbons)	2021/11/18	<100		ug/g	
7707684	RDU	RPD	F4G-sg (Grav. Heavy Hydrocarbons)	2021/11/18	10		%	50

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

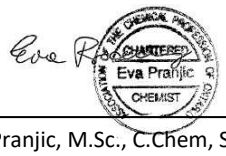
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) The matrix spike recovery was below the lower control limit. This may be due in part to the reducing environment of the sample. The sample was reanalyzed with the same results

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Laboratories 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

Bureau Veritas Laboratories
6740 Campobello Road, Mississauga, Ontario, Canada L5N 2L8 Tel (905) 817-5700 Toll-free 800-563-6266 Fax (905) 817-5777 www.bvlabs.com

Page 1 of 2

CHAIN OF CUSTODY RECORD

RUSH!

INVOICE TO:	REPORT TO:	PROJECT INFORMATION:
Company Name: #2292 Golder Associates Ltd	Company Name:	Quotation #: B80683
Attention: Accounts Payable	Attention: Daniel Stabile	P.O. #:
Address: 100 Scotia Crt, Whitby ON L1N 8Y6	Address:	Project: 21494078
Tel: (905) 723-2727 Fax: (905) 723-2182	Tel: Fax:	Project Name:
Email: CanadaAccountsPayableInvoices@golder.com	Email: Daniel_Stabile@golder.com	Site #:
		Sampled By: AB

15-Nov-21 13:20
Ema Gitej
C1X6358

AVV ENV 1592

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY.

Regulation 153 (2011): [ ] Table 1 [X] Res/Park [ ] Medium/Fine [ ] Table 2 [ ] Ind/Comm [ ] Coarse [ ] Table 3 [ ] Agri/Other [X] For RSC [X] Table 7

Other Regulations: [ ] CCME [ ] Sanitary Sewer Bylaw [ ] Reg 558 [ ] Storm Sewer Bylaw [ ] MISA Municipality [ ] PWQO [ ] Reg 406 Table [ ] Other

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)?

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects
Regular (Standard) TAT:
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.
Job Specific Rush TAT (if applies to entire submission)
Date Required: 48 hrs Time Required:
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle) Metals / Hg / Cr VI	ANALYSIS REQUESTED (PLEASE BE SPECIFIC): ORP	PHC	BTEX	VOC	Metals	PHC	BTEX	VOC	# of Bottles	Comments
1		~~21-11~~ SA2	Nov 12/21	1230	Soil		X	X	X	X	X				4	
2		21-11 SA3	Nov 12/21	1300			X								4	
3		21-12 SA2	Nov 11/21	1400			X								1	
4		21-12 SA3	Nov 11/21	1410			X	[illegible]				X	X	X	4	RUSH
5		21-13 SA2	Nov 11/21	1500			X								1	
6		21-13 SA3	Nov 11/21	1510			X								1	
7		21-14 SA3	Nov 12/21	10:00				X	X	X					3	RECEIVED IN OTTAWA
8		21-15 SA3	Nov 12/21	15:00				X	X	X					3	
9		21-15 SA4	Nov 12/21	15:10				X	X	X					3	*on Hold*
10		21-16 SA2	Nov 11/21	1600				X	X	X					3	

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
			Angelica Santiago	21/11/15	13:20	
			AALISHA VAHORA [illegible]	21/11/16	08:00	

Laboratory Use Only: Time Sensitive; Temperature (°C) on Receipt: 5.9.7 ice

Custody Seal	Yes	No
Present		
Intact		

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

* SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

6/7/7

Bureau Veritas Laboratories
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel (905) 817-5700 Toll-free 800-563-6266 Fax (905) 817-5777 www.bvlabs.com

Page 2 of 2

CHAIN OF CUSTODY RECORD

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#2292 Golder Associates Ltd	Company Name:		Quotation #:	B80683	Bureau Veritas Job #:	Bottle Order #:
Attention:	Accounts Payable	Attention:	Daniel Stabile	P.O. #:			855386
Address:	100 Scotia Crt Whitby ON L1N 8Y6	Address:		Project:	21494078	COC #:	Project Manager:
Tel:	(905) 723-2727 Fax: (905) 723-2182	Tel:	Fax:	Project Name:		C#855386-02-01	Erna Gitej
Email:	CanadaAccountsPayableInvoices@golder.com	Email:	Daniel_Stabile@golder.com	Site #:			
				Sampled By:	ALB		

* MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY.

Regulation 153 (2011): ☐ Table 1 ☐ Res/Park ☐ Medium/Fine ☐ Table 2 ☐ Ind/Comm ☐ Coarse ☐ Table 3 ☐ Agri/Other ☐ For RSC ☒ Table 7

Other Regulations: ☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558 ☐ Storm Sewer Bylaw ☐ MISA Municipality ☐ PWQO ☐ Reg 406 Table ☐ Other

Special Instructions:

Include Criteria on Certificate of Analysis (Y/N)? ____

ANALYSIS REQUESTED (PLEASE BE SPECIFIC):

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT:
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details

Job Specific Rush TAT (if applies to entire submission)
Date Required: ____ Time Required: ____
Rush Confirmation Number: 48 hrs (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle) Metals / Hg / Cr VI	PHC	BTEX	VOC	# of Bottles	Comments
1		21-17 SA2	Nov 11/21	1700	Soil	/	X	X	X	3	
2		21-18 SA2	Nov 11/21	1800	Soil	/	X	X	X	3	
3											
4											
5											
6											
7											
8											
9											
10											

RUSH

RECEIVED IN OTTAWA

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
			Angelica Sevilleja see page 1	21/11/15	13:20	

Laboratory Use Only: Time Sensitive ☐ Temperature (°C) on Recei: 5, 9, 7 (ice)

Custody Seal	Yes	No
Present	✓	
Intact	✓	

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

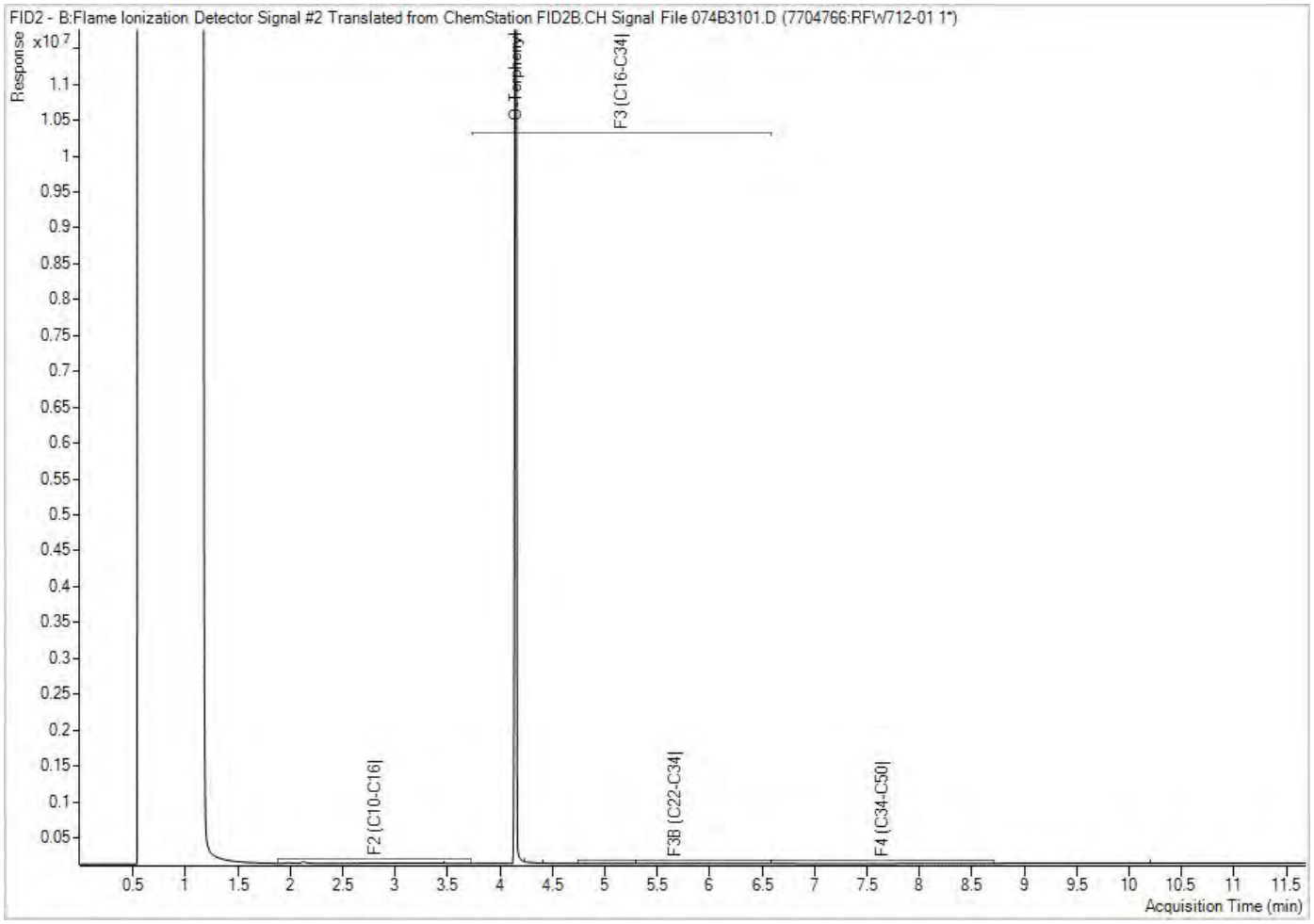
White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Job #: C1X6358
Report Date: 2022/01/11
Bureau Veritas Sample: RFW712

Golder Associates Ltd
Client Project #: 21494078
Client ID: 21-11 SA2

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

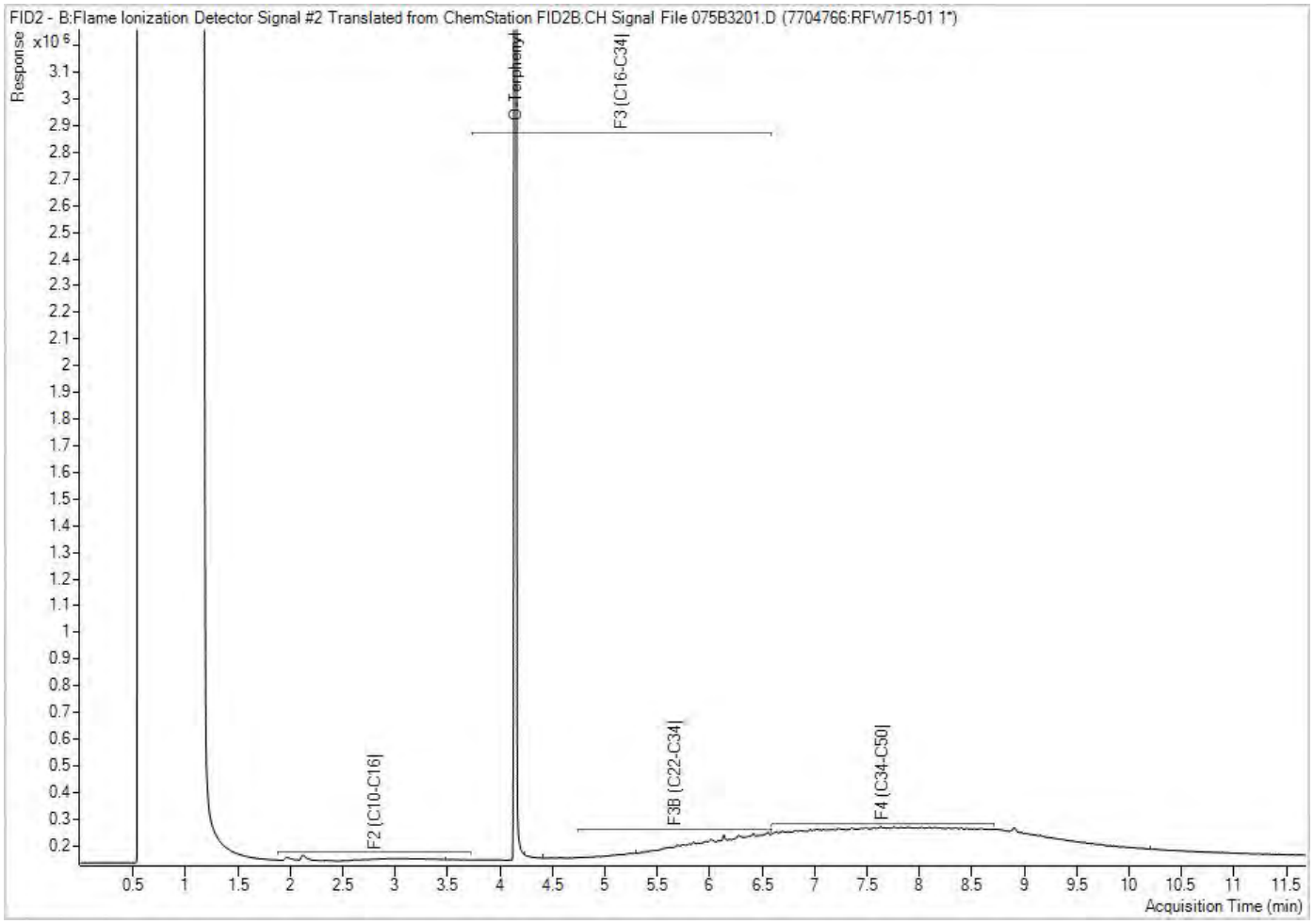


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C1X6358
Report Date: 2022/01/11
Bureau Veritas Sample: RFW715

Golder Associates Ltd
Client Project #: 21494078
Client ID: 21-12 SA3

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

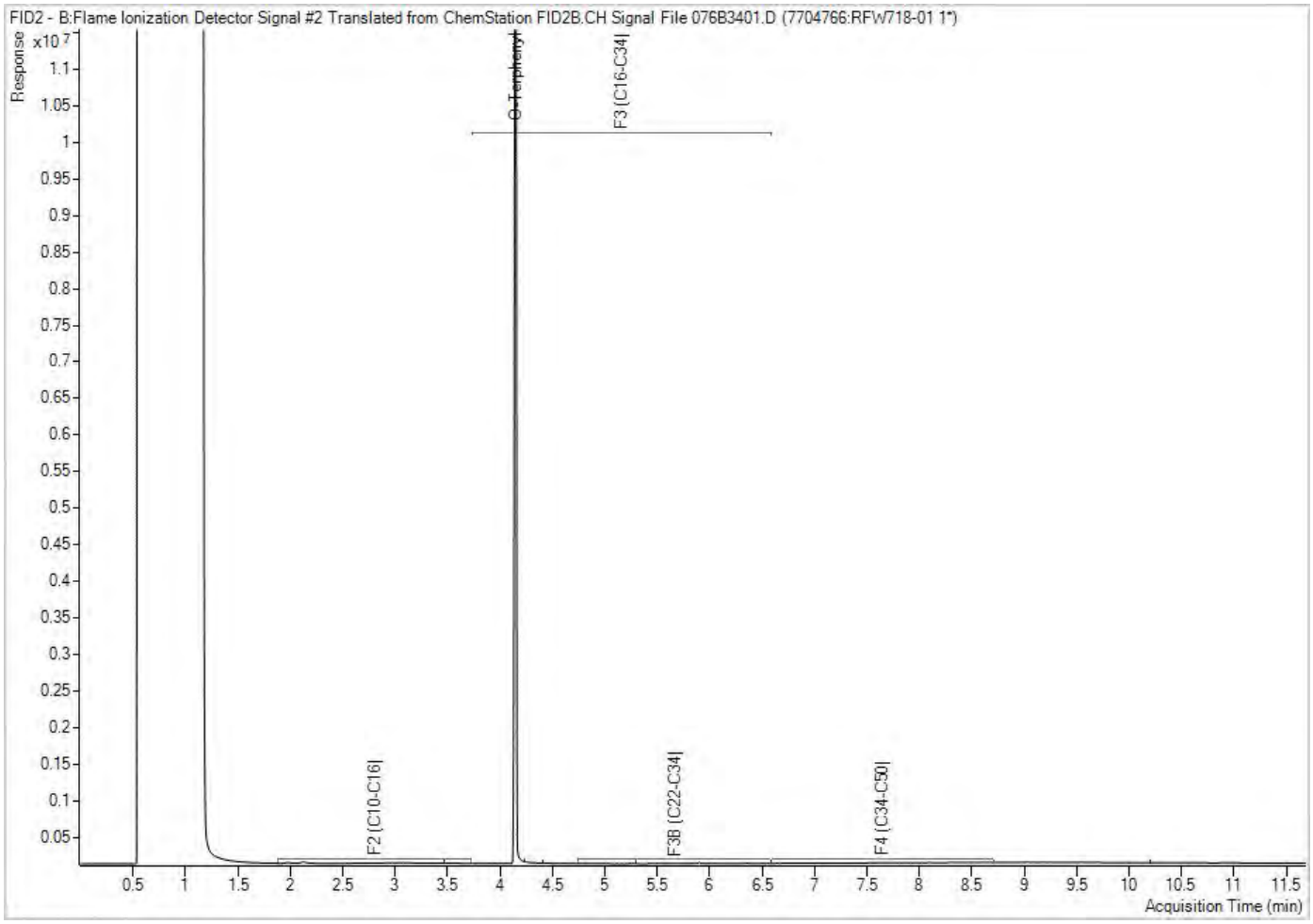


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C1X6358
Report Date: 2022/01/11
Bureau Veritas Sample: RFW718

Golder Associates Ltd
Client Project #: 21494078
Client ID: 21-14 SA3

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

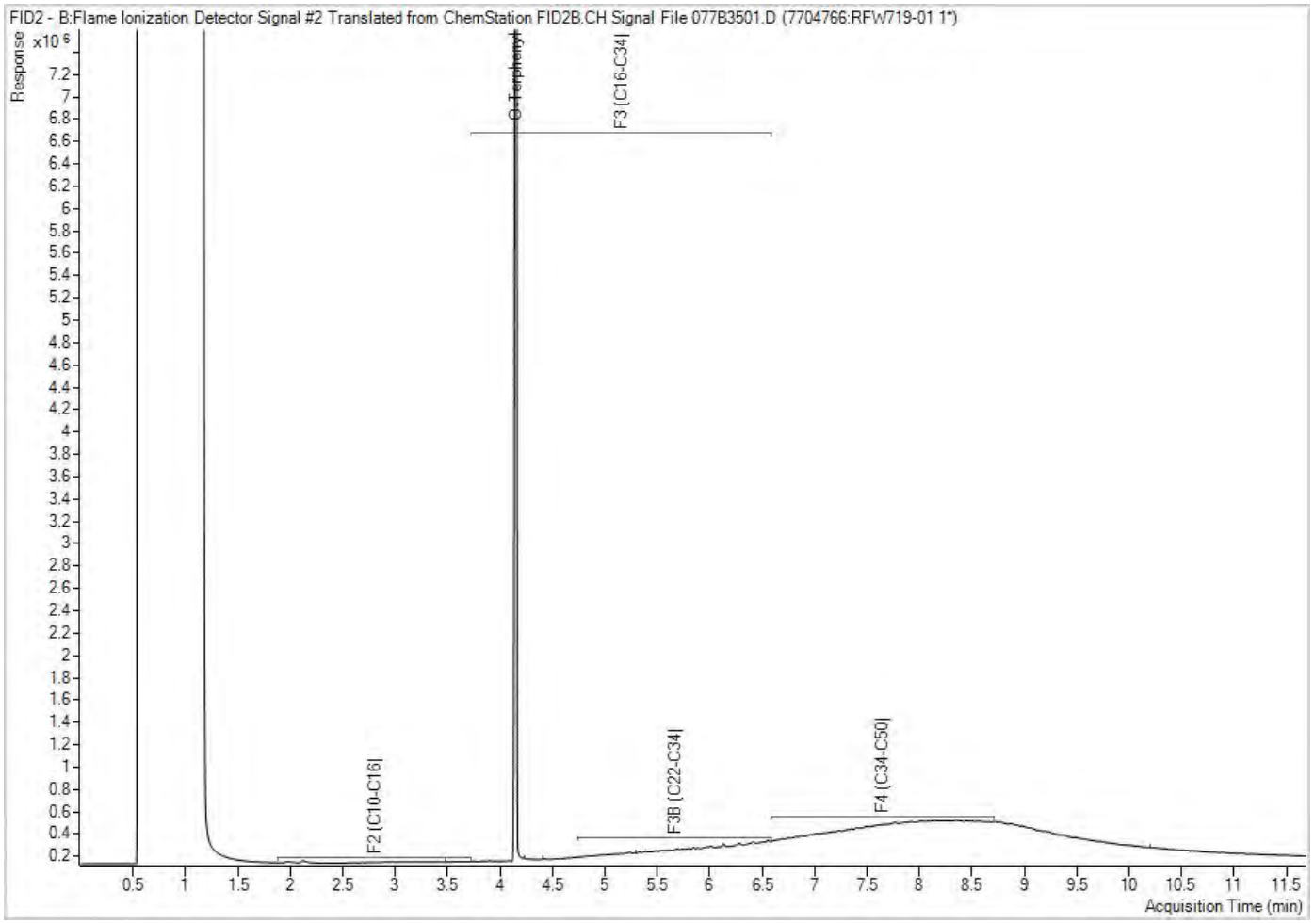


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C1X6358
Report Date: 2022/01/11
Bureau Veritas Sample: RFW719

Golder Associates Ltd
Client Project #: 21494078
Client ID: 21-15 SA3

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

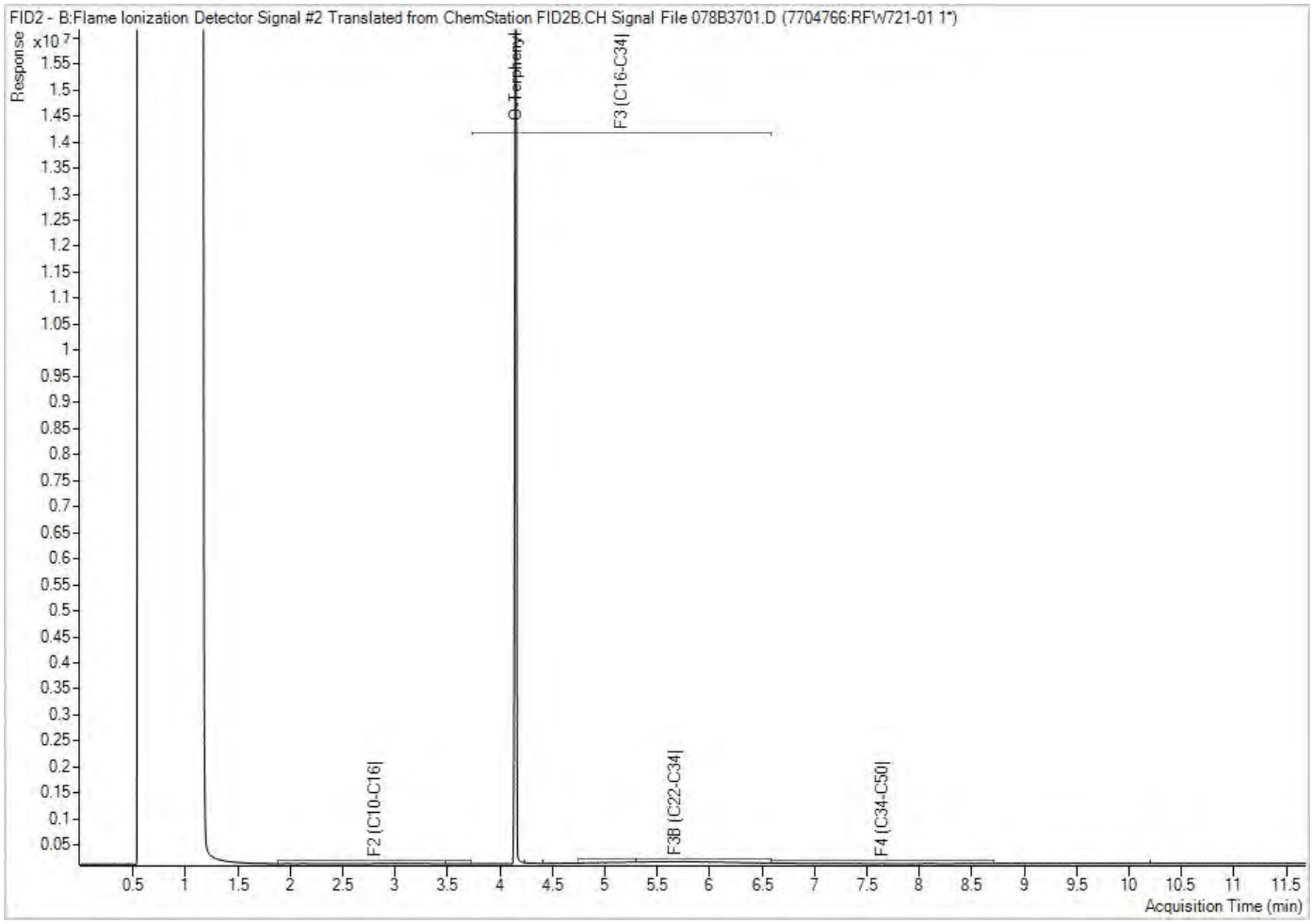


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C1X6358
Report Date: 2022/01/11
Bureau Veritas Sample: RFW721

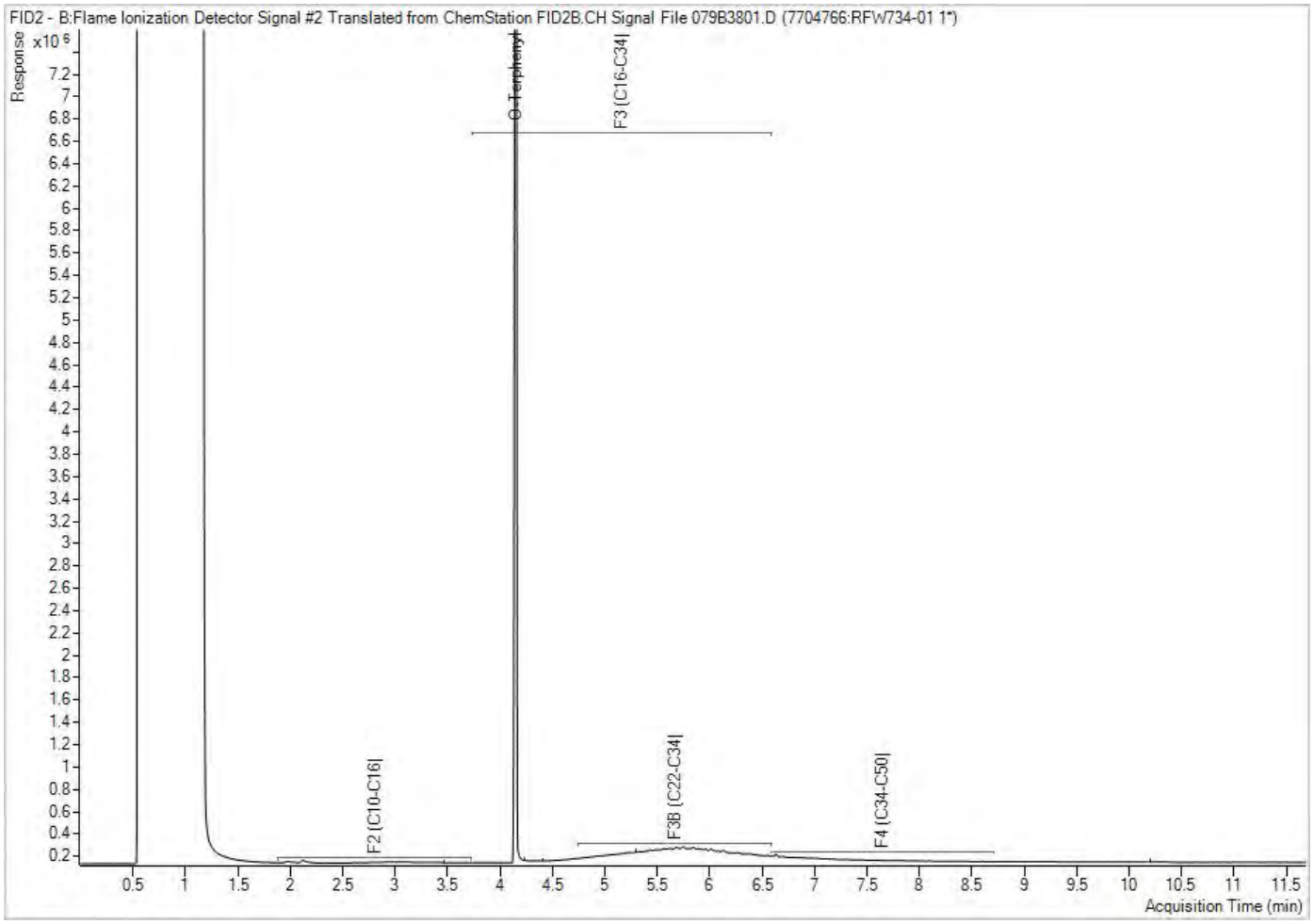
Golder Associates Ltd
Client Project #: 21494078
Client ID: 21-16 SA2

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

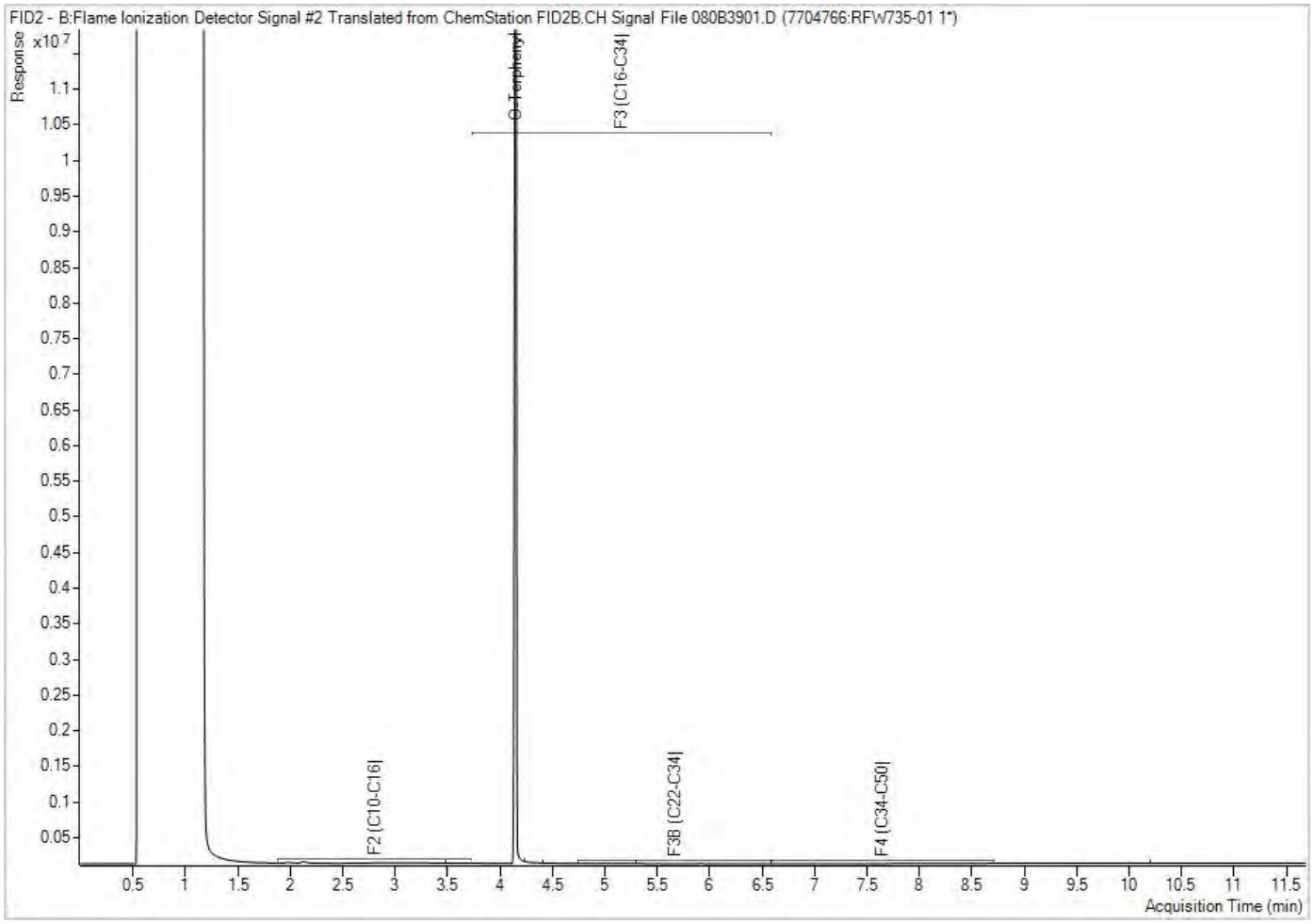


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C1X6358
Report Date: 2022/01/11
Bureau Veritas Sample: RFW735

Golder Associates Ltd
Client Project #: 21494078
Client ID: 21-18 SA2

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

AGAT Laboratories

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

Certificate of Analysis

AGAT WORK ORDER: 21Z837042

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Road

SAMPLED BY:G.Sharma

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

DATE RECEIVED: 2021-11-29

DATE REPORTED: 2021-12-01

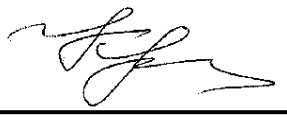
SAMPLE DESCRIPTION:				BH21-19 SA1	BH21-20 SA2	Dup-1 Bh21-20 SA2
SAMPLE TYPE:				Soil	Soil	Soil
DATE SAMPLED:				2021-11-22 18:30	2021-11-24 19:30	2021-11-24 19:30
Parameter	Unit	G / S	RDL	3270388	3270410	3270411
F1 (C6 - C10)	µg/g		5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	55	5	<5	<5	<5
F2 (C10 to C16)	µg/g	230	10	<10	<10	<10
F3 (C16 to C34)	µg/g	1700	50	<50	<50	<50
F4 (C34 to C50)	µg/g	3300	50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	3300	50	NA	NA	NA
Moisture Content	%		0.1	11.2	8.2	12.2
Surrogate	Unit	Acceptable Limits				
Toluene-d8	% Recovery	50-140		88	82	84
Terphenyl	%	60-140		102	88	76

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Soil - Industrial/Commercial/Community Property Use - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3270388-3270411 Results are based on sample dry weight.
The C6-C10 fraction is calculated using toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX contribution.
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.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



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Certificate of Analysis

AGAT WORK ORDER: 21Z837042

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Road

SAMPLED BY:G.Sharma

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

DATE RECEIVED: 2021-11-29

DATE REPORTED: 2021-12-01

				SAMPLE DESCRIPTION:	TP21-01
				SAMPLE TYPE:	Soil
				DATE SAMPLED:	2021-11-22 18:30
Parameter	Unit	G / S	RDL		3270413
Benzene	µg/g	0.32	0.02		<0.02
Toluene	µg/g	68	0.05		<0.05
Ethylbenzene	µg/g	9.5	0.05		<0.05
m & p-Xylene	µg/g		0.05		<0.05
o-Xylene	µg/g		0.05		<0.05
Xylenes (Total)	µg/g	26	0.05		<0.05
F1 (C6 - C10)	µg/g		5		<5
F1 (C6 to C10) minus BTEX	µg/g	55	5		<5
F2 (C10 to C16)	µg/g	230	10		<10
F3 (C16 to C34)	µg/g	1700	50		<50
F4 (C34 to C50)	µg/g	3300	50		<50
Gravimetric Heavy Hydrocarbons	µg/g	3300	50		NA
Moisture Content	%		0.1		4.2
Surrogate	Unit	Acceptable Limits			
Toluene-d8	% Recovery	60-140			84
Terphenyl	%	60-140			82

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 21Z837042

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Road

SAMPLED BY:G.Sharma

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

DATE RECEIVED: 2021-11-29

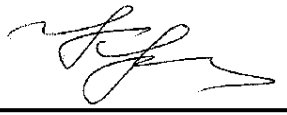
DATE REPORTED: 2021-12-01

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Soil - Industrial/Commercial/Community Property Use - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3270413 Results are based on sample dry weight.
The C6-C10 fraction is calculated using Toluene response factor.
Xylenes is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX contribution.
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 with the contribution of PAHs. Under Ontario Regulation 153, results are considered valid without determining the PAH contribution if not requested by the client.
Quality Control Data is available upon request.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



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Certificate of Analysis

AGAT WORK ORDER: 21Z837042

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Road

SAMPLED BY:G.Sharma

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

DATE RECEIVED: 2021-11-29

DATE REPORTED: 2021-12-01

SAMPLE DESCRIPTION:				BH21-19 SA1	BH21-20 SA2	Dup-1 Bh21-20 SA2
SAMPLE TYPE:				Soil	Soil	Soil
DATE SAMPLED:				2021-11-22 18:30	2021-11-24 19:30	2021-11-24 19:30
Parameter	Unit	G / S	RDL	3270388	3270410	3270411
Dichlorodifluoromethane	µg/g	16	0.05	<0.05	<0.05	<0.05
Vinyl Chloride	ug/g	0.032	0.02	<0.02	<0.02	<0.02
Bromomethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	ug/g	4	0.05	<0.05	<0.05	<0.05
Acetone	ug/g	16	0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	ug/g	0.064	0.05	<0.05	<0.05	<0.05
Methylene Chloride	ug/g	1.6	0.05	<0.05	<0.05	<0.05
Trans- 1,2-Dichloroethylene	ug/g	1.3	0.05	<0.05	<0.05	<0.05
Methyl tert-butyl Ether	ug/g	11	0.05	<0.05	<0.05	<0.05
1,1-Dichloroethane	ug/g	17	0.02	<0.02	<0.02	<0.02
Methyl Ethyl Ketone	ug/g	70	0.50	<0.50	<0.50	<0.50
Cis- 1,2-Dichloroethylene	ug/g	55	0.02	<0.02	<0.02	<0.02
Chloroform	ug/g	0.47	0.04	<0.04	<0.04	<0.04
1,2-Dichloroethane	ug/g	0.05	0.03	<0.03	<0.03	<0.03
1,1,1-Trichloroethane	ug/g	6.1	0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	ug/g	0.21	0.05	<0.05	<0.05	<0.05
Benzene	ug/g	0.32	0.02	<0.02	<0.02	<0.02
1,2-Dichloropropane	ug/g	0.16	0.03	<0.03	<0.03	<0.03
Trichloroethylene	ug/g	0.91	0.03	<0.03	<0.03	<0.03
Bromodichloromethane	ug/g	18	0.05	<0.05	<0.05	<0.05
Methyl Isobutyl Ketone	ug/g	31	0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	ug/g	0.05	0.04	<0.04	<0.04	<0.04
Toluene	ug/g	68	0.05	<0.05	<0.05	<0.05
Dibromochloromethane	ug/g	13	0.05	<0.05	<0.05	<0.05
Ethylene Dibromide	ug/g	0.05	0.04	<0.04	<0.04	<0.04
Tetrachloroethylene	ug/g	4.5	0.05	<0.05	<0.05	<0.05
1,1,1,2-Tetrachloroethane	ug/g	0.087	0.04	<0.04	<0.04	<0.04
Chlorobenzene	ug/g	2.4	0.05	<0.05	<0.05	<0.05

Certified By:

AGAT Laboratories

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FAX (905)712-5122
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 21Z837042

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Road

SAMPLED BY:G.Sharma

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

DATE RECEIVED: 2021-11-29

DATE REPORTED: 2021-12-01

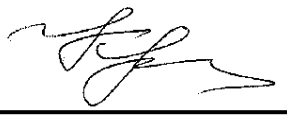
SAMPLE DESCRIPTION:				BH21-19 SA1	BH21-20 SA2	Dup-1 Bh21-20 SA2
SAMPLE TYPE:				Soil	Soil	Soil
DATE SAMPLED:				2021-11-22 18:30	2021-11-24 19:30	2021-11-24 19:30
Parameter	Unit	G / S	RDL	3270388	3270410	3270411
Ethylbenzene	ug/g	9.5	0.05	<0.05	<0.05	<0.05
m & p-Xylene	ug/g		0.05	<0.05	<0.05	<0.05
Bromoform	ug/g	0.61	0.05	<0.05	<0.05	<0.05
Styrene	ug/g	34	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
o-Xylene	ug/g		0.05	<0.05	<0.05	<0.05
1,3-Dichlorobenzene	ug/g	9.6	0.05	<0.05	<0.05	<0.05
1,4-Dichlorobenzene	ug/g	0.2	0.05	<0.05	<0.05	<0.05
1,2-Dichlorobenzene	ug/g	6.8	0.05	<0.05	<0.05	<0.05
Xylenes (Total)	ug/g	26	0.05	<0.05	<0.05	<0.05
1,3-Dichloropropene (Cis + Trans)	µg/g	0.18	0.04	<0.04	<0.04	<0.04
n-Hexane	µg/g	46	0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	11.2	8.2	12.2
Surrogate	Unit	Acceptable Limits				
Toluene-d8	% Recovery	50-140		97	82	101
4-Bromofluorobenzene	% Recovery	50-140		72	90	78

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Soil - Industrial/Commercial/Community Property Use - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3270388-3270411 The sample was analyzed using the high level technique. The sample was extracted using methanol, a small amount of the methanol extract was diluted in water and the purge & trap GC/MS analysis was performed. Results are based on the dry weight of the soil.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene + o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



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Certificate of Analysis

AGAT WORK ORDER: 21Z837042

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Road

SAMPLED BY:G.Sharma

Total PCBs (soil)

DATE RECEIVED: 2021-11-29

DATE REPORTED: 2021-12-01

				SAMPLE DESCRIPTION:	TP21-01
				SAMPLE TYPE:	Soil
				DATE SAMPLED:	2021-11-22 18:30
Parameter	Unit	G / S	RDL		3270413
Polychlorinated Biphenyls	µg/g	1.1	0.1		<0.1
Moisture Content	%		0.1		4.2
Surrogate	Unit	Acceptable Limits			
Decachlorobiphenyl	%	60-130			76

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Soil - Industrial/Commercial/Community Property Use - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3270413 Results are based on the dry weight of soil extracted.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

3 Lg / 1 Lg Med

AGAT Laboratories

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

Chain of Custody Record

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

Report Information:

Company: Golder Associates Ltd.
Contact: Daniel Stabile
Address: 1931 Robertson Road, Nepean, ON
K2H 5B7
Phone: 613 592 9600 Fax:
Reports to be sent to:
1. Email: daniel_stabile@golder.com
2. Email:

Project Information:

Project: 21494078
Site Location: 1047 Richmond Road
Sampled By: G.Sharma
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☑ No ☐
Company:
Contact:
Address:
Email:

Regulatory Requirements:

(Please check all applicable boxes)

☑ Regulation 153/04
Table 7 (Indicate One)
☑ Ind/Com
☐ Res/Park
☐ Agriculture
Soil Texture *(Check One)*
☑ Coarse
☐ Fine

☐ Excess Soils R406
Table (Indicate One)

☐ Regulation 558

☐ CCME

☐ Sewer Use
☐ Sanitary ☐ Storm
(Region)

☐ Prov. Water Quality Objectives (PWQO)

☐ Other
(Indicate One)

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

Laboratory Use Only

Work Order #: 21783704 2.
Cooler Quantity: one - ICE
Arrival Temperatures: 8.7 | 8.6 | 8.5
see attached
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes: BV submission

Turnaround Time (TAT) Required:

Regular TAT ☐ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☑ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply):

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

For 'Same Day' analysis, please contact your AGAT CPM

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs, Analyze F4G if required ☑ Yes ☐ No	O. Reg 153: PAHs	O. Reg 153: PCBs	O. Reg 153: VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	Potentially Hazardous or High Concentration (Y/N)
BH21-19 SA1	11/22/2021	6:30 AM (PM)	3	Soil	1 Jar 2 vial	N			☑			☑					
BH21-20 SA2	11/~~26~~ 22/2021	7:30 AM (PM)	3	Soil	1 Jar 2 vial	N			☑			☑					
Dup-1 BH21-20 SA2	11/24/2021	7:30 AM (PM)	3	Soil	1 Jar 2 vial	N			✓			✓					
TP21-01	11/22/2021	4:00 AM (PM)	4	Soil	1 bag 2 vial 1 Jar	N			✓		✓						
		AM PM															
		AM PM															
		AM PM															
		AM PM															
		AM PM															
		AM PM															
		AM PM															

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Gopesh Sharma	11/29/2021		C. Griffith	Nov. 29/21	15h00
C. Griffith	Nov. 29/21	16h00	Simon Z	21/11/30	844

Page 1 of 1

N°:

Document ID: DIV-726-1513 021

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

Date Issued: March 9, 2021

AGAT Laboratories

Sample Temperature Log

Client: _____

COC# or Work Order #: 21283704 2

# of Coolers: 3 LG + 1 LG MED (ICE)

# of Submissions: _____

Arrival Temperatures - Branch/Driver

Cooler #1:	3.6	4.2	4.7
Cooler #2:	6.1	6.3	5.2
Cooler #3:	4.8	3.6	3.1
Cooler #4:	6	5.1	4.8
Cooler #5:			
Cooler #6:			
Cooler #7:			
Cooler #8			
Cooler #9:			
Cooler #10:			

IR Gun ID: _____

Taken By: Simon

Date (yyyy/mm/dd): 21/11/30 Time: 8:44 (AM) / PM

Arrival Temperatures - Laboratory

Cooler #1:			
Cooler #2:			
Cooler #3:			
Cooler #4:			
Cooler #5:			
Cooler #6:			
Cooler #7:			
Cooler #8			
Cooler #9:			
Cooler #10:			

IR Gun ID: _____

Taken By: _____

Date (yyyy/mm/dd): _____ Time: ____:____ AM / PM

Instructions for use of this form: 1) complete all fields of info including total # of coolers and # of submissions rec'd, 2) photocopy and place in each submission prior to giving a WO#, 3) Proceed as normal, write the WO# and scan (please make sure to scan along with the COC)

AGAT Laboratories

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

Certificate of Analysis

AGAT WORK ORDER: 21Z837880

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2021-12-01

DATE REPORTED: 2021-12-03

				SAMPLE DESCRIPTION:	21-4	21-11	21-14	21-15A	21-15B	21-19	21-20	DUP-1
				SAMPLE TYPE:	Water	Water	Water	Water	Water	Water	Water	Water
				DATE SAMPLED:	2021-11-30 09:15	2021-11-30 10:15	2021-11-30 16:55	2021-11-30 20:00	2021-11-30 20:45	2021-11-30 18:00	2021-11-30 18:50	2021-11-30
Parameter	Unit	G / S	RDL		3284498	3284500	3284517	3284518	3284519	3284520	3284521	3284526
F1 (C6 - C10)	µg/L		25		<25	<25	<25	<25	<25	<25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L	420	25		<25	<25	<25	<25	<25	<25	<25	<25
F2 (C10 to C16)	µg/L	150	100		<100	<100	<100	<100	<100	<100	<100	<100
F3 (C16 to C34)	µg/L	500	100		<100	<100	<100	<100	<100	<100	<100	<100
F4 (C34 to C50)	µg/L	500	100		<100	<100	<100	<100	<100	<100	<100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500		NA	NA	NA	NA	NA	NA	NA	NA
Sediment					No	No	No	No	No	No	No	No
Surrogate	Unit	Acceptable Limits										
Toluene-d8	% Recovery	50-140			85.2	82.0	93.2	87.2	74.0	78.0	78.2	86.8
Terphenyl	%	60-140			74	94	96	96	105	97	104	103

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3284498-3284526 The C6-C10 fraction is calculated using Toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and 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 contribution.
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 with the contribution of PAHs. Under Ontario Regulation 153, results are considered valid without determining the PAH contribution if not requested by the client.
Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 21Z837880

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2021-12-01

DATE REPORTED: 2021-12-03

SAMPLE DESCRIPTION:				21-4	21-11	21-14	21-15A	21-15B	21-19	21-20	DUP-1
SAMPLE TYPE:				Water	Water	Water	Water	Water	Water	Water	Water
DATE SAMPLED:				2021-11-30 09:15	2021-11-30 10:15	2021-11-30 16:55	2021-11-30 20:00	2021-11-30 20:45	2021-11-30 18:00	2021-11-30 18:50	2021-11-30
Parameter	Unit	G / S	RDL	3284498	3284500	3284517	3284518	3284519	3284520	3284521	3284526
Dichlorodifluoromethane	µg/L	3500	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Vinyl Chloride	µg/L	0.5	0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Bromomethane	µg/L	0.89	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L	2000	0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Acetone	µg/L	100000	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene	µg/L	0.5	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Methylene Chloride	µg/L	26	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Methyl tert-butyl ether	µg/L	15	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1-Dichloroethane	µg/L	11	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Methyl Ethyl Ketone	µg/L	21000	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chloroform	µg/L	2	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloroethane	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1,1-Trichloroethane	µg/L	23	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Carbon Tetrachloride	µg/L	0.2	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Benzene	µg/L	0.5	0.20	1.66	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	1.86
1,2-Dichloropropane	µg/L	0.58	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichloroethylene	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Bromodichloromethane	µg/L	67000	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Methyl Isobutyl Ketone	µg/L	5200	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	µg/L	320	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.63	0.31	<0.20
Dibromochloromethane	µg/L	65000	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ethylene Dibromide	µg/L	0.2	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Tetrachloroethylene	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chlorobenzene	µg/L	140	0.10	9.12	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	8.70
Ethylbenzene	µg/L	54	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10

Certified By:

AGAT Laboratories

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http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 21Z837880

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2021-12-01

DATE REPORTED: 2021-12-03

				SAMPLE DESCRIPTION:	21-4	21-11	21-14	21-15A	21-15B	21-19	21-20	DUP-1
				SAMPLE TYPE:	Water	Water	Water	Water	Water	Water	Water	Water
				DATE SAMPLED:	2021-11-30 09:15	2021-11-30 10:15	2021-11-30 16:55	2021-11-30 20:00	2021-11-30 20:45	2021-11-30 18:00	2021-11-30 18:50	2021-11-30
Parameter	Unit	G / S	RDL		3284498	3284500	3284517	3284518	3284519	3284520	3284521	3284526
m & p-Xylene	µg/L		0.20		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Bromoform	µg/L	5	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Styrene	µg/L	43	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	0.5	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
o-Xylene	µg/L		0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,3-Dichlorobenzene	µg/L	7600	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,4-Dichlorobenzene	µg/L	0.5	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,2-Dichlorobenzene	µg/L	150	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,3-Dichloropropene	µg/L	0.5	0.30		<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Xylenes (Total)	µg/L	72	0.20		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
n-Hexane	µg/L	5	0.20		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Surrogate	Unit	Acceptable Limits										
Toluene-d8	% Recovery	50-140			91	87	84	87	93	89	87	93
4-Bromofluorobenzene	% Recovery	50-140			77	76	78	82	82	85	75	78

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3284498-3284526 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

AGAT Laboratories

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http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 21Z837880

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - Metals & Inorganics (Water)

DATE RECEIVED: 2021-12-01

DATE REPORTED: 2021-12-03

				SAMPLE DESCRIPTION:	21-11	DUP-2
				SAMPLE TYPE:	Water	Water
				DATE SAMPLED:	2021-11-30 10:15	2021-11-30
Parameter	Unit	G / S	RDL		3284500	3284527
Dissolved Antimony	µg/L	16000	1.0		<1.0	<1.0
Dissolved Arsenic	µg/L	1500	1.0		6.0	4.1
Dissolved Barium	µg/L	23000	2.0		47.7	59.7
Dissolved Beryllium	µg/L	53	0.50		<0.50	<0.50
Dissolved Boron	µg/L	36000	10.0		85.0	89.0
Dissolved Cadmium	µg/L	2.1	0.20		<0.20	<0.20
Dissolved Chromium	µg/L	640	2.0		<2.0	<2.0
Dissolved Cobalt	µg/L	52	0.50		0.65	1.24
Dissolved Copper	µg/L	69	1.0		1.2	<1.0
Dissolved Lead	µg/L	20	0.50		<0.50	<0.50
Dissolved Molybdenum	µg/L	7300	0.50		0.63	0.83
Dissolved Nickel	µg/L	390	1.0		2.5	2.9
Dissolved Selenium	µg/L	50	1.0		<1.0	<1.0
Dissolved Silver	µg/L	1.2	0.20		<0.20	<0.20
Dissolved Thallium	µg/L	400	0.30		<0.30	<0.30
Dissolved Uranium	µg/L	330	0.50		0.75	0.84
Dissolved Vanadium	µg/L	200	0.40		0.56	<0.40
Dissolved Zinc	µg/L	890	5.0		<5.0	<5.0
Mercury	µg/L	0.1	0.02		<0.02	<0.02
Chromium VI	µg/L	110	2		<2	<2
Cyanide, Free	µg/L	52	2		3	<2
Dissolved Sodium	µg/L	1800000	100		65500	63100
Chloride	µg/L	1800000	100		121000	124000
Electrical Conductivity	uS/cm	NA	2		1290	1290
pH	pH Units		NA		7.50	7.64

Certified By:

AGAT Laboratories

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http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 21Z837880

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - Metals & Inorganics (Water)

DATE RECEIVED: 2021-12-01

DATE REPORTED: 2021-12-03

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3284500-3284527 Metals analysis completed on a filtered sample.

Dilution required, RDL has been increased accordingly.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

AGAT Laboratories

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Exceedance Summary

AGAT WORK ORDER: 21Z837880

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
3284498	21-4	ON T7 NPGW CT	O. Reg. 153(511) - PHCs F1 - F4 (-BTEX) (Water)	Benzene	µg/L	0.5	1.66
3284498	21-4	ON T7 NPGW CT	O. Reg. 153(511) - VOCs (Water)	Benzene	µg/L	0.5	1.66
3284526	DUP-1	ON T7 NPGW CT	O. Reg. 153(511) - PHCs F1 - F4 (-BTEX) (Water)	Benzene	µg/L	0.5	1.86
3284526	DUP-1	ON T7 NPGW CT	O. Reg. 153(511) - VOCs (Water)	Benzene	µg/L	0.5	1.86

WOKK ORDER

AGAT Laboratories

RUSH!

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

Laboratory Use Only

Work Order #: 21Z837880

Cooler Quantity: one - ice

Arrival Temperatures: 5.6 | 5.3 | 5.1
6.2 | 6.3 | 6.4

Custody Seal Intact: ☐ Yes ☒ No ☐ N/A

Notes: on ice pack

Chain of Custody Record

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

Report Information:

Company: GOLDER
Contact: DANIEL STABILE
Address:
Phone: Fax:
Reports to be sent to:
1. Email: DANIE_STABILE@GOLDER.COM
2. Email: PAUL_HURST@GOLDER.COM TIM_MUILLINGS@GOLDER.COM

Regulatory Requirements:

(Please check all applicable boxes)

☒ Regulation 153/04 — Table 3 7 (Indicate One): ☒ Ind/Com ☒ Res/Park ☐ Agriculture
Soil Texture (Check One): ☒ Coarse ☐ Fine
☐ Excess Soils R406 — Table ___ (Indicate One)
☐ Regulation 558
☐ CCME
☐ Sewer Use: ☐ Sanitary ☐ Storm — Region ___
☐ Prov. Water Quality Objectives (PWQO)
☒ Other ~~[crossed out]~~ (Indicate One)

Turnaround Time (TAT) Required:

Regular TAT (Most Analysis) ☐ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply) ☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply): SAME DAY

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

For 'Same Day' analysis, please contact your AGAT CPM

Project Information:

Project: 21494078
Site Location: 1047 RICHMOND RD
Sampled By: CLAIRE WOODFIELD
AGAT ID #: MSA AGAT-GOLDER2021

Please note: If quotation number is not provided, client will be billed full price for analysis.

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

Report Guideline on *Certificate of Analysis* ☐ Yes ☐ No

Invoice Information:

Bill To Same: Yes ☒ No ☐

Company:
Contact:
Address:
Email: AP_CUSTOMERSERVICE@GOLDER.COM

Sample Matrix Legend

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs Analyze F4G if required ☐ Yes ☐ No	PAHs	Total PCBs ☐ Aroclor	VOC	O. Reg 558: Landfill Disposal Characterization TCLP: TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	Potentially Hazardous or High Concentration (Y/N)
21-4	30/11/21	915 AM	8	GW					✓			✓					
21-11	↓	1015 AM/PM	14	↓		Y	✓		✓			✓					
21-14		455 AM/PM	8						✓			✓					
21-15A		8 PM	8						✓			✓					
21-15B		845 PM	8						✓			✓					
21-19		6 AM/PM	8						✓			✓					
21-20		650 AM/PM	8						✓			✓					
		AM/PM	8						✓			✓					
DUP-1	↓	— AM/PM	8	↓		Y	✓		~~✓~~								
DUP-2	↓	— AM/PM	6	↓													
		AM/PM															

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
CLAIRE WOODFIELD [signature]	1/12/21	845	C. Griffith [signature]	Dec 01/21	08h45
CC to Paulo [signature]	Dec 01/21	16h00	[signature]	Dec 02	1:45

Page ___ of ___

Nº: T 123162

Document ID: DIV-78-1511.020

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

Date Issued: December 9, 2020

AGAT Laboratories

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CLIENT NAME: GOLDER ASSOCIATES LTD.
100 SCOTIA COURT
WHITBY, ON L1N8Y6
(905) 723-2727
ATTENTION TO: Daniel Stabile
PROJECT: 21494078
AGAT WORK ORDER: 21Z842764
TRACE ORGANICS REVIEWED BY: Oksana Gushyla, Trace Organics Lab Supervisor
DATE REPORTED: Dec 13, 2021
PAGES (INCLUDING COVER): 9
VERSION*: 1

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

*Notes

Disclaimer:

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

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Certificate of Analysis

AGAT WORK ORDER: 21Z842764

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2021-12-10

DATE REPORTED: 2021-12-13

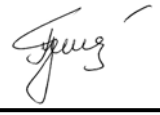
				SAMPLE DESCRIPTION:	BH21-04	BH21-14	DUP
				SAMPLE TYPE:	Water	Water	Water
				DATE SAMPLED:	2021-12-09 16:41	2021-12-09 15:40	2021-12-09 15:40
Parameter	Unit	G / S	RDL		3330747	3330756	3330757
F1 (C6 - C10)	µg/L		25		<25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L		25		<25	<25	<25
F2 (C10 to C16)	µg/L		100		<100	<100	<100
F3 (C16 to C34)	µg/L		100		<100	<100	<100
F4 (C34 to C50)	µg/L		100		<100	<100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500		NA	NA	NA
Sediment					No	No	No
Surrogate	Unit	Acceptable Limits					
Toluene-d8	% Recovery	50-140			92.5	74.2	95.2
Terphenyl	%	60-140			70	75	83

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

3330747-3330757 The C6-C10 fraction is calculated using Toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and 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 contribution.
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 with the contribution of PAHs. Under Ontario Regulation 153, results are considered valid without determining the PAH contribution if not requested by the client.
Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



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Certificate of Analysis

AGAT WORK ORDER: 21Z842764

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:

SAMPLED BY:

Volatile Organic Compounds in Water (ug/L)

DATE RECEIVED: 2021-12-10

DATE REPORTED: 2021-12-13

SAMPLE DESCRIPTION:				BH21-04		BH21-14	DUP
SAMPLE TYPE:				Water		Water	Water
DATE SAMPLED:				2021-12-09 16:41		2021-12-09 15:40	2021-12-09 15:40
Parameter	Unit	G / S	RDL	3330747	RDL	3330756	3330757
Dichlorodifluoromethane	µg/L		0.40	<0.40	0.20	<0.20	<0.20
Chloromethane	µg/L		0.80	<0.80	0.40	<0.40	<0.40
Vinyl Chloride	µg/L		0.34	<0.34	0.17	<0.17	<0.17
Bromomethane	µg/L		0.40	<0.40	0.20	<0.20	<0.20
Chloroethane	µg/L		0.40	<0.40	0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L		0.80	<0.80	0.40	<0.40	<0.40
Acetone	µg/L		2.0	<2.0	1.0	<1.0	<1.0
1,1-Dichloroethylene	µg/L		0.4	<0.4	0.2	<0.2	<0.2
Methylene Chloride	µg/L		0.60	<0.60	0.30	<0.30	<0.30
trans- 1,2-dichloroethylene	µg/L		0.40	<0.40	0.20	<0.20	<0.20
Methyl tert-butyl ether	µg/L		0.40	<0.40	0.20	<0.20	<0.20
1,1-Dichloroethane	µg/L		0.60	<0.60	0.30	<0.30	<0.30
Methyl Ethyl Ketone	µg/L		2.0	<2.0	1.0	<1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L		0.40	<0.40	0.20	<0.20	<0.20
Chloroform	µg/L		0.40	<0.40	0.20	<0.20	<0.20
1,2-Dichloroethane	µg/L		0.40	40.5	0.20	<0.20	<0.20
1,1,1-Trichloroethane	µg/L		0.60	<0.60	0.30	<0.30	<0.30
Carbon Tetrachloride	µg/L		0.40	<0.40	0.20	<0.20	<0.20
Benzene	µg/L		0.40	2.81	0.20	<0.20	<0.20
1,2-Dichloropropane	µg/L		0.40	<0.40	0.20	<0.20	<0.20
Trichloroethylene	µg/L		0.40	4.26	0.20	2.11	1.99
Bromodichloromethane	µg/L		0.40	<0.40	0.20	<0.20	<0.20
cis-1,3-Dichloropropene	µg/L		0.40	<0.40	0.20	<0.20	<0.20
Methyl Isobutyl Ketone	µg/L		2.0	<2.0	1.0	<1.0	<1.0
trans-1,3-Dichloropropene	µg/L		0.60	<0.60	0.30	<0.30	<0.30
1,1,2-Trichloroethane	µg/L		0.40	<0.40	0.20	<0.20	<0.20
Toluene	µg/L		0.40	<0.40	0.20	<0.20	<0.20
2-Hexanone	µg/L		2.0	<2.0	1.0	<1.0	<1.0
Dibromochloromethane	µg/L		0.20	<0.20	0.10	<0.10	<0.10

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 21Z842764

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:

SAMPLED BY:

Volatile Organic Compounds in Water (ug/L)

DATE RECEIVED: 2021-12-10

DATE REPORTED: 2021-12-13

				SAMPLE DESCRIPTION:	BH21-04		BH21-14	DUP
				SAMPLE TYPE:	Water		Water	Water
				DATE SAMPLED:	2021-12-09 16:41		2021-12-09 15:40	2021-12-09 15:40
Parameter	Unit	G / S	RDL	3330747	RDL	3330756	3330757	
Ethylene Dibromide	µg/L		0.20	<0.20	0.10	<0.10	<0.10	
Tetrachloroethylene	µg/L		0.40	<0.40	0.20	<0.20	<0.20	
1,1,1,2-Tetrachloroethane	µg/L		0.20	<0.20	0.10	<0.10	<0.10	
Chlorobenzene	µg/L		0.20	<0.20	0.10	<0.10	<0.10	
Ethylbenzene	µg/L		0.20	<0.20	0.10	<0.10	<0.10	
m & p-Xylene	µg/L		0.40	<0.40	0.20	<0.20	<0.20	
Bromoform	µg/L		0.20	<0.20	0.10	<0.10	<0.10	
Styrene	µg/L		0.20	<0.20	0.10	<0.10	<0.10	
1,1,2,2-Tetrachloroethane	µg/L		0.20	<0.20	0.10	<0.10	<0.10	
o-Xylene	µg/L		0.20	<0.20	0.10	<0.10	<0.10	
1,3-Dichlorobenzene	µg/L		0.20	<0.20	0.10	<0.10	<0.10	
1,4-Dichlorobenzene	µg/L		0.20	<0.20	0.10	<0.10	<0.10	
1,2-Dichlorobenzene	µg/L		0.20	<0.20	0.10	<0.10	<0.10	
1,2,4-Trichlorobenzene	µg/L		0.60	<0.60	0.30	<0.30	<0.30	
1,3-Dichloropropene (Cis + Trans)	µg/L		0.30	<0.30	0.30	<0.30	<0.30	
Xylenes (Total)	µg/L		0.20	<0.20	0.20	<0.20	<0.20	
n-Hexane	µg/L		0.40	<0.40	0.20	<0.20	<0.20	
Surrogate	Unit	Acceptable Limits						
Toluene-d8	% Recovery	50-140		76	1	83	72	
4-Bromofluorobenzene	% Recovery	50-140		76	1	96	93	

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

3330747 Dilution factor=2
The sample was diluted because it was foamy. The reporting detection limit has been corrected for the dilution factor used.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene + o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

3330756-3330757 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene + o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

AGAT Laboratories

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Quality Assurance

CLIENT NAME: GOLDER ASSOCIATES LTD.

AGAT WORK ORDER: 21Z842764

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:

SAMPLED BY:

Trace Organics Analysis

RPT Date: Dec 13, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (-BTEX) (Water)															
F1 (C6 - C10)	3282665		<25	<25	NA	< 25	104%	60%	140%	112%	60%	140%	111%	60%	140%
F2 (C10 to C16)	3290856		< 100	< 100	NA	< 100	102%	60%	140%	85%	60%	140%	75%	60%	140%
F3 (C16 to C34)	3290856		< 100	< 100	NA	< 100	90%	60%	140%	76%	60%	140%	79%	60%	140%
F4 (C34 to C50)	3290856		< 100	< 100	NA	< 100	93%	60%	140%	86%	60%	140%	71%	60%	140%
Volatile Organic Compounds in Water (ug/L)															
Dichlorodifluoromethane	3290687		<0.20	<0.20	NA	< 0.20	91%	50%	140%	95%	50%	140%	97%	50%	140%
Chloromethane	3290687		<0.40	<0.40	NA	< 0.40	96%	50%	140%	84%	50%	140%	80%	50%	140%
Vinyl Chloride	3290687		<0.17	<0.17	NA	< 0.17	96%	50%	140%	102%	50%	140%	78%	50%	140%
Bromomethane	3290687		<0.20	<0.20	NA	< 0.20	98%	50%	140%	83%	50%	140%	89%	50%	140%
Chloroethane	3290687		<0.20	<0.20	NA	< 0.20	74%	50%	140%	91%	50%	140%	108%	50%	140%
Trichlorofluoromethane	3290687		<0.40	<0.40	NA	< 0.40	87%	50%	140%	79%	50%	140%	109%	50%	140%
Acetone	3290687		<1.0	<1.0	NA	< 1.0	96%	50%	140%	100%	50%	140%	97%	50%	140%
1,1-Dichloroethylene	3290687		<0.2	<0.2	NA	< 0.2	93%	50%	140%	73%	60%	130%	114%	50%	140%
Methylene Chloride	3290687		<0.30	<0.30	NA	< 0.30	120%	50%	140%	120%	60%	130%	106%	50%	140%
trans- 1,2-dichloroethylene	3290687		<0.20	<0.20	NA	< 0.20	97%	50%	140%	120%	60%	130%	97%	50%	140%
Methyl tert-butyl ether	3290687		<0.20	<0.20	NA	< 0.20	95%	50%	140%	117%	60%	130%	85%	50%	140%
1,1-Dichloroethane	3290687		<0.30	<0.30	NA	< 0.30	85%	50%	140%	110%	60%	130%	93%	50%	140%
Methyl Ethyl Ketone	3290687		<1.0	<1.0	NA	< 1.0	98%	50%	140%	101%	50%	140%	103%	50%	140%
cis- 1,2-Dichloroethylene	3290687		<0.20	<0.20	NA	< 0.20	79%	50%	140%	107%	60%	130%	97%	50%	140%
Chloroform	3290687		<0.20	<0.20	NA	< 0.20	98%	50%	140%	101%	60%	130%	113%	50%	140%
1,2-Dichloroethane	3290687		<0.20	<0.20	NA	< 0.20	116%	50%	140%	97%	60%	130%	83%	50%	140%
1,1,1-Trichloroethane	3290687		<0.30	<0.30	NA	< 0.30	111%	50%	140%	85%	60%	130%	84%	50%	140%
Carbon Tetrachloride	3290687		<0.20	<0.20	NA	< 0.20	98%	50%	140%	120%	60%	130%	120%	50%	140%
Benzene	3290687		<0.20	<0.20	NA	< 0.20	87%	50%	140%	106%	60%	130%	86%	50%	140%
1,2-Dichloropropane	3290687		<0.20	<0.20	NA	< 0.20	111%	50%	140%	97%	60%	130%	98%	50%	140%
Trichloroethylene	3290687		<0.20	<0.20	NA	< 0.20	105%	50%	140%	98%	60%	130%	98%	50%	140%
Bromodichloromethane	3290687		<0.20	<0.20	NA	< 0.20	116%	50%	140%	107%	60%	130%	102%	50%	140%
cis-1,3-Dichloropropene	3290687		<0.20	<0.20	NA	< 0.20	119%	50%	140%	89%	60%	130%	77%	50%	140%
Methyl Isobutyl Ketone	3290687		<1.0	<1.0	NA	< 1.0	109%	50%	140%	103%	50%	140%	101%	50%	140%
trans-1,3-Dichloropropene	3290687		<0.30	<0.30	NA	< 0.30	95%	50%	140%	102%	60%	130%	119%	50%	140%
1,1,2-Trichloroethane	3290687		<0.20	<0.20	NA	< 0.20	117%	50%	140%	97%	60%	130%	113%	50%	140%
Toluene	3290687		<0.20	<0.20	NA	< 0.20	100%	50%	140%	75%	60%	130%	91%	50%	140%
2-Hexanone	3290687		<1.0	<1.0	NA	< 1.0	105%	50%	140%	103%	50%	140%	99%	50%	140%
Dibromochloromethane	3290687		<0.10	<0.10	NA	< 0.10	116%	50%	140%	110%	60%	130%	99%	50%	140%
Ethylene Dibromide	3290687		<0.10	<0.10	NA	< 0.10	111%	50%	140%	91%	60%	130%	111%	50%	140%
Tetrachloroethylene	3290687		<0.20	<0.20	NA	< 0.20	104%	50%	140%	91%	60%	130%	107%	50%	140%
1,1,1,2-Tetrachloroethane	3290687		<0.10	<0.10	NA	< 0.10	105%	50%	140%	86%	60%	130%	103%	50%	140%
Chlorobenzene	3290687		<0.10	<0.10	NA	< 0.10	89%	50%	140%	70%	60%	130%	102%	50%	140%
Ethylbenzene	3290687		<0.10	<0.10	NA	< 0.10	74%	50%	140%	87%	60%	130%	86%	50%	140%

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Quality Assurance

CLIENT NAME: GOLDER ASSOCIATES LTD.

AGAT WORK ORDER: 21Z842764

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:

SAMPLED BY:

Trace Organics Analysis (Continued)

RPT Date: Dec 13, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
m & p-Xylene	3290687		<0.20	<0.20	NA	< 0.20	98%	50%	140%	92%	60%	130%	105%	50%	140%
Bromoform	3290687		<0.10	<0.10	NA	< 0.10	106%	50%	140%	84%	60%	130%	109%	50%	140%
Styrene	3290687		<0.10	<0.10	NA	< 0.10	76%	50%	140%	82%	60%	130%	75%	50%	140%
1,1,2,2-Tetrachloroethane	3290687		<0.10	<0.10	NA	< 0.10	94%	50%	140%	77%	60%	130%	96%	50%	140%
o-Xylene	3290687		<0.10	<0.10	NA	< 0.10	78%	50%	140%	78%	60%	130%	80%	50%	140%
1,3-Dichlorobenzene	3290687		<0.10	<0.10	NA	< 0.10	95%	50%	140%	78%	60%	130%	85%	50%	140%
1,4-Dichlorobenzene	3290687		<0.10	<0.10	NA	< 0.10	101%	50%	140%	78%	60%	130%	92%	50%	140%
1,2-Dichlorobenzene	3290687		<0.10	<0.10	NA	< 0.10	98%	50%	140%	80%	60%	130%	91%	50%	140%
1,2,4-Trichlorobenzene	3290687		<0.30	<0.30	NA	< 0.30	101%	50%	140%	105%	60%	130%	106%	50%	140%
n-Hexane	3290687		<0.20	<0.20	NA	< 0.20	93%	50%	140%	95%	60%	130%	102%	50%	140%

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

Certified By:

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
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Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD.

AGAT WORK ORDER: 21Z842764

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Toluene-d8	VOL-91-5009	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
F1 (C6 - C10)	VOL-91- 5010	modified from MOE PHC E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	modified from MOE PHC E3421	(P&T)GC/FID
F2 (C10 to C16)	VOL-91-5010	modified from MOE PHC E3421	GC / FID
F3 (C16 to C34)	VOL-91-5010	modified from MOE PHC E3421	GC / FID
F4 (C34 to C50)	VOL-91-5010	modified from MOE PHC E3421	GC / FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	modified from MOE PHC E3421	BALANCE
Terphenyl	VOL-91-5009	modified from MOE PHC E3421	GC/FID
Sediment			
Dichlorodifluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Vinyl Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
trans- 1,2-dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl tert-butyl ether	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
cis- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD.

AGAT WORK ORDER: 21Z842764

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
cis-1,3-Dichloropropene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
trans-1,3-Dichloropropene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
2-Hexanone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
m & p-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2,4-Trichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene (Cis + Trans)	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

AGAT Laboratories PUSH!
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Mississauga, Ontario L4Z 1Y2
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Chain of Custody Record

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

Laboratory Use Only

Work Order #: 21Z842764

Cooler Quantity: one - ice pack

Arrival Temperatures: 9.5 | 9.2 | 9.0 / 3.8 | 4 | 4.3

Custody Seal Intact: ☐ Yes ☐ No ☐ N/A

Notes:

Report Information:

Company: GOLDER

Contact: Daniel Stabile

Address: 100 Scotia Court
Whitby, ON. CAD.

Phone: 905 725 2727 Fax:

Reports to be sent to:

1. Email: daniel_stabile@golder.com
2. Email: paul_hurst@golder.com

Regulatory Requirements:

(Please check all applicable boxes)

☐ Regulation 153/04
Table ____ *Indicate One*
☐ Ind/Com
☐ Res/Park
☐ Agriculture
Soil Texture *(Check One)*
☐ Coarse
☐ Fine

☐ Excess Soils R406
Table ____ *Indicate One*

☐ Regulation 558

☐ CCME

☐ Sewer Use
☐ Sanitary ☐ Storm
____ *Region*

☐ Prov. Water Quality Objectives (PWQO)

☐ Other
____ *Indicate One*

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

Report Guideline on *Certificate of Analysis* ☐ Yes ☐ No

Turnaround Time (TAT) Required:

Regular TAT (Most Analysis) ☐ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☒ Next Business Day

OR Date Required (Rush Surcharges May Apply): Dec 10, 2021

Please provide prior notification for rush TAT

**TAT is exclusive of weekends and statutory holidays*

For 'Same Day' analysis, please contact your AGAT CPM

Project Information:

Project: 21494078

Site Location:

Sampled By: A. Brunskill

AGAT ID #: PO:

Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☒ No ☐

Company:

Contact:

Address:

Email:

Sample Matrix Legend

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 (PHCs) Analyze F4G if required ☐ Yes ☐ No	O. Reg 153: PAHs	O. Reg 153: Total PCBs ☐ Aroclor	O. Reg 153: VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	Potentially Hazardous or High Concentration (Y/N)
BH21-04	Dec 9/21	16:41 AM/PM	8	GW					X			X					
BH21-14	Dec 9/21	15:40 AM/PM	8	GW					X			X					
DUP	Dec 9/21	15:40 AM/PM	8	GW					X			X					
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															

	Date	Time
Samples Relinquished By (Print Name and Sign): A Brunskill	Dec 9/21	18:00
Samples Relinquished By (Print Name and Sign): A Brunskill	Dec 9/21	18:00
Samples Relinquished By (Print Name and Sign): CC to Paul	21/12/10	16h00

	Date	Time
Samples Received By (Print Name and Sign): C. Griffith	21/12/10	08h05
Samples Received By (Print Name and Sign): Sima Z	21/12/11	8:49
Samples Received By (Print Name and Sign):	Date	Time

Page ____ of ____

Nº: T 122801

Document ID: DIV-78-1511.020

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

Date Issued: December 9, 2020

AGAT Laboratories

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CLIENT NAME: GOLDER ASSOCIATES LTD.
100 SCOTIA COURT
WHITBY, ON L1N8Y6
(905) 723-2727
ATTENTION TO: Daniel Stabile
PROJECT: 21494078
AGAT WORK ORDER: 21T848962
TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist
DATE REPORTED: Jan 05, 2022
PAGES (INCLUDING COVER): 22
VERSION*: 2

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

*Notes

VERSION 2:Version 2 supersedes work order 21T848962 , Version 1, issued January, 5, 2022. Complete.

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 21T848962

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd.

SAMPLED BY:D.Stabile

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

DATE RECEIVED: 2021-12-23

DATE REPORTED: 2022-01-05

				SAMPLE DESCRIPTION:	BH21- 21 SA3	BH21-22 SA3	DUP1
				SAMPLE TYPE:	Soil	Soil	Soil
				DATE SAMPLED:	2021-12-21 10:30	2021-12-21 12:00	2021-12-21
Parameter	**Unit**	**G / S**	**RDL**		**3391187**	**3391190**	**3391201**
F1 (C6 - C10)	µg/g		5		<5	6	<5
F1 (C6 to C10) minus BTEX	µg/g	55	5		<5	6	<5
F2 (C10 to C16)	µg/g	230	10		<10	<10	<10
F3 (C16 to C34)	µg/g	1700	50		<50	260	<50
F4 (C34 to C50)	µg/g	3300	50		<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	3300	50		NA	NA	NA
Moisture Content	%		0.1		9.1	13.6	10.0
Surrogate	**Unit**	**Acceptable Limits**					
Toluene-d8	% Recovery	50-140			112	112	104
Terphenyl	%	60-140			78	100	89

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Soil - Industrial/Commercial/Community Property Use - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3391187-3391201 Results are based on sample dry weight.
The C6-C10 fraction is calculated using toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX contribution.
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.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: 

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 21T848962

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd.

SAMPLED BY:D.Stabile

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

DATE RECEIVED: 2021-12-23

DATE REPORTED: 2022-01-05

		SAMPLE DESCRIPTION:		BH21-21	BH21-4	BH21-14	BH21-22	DUP1
		SAMPLE TYPE:		Water	Water	Water	Water	Water
		DATE SAMPLED:		2021-12-22 10:45	2021-12-22 11:25	2021-12-22 12:00	2021-12-22 12:35	2021-12-22
Parameter	**Unit**	**G / S**	**RDL**	**3391083**	**3391094**	**3391095**	**3391097**	**3391203**
F1 (C6 - C10)	µg/L		25	<25	<25	<25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L	420	25	<25	<25	<25	<25	<25
F2 (C10 to C16)	µg/L	150	100	<100	<100	<100	<100	<100
F3 (C16 to C34)	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	NA	NA	NA	NA	NA
Sediment				No	No	No	No	No
Surrogate	**Unit**	**Acceptable Limits**						
Toluene-d8	% Recovery	50-140		116	70.0	97.5	104	79.2
Terphenyl	%	60-140		86	98	99	104	90

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3391083-3391203 The C6-C10 fraction is calculated using Toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and 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 contribution.
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 with the contribution of PAHs. Under Ontario Regulation 153, results are considered valid without determining the PAH contribution if not requested by the client.
Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: NPopowkolof

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 21T848962

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd.

SAMPLED BY:D.Stabile

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

DATE RECEIVED: 2021-12-23

DATE REPORTED: 2022-01-05

				SAMPLE DESCRIPTION:	BH21-23 SA4	BH21-24 SA4	BH21-25 SA4
				SAMPLE TYPE:	Soil	Soil	Soil
				DATE SAMPLED:	2021-12-21 13:55	2021-12-21 14:25	2021-12-21 15:00
Parameter	**Unit**	**G / S**	**RDL**		**3391191**	**3391192**	**3391193**
Benzene	µg/g	0.32	0.02		<0.02	<0.02	<0.02
Toluene	µg/g	68	0.05		<0.05	<0.05	<0.05
Ethylbenzene	µg/g	9.5	0.05		<0.05	<0.05	<0.05
m & p-Xylene	µg/g		0.05		<0.05	<0.05	<0.05
o-Xylene	µg/g		0.05		<0.05	<0.05	<0.05
Xylenes (Total)	µg/g	26	0.05		<0.05	<0.05	<0.05
F1 (C6 - C10)	µg/g		5		<5	154	<5
F1 (C6 to C10) minus BTEX	µg/g	55	5		<5	**154**	<5
F2 (C10 to C16)	µg/g	230	10		<10	<10	<10
F3 (C16 to C34)	µg/g	1700	50		<50	1500	<50
F4 (C34 to C50)	µg/g	3300	50		<50	170	<50
Gravimetric Heavy Hydrocarbons	µg/g	3300	50		NA	NA	NA
Moisture Content	%		0.1		9.8	10.4	10.6
Surrogate	**Unit**	**Acceptable Limits**					
Toluene-d8	% Recovery	60-140			117	94	116
Terphenyl	%	60-140			89	91	89

Certified By:

AGAT Laboratories

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AGAT WORK ORDER: 21T848962

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd.

SAMPLED BY:D.Stabile

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

DATE RECEIVED: 2021-12-23 **DATE REPORTED: 2022-01-05**

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Soil - Industrial/Commercial/Community Property Use - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3391191-3391193 Results are based on sample dry weight.
The C6-C10 fraction is calculated using Toluene response factor.
Xylenes is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX contribution.
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 with the contribution of PAHs. Under Ontario Regulation 153, results are considered valid without determining the PAH contribution if not requested by the client.
Quality Control Data is available upon request.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: 

AGAT Laboratories

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CANADA L4Z 1Y2
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Certificate of Analysis

AGAT WORK ORDER: 21T848962

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd.

SAMPLED BY:D.Stabile

O. Reg. 153(511) - PHCs F1/BTEX (Water)

DATE RECEIVED: 2021-12-23

DATE REPORTED: 2022-01-05

				SAMPLE DESCRIPTION:	TRIP BLANK	FIELD BALNK
				SAMPLE TYPE:	Water	Water
				DATE SAMPLED:	2021-12-22	2021-12-22 12:00
Parameter	**Unit**	**G / S**	**RDL**		**3391202**	**3391204**
Benzene	µg/L	0.5	0.20		<0.20	<0.20
Toluene	µg/L	320	0.20		<0.20	<0.20
Ethylbenzene	µg/L	54	0.10		<0.10	<0.10
m & p-Xylene	µg/L		0.20		<0.20	<0.20
o-Xylene	µg/L		0.10		<0.10	<0.10
Xylenes (Total)	µg/L	72	0.20		<0.20	<0.20
F1 (C6-C10)	µg/L		25		<25	<25
F1 (C6 to C10) minus BTEX	µg/L	420	25		<25	<25
Surrogate	**Unit**	**Acceptable Limits**				
Toluene-d8	% Recovery	60-140			122	78.8

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3391202-3391204 The C6-C10 fraction is calculated using Toluene response factor.
Total C6-C10 results are corrected for BTEX contributions.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.
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.
Extraction and holding times were met for this sample.
NA = Not Applicable

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popowkolof

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Certificate of Analysis

AGAT WORK ORDER: 21T848962

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd.

SAMPLED BY:D.Stabile

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

DATE RECEIVED: 2021-12-23

DATE REPORTED: 2022-01-05

		SAMPLE DESCRIPTION:		BH21- 21 SA3	BH21-22 SA3	DUP1
		SAMPLE TYPE:		Soil	Soil	Soil
		DATE SAMPLED:		2021-12-21 10:30	2021-12-21 12:00	2021-12-21
Parameter	Unit	G / S	RDL	3391187	3391190	3391201
Dichlorodifluoromethane	µg/g	16	0.05	<0.05	<0.05	<0.05
Vinyl Chloride	ug/g	0.032	0.02	<0.02	<0.02	<0.02
Bromomethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	ug/g	4	0.05	<0.05	<0.05	<0.05
Acetone	ug/g	16	0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	ug/g	0.064	0.05	<0.05	<0.05	<0.05
Methylene Chloride	ug/g	1.6	0.05	<0.05	<0.05	<0.05
Trans- 1,2-Dichloroethylene	ug/g	1.3	0.05	<0.05	<0.05	<0.05
Methyl tert-butyl Ether	ug/g	11	0.05	<0.05	<0.05	<0.05
1,1-Dichloroethane	ug/g	17	0.02	<0.02	<0.02	<0.02
Methyl Ethyl Ketone	ug/g	70	0.50	<0.50	<0.50	<0.50
Cis- 1,2-Dichloroethylene	ug/g	55	0.02	<0.02	<0.02	<0.02
Chloroform	ug/g	0.47	0.04	<0.04	<0.04	<0.04
1,2-Dichloroethane	ug/g	0.05	0.03	<0.03	<0.03	<0.03
1,1,1-Trichloroethane	ug/g	6.1	0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	ug/g	0.21	0.05	<0.05	<0.05	<0.05
Benzene	ug/g	0.32	0.02	<0.02	<0.02	<0.02
1,2-Dichloropropane	ug/g	0.16	0.03	<0.03	<0.03	<0.03
Trichloroethylene	ug/g	0.91	0.03	<0.03	<0.03	<0.03
Bromodichloromethane	ug/g	18	0.05	<0.05	<0.05	<0.05
Methyl Isobutyl Ketone	ug/g	31	0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	ug/g	0.05	0.04	<0.04	<0.04	<0.04
Toluene	ug/g	68	0.05	<0.05	<0.05	<0.05
Dibromochloromethane	ug/g	13	0.05	<0.05	<0.05	<0.05
Ethylene Dibromide	ug/g	0.05	0.04	<0.04	<0.04	<0.04
Tetrachloroethylene	ug/g	4.5	0.05	<0.05	<0.05	<0.05
1,1,1,2-Tetrachloroethane	ug/g	0.087	0.04	<0.04	<0.04	<0.04
Chlorobenzene	ug/g	2.4	0.05	<0.05	<0.05	<0.05
Ethylbenzene	ug/g	9.5	0.05	<0.05	<0.05	<0.05

Certified By: N Popowkolof

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Certificate of Analysis

AGAT WORK ORDER: 21T848962

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd.

SAMPLED BY:D.Stabile

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

DATE RECEIVED: 2021-12-23 **DATE REPORTED: 2022-01-05**

				SAMPLE DESCRIPTION:	BH21- 21 SA3	BH21-22 SA3	DUP1
				SAMPLE TYPE:	Soil	Soil	Soil
				DATE SAMPLED:	2021-12-21 10:30	2021-12-21 12:00	2021-12-21
Parameter	**Unit**	**G / S**	**RDL**		**3391187**	**3391190**	**3391201**
m & p-Xylene	ug/g		0.05		<0.05	<0.05	<0.05
Bromoform	ug/g	0.61	0.05		<0.05	<0.05	<0.05
Styrene	ug/g	34	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
o-Xylene	ug/g		0.05		<0.05	<0.05	<0.05
1,3-Dichlorobenzene	ug/g	9.6	0.05		<0.05	<0.05	<0.05
1,4-Dichlorobenzene	ug/g	0.2	0.05		<0.05	<0.05	<0.05
1,2-Dichlorobenzene	ug/g	6.8	0.05		<0.05	<0.05	<0.05
Xylenes (Total)	ug/g	26	0.05		<0.05	<0.05	<0.05
1,3-Dichloropropene (Cis + Trans)	µg/g	0.18	0.04		<0.04	<0.04	<0.04
n-Hexane	µg/g	46	0.05		<0.05	<0.05	<0.05
Moisture Content	%		0.1		9.1	13.6	10.0
Surrogate	**Unit**	**Acceptable Limits**					
Toluene-d8	% Recovery	50-140			108	105	109
4-Bromofluorobenzene	% Recovery	50-140			86	97	76

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Soil - Industrial/Commercial/Community Property Use - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3391187-3391201 The sample was analyzed using the high level technique. The sample was extracted using methanol, a small amount of the methanol extract was diluted in water and the purge & trap GC/MS analysis was performed. Results are based on the dry weight of the soil.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene + o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: NPopowkolof

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AGAT WORK ORDER: 21T848962

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd.

SAMPLED BY:D.Stabile

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

DATE RECEIVED: 2021-12-23

DATE REPORTED: 2022-01-05

SAMPLE DESCRIPTION:				BH21-21	BH21-4		BH21-14	BH21-22		TRIP BLANK	DUP1
SAMPLE TYPE:				Water	Water		Water	Water		Water	Water
DATE SAMPLED:				2021-12-22 10:45	2021-12-22 11:25		2021-12-22 12:00	2021-12-22 12:35		2021-12-22	2021-12-22
Parameter	Unit	G / S	RDL	3391083	3391094	RDL	3391095	3391097	RDL	3391202	3391203
Dichlorodifluoromethane	µg/L	3500	0.20	<0.20	<0.20	0.40	<0.40	<0.40	0.20	<0.20	<0.20
Vinyl Chloride	µg/L	0.5	0.17	<0.17	<0.17	0.34	<0.34	<0.34	0.17	<0.17	<0.17
Bromomethane	µg/L	0.89	0.20	<0.20	<0.20	0.40	<0.40	<0.40	0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L	2000	0.40	<0.40	<0.40	0.80	<0.80	<0.80	0.40	<0.40	<0.40
Acetone	µg/L	100000	1.0	<1.0	<1.0	2.0	<2.0	<2.0	1.0	<1.0	<1.0
1,1-Dichloroethylene	µg/L	0.5	0.30	<0.30	<0.30	0.50	<0.50	<0.50	0.30	<0.30	<0.30
Methylene Chloride	µg/L	26	0.30	<0.30	<0.30	0.60	<0.60	<0.60	0.30	<0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20	0.40	<0.40	<0.40	0.20	<0.20	<0.20
Methyl tert-butyl ether	µg/L	15	0.20	<0.20	<0.20	0.40	<0.40	<0.40	0.20	<0.20	<0.20
1,1-Dichloroethane	µg/L	11	0.30	<0.30	<0.30	0.60	<0.60	<0.60	0.30	<0.30	<0.30
Methyl Ethyl Ketone	µg/L	21000	1.0	<1.0	<1.0	2.0	<2.0	<2.0	1.0	<1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20	0.40	<0.40	<0.40	0.20	<0.20	<0.20
Chloroform	µg/L	2	0.20	<0.20	<0.20	0.40	<0.40	<0.40	0.20	<0.20	<0.20
1,2-Dichloroethane	µg/L	0.5	0.20	0.50	**2.51**	0.40	<0.40	<0.40	0.20	<0.20	0.45
1,1,1-Trichloroethane	µg/L	23	0.30	<0.30	<0.30	0.60	<0.60	<0.60	0.30	<0.30	<0.30
Carbon Tetrachloride	µg/L	0.2	0.20	<0.20	<0.20	0.20	<0.20	<0.20	0.20	<0.20	<0.20
Benzene	µg/L	0.5	0.20	<0.20	<0.20	0.40	<0.40	<0.40	0.20	<0.20	<0.20
1,2-Dichloropropane	µg/L	0.58	0.20	<0.20	<0.20	0.40	<0.40	<0.40	0.20	<0.20	<0.20
Trichloroethylene	µg/L	0.5	0.20	<0.20	<0.20	0.40	<0.40	<0.40	0.20	<0.20	<0.20
Bromodichloromethane	µg/L	67000	0.20	<0.20	<0.20	0.40	<0.40	<0.40	0.20	<0.20	<0.20
Methyl Isobutyl Ketone	µg/L	5200	1.0	<1.0	<1.0	2.0	<2.0	<2.0	1.0	<1.0	<1.0
1,1,2-Trichloroethane	µg/L	0.5	0.20	<0.20	<0.20	0.40	<0.40	<0.40	0.20	<0.20	<0.20
Toluene	µg/L	320	0.20	<0.20	<0.20	0.40	<0.40	<0.40	0.20	<0.20	<0.20
Dibromochloromethane	µg/L	65000	0.10	<0.10	<0.10	0.20	<0.20	<0.20	0.10	<0.10	<0.10
Ethylene Dibromide	µg/L	0.2	0.10	<0.10	<0.10	0.20	<0.20	<0.20	0.10	<0.10	<0.10
Tetrachloroethylene	µg/L	0.5	0.20	<0.20	<0.20	0.40	<0.40	<0.40	0.20	<0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.10	<0.10	<0.10	0.20	<0.20	<0.20	0.10	<0.10	<0.10
Chlorobenzene	µg/L	140	0.10	<0.10	<0.10	0.20	<0.20	<0.20	0.10	<0.10	<0.10
Ethylbenzene	µg/L	54	0.10	<0.10	<0.10	0.20	<0.20	<0.20	0.10	<0.10	<0.10

Certified By: NPopowkolof

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AGAT WORK ORDER: 21T848962

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd.

SAMPLED BY:D.Stabile

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

DATE RECEIVED: 2021-12-23

DATE REPORTED: 2022-01-05

		SAMPLE DESCRIPTION:		BH21-21	BH21-4		BH21-14	BH21-22		TRIP BLANK	DUP1
		SAMPLE TYPE:		Water	Water		Water	Water		Water	Water
		DATE SAMPLED:		2021-12-22 10:45	2021-12-22 11:25		2021-12-22 12:00	2021-12-22 12:35		2021-12-22	2021-12-22
Parameter	**Unit**	**G / S**	**RDL**	**3391083**	**3391094**	**RDL**	**3391095**	**3391097**	**RDL**	**3391202**	**3391203**
m & p-Xylene	µg/L		0.20	<0.20	<0.20	0.40	<0.40	<0.40	0.20	<0.20	<0.20
Bromoform	µg/L	5	0.10	<0.10	<0.10	0.20	<0.20	<0.20	0.10	<0.10	<0.10
Styrene	µg/L	43	0.10	<0.10	<0.10	0.20	<0.20	<0.20	0.10	<0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	0.5	0.10	<0.10	<0.10	0.20	<0.20	<0.20	0.10	<0.10	<0.10
o-Xylene	µg/L		0.10	<0.10	<0.10	0.20	<0.20	<0.20	0.10	<0.10	<0.10
1,3-Dichlorobenzene	µg/L	7600	0.10	<0.10	<0.10	0.20	<0.20	<0.20	0.10	<0.10	<0.10
1,4-Dichlorobenzene	µg/L	0.5	0.10	<0.10	<0.10	0.20	<0.20	<0.20	0.10	<0.10	<0.10
1,2-Dichlorobenzene	µg/L	150	0.10	<0.10	<0.10	0.20	<0.20	<0.20	0.10	<0.10	<0.10
1,3-Dichloropropene	µg/L	0.5	0.30	<0.30	<0.30	0.30	<0.30	<0.30	0.30	<0.30	<0.30
Xylenes (Total)	µg/L	72	0.20	<0.20	<0.20	0.20	<0.20	<0.20	0.20	<0.20	<0.20
n-Hexane	µg/L	5	0.20	<0.20	<0.20	0.40	<0.40	<0.40	0.20	<0.20	<0.20
Surrogate	**Unit**	**Acceptable Limits**									
Toluene-d8	% Recovery	50-140		99	101	**2**	100	102	**1**	102	102
4-Bromofluorobenzene	% Recovery	50-140		88	95	**2**	75	83	**1**	78	72

Certified By:

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AGAT WORK ORDER: 21T848962

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd.

SAMPLED BY:D.Stabile

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

DATE RECEIVED: 2021-12-23

DATE REPORTED: 2022-01-05

		SAMPLE DESCRIPTION:		FIELD BALNK
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2021-12-22 12:00
Parameter	Unit	G / S	RDL	3391204
Dichlorodifluoromethane	µg/L	3500	0.20	<0.20
Vinyl Chloride	µg/L	0.5	0.17	<0.17
Bromomethane	µg/L	0.89	0.20	<0.20
Trichlorofluoromethane	µg/L	2000	0.40	<0.40
Acetone	µg/L	100000	1.0	<1.0
1,1-Dichloroethylene	µg/L	0.5	0.30	<0.30
Methylene Chloride	µg/L	26	0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20
Methyl tert-butyl ether	µg/L	15	0.20	<0.20
1,1-Dichloroethane	µg/L	11	0.30	<0.30
Methyl Ethyl Ketone	µg/L	21000	1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20
Chloroform	µg/L	2	0.20	<0.20
1,2-Dichloroethane	µg/L	0.5	0.20	<0.20
1,1,1-Trichloroethane	µg/L	23	0.30	<0.30
Carbon Tetrachloride	µg/L	0.2	0.20	<0.20
Benzene	µg/L	0.5	0.20	<0.20
1,2-Dichloropropane	µg/L	0.58	0.20	<0.20
Trichloroethylene	µg/L	0.5	0.20	<0.20
Bromodichloromethane	µg/L	67000	0.20	<0.20
Methyl Isobutyl Ketone	µg/L	5200	1.0	<1.0
1,1,2-Trichloroethane	µg/L	0.5	0.20	<0.20
Toluene	µg/L	320	0.20	<0.20
Dibromochloromethane	µg/L	65000	0.10	<0.10
Ethylene Dibromide	µg/L	0.2	0.10	<0.10
Tetrachloroethylene	µg/L	0.5	0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.10	<0.10
Chlorobenzene	µg/L	140	0.10	<0.10
Ethylbenzene	µg/L	54	0.10	<0.10

Certified By: N Popowkolof

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Certificate of Analysis

AGAT WORK ORDER: 21T848962

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd.

SAMPLED BY:D.Stabile

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

DATE RECEIVED: 2021-12-23

DATE REPORTED: 2022-01-05

				SAMPLE DESCRIPTION:	FIELD BALNK
				SAMPLE TYPE:	Water
				DATE SAMPLED:	2021-12-22 12:00
Parameter	**Unit**	**G / S**	**RDL**		**3391204**
m & p-Xylene	µg/L		0.20		<0.20
Bromoform	µg/L	5	0.10		<0.10
Styrene	µg/L	43	0.10		<0.10
1,1,2,2-Tetrachloroethane	µg/L	0.5	0.10		<0.10
o-Xylene	µg/L		0.10		<0.10
1,3-Dichlorobenzene	µg/L	7600	0.10		<0.10
1,4-Dichlorobenzene	µg/L	0.5	0.10		<0.10
1,2-Dichlorobenzene	µg/L	150	0.10		<0.10
1,3-Dichloropropene	µg/L	0.5	0.30		<0.30
Xylenes (Total)	µg/L	72	0.20		<0.20
n-Hexane	µg/L	5	0.20		<0.20
Surrogate	**Unit**	**Acceptable Limits**			
Toluene-d8	% Recovery	50-140			106
4-Bromofluorobenzene	% Recovery	50-140			92

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3391083-3391094 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

3391095-3391097 Dilution factor=2
The sample was diluted because it was foamy. The reporting detection limit has been corrected for the dilution factor used.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

3391202-3391204 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: NPopowkolof

AGAT Laboratories

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Exceedance Summary

AGAT WORK ORDER: 21T848962

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
3391094	BH21-4	ON T7 NPGW CT	O. Reg. 153(511) - VOCs (Water)	1,2-Dichloroethane	µg/L	0.5	2.51
3391192	BH21-24 SA4	ON T7 S ICC CT	O. Reg. 153(511) - PHCs F1 - F4 (Soil)	F1 (C6 to C10) minus BTEX	µg/g	55	154

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Quality Assurance

CLIENT NAME: GOLDER ASSOCIATES LTD.

AGAT WORK ORDER: 21T848962

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd.

SAMPLED BY:D.Stabile

Trace Organics Analysis

RPT Date: Jan 05, 2022			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (-BTEX) (Water)															
F1 (C6 - C10)	3375873		<25	<25	NA	< 25	93%	60%	140%	104%	60%	140%	113%	60%	140%
F2 (C10 to C16)	3361993		< 100	< 100	NA	< 100	102%	60%	140%	85%	60%	140%	68%	60%	140%
F3 (C16 to C34)	3361993		< 100	< 100	NA	< 100	103%	60%	140%	74%	60%	140%	69%	60%	140%
F4 (C34 to C50)	3361993		< 100	< 100	NA	< 100	105%	60%	140%	75%	60%	140%	72%	60%	140%
O. Reg. 153(511) - VOCs (Water)															
Dichlorodifluoromethane	3330735		<0.20	<0.20	NA	< 0.20	71%	50%	140%	86%	50%	140%	80%	50%	140%
Vinyl Chloride	3330735		<0.17	<0.17	NA	< 0.17	83%	50%	140%	74%	50%	140%	99%	50%	140%
Bromomethane	3330735		<0.20	<0.20	NA	< 0.20	104%	50%	140%	96%	50%	140%	91%	50%	140%
Trichlorofluoromethane	3330735		<0.40	<0.40	NA	< 0.40	74%	50%	140%	87%	50%	140%	108%	50%	140%
Acetone	3330735		<1.0	<1.0	NA	< 1.0	103%	50%	140%	99%	50%	140%	102%	50%	140%
1,1-Dichloroethylene	3330735		<0.30	<0.30	NA	< 0.30	70%	50%	140%	81%	60%	130%	97%	50%	140%
Methylene Chloride	3330735		<0.30	<0.30	NA	< 0.30	107%	50%	140%	100%	60%	130%	107%	50%	140%
trans- 1,2-Dichloroethylene	3330735		<0.20	<0.20	NA	< 0.20	86%	50%	140%	72%	60%	130%	93%	50%	140%
Methyl tert-butyl ether	3330735		<0.20	<0.20	NA	< 0.20	109%	50%	140%	90%	60%	130%	110%	50%	140%
1,1-Dichloroethane	3330735		<0.30	<0.30	NA	< 0.30	90%	50%	140%	79%	60%	130%	114%	50%	140%
Methyl Ethyl Ketone	3330735		<1.0	<1.0	NA	< 1.0	98%	50%	140%	104%	50%	140%	106%	50%	140%
cis- 1,2-Dichloroethylene	3330735		<0.20	<0.20	NA	< 0.20	109%	50%	140%	86%	60%	130%	80%	50%	140%
Chloroform	3330735		<0.20	<0.20	NA	< 0.20	114%	50%	140%	98%	60%	130%	97%	50%	140%
1,2-Dichloroethane	3330735		<0.20	<0.20	NA	< 0.20	83%	50%	140%	99%	60%	130%	98%	50%	140%
1,1,1-Trichloroethane	3330735		<0.30	<0.30	NA	< 0.30	71%	50%	140%	116%	60%	130%	85%	50%	140%
Carbon Tetrachloride	3330735		<0.20	<0.20	NA	< 0.20	75%	50%	140%	80%	60%	130%	92%	50%	140%
Benzene	3330735		<0.20	<0.20	NA	< 0.20	89%	50%	140%	81%	60%	130%	88%	50%	140%
1,2-Dichloropropane	3330735		<0.20	<0.20	NA	< 0.20	82%	50%	140%	82%	60%	130%	109%	50%	140%
Trichloroethylene	3330735		<0.20	<0.20	NA	< 0.20	80%	50%	140%	83%	60%	130%	109%	50%	140%
Bromodichloromethane	3330735		<0.20	<0.20	NA	< 0.20	108%	50%	140%	103%	60%	130%	91%	50%	140%
Methyl Isobutyl Ketone	3330735		<1.0	<1.0	NA	< 1.0	107%	50%	140%	102%	50%	140%	101%	50%	140%
1,1,2-Trichloroethane	3330735		<0.20	<0.20	NA	< 0.20	118%	50%	140%	96%	60%	130%	107%	50%	140%
Toluene	3330735		<0.20	<0.20	NA	< 0.20	109%	50%	140%	105%	60%	130%	79%	50%	140%
Dibromochloromethane	3330735		<0.10	<0.10	NA	< 0.10	81%	50%	140%	105%	60%	130%	100%	50%	140%
Ethylene Dibromide	3330735		<0.10	<0.10	NA	< 0.10	93%	50%	140%	112%	60%	130%	112%	50%	140%
Tetrachloroethylene	3330735		<0.20	<0.20	NA	< 0.20	93%	50%	140%	101%	60%	130%	82%	50%	140%
1,1,1,2-Tetrachloroethane	3330735		<0.10	<0.10	NA	< 0.10	111%	50%	140%	101%	60%	130%	80%	50%	140%
Chlorobenzene	3330735		<0.10	<0.10	NA	< 0.10	100%	50%	140%	101%	60%	130%	92%	50%	140%
Ethylbenzene	3330735		<0.10	<0.10	NA	< 0.10	85%	50%	140%	70%	60%	130%	76%	50%	140%
m & p-Xylene	3330735		<0.20	<0.20	NA	< 0.20	93%	50%	140%	93%	60%	130%	104%	50%	140%
Bromoform	3330735		<0.10	<0.10	NA	< 0.10	99%	50%	140%	110%	60%	130%	101%	50%	140%
Styrene	3330735		<0.10	<0.10	NA	< 0.10	82%	50%	140%	72%	60%	130%	82%	50%	140%
1,1,2,2-Tetrachloroethane	3330735		<0.10	<0.10	NA	< 0.10	105%	50%	140%	85%	60%	130%	116%	50%	140%
o-Xylene	3330735		<0.10	<0.10	NA	< 0.10	83%	50%	140%	94%	60%	130%	73%	50%	140%

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Quality Assurance

CLIENT NAME: GOLDER ASSOCIATES LTD.

AGAT WORK ORDER: 21T848962

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd.

SAMPLED BY:D.Stabile

Trace Organics Analysis (Continued)

RPT Date: Jan 05, 2022			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
1,3-Dichlorobenzene	3330735		<0.10	<0.10	NA	< 0.10	99%	50%	140%	93%	60%	130%	103%	50%	140%
1,4-Dichlorobenzene	3330735		<0.10	<0.10	NA	< 0.10	82%	50%	140%	99%	60%	130%	105%	50%	140%
1,2-Dichlorobenzene	3330735		<0.10	<0.10	NA	< 0.10	97%	50%	140%	83%	60%	130%	97%	50%	140%
n-Hexane	3330735		<0.20	<0.20	NA	< 0.20	94%	50%	140%	107%	60%	130%	110%	50%	140%
O. Reg. 153(511) - PHCs F1/BTEX (Water)															
Benzene	3375873		<0.20	<0.20	NA	< 0.20	101%	60%	140%	99%	60%	140%	88%	60%	140%
Toluene	3375873		<0.20	<0.20	NA	< 0.20	113%	60%	140%	83%	60%	140%	82%	60%	140%
Ethylbenzene	3375873		<0.10	<0.10	NA	< 0.10	86%	60%	140%	91%	60%	140%	82%	60%	140%
m & p-Xylene	3375873		<0.20	<0.20	NA	< 0.20	97%	60%	140%	96%	60%	140%	98%	60%	140%
o-Xylene	3375873		<0.10	<0.10	NA	< 0.10	104%	60%	140%	111%	60%	140%	93%	60%	140%
F1 (C6-C10)	3375873		<25	<25	NA	< 25	93%	60%	140%	104%	60%	140%	113%	60%	140%
O. Reg. 153(511) - PHCs F1 - F4 (-BTEX) (Soil)															
F1 (C6 - C10)	3377182		<5	<5	NA	< 5	113%	60%	140%	97%	60%	140%	107%	60%	140%
F2 (C10 to C16)	3330837		< 10	< 10	NA	< 10	89%	60%	140%	79%	60%	140%	84%	60%	140%
F3 (C16 to C34)	3330837		< 50	< 50	NA	< 50	85%	60%	140%	74%	60%	140%	79%	60%	140%
F4 (C34 to C50)	3330837		< 50	< 50	NA	< 50	79%	60%	140%	76%	60%	140%	86%	60%	140%
O. Reg. 153(511) - VOCs (Soil)															
Dichlorodifluoromethane	3384810		< 0.05	< 0.05	NA	< 0.05	103%	50%	140%	103%	50%	140%	73%	50%	140%
Vinyl Chloride	3384810		< 0.02	< 0.02	NA	< 0.02	104%	50%	140%	94%	50%	140%	78%	50%	140%
Bromomethane	3384810		< 0.05	< 0.05	NA	< 0.05	101%	50%	140%	69%	50%	140%	105%	50%	140%
Trichlorofluoromethane	3384810		< 0.05	< 0.05	NA	< 0.05	89%	50%	140%	56%	50%	140%	98%	50%	140%
Acetone	3384810		< 0.50	< 0.50	NA	< 0.50	88%	50%	140%	97%	50%	140%	104%	50%	140%
1,1-Dichloroethylene	3384810		< 0.05	< 0.05	NA	< 0.05	119%	50%	140%	83%	60%	130%	87%	50%	140%
Methylene Chloride	3384810		< 0.05	< 0.05	NA	< 0.05	79%	50%	140%	112%	60%	130%	87%	50%	140%
Trans- 1,2-Dichloroethylene	3384810		< 0.05	< 0.05	NA	< 0.05	115%	50%	140%	82%	60%	130%	90%	50%	140%
Methyl tert-butyl Ether	3384810		< 0.05	< 0.05	NA	< 0.05	105%	50%	140%	71%	60%	130%	106%	50%	140%
1,1-Dichloroethane	3384810		< 0.02	< 0.02	NA	< 0.02	72%	50%	140%	112%	60%	130%	95%	50%	140%
Methyl Ethyl Ketone	3384810		< 0.50	< 0.50	NA	< 0.50	102%	50%	140%	98%	50%	140%	101%	50%	140%
Cis- 1,2-Dichloroethylene	3384810		< 0.02	< 0.02	NA	< 0.02	75%	50%	140%	101%	60%	130%	90%	50%	140%
Chloroform	3384810		< 0.04	< 0.04	NA	< 0.04	117%	50%	140%	107%	60%	130%	89%	50%	140%
1,2-Dichloroethane	3384810		< 0.03	< 0.03	NA	< 0.03	111%	50%	140%	101%	60%	130%	90%	50%	140%
1,1,1-Trichloroethane	3384810		< 0.05	< 0.05	NA	< 0.05	92%	50%	140%	86%	60%	130%	86%	50%	140%
Carbon Tetrachloride	3384810		< 0.05	< 0.05	NA	< 0.05	105%	50%	140%	98%	60%	130%	78%	50%	140%
Benzene	3384810		< 0.02	< 0.02	NA	< 0.02	110%	50%	140%	112%	60%	130%	120%	50%	140%
1,2-Dichloropropane	3384810		< 0.03	< 0.03	NA	< 0.03	85%	50%	140%	96%	60%	130%	104%	50%	140%
Trichloroethylene	3384810		< 0.03	< 0.03	NA	< 0.03	103%	50%	140%	118%	60%	130%	103%	50%	140%
Bromodichloromethane	3384810		< 0.05	< 0.05	NA	< 0.05	91%	50%	140%	96%	60%	130%	94%	50%	140%
Methyl Isobutyl Ketone	3384810		< 0.50	< 0.50	NA	< 0.50	104%	50%	140%	98%	50%	140%	107%	50%	140%

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Quality Assurance

CLIENT NAME: GOLDER ASSOCIATES LTD.

AGAT WORK ORDER: 21T848962

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd.

SAMPLED BY:D.Stabile

Trace Organics Analysis (Continued)

RPT Date: Jan 05, 2022			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
1,1,2-Trichloroethane	3384810		< 0.04	< 0.04	NA	< 0.04	96%	50%	140%	112%	60%	130%	97%	50%	140%
Toluene	3384810		2.46	2.79	NA	< 0.05	110%	50%	140%	76%	60%	130%	98%	50%	140%
Dibromochloromethane	3384810		< 0.05	< 0.05	NA	< 0.05	88%	50%	140%	119%	60%	130%	86%	50%	140%
Ethylene Dibromide	3384810		< 0.04	< 0.04	NA	< 0.04	89%	50%	140%	106%	60%	130%	99%	50%	140%
Tetrachloroethylene	3384810		< 0.05	< 0.05	NA	< 0.05	76%	50%	140%	108%	60%	130%	79%	50%	140%
1,1,1,2-Tetrachloroethane	3384810		< 0.04	< 0.04	NA	< 0.04	110%	50%	140%	84%	60%	130%	79%	50%	140%
Chlorobenzene	3384810		< 0.05	< 0.05	NA	< 0.05	98%	50%	140%	106%	60%	130%	97%	50%	140%
Ethylbenzene	3384810		< 0.05	< 0.05	NA	< 0.05	84%	50%	140%	97%	60%	130%	97%	50%	140%
m & p-Xylene	3384810		< 0.05	< 0.05	NA	< 0.05	101%	50%	140%	94%	60%	130%	95%	50%	140%
Bromoform	3384810		< 0.05	< 0.05	NA	< 0.05	87%	50%	140%	89%	60%	130%	83%	50%	140%
Styrene	3384810		< 0.05	< 0.05	NA	< 0.05	90%	50%	140%	85%	60%	130%	115%	50%	140%
1,1,2,2-Tetrachloroethane	3384810		< 0.05	< 0.05	NA	< 0.05	88%	50%	140%	96%	60%	130%	81%	50%	140%
o-Xylene	3384810		< 0.05	< 0.05	NA	< 0.05	82%	50%	140%	89%	60%	130%	97%	50%	140%
1,3-Dichlorobenzene	3384810		< 0.05	< 0.05	NA	< 0.05	83%	50%	140%	89%	60%	130%	90%	50%	140%
1,4-Dichlorobenzene	3384810		< 0.05	< 0.05	NA	< 0.05	111%	50%	140%	105%	60%	130%	109%	50%	140%
1,2-Dichlorobenzene	3384810		< 0.05	< 0.05	NA	< 0.05	91%	50%	140%	102%	60%	130%	117%	50%	140%
n-Hexane	3384810		< 0.05	< 0.05	NA	< 0.05	106%	50%	140%	103%	60%	130%	109%	50%	140%

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

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

Benzene	3377182		<0.02	<0.02	NA	< 0.02	110%	60%	140%	93%	60%	140%	93%	60%	140%
Toluene	3377182		<0.05	<0.05	NA	< 0.05	96%	60%	140%	101%	60%	140%	96%	60%	140%
Ethylbenzene	3377182		<0.05	<0.05	NA	< 0.05	97%	60%	140%	107%	60%	140%	105%	60%	140%
m & p-Xylene	3377182		<0.05	<0.05	NA	< 0.05	100%	60%	140%	111%	60%	140%	107%	60%	140%
o-Xylene	3377182		<0.05	<0.05	NA	< 0.05	106%	60%	140%	100%	60%	140%	100%	60%	140%
F1 (C6 - C10)	3377182		<5	<5	NA	< 5	113%	60%	140%	97%	60%	140%	107%	60%	140%

Certified By:

AGAT Laboratories

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Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD.

AGAT WORK ORDER: 21T848962

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd.

SAMPLED BY:D.Stabile

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
F1 (C6 - C10)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
Toluene-d8	VOL-91-5009	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F4 (C34 to C50)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Moisture Content	VOL-91-5009	CCME Tier 1 Method	BALANCE
Terphenyl	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F1 (C6 - C10)	VOL-91- 5010	modified from MOE PHC E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	modified from MOE PHC E3421	(P&T)GC/FID
F2 (C10 to C16)	VOL-91-5010	modified from MOE PHC E3421	GC / FID
F3 (C16 to C34)	VOL-91-5010	modified from MOE PHC E3421	GC / FID
F4 (C34 to C50)	VOL-91-5010	modified from MOE PHC E3421	GC / FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	modified from MOE PHC E3421	BALANCE
Terphenyl	VOL-91-5009	modified from MOE PHC E3421	GC/FID
Sediment			
Benzene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Toluene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Ethylbenzene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
m & p-Xylene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
o-Xylene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Xylenes (Total)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	P&T GC/FID
Benzene	VOL-91-5010	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
Toluene	VOL-91-5010	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5010	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
m & p-Xylene	VOL-91-5010	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5010	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5010	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
F1 (C6-C10)	VOL-91-5010	modified from MOE E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	modified from MOE E3421	(P&T)GC/FID
Toluene-d8	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
Dichlorodifluoromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Vinyl Chloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS

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

Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD.

AGAT WORK ORDER: 21T848962

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd.

SAMPLED BY:D.Stabile

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

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Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD.

AGAT WORK ORDER: 21T848962

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd.

SAMPLED BY:D.Stabile

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
1,3-Dichlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene (Cis + Trans)	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5002	modified from EPA 5035A & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5002	modified from EPA 5035A & EPA 8260D	(P&T)GC/MS
Moisture Content	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Dichlorodifluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Vinyl Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
trans- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl tert-butyl ether	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
cis- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD.

AGAT WORK ORDER: 21T848962

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd.

SAMPLED BY:D.Stabile

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Bromodichloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
m & p-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

AGAT Laboratories

WORK ORDER 129

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

Chain of Custody Record

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

Laboratory Use Only

Work Order #: 21T848962

Cooler Quantity:

Arrival Temperatures: 5.1 5.2 5.2 / 5.0 5.1 5.1

Custody Seal Intact: ☐ Yes ☐ No ☐ N/A

Notes:

Report Information:

Company: GOLDER ASSOCIATES LTD.
Contact: DANIEL STABILE
Address: 100 SCOTIA CRT, WHITBY L1N 8Y6
Phone: 905-213-4732 Fax:
Reports to be sent to:
1. Email: DSTABILE@GOLDER.COM
2. Email:

Project Information:

Project: 21494078
Site Location: 1047 NICHOLSON Rd. OTT
Sampled By: D. STABILE
AGAT Quote #: MSA GOLDER-AGAT PO: 2020
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☑ No ☐

Company:
Contact:
Address:
Email:

Regulatory Requirements:

(Please check all applicable boxes)

☒ Regulation 153/04 — Table 7 (Indicate One) — ☒ Ind/Com ☐ Res/Park ☐ Agriculture — Soil Texture (Check One): ☒ Coarse ☐ Fine
☐ Excess Soils R406 — Table (Indicate One)
☐ Regulation 558
☐ CCME
☐ Sewer Use ☐ Sanitary ☐ Storm — Region
☐ Prov. Water Quality Objectives (PWQO)
☐ Other (Indicate One)

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

Report Guideline on *Certificate of Analysis* ☑ Yes ☐ No

Turnaround Time (TAT) Required:

Regular TAT ☐ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☒ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply):

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

For 'Same Day' analysis, please contact your AGAT CPM

Sample Matrix Legend

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC Y/N	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs — Analyze F4G if required ☐ Yes ☐ No	O. Reg 153: PAHs	O. Reg 153: PCBs	O. Reg 153: VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	VOC + PHC F1	Potentially Hazardous or High Concentration (Y/N)
BH21-21	12/22/21	1045 AM/PM	4	GW					X			X						
BH21-4	↓	1125 AM/PM	↓	↓					↓			↓						
BH21-14		1200 AM/PM																
BH21-22		1235 AM/PM																
BH21-21 SA3	12/21/21	1030 AM/PM	3	Soil					X			X						
BH21-22 SA3	↓	1200 AM/PM	↓	↓					X			X						Y
BH21-23 SA4		1355 AM/PM							↓									
BH21-24 SA4		1425 AM/PM																
BH21-25 SA3		1500 AM/PM																
DUP 1	↓	– AM/PM	↓	↓					↓			X						
TRIP BLANK	12/22/21	– AM/PM	4	GW												X		

Samples Relinquished By (Print Name and Sign): DANIEL STABILE	Date 12/23/21	Time 09:30	Samples Received By (Print Name and Sign): 2021/12/23	Date	Time 10:10
Samples Relinquished By (Print Name and Sign): 2021/12/23	Date	Time 1:05	Samples Received By (Print Name and Sign):	Date	Time
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time

Page 1 of 2

N°: T 129142

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

Date Issued: March 9, 2021

AGAT Laboratories

work order #

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

Chain of Custody Record

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

Report Information:

Company: ~~GOLDER~~ GOLDER ASSOCIATES LTD.
Contact:
Address: SAME PAGE #1
Phone: Fax:
Reports to be sent to:
1. Email:
2. Email:

Project Information:

Project: 21494074
Site Location:
Sampled By: SAME PAGE #1
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☑ No ☐
Company:
Contact:
Address:
Email:

Regulatory Requirements:

(Please check all applicable boxes)

☑ Regulation 153/04 — Table 2 (*Indicate One*) — ☑ Ind/Com ☐ Res/Park ☐ Agriculture
Soil Texture *(Check One)* ☑ Coarse ☐ Fine

☐ Excess Soils R406 — Table _____ (*Indicate One*)
☐ Regulation 558
☐ CCME

☐ Sewer Use ☐ Sanitary ☐ Storm — _____ (*Region*)
☐ Prov. Water Quality Objectives (PWQO)
☐ Other _____ (*Indicate One*)

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

Laboratory Use Only

Work Order #:
Cooler Quantity:
Arrival Temperatures: 5.1 5.2 5.2 / 5.0 5.1 5.1
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 ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply):

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

For 'Same Day' analysis, please contact your AGAT CPM

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	BTEX, F1-F4 PHCs	Analyze F4G if required ☒ Yes ☐ No	PAHs	PCBs	VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach	Excess Soils SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	VOC + PHC F1	Potentially Hazardous or High Concentration (Y/N)
DUP 1	12/22/21	— AM/PM	4	GW					X				X							
FIELD BLANK	12/22/21	1200 AM/PM	4	GW														X		
		AM/PM																		
		AM/PM																		
		AM/PM																		
		AM/PM																		
		AM/PM																		
		AM/PM																		
		AM/PM																		
		AM/PM																		
		AM/PM																		

Samples Relinquished By (Print Name and Sign): DANIEL STABILE	Date: 12/23/21	Time: 09:30	Samples Received By (Print Name and Sign): 2021/12/23	Date:	Time: 10:10
Samples Relinquished By (Print Name and Sign): 2021/12/23	Date:	Time: 1:05	Samples Received By (Print Name and Sign):	Date:	Time:
Samples Relinquished By (Print Name and Sign):	Date:	Time:	Samples Received By (Print Name and Sign):	Date:	Time:

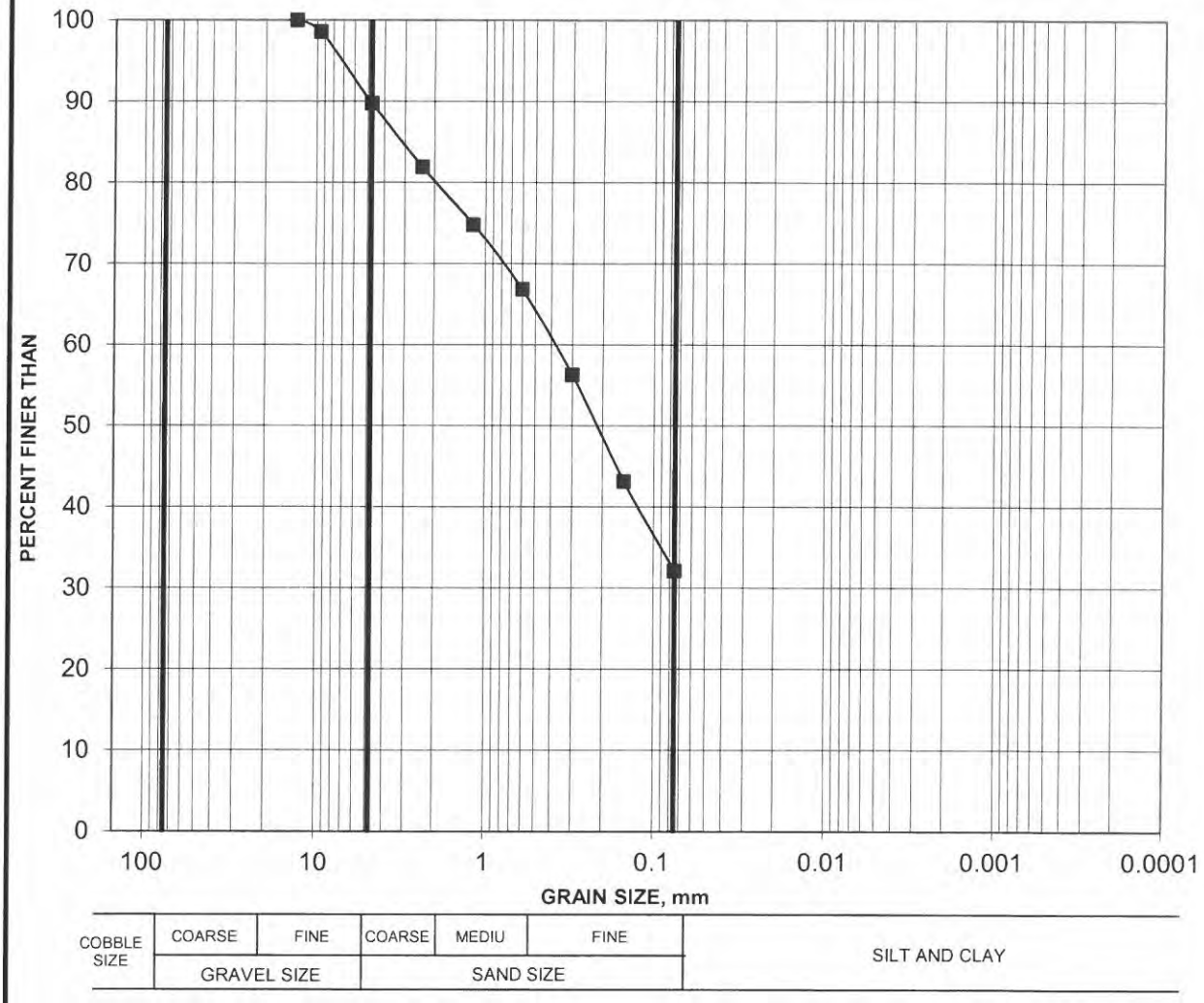
Page 2 of 2

N°: T 126605

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

GRAIN SIZE DISTRIBUTION	FIGURE

ENTER TITLE HERE



	Borehole	Sample	Depth (m)	Constituents (%) Gravel	Sand	Silt	Clay
—■—	21-01	2	0.61-1.22	10	58		32

Project: 21494078/3000

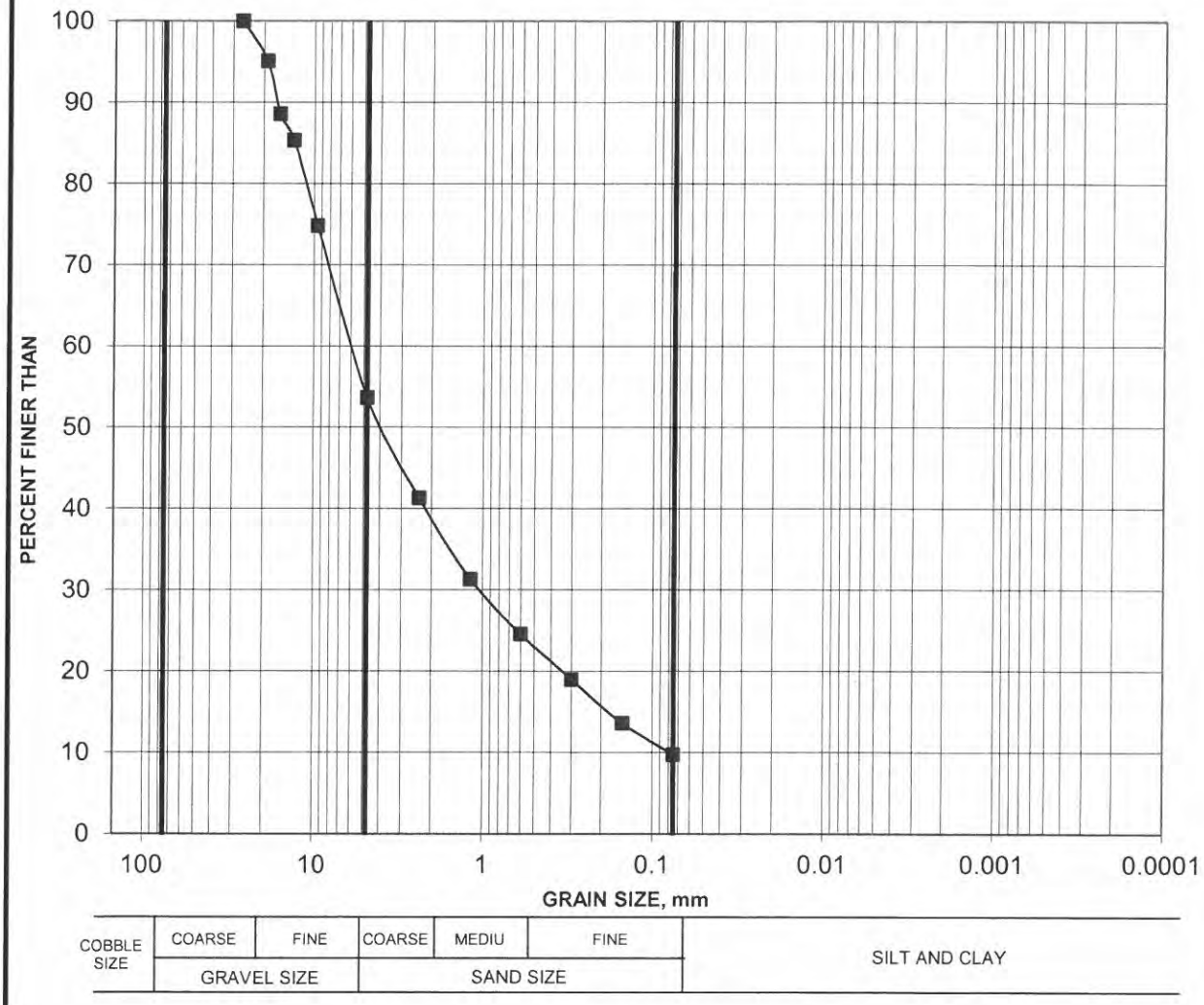
GOLDER
MEMBER OF WSP

Created by:

Checked by: SB

GRAIN SIZE DISTRIBUTION	FIGURE

ENTER TITLE HERE



	Borehole	Sample	Depth (m)	Constituents (%) Gravel	Sand	Silt	Clay
—■—	21-02	3	1.22-1.83	46	44		10

Project: 21494078

GOLDER
MEMBER OF WSP

Created by: CW
Checked by: JB

AGAT Laboratories

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
1931 ROBERTSON ROAD
OTTAWA, ON K2H5B7
(613) 592-9600

ATTENTION TO: Daniel Stabile

PROJECT: 21494078 - 1047 Richmond fengate

AGAT WORK ORDER: 22Z895974

TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist

DATE REPORTED: May 24, 2022

PAGES (INCLUDING COVER): 11

VERSION*: 1

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

*Notes

Disclaimer:

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

AGAT Laboratories

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

Certificate of Analysis

AGAT WORK ORDER: 22Z895974

PROJECT: 21494078 - 1047 Richmond fengate

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd.

SAMPLED BY:DG/KG

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

DATE RECEIVED: 2022-05-16

DATE REPORTED: 2022-05-24

		SAMPLE DESCRIPTION:		BH22-05 SA4
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2022-05-11
Parameter	Unit	G / S	RDL	3866975
Benzene	µg/g	0.21	0.02	<0.02
Toluene	µg/g	2.3	0.05	<0.05
Ethylbenzene	µg/g	2	0.05	<0.05
m & p-Xylene	µg/g		0.05	<0.05
o-Xylene	µg/g		0.05	<0.05
Xylenes (Total)	µg/g	3.1	0.05	<0.05
F1 (C6 - 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	8.7
Surrogate	Unit	Acceptable Limits		
Toluene-d8	% Recovery	60-140		104
Terphenyl	%	60-140		88

Certified By: NPopowkolof

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
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Certificate of Analysis

AGAT WORK ORDER: 22Z895974

PROJECT: 21494078 - 1047 Richmond fengate

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd.

SAMPLED BY:DG/KG

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

DATE RECEIVED: 2022-05-16

DATE REPORTED: 2022-05-24

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3866975 Results are based on sample dry weight.
The C6-C10 fraction is calculated using Toluene response factor.
Xylenes is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX contribution.
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 with the contribution of PAHs. Under Ontario Regulation 153, results are considered valid without determining the PAH contribution if not requested by the client.
Quality Control Data is available upon request.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: 

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Certificate of Analysis

AGAT WORK ORDER: 22Z895974

PROJECT: 21494078 - 1047 Richmond fengate

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd.

SAMPLED BY:DG/KG

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

DATE RECEIVED: 2022-05-16

DATE REPORTED: 2022-05-24

				SAMPLE DESCRIPTION:	BH22-01 SA2	BH22-02 SA4	BH22-03 SA2	BH22-04 SA1
				SAMPLE TYPE:	Soil	Soil	Soil	Soil
				DATE SAMPLED:	2022-05-11	2022-05-09 10:45	2022-05-10	2022-05-09 13:55
Parameter	Unit	G / S	RDL		3866968	3866971	3866973	3866974
F1 (C6 - C10)	µg/g		5		<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	55	5		<5	<5	<5	<5
F2 (C10 to C16)	µg/g	98	10		<10	<10	<10	<10
F3 (C16 to C34)	µg/g	300	50		<50	<50	<50	<50
F4 (C34 to C50)	µg/g	2800	50		<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	2800	50		NA	NA	NA	NA
Moisture Content	%		0.1		13.5	8.8	9.6	6.3
Surrogate	Unit	Acceptable Limits						
Toluene-d8	%	50-140			115	112	114	112
Terphenyl	%	60-140			117	100	93	100

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3866968-3866974 Results are based on sample dry weight.
The C6-C10 fraction is calculated using toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX contribution.
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.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 22Z895974

PROJECT: 21494078 - 1047 Richmond fengate

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd.

SAMPLED BY:DG/KG

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

DATE RECEIVED: 2022-05-16

DATE REPORTED: 2022-05-24

		SAMPLE DESCRIPTION:		BH22-01 SA2	BH22-02 SA4	BH22-03 SA2	BH22-04 SA1
		SAMPLE TYPE:		Soil	Soil	Soil	Soil
		DATE SAMPLED:		2022-05-11	2022-05-09 10:45	2022-05-10	2022-05-09 13:55
Parameter	Unit	G / S	RDL	3866968	3866971	3866973	3866974
Dichlorodifluoromethane	µg/g	16	0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	ug/g	0.02	0.02	<0.02	<0.02	<0.02	<0.02
Bromomethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	ug/g	4	0.05	<0.05	<0.05	<0.05	<0.05
Acetone	ug/g	16	0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	ug/g	0.1	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
Methyl tert-butyl Ether	ug/g	0.75	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
Methyl Ethyl Ketone	ug/g	16	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
Chloroform	ug/g	0.05	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
1,1,1-Trichloroethane	ug/g	0.38	0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05
Benzene	ug/g	0.21	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
Trichloroethylene	ug/g	0.061	0.03	<0.03	<0.03	<0.03	<0.03
Bromodichloromethane	ug/g	13	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
1,1,2-Trichloroethane	ug/g	0.05	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
Dibromochloromethane	ug/g	9.4	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
Tetrachloroethylene	ug/g	0.28	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
Chlorobenzene	ug/g	2.4	0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	ug/g	2	0.05	<0.05	<0.05	<0.05	<0.05

Certified By: NPopowkolof

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Certificate of Analysis

AGAT WORK ORDER: 22Z895974

PROJECT: 21494078 - 1047 Richmond fengate

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd.

SAMPLED BY:DG/KG

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

DATE RECEIVED: 2022-05-16

DATE REPORTED: 2022-05-24

				SAMPLE DESCRIPTION:	BH22-01 SA2	BH22-02 SA4	BH22-03 SA2	BH22-04 SA1
				SAMPLE TYPE:	Soil	Soil	Soil	Soil
				DATE SAMPLED:	2022-05-11	2022-05-09 10:45	2022-05-10	2022-05-09 13:55
Parameter	Unit	G / S	RDL		3866968	3866971	3866973	3866974
m & p-Xylene	ug/g		0.05		<0.05	<0.05	<0.05	<0.05
Bromoform	ug/g	0.27	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
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.05		<0.05	<0.05	<0.05	<0.05
o-Xylene	ug/g		0.05		<0.05	<0.05	<0.05	<0.05
1,3-Dichlorobenzene	ug/g	4.8	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
1,2-Dichlorobenzene	ug/g	3.4	0.05		<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	ug/g	3.1	0.05		<0.05	<0.05	<0.05	<0.05
1,3-Dichloropropene (Cis + Trans)	µg/g	0.05	0.05		<0.05	<0.05	<0.05	<0.05
n-Hexane	µg/g	2.8	0.05		<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1		13.5	8.8	9.6	6.3
Surrogate	Unit	Acceptable Limits						
Toluene-d8	% Recovery	50-140			115	112	114	112
4-Bromofluorobenzene	% Recovery	50-140			84	80	86	81

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3866968-3866974 The sample was analyzed using the high level technique. The sample was extracted using methanol, a small amount of the methanol extract was diluted in water and the purge & trap GC/MS analysis was performed. Results are based on the dry weight of the soil.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene + o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popowkolof

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Quality Assurance

CLIENT NAME: GOLDER ASSOCIATES LTD
PROJECT: 21494078 - 1047 Richmond fengate
SAMPLING SITE:1047 Richmond Rd.

AGAT WORK ORDER: 22Z895974
ATTENTION TO: Daniel Stabile
SAMPLED BY:DG/KG

Trace Organics Analysis

RPT Date: May 24, 2022			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (with VOC) (Soil)															
F1 (C6 - C10)	3866974	3866974	<5	<5	NA	< 5	124%	60%	140%	99%	60%	140%	92%	60%	140%
F2 (C10 to C16)	3866688		< 10	< 10	NA	< 10	111%	60%	140%	95%	60%	140%	67%	60%	140%
F3 (C16 to C34)	3866688		< 50	< 50	NA	< 50	108%	60%	140%	100%	60%	140%	67%	60%	140%
F4 (C34 to C50)	3866688		< 50	< 50	NA	< 50	94%	60%	140%	64%	60%	140%	75%	60%	140%
O. Reg. 153(511) - VOCs (with PHC) (Soil)															
Dichlorodifluoromethane	3866974	3866974	<0.05	<0.05	NA	< 0.05	114%	50%	140%	109%	50%	140%	83%	50%	140%
Vinyl Chloride	3866974	3866974	<0.02	<0.02	NA	< 0.02	106%	50%	140%	105%	50%	140%	98%	50%	140%
Bromomethane	3866974	3866974	<0.05	<0.05	NA	< 0.05	112%	50%	140%	115%	50%	140%	103%	50%	140%
Trichlorofluoromethane	3866974	3866974	<0.05	<0.05	NA	< 0.05	120%	50%	140%	103%	50%	140%	112%	50%	140%
Acetone	3866974	3866974	<0.50	<0.50	NA	< 0.50	113%	50%	140%	111%	50%	140%	87%	50%	140%
1,1-Dichloroethylene	3866974	3866974	<0.05	<0.05	NA	< 0.05	71%	50%	140%	77%	60%	130%	70%	50%	140%
Methylene Chloride	3866974	3866974	<0.05	<0.05	NA	< 0.05	87%	50%	140%	103%	60%	130%	105%	50%	140%
Trans- 1,2-Dichloroethylene	3866974	3866974	<0.05	<0.05	NA	< 0.05	80%	50%	140%	71%	60%	130%	112%	50%	140%
Methyl tert-butyl Ether	3866974	3866974	<0.05	<0.05	NA	< 0.05	74%	50%	140%	82%	60%	130%	80%	50%	140%
1,1-Dichloroethane	3866974	3866974	<0.02	<0.02	NA	< 0.02	84%	50%	140%	107%	60%	130%	94%	50%	140%
Methyl Ethyl Ketone	3866974	3866974	<0.50	<0.50	NA	< 0.50	113%	50%	140%	94%	50%	140%	86%	50%	140%
Cis- 1,2-Dichloroethylene	3866974	3866974	<0.02	<0.02	NA	< 0.02	78%	50%	140%	86%	60%	130%	88%	50%	140%
Chloroform	3866974	3866974	<0.04	<0.04	NA	< 0.04	77%	50%	140%	80%	60%	130%	80%	50%	140%
1,2-Dichloroethane	3866974	3866974	<0.03	<0.03	NA	< 0.03	80%	50%	140%	82%	60%	130%	84%	50%	140%
1,1,1-Trichloroethane	3866974	3866974	<0.05	<0.05	NA	< 0.05	94%	50%	140%	76%	60%	130%	76%	50%	140%
Carbon Tetrachloride	3866974	3866974	<0.05	<0.05	NA	< 0.05	109%	50%	140%	113%	60%	130%	114%	50%	140%
Benzene	3866974	3866974	<0.02	<0.02	NA	< 0.02	75%	50%	140%	78%	60%	130%	79%	50%	140%
1,2-Dichloropropane	3866974	3866974	<0.03	<0.03	NA	< 0.03	92%	50%	140%	92%	60%	130%	81%	50%	140%
Trichloroethylene	3866974	3866974	<0.03	<0.03	NA	< 0.03	76%	50%	140%	82%	60%	130%	90%	50%	140%
Bromodichloromethane	3866974	3866974	<0.05	<0.05	NA	< 0.05	76%	50%	140%	76%	60%	130%	84%	50%	140%
Methyl Isobutyl Ketone	3866974	3866974	<0.50	<0.50	NA	< 0.50	118%	50%	140%	90%	50%	140%	86%	50%	140%
1,1,2-Trichloroethane	3866974	3866974	<0.04	<0.04	NA	< 0.04	109%	50%	140%	116%	60%	130%	116%	50%	140%
Toluene	3866974	3866974	<0.05	<0.05	NA	< 0.05	100%	50%	140%	108%	60%	130%	107%	50%	140%
Dibromochloromethane	3866974	3866974	<0.05	<0.05	NA	< 0.05	116%	50%	140%	119%	60%	130%	111%	50%	140%
Ethylene Dibromide	3866974	3866974	<0.04	<0.04	NA	< 0.04	99%	50%	140%	111%	60%	130%	106%	50%	140%
Tetrachloroethylene	3866974	3866974	<0.05	<0.05	NA	< 0.05	107%	50%	140%	102%	60%	130%	108%	50%	140%
1,1,1,2-Tetrachloroethane	3866974	3866974	<0.04	<0.04	NA	< 0.04	116%	50%	140%	91%	60%	130%	89%	50%	140%
Chlorobenzene	3866974	3866974	<0.05	<0.05	NA	< 0.05	104%	50%	140%	110%	60%	130%	109%	50%	140%
Ethylbenzene	3866974	3866974	<0.05	<0.05	NA	< 0.05	86%	50%	140%	89%	60%	130%	89%	50%	140%
m & p-Xylene	3866974	3866974	<0.05	<0.05	NA	< 0.05	97%	50%	140%	102%	60%	130%	99%	50%	140%
Bromoform	3866974	3866974	<0.05	<0.05	NA	< 0.05	109%	50%	140%	84%	60%	130%	94%	50%	140%
Styrene	3866974	3866974	<0.05	<0.05	NA	< 0.05	85%	50%	140%	90%	60%	130%	85%	50%	140%
1,1,2,2-Tetrachloroethane	3866974	3866974	<0.05	<0.05	NA	< 0.05	106%	50%	140%	99%	60%	130%	113%	50%	140%
o-Xylene	3866974	3866974	<0.05	<0.05	NA	< 0.05	94%	50%	140%	102%	60%	130%	98%	50%	140%

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Quality Assurance

CLIENT NAME: GOLDER ASSOCIATES LTD
PROJECT: 21494078 - 1047 Richmond fengate
SAMPLING SITE:1047 Richmond Rd.

AGAT WORK ORDER: 22Z895974
ATTENTION TO: Daniel Stabile
SAMPLED BY:DG/KG

Trace Organics Analysis (Continued)

RPT Date: May 24, 2022			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
1,3-Dichlorobenzene	3866974	3866974	<0.05	<0.05	NA	< 0.05	111%	50%	140%	113%	60%	130%	113%	50%	140%
1,4-Dichlorobenzene	3866974	3866974	<0.05	<0.05	NA	< 0.05	104%	50%	140%	113%	60%	130%	105%	50%	140%
1,2-Dichlorobenzene	3866974	3866974	<0.05	<0.05	NA	< 0.05	100%	50%	140%	107%	60%	130%	103%	50%	140%
n-Hexane	3866974	3866974	<0.05	<0.05	NA	< 0.05	95%	50%	140%	79%	60%	130%	91%	50%	140%

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

O. Reg. 153(511) - PHCs F1 - F4 (with VOC) (Soil)															
Moisture Content	3866971	3866971	8.81	10.00	12.7%	< 0.1	NA			NA			NA		
O. Reg. 153(511) - PHCs F1 - F4 (Soil)															
Benzene	3866067		<0.02	<0.02	NA	< 0.02	96%	60%	140%	137%	60%	140%	121%	60%	140%
Toluene	3866067		<0.05	<0.05	NA	< 0.05	108%	60%	140%	134%	60%	140%	93%	60%	140%
Ethylbenzene	3866067		<0.05	<0.05	NA	< 0.05	134%	60%	140%	120%	60%	140%	130%	60%	140%
m & p-Xylene	3866067		<0.05	<0.05	NA	< 0.05	129%	60%	140%	107%	60%	140%	102%	60%	140%
o-Xylene	3866067		<0.05	<0.05	NA	< 0.05	125%	60%	140%	130%	60%	140%	102%	60%	140%
F1 (C6 - C10)	3866067		<5	<5	NA	< 5	97%	60%	140%	90%	60%	140%	102%	60%	140%

Certified By: N Popowkolof

AGAT Laboratories

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Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 22Z895974

PROJECT: 21494078 - 1047 Richmond fengate

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd.

SAMPLED BY:DG/KG

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Benzene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Toluene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Ethylbenzene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
m & p-Xylene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
o-Xylene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Xylenes (Total)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
F1 (C6 - C10)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	P&T GC/FID
Toluene-d8	VOL-91-5009	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F4 (C34 to C50)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Moisture Content	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Terphenyl	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
Toluene-d8	VOL-91- 5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Dichlorodifluoromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Vinyl Chloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trans- 1,2-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl tert-butyl Ether	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Cis- 1,2-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 22Z895974

PROJECT: 21494078 - 1047 Richmond fengate

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd.

SAMPLED BY:DG/KG

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

AGAT Laboratories

IMech.

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Mississauga, Ontario L4Z 1Y2
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webearth.agatlabs.com

Chain of Custody Record

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

Laboratory Use Only

Work Order #: 22Z895974

Cooler Quantity: one - loose ice.

Arrival Temperatures: 7.5 | 7.8 | 7.8
6.3 | 5.7 | 5.4

Custody Seal Intact: ☐ Yes ☐ No ☐ N/A

Notes: ice

Report Information:

Company: WSP- Golder
Contact: Daniel Stabile, Ben Waechter
Address: 1931 Robertson Rd. Nepean, ON. K2H 5B7
Phone: 905-213-4732 2nd Phone: 613-592-9600
Fax:
Reports to be sent to:
1. Email: daniel.stabile@WSP.com
2. Email: Ben.Waechter@wsp.com

Regulatory Requirements:

(Please check all applicable boxes)

☑ Regulation 153/04
Table 7 *Indicate One*
☐ Ind/Com
☑ Res/Park
☐ Agriculture
Soil Texture *(Check One)*
☐ Coarse
☐ Fine

☐ Excess Soils R406
Table _____ *Indicate One*

☐ Regulation 558

☐ CCME

☐ Sewer Use
☐ Sanitary ☐ Storm
_____ *Region*

☐ Prov. Water Quality Objectives (PWQO)

☐ Other
_____ *Indicate One*

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

Report Guideline on *Certificate of Analysis* ☑ Yes ☐ No

Turnaround Time (TAT) Required:

Regular TAT (Most Analysis) ☑ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply):

_____

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

For 'Same Day' analysis, please contact your AGAT CPM

Project Information:

Project: 21494078- 1047 Richmond Rd Fengate.
Site Location: 1047 Richmond Rd
Sampled By: Dany Giroux/ Kinjal Gajjar
AGAT ID #: _____ PO: _____

Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☑ No ☐

Company: WSP-Golder
Contact: Daniel Stabile
Address: 1931 Robertson Rd. Nepean, ON.
Email: daniel.stabile@wsp.com

Sample Matrix Legend

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC Y/N	O. Reg 153: Metals & Inorganics	Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	BTEX, F1-F4 PHCs Analyze F4G if required ☐ Yes ☐ No	PAHs	Total PCBs ☐ Aroclor	VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	Potentially Hazardous or High Concentration (Y/N)
BH22-01 SA2	11 May 22	AM/PM	3	S					✓			✓					
BH22-02 SA4	9 May 22	10:45 AM/PM	3	S					✓			✓					
BH22-03 SA2	10 May 22	AM/PM	3	S					✓			✓					
BH22-04 SA1	9 May 22	1:55 AM/PM	3	S					✓			✓					
BH22-05 SA4	11 May 22	AM/PM	3	S					✓								
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Ben Waechter	16 May 22	14:48	C. Guillet	MAY 16 2022	14h50
CC to purolator	MAY 18 2022	16h00	Simon	17/5/22	9:00
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time

Page _____ of _____

N°: T114985

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CLIENT NAME: WSP CANADA INC.
600 Cochrane Drive, 2nd Floor
MARKHAM, ON L3R 5K3
(905) 475
ATTENTION TO: Daniel Stabile
PROJECT: 21494078-1047 Richmond Fengate
AGAT WORK ORDER: 22T901122
TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist
DATE REPORTED: Jun 07, 2022
PAGES (INCLUDING COVER): 12
VERSION*: 1

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

*Notes

Disclaimer:

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

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Certificate of Analysis

AGAT WORK ORDER: 22T901122

PROJECT: 21494078-1047 Richmond Fengate

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond rd

SAMPLED BY:Ben Waechter

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

DATE RECEIVED: 2022-05-30

DATE REPORTED: 2022-06-07

				SAMPLE DESCRIPTION:	MW 22-01	MW 22-02	MW 22-03	MW 22-04	MW 22-05	MW 21-04	MW 21-14	MW 21-14 dup
				SAMPLE TYPE:	Water	Water	Water	Water	Water	Water	Water	Water
				DATE SAMPLED:	2022-05-26 15:05	2022-05-26 12:55	2022-05-26 11:08	2022-05-26 13:52	2022-05-26 16:42	2022-05-26 16:02	2022-05-26 14:48	2022-05-26 14:48
Parameter	Unit	G / S	RDL		3911644	3911660	3911661	3911662	3911663	3911664	3911665	3911666
Xylenes (Total)	µg/L	72	0.20		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
F1 (C6 - C10)	µg/L		25		<25	<25	<25	<25	<25	<25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L	420	25		<25	<25	<25	<25	<25	<25	<25	<25
F2 (C10 to C16)	µg/L	150	100		<100	<100	120	<100	<100	<100	<100	<100
F3 (C16 to C34)	µg/L	500	100		<100	<100	300	<100	<100	<100	<100	<100
F4 (C34 to C50)	µg/L	500	100		<100	<100	<100	<100	<100	<100	<100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500		NA	NA	NA	NA	NA	NA	NA	NA
Sediment					No	No	No	No	No	No	No	No
Surrogate	Unit	Acceptable Limits										
Toluene-d8	%	50-140			92	104	107	101	106	102	100	98
Terphenyl	% Recovery	60-140			98	80	110	75	108	86	93	103

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3911644-3911666 The C6-C10 fraction is calculated using Toluene response factor.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and 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 contribution.
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 with the contribution of PAHs. Under Ontario Regulation 153/04, results are considered valid without determining the PAH contribution if not requested by the client.
NA = Not Applicable

Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: 

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 22T901122

PROJECT: 21494078-1047 Richmond Fengate

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond rd

SAMPLED BY:Ben Waechter

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

DATE RECEIVED: 2022-05-30

DATE REPORTED: 2022-06-07

		SAMPLE DESCRIPTION:		Field Blank	Trip Blank
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2022-05-26 13:19	2022-05-26 13:19
Parameter	Unit	G / S	RDL	3911667	3911747
Dichlorodifluoromethane	µg/L	3500	0.40	<0.40	<0.40
Vinyl Chloride	µg/L	0.5	0.17	<0.17	<0.17
Bromomethane	µg/L	0.89	0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L	2000	0.40	<0.40	<0.40
Acetone	µg/L	100000	1.0	<1.0	<1.0
1,1-Dichloroethylene	µg/L	0.5	0.30	<0.30	<0.30
Methylene Chloride	µg/L	26	0.30	<0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20
Methyl tert-butyl ether	µg/L	15	0.20	<0.20	<0.20
1,1-Dichloroethane	µg/L	11	0.30	<0.30	<0.30
Methyl Ethyl Ketone	µg/L	21000	1.0	<1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20
Chloroform	µg/L	2	0.20	<0.20	<0.20
1,2-Dichloroethane	µg/L	0.5	0.20	<0.20	<0.20
1,1,1-Trichloroethane	µg/L	23	0.30	<0.30	<0.30
Carbon Tetrachloride	µg/L	0.2	0.20	<0.20	<0.20
Benzene	µg/L	0.5	0.20	<0.20	<0.20
1,2-Dichloropropane	µg/L	0.58	0.20	<0.20	<0.20
Trichloroethylene	µg/L	0.5	0.20	<0.20	<0.20
Bromodichloromethane	µg/L	67000	0.20	<0.20	<0.20
Methyl Isobutyl Ketone	µg/L	5200	1.0	<1.0	<1.0
1,1,2-Trichloroethane	µg/L	0.5	0.20	<0.20	<0.20
Toluene	µg/L	320	0.20	<0.20	<0.20
Dibromochloromethane	µg/L	65000	0.10	<0.10	<0.10
Ethylene Dibromide	µg/L	0.2	0.10	<0.10	<0.10
Tetrachloroethylene	µg/L	0.5	0.20	<0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.10	<0.10	<0.10
Chlorobenzene	µg/L	140	0.10	<0.10	<0.10
Ethylbenzene	µg/L	54	0.10	<0.10	<0.10

Certified By: N Popowkolof

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Certificate of Analysis

AGAT WORK ORDER: 22T901122

PROJECT: 21494078-1047 Richmond Fengate

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond rd

SAMPLED BY:Ben Waechter

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

DATE RECEIVED: 2022-05-30

DATE REPORTED: 2022-06-07

				SAMPLE DESCRIPTION:	Field Blank	Trip Blank
				SAMPLE TYPE:	Water	Water
				DATE SAMPLED:	2022-05-26 13:19	2022-05-26 13:19
Parameter	Unit	G / S	RDL		3911667	3911747
m & p-Xylene	µg/L		0.20		<0.20	<0.20
Bromoform	µg/L	5	0.10		<0.10	<0.10
Styrene	µg/L	43	0.10		<0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	0.5	0.10		<0.10	<0.10
o-Xylene	µg/L		0.10		<0.10	<0.10
1,3-Dichlorobenzene	µg/L	7600	0.10		<0.10	<0.10
1,4-Dichlorobenzene	µg/L	0.5	0.10		<0.10	<0.10
1,2-Dichlorobenzene	µg/L	150	0.10		<0.10	<0.10
1,3-Dichloropropene	µg/L	0.5	0.30		<0.30	<0.30
Xylenes (Total)	µg/L	72	0.20		<0.20	<0.20
n-Hexane	µg/L	5	0.20		<0.20	<0.20
Surrogate	Unit	Acceptable Limits				
Toluene-d8	% Recovery	50-140			122	103
4-Bromofluorobenzene	% Recovery	50-140			82	84

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3911667-3911747 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popowkolof

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Certificate of Analysis

AGAT WORK ORDER: 22T901122

PROJECT: 21494078-1047 Richmond Fengate

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond rd

SAMPLED BY:Ben Waechter

O. Reg. 153(511) - VOCs (with PHC) (Water)

DATE RECEIVED: 2022-05-30

DATE REPORTED: 2022-06-07

SAMPLE DESCRIPTION:				MW 22-01	MW 22-02	MW 22-03	MW 22-04	MW 22-05	MW 21-04	MW 21-14	MW 21-14 dup
SAMPLE TYPE:				Water	Water	Water	Water	Water	Water	Water	Water
DATE SAMPLED:				2022-05-26 15:05	2022-05-26 12:55	2022-05-26 11:08	2022-05-26 13:52	2022-05-26 16:42	2022-05-26 16:02	2022-05-26 14:48	2022-05-26 14:48
Parameter	Unit	G / S	RDL	3911644	3911660	3911661	3911662	3911663	3911664	3911665	3911666
Dichlorodifluoromethane	µg/L	3500	0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Vinyl Chloride	µg/L	0.5	0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Bromomethane	µg/L	0.89	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L	2000	0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Acetone	µg/L	100000	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene	µg/L	0.5	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Methylene Chloride	µg/L	26	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Methyl tert-butyl ether	µg/L	15	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1-Dichloroethane	µg/L	11	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Methyl Ethyl Ketone	µg/L	21000	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20	<0.20	<0.20	0.42	<0.20	<0.20	<0.20
Chloroform	µg/L	2	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloroethane	µg/L	0.5	0.20	<0.20	<0.20	3.14	<0.20	<0.20	3.99	<0.20	<0.20
1,1,1-Trichloroethane	µg/L	23	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Carbon Tetrachloride	µg/L	0.2	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Benzene	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	2.39	<0.20	<0.20
1,2-Dichloropropane	µg/L	0.58	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichloroethylene	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Bromodichloromethane	µg/L	67000	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Methyl Isobutyl Ketone	µg/L	5200	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	µg/L	320	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dibromochloromethane	µg/L	65000	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ethylene Dibromide	µg/L	0.2	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Tetrachloroethylene	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chlorobenzene	µg/L	140	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	5.88	<0.10	<0.10
Ethylbenzene	µg/L	54	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10

Certified By: NPopowkoff

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Certificate of Analysis

AGAT WORK ORDER: 22T901122

PROJECT: 21494078-1047 Richmond Fengate

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond rd

SAMPLED BY:Ben Waechter

O. Reg. 153(511) - VOCs (with PHC) (Water)

DATE RECEIVED: 2022-05-30

DATE REPORTED: 2022-06-07

				SAMPLE DESCRIPTION:	MW 22-01	MW 22-02	MW 22-03	MW 22-04	MW 22-05	MW 21-04	MW 21-14	MW 21-14 dup
				SAMPLE TYPE:	Water	Water	Water	Water	Water	Water	Water	Water
				DATE SAMPLED:	2022-05-26 15:05	2022-05-26 12:55	2022-05-26 11:08	2022-05-26 13:52	2022-05-26 16:42	2022-05-26 16:02	2022-05-26 14:48	2022-05-26 14:48
Parameter	Unit	G / S	RDL		3911644	3911660	3911661	3911662	3911663	3911664	3911665	3911666
m & p-Xylene	µg/L		0.20		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Bromoform	µg/L	5	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Styrene	µg/L	43	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	0.5	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
o-Xylene	µg/L		0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,3-Dichlorobenzene	µg/L	7600	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,4-Dichlorobenzene	µg/L	0.5	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,2-Dichlorobenzene	µg/L	150	0.10		<0.10	<0.10	<0.10	<0.10	<0.10	5.99	<0.10	<0.10
1,3-Dichloropropene	µg/L	0.5	0.30		<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Xylenes (Total)	µg/L	72	0.20		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
n-Hexane	µg/L	5	0.20		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Surrogate	Unit	Acceptable Limits										
Toluene-d8	% Recovery	50-140			92	104	107	101	106	102	100	98
4-Bromofluorobenzene	% Recovery	50-140			73	93	103	84	112	105	102	112

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3911644-3911666 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popowkolof

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Exceedance Summary

AGAT WORK ORDER: 22T901122

PROJECT: 21494078-1047 Richmond Fengate

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
3911661	MW 22-03	ON T7 NPGW CT	O. Reg. 153(511) - VOCs (with PHC) (Water)	1,2-Dichloroethane	µg/L	0.5	3.14
3911664	MW 21-04	ON T7 NPGW CT	O. Reg. 153(511) - PHCs F1 - F4 (with VOC) (Water)	Benzene	µg/L	0.5	2.39
3911664	MW 21-04	ON T7 NPGW CT	O. Reg. 153(511) - VOCs (with PHC) (Water)	1,2-Dichloroethane	µg/L	0.5	3.99
3911664	MW 21-04	ON T7 NPGW CT	O. Reg. 153(511) - VOCs (with PHC) (Water)	Benzene	µg/L	0.5	2.39

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 21494078-1047 Richmond Fengate
SAMPLING SITE:1047 Richmond rd

AGAT WORK ORDER: 22T901122
ATTENTION TO: Daniel Stabile
SAMPLED BY:Ben Waechter

Trace Organics Analysis

RPT Date: Jun 07, 2022

PARAMETER	Batch	Sample Id	DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
			Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (with VOC) (Water)															
F1 (C6 - C10)	3915063		87	114	NA	< 25	74%	60%	140%	81%	60%	140%	78%	60%	140%
F2 (C10 to C16)	3911661	3911661	120	110	NA	< 100	114%	60%	140%	82%	60%	140%	81%	60%	140%
F3 (C16 to C34)	3911661	3911661	300	260	NA	< 100	103%	60%	140%	82%	60%	140%	76%	60%	140%
F4 (C34 to C50)	3911661	3911661	< 100	< 100	NA	< 100	94%	60%	140%	91%	60%	140%	88%	60%	140%
O. Reg. 153(511) - VOCs (with PHC) (Water)															
Dichlorodifluoromethane	3915063		<0.40	<0.40	NA	< 0.40	77%	50%	140%	83%	50%	140%	89%	50%	140%
Vinyl Chloride	3915063		<0.17	<0.17	NA	< 0.17	89%	50%	140%	101%	50%	140%	88%	50%	140%
Bromomethane	3915063		<0.20	<0.20	NA	< 0.20	119%	50%	140%	94%	50%	140%	115%	50%	140%
Trichlorofluoromethane	3915063		<0.40	<0.40	NA	< 0.40	80%	50%	140%	91%	50%	140%	104%	50%	140%
Acetone	3915063		<1.0	<1.0	NA	< 1.0	95%	50%	140%	106%	50%	140%	109%	50%	140%
1,1-Dichloroethylene	3915063		<0.30	<0.30	NA	< 0.30	72%	50%	140%	76%	60%	130%	91%	50%	140%
Methylene Chloride	3915063		<0.30	<0.30	NA	< 0.30	99%	50%	140%	111%	60%	130%	107%	50%	140%
trans- 1,2-Dichloroethylene	3915063		<0.20	<0.20	NA	< 0.20	80%	50%	140%	80%	60%	130%	97%	50%	140%
Methyl tert-butyl ether	3915063		<0.20	<0.20	NA	< 0.20	92%	50%	140%	114%	60%	130%	94%	50%	140%
1,1-Dichloroethane	3915063		<0.30	<0.30	NA	< 0.30	80%	50%	140%	92%	60%	130%	93%	50%	140%
Methyl Ethyl Ketone	3915063		<1.0	<1.0	NA	< 1.0	94%	50%	140%	103%	50%	140%	118%	50%	140%
cis- 1,2-Dichloroethylene	3915063		<0.20	<0.20	NA	< 0.20	96%	50%	140%	99%	60%	130%	95%	50%	140%
Chloroform	3915063		<0.20	<0.20	NA	< 0.20	107%	50%	140%	98%	60%	130%	103%	50%	140%
1,2-Dichloroethane	3915063		<0.20	<0.20	NA	< 0.20	79%	50%	140%	96%	60%	130%	117%	50%	140%
1,1,1-Trichloroethane	3915063		<0.30	<0.30	NA	< 0.30	75%	50%	140%	80%	60%	130%	97%	50%	140%
Carbon Tetrachloride	3915063		<0.20	<0.20	NA	< 0.20	72%	50%	140%	74%	60%	130%	106%	50%	140%
Benzene	3915063		0.48	0.50	NA	< 0.20	90%	50%	140%	88%	60%	130%	77%	50%	140%
1,2-Dichloropropane	3915063		<0.20	<0.20	NA	< 0.20	90%	50%	140%	76%	60%	130%	80%	50%	140%
Trichloroethylene	3915063		<0.20	<0.20	NA	< 0.20	79%	50%	140%	77%	60%	130%	86%	50%	140%
Bromodichloromethane	3915063		<0.20	<0.20	NA	< 0.20	82%	50%	140%	80%	60%	130%	99%	50%	140%
Methyl Isobutyl Ketone	3915063		<1.0	<1.0	NA	< 1.0	95%	50%	140%	105%	50%	140%	104%	50%	140%
1,1,2-Trichloroethane	3915063		<0.20	<0.20	NA	< 0.20	100%	50%	140%	111%	60%	130%	118%	50%	140%
Toluene	3915063		<0.20	<0.20	NA	< 0.20	88%	50%	140%	87%	60%	130%	75%	50%	140%
Dibromochloromethane	3915063		<0.10	<0.10	NA	< 0.10	119%	50%	140%	118%	60%	130%	114%	50%	140%
Ethylene Dibromide	3915063		<0.10	<0.10	NA	< 0.10	110%	50%	140%	118%	60%	130%	113%	50%	140%
Tetrachloroethylene	3915063		<0.20	<0.20	NA	< 0.20	87%	50%	140%	87%	60%	130%	74%	50%	140%
1,1,1,2-Tetrachloroethane	3915063		<0.10	<0.10	NA	< 0.10	86%	50%	140%	85%	60%	130%	72%	50%	140%
Chlorobenzene	3915063		<0.10	<0.10	NA	< 0.10	90%	50%	140%	90%	60%	130%	79%	50%	140%
Ethylbenzene	3915063		2.86	2.83	1.1%	< 0.10	72%	50%	140%	80%	60%	130%	94%	50%	140%
m & p-Xylene	3915063		<0.20	<0.20	NA	< 0.20	88%	50%	140%	83%	60%	130%	113%	50%	140%
Bromoform	3915063		<0.10	<0.10	NA	< 0.10	102%	50%	140%	110%	60%	130%	98%	50%	140%
Styrene	3915063		<0.10	<0.10	NA	< 0.10	80%	50%	140%	75%	60%	130%	96%	50%	140%
1,1,2,2-Tetrachloroethane	3915063		<0.10	<0.10	NA	< 0.10	93%	50%	140%	97%	60%	130%	88%	50%	140%
o-Xylene	3915063		<0.10	<0.10	NA	< 0.10	93%	50%	140%	89%	60%	130%	77%	50%	140%

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 21494078-1047 Richmond Fengate
SAMPLING SITE:1047 Richmond rd

AGAT WORK ORDER: 22T901122
ATTENTION TO: Daniel Stabile
SAMPLED BY:Ben Waechter

Trace Organics Analysis (Continued)

RPT Date: Jun 07, 2022			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
1,3-Dichlorobenzene	3915063		<0.10	<0.10	NA	< 0.10	115%	50%	140%	108%	60%	130%	104%	50%	140%
1,4-Dichlorobenzene	3915063		<0.10	<0.10	NA	< 0.10	115%	50%	140%	109%	60%	130%	104%	50%	140%
1,2-Dichlorobenzene	3915063		<0.10	<0.10	NA	< 0.10	109%	50%	140%	100%	60%	130%	98%	50%	140%
n-Hexane	3915063		<0.20	<0.20	NA	< 0.20	106%	50%	140%	108%	60%	130%	106%	50%	140%

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

Certified By: NPopnikolof

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 22T901122

PROJECT: 21494078-1047 Richmond Fengate

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond rd

SAMPLED BY:Ben Waechter

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Xylenes (Total)	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
F1 (C6 - C10)	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/FID
Toluene-d8	VOL-91- 5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F3 (C16 to C34)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F4 (C34 to C50)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	modified from MOE PHC-E3421	BALANCE
Terphenyl	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Sediment			
Dichlorodifluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Vinyl Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
trans- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl tert-butyl ether	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
cis- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 22T901122

PROJECT: 21494078-1047 Richmond Fengate

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond rd

SAMPLED BY:Ben Waechter

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
1,1,2-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
m & p-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

AGAT Laboratories

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

Chain of Custody Record

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

Laboratory Use Only 22T901122
Work Order #: ~~22T900946~~
Cooler Quantity: 1 Large
Arrival Temperatures: 2.0 6.3 16.7
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes: Melted Ice

Report Information:
Company: WSP-Golder
Contact: Daniel Stabile; Ben Waechter
Address: 1931 Robertson Rd. Nepean, ON, K2H 5B7
Phone: 905-213-4752 Fax: 613-592-9600
Reports to be sent to:
1. Email: Daniel.Stabile@WSP.com
2. Email: Ben.Waechter@WSP.com

Project Information:
Project: 21494078- 1047 Richmond Rd Tengate
Site Location: 1047 Richmond Rd
Sampled By: Ben Waechter
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:
Bill To Same: Yes ☑ No ☐
Company: WSP-Golder
Contact: Daniel Stabile
Address: 1931 Robertson Rd. Nepean, ON.
Email: Daniel.Stabile@WSP.com

Regulatory Requirements:
(Please check all applicable boxes)

☑ Regulation 153/04 — Table 1 (Indicate One) ☐ Ind/Com ☑ Res/Park ☐ Agriculture
Soil Texture (Check One) ☐ Coarse ☐ Fine
☐ Excess Soils R406 — Table (Indicate One)
☐ Regulation 558
☐ CCME
☐ Sewer Use ☐ Sanitary ☐ Storm — Region
☐ Prov. Water Quality Objectives (PWQO)
☐ Other (Indicate One)

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

Report Guideline on *Certificate of Analysis* ☑ Yes ☐ No

Turnaround Time (TAT) Required:
Regular TAT ☑ 5 to 7 Business Days
Rush TAT (Rush Surcharges Apply)
☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day
OR Date Required (Rush Surcharges May Apply):
Please provide prior notification for rush TAT
*TAT is exclusive of weekends and statutory holidays
For 'Same Day' analysis, please contact your AGAT CPM

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs	O. Reg 153: Analyze F4G if required ☐ Yes ☐ No	O. Reg 153: PAHs	O. Reg 153: PCBs	O. Reg 153: VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	Potentially Hazardous or High Concentration (Y/N)
MW 22-01	26 May 22	3:05 PM	8	GW			✓		✓				✓					
MW 22-02		12:55 PM	8	GW			✓		✓				✓					
MW 22-03		11:08 PM	8	GW			✓		✓				✓					
MW 22-04		1:52 PM	8	GW			✓		✓				✓					
MW 22-05		12:12 PM	8	GW			✓		✓				✓					
MW 21-04		4:02 PM	8	GW			✓		✓				✓					
MW 21-14		2:48 PM	8	GW			✓		✓				✓					
MW 21-14 DUP		2:48 PM	8	GW			✓		✓				✓					
Field Blank	26 May 22	1:14 PM	8	GW	Distilled Water		✓		✓				✓					
Trip Blanks		PM																
		PM																

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Ben Waechter	27 May 22	09:10	Troy Burgins	05/27/22	9:35 AM
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign): Anthony Davies	Date	Time
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time

22 MAY 30 9:38 AM

Page _____ of _____

N°: T 132679

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

AGAT Laboratories

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CLIENT NAME: GOLDER ASSOCIATES LTD.
100 SCOTIA COURT
WHITBY, ON L1N8Y6
(905) 723-2727
ATTENTION TO: Daniel Stabile
PROJECT: 21494078
AGAT WORK ORDER: 22Z970560
TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist
DATE REPORTED: Nov 24, 2022
PAGES (INCLUDING COVER): 9
VERSION*: 1

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

*Notes

Disclaimer:

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

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Certificate of Analysis

AGAT WORK ORDER: 22Z970560

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis

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

DATE RECEIVED: 2022-11-16

DATE REPORTED: 2022-11-24

SAMPLE DESCRIPTION:				22-8	21-14	21-4	dup 2	22-1	22-2	22-4	trip blank
SAMPLE TYPE:				Water	Water	Water	Water	Water	Water	Water	Water
DATE SAMPLED:				2022-11-15 13:50	2022-11-15 13:50	2022-11-15 15:40	2022-11-15 15:40	2022-11-16 11:00	2022-11-16 12:45	2022-11-16 13:30	2022-11-15 13:50
Parameter	Unit	G / S	RDL	4531761	4531768	4531770	4531771	4531772	4531773	4531774	4531775
Dichlorodifluoromethane	µg/L	3500	0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Vinyl Chloride	µg/L	0.5	0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Bromomethane	µg/L	0.89	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L	2000	0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Acetone	µg/L	100000	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene	µg/L	0.5	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Methylene Chloride	µg/L	26	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Methyl tert-butyl ether	µg/L	15	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1-Dichloroethane	µg/L	11	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Methyl Ethyl Ketone	µg/L	21000	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chloroform	µg/L	2	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloroethane	µg/L	0.5	0.20	<0.20	1.45	7.67	7.39	<0.20	7.69	<0.20	<0.20
1,1,1-Trichloroethane	µg/L	23	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Carbon Tetrachloride	µg/L	0.2	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Benzene	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloropropane	µg/L	0.58	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichloroethylene	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Bromodichloromethane	µg/L	67000	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Methyl Isobutyl Ketone	µg/L	5200	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	µg/L	320	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dibromochloromethane	µg/L	65000	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ethylene Dibromide	µg/L	0.2	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Tetrachloroethylene	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chlorobenzene	µg/L	140	0.10	<0.10	0.54	3.98	3.98	<0.10	<0.10	<0.10	<0.10
Ethylbenzene	µg/L	54	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10

Certified By: N Popowkolof

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 22Z970560

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis

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

DATE RECEIVED: 2022-11-16

DATE REPORTED: 2022-11-24

		SAMPLE DESCRIPTION:		22-8	21-14	21-4	dup 2	22-1	22-2	22-4	trip blank
		SAMPLE TYPE:		Water	Water	Water	Water	Water	Water	Water	Water
		DATE SAMPLED:		2022-11-15 13:50	2022-11-15 13:50	2022-11-15 15:40	2022-11-15 15:40	2022-11-16 11:00	2022-11-16 12:45	2022-11-16 13:30	2022-11-15 13:50
Parameter	Unit	G / S	RDL	4531761	4531768	4531770	4531771	4531772	4531773	4531774	4531775
m & p-Xylene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Bromoform	µg/L	5	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Styrene	µg/L	43	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	0.5	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
o-Xylene	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,3-Dichlorobenzene	µg/L	7600	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,4-Dichlorobenzene	µg/L	0.5	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,2-Dichlorobenzene	µg/L	150	0.10	<0.10	1.59	5.13	4.99	<0.10	<0.10	<0.10	<0.10
1,3-Dichloropropene	µg/L	0.5	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Xylenes (Total)	µg/L	72	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
n-Hexane	µg/L	5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Surrogate	Unit	Acceptable Limits									
Toluene-d8	% Recovery	50-140		96	99	100	105	128	117	120	101
4-Bromofluorobenzene	% Recovery	50-140		87	83	87	86	86	84	87	84

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

4531761-4531775 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: NPopowkolof

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Exceedance Summary

AGAT WORK ORDER: 22Z970560

PROJECT: 21494078

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Daniel Stabile

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
4531768	21-14	ON T7 NPGW CT	O. Reg. 153(511) - VOCs (Water)	1,2-Dichloroethane	µg/L	0.5	1.45
4531770	21-4	ON T7 NPGW CT	O. Reg. 153(511) - VOCs (Water)	1,2-Dichloroethane	µg/L	0.5	7.67
4531771	dup 2	ON T7 NPGW CT	O. Reg. 153(511) - VOCs (Water)	1,2-Dichloroethane	µg/L	0.5	7.39
4531773	22-2	ON T7 NPGW CT	O. Reg. 153(511) - VOCs (Water)	1,2-Dichloroethane	µg/L	0.5	7.69

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http://www.agatlabs.com

Quality Assurance

CLIENT NAME: GOLDER ASSOCIATES LTD.
PROJECT: 21494078
SAMPLING SITE:1047 Richmond Rd

AGAT WORK ORDER: 22Z970560
ATTENTION TO: Daniel Stabile
SAMPLED BY:Ryan Francis

Trace Organics Analysis

RPT Date: Nov 24, 2022			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - VOCs (Water)															
Dichlorodifluoromethane	4535302		<0.40	<0.40	NA	< 0.40	115%	50%	140%	113%	50%	140%	115%	50%	140%
Vinyl Chloride	4535302		<0.17	<0.17	NA	< 0.17	115%	50%	140%	112%	50%	140%	82%	50%	140%
Bromomethane	4535302		<0.20	<0.20	NA	< 0.20	119%	50%	140%	107%	50%	140%	103%	50%	140%
Trichlorofluoromethane	4535302		<0.40	<0.40	NA	< 0.40	106%	50%	140%	101%	50%	140%	117%	50%	140%
Acetone	4535302		<1.0	<1.0	NA	< 1.0	100%	50%	140%	116%	50%	140%	112%	50%	140%
1,1-Dichloroethylene	4535302		<0.30	<0.30	NA	< 0.30	96%	50%	140%	87%	60%	130%	93%	50%	140%
Methylene Chloride	4535302		<0.30	<0.30	NA	< 0.30	77%	50%	140%	115%	60%	130%	104%	50%	140%
trans- 1,2-Dichloroethylene	4535302		<0.20	<0.20	NA	< 0.20	99%	50%	140%	91%	60%	130%	89%	50%	140%
Methyl tert-butyl ether	4535302		<0.20	<0.20	NA	< 0.20	110%	50%	140%	102%	60%	130%	95%	50%	140%
1,1-Dichloroethane	4535302		<0.30	<0.30	NA	< 0.30	111%	50%	140%	101%	60%	130%	94%	50%	140%
Methyl Ethyl Ketone	4535302		<1.0	<1.0	NA	< 1.0	99%	50%	140%	117%	50%	140%	109%	50%	140%
cis- 1,2-Dichloroethylene	4535302		<0.20	<0.20	NA	< 0.20	102%	50%	140%	97%	60%	130%	93%	50%	140%
Chloroform	4535302		<0.20	<0.20	NA	< 0.20	105%	50%	140%	118%	60%	130%	112%	50%	140%
1,2-Dichloroethane	4535302		<0.20	<0.20	NA	< 0.20	115%	50%	140%	109%	60%	130%	101%	50%	140%
1,1,1-Trichloroethane	4535302		<0.30	<0.30	NA	< 0.30	95%	50%	140%	90%	60%	130%	80%	50%	140%
Carbon Tetrachloride	4535302		<0.20	<0.20	NA	< 0.20	85%	50%	140%	80%	60%	130%	79%	50%	140%
Benzene	4535302		<0.20	<0.20	NA	< 0.20	104%	50%	140%	97%	60%	130%	94%	50%	140%
1,2-Dichloropropane	4535302		<0.20	<0.20	NA	< 0.20	105%	50%	140%	104%	60%	130%	84%	50%	140%
Trichloroethylene	4535302		<0.20	<0.20	NA	< 0.20	101%	50%	140%	90%	60%	130%	89%	50%	140%
Bromodichloromethane	4535302		<0.20	<0.20	NA	< 0.20	109%	50%	140%	107%	60%	130%	90%	50%	140%
Methyl Isobutyl Ketone	4535302		<1.0	<1.0	NA	< 1.0	91%	50%	140%	100%	50%	140%	105%	50%	140%
1,1,2-Trichloroethane	4535302		<0.20	<0.20	NA	< 0.20	112%	50%	140%	107%	60%	130%	117%	50%	140%
Toluene	4535302		<0.20	<0.20	NA	< 0.20	109%	50%	140%	87%	60%	130%	109%	50%	140%
Dibromochloromethane	4535302		<0.10	<0.10	NA	< 0.10	109%	50%	140%	97%	60%	130%	110%	50%	140%
Ethylene Dibromide	4535302		<0.10	<0.10	NA	< 0.10	118%	50%	140%	105%	60%	130%	111%	50%	140%
Tetrachloroethylene	4535302		<0.20	<0.20	NA	< 0.20	100%	50%	140%	89%	60%	130%	111%	50%	140%
1,1,1,2-Tetrachloroethane	4535302		<0.10	<0.10	NA	< 0.10	101%	50%	140%	89%	60%	130%	112%	50%	140%
Chlorobenzene	4535302		<0.10	<0.10	NA	< 0.10	107%	50%	140%	93%	60%	130%	113%	50%	140%
Ethylbenzene	4535302		<0.10	<0.10	NA	< 0.10	120%	50%	140%	104%	60%	130%	115%	50%	140%
m & p-Xylene	4535302		<0.20	<0.20	NA	< 0.20	110%	50%	140%	114%	60%	130%	110%	50%	140%
Bromoform	4535302		<0.10	<0.10	NA	< 0.10	101%	50%	140%	101%	60%	130%	118%	50%	140%
Styrene	4535302		<0.10	<0.10	NA	< 0.10	115%	50%	140%	95%	60%	130%	107%	50%	140%
1,1,2,2-Tetrachloroethane	4535302		<0.10	<0.10	NA	< 0.10	113%	50%	140%	108%	60%	130%	114%	50%	140%
o-Xylene	4535302		<0.10	<0.10	NA	< 0.10	109%	50%	140%	103%	60%	130%	102%	50%	140%
1,3-Dichlorobenzene	4535302		<0.10	<0.10	NA	< 0.10	107%	50%	140%	88%	60%	130%	114%	50%	140%
1,4-Dichlorobenzene	4535302		<0.10	<0.10	NA	< 0.10	109%	50%	140%	89%	60%	130%	114%	50%	140%
1,2-Dichlorobenzene	4535302		<0.10	<0.10	NA	< 0.10	113%	50%	140%	90%	60%	130%	119%	50%	140%
n-Hexane	4535302		<0.20	<0.20	NA	< 0.20	108%	50%	140%	94%	60%	130%	77%	50%	140%
Toluene-d8	4535302		100	103	3.2%	< 1	NA			NA			96%		

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Quality Assurance

CLIENT NAME: GOLDER ASSOCIATES LTD.

AGAT WORK ORDER: 22Z970560

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis

Trace Organics Analysis (Continued)

RPT Date: Nov 24, 2022			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper

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

Certified By:

AGAT Laboratories

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Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD.

AGAT WORK ORDER: 22Z970560

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Dichlorodifluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Vinyl Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
trans- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl tert-butyl ether	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
cis- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD.

AGAT WORK ORDER: 22Z970560

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Chlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
m & p-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

AGAT Laboratories
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Mississauga, Ontario L4Z 1Y2
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Chain of Custody Record

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

Laboratory Use Only

Work Order #: 22790560

Cooler Quantity: one - on ice

Arrival Temperatures: 5.8 5.7 5.7
LT 2.8 2.3 2.5

Custody Seal Intact: ☐Yes ☐No ☐N/A

Notes: Bagged ice.

Report Information:

Company: Golder
Contact: Daniel Stabile
Address:
Phone: Fax:
Reports to be sent to:
1. Email: daniel.stabile@wsp.com
2. Email:

Regulatory Requirements:

(Please check all applicable boxes)

☒ Regulation 153/04 — Table 7 (Indicate One)
☐ Ind/Com
☒ Res/Park
☐ Agriculture
Soil Texture (Check One): ☒ Coarse ☐ Fine

☐ Excess Soils R406 — Table (Indicate One)
☐ Regulation 558
☐ CCME

☐ Sewer Use ☐ Sanitary ☐ Storm — (Region)
☐ Prov. Water Quality Objectives (PWQO)
☐ Other (Indicate One)

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

Report Guideline on *Certificate of Analysis* ☐ Yes ☐ No

Turnaround Time (TAT) Required:

Regular TAT (Most Analysis) ☒ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply):

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

For 'Same Day' analysis, please contact your AGAT CPM

Project Information:

Project: 21494078
Site Location: 1047 Richmond Rd.
Sampled By: Ryan Francis
AGAT ID #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☐ No ☐

Company: Golder
Contact: Daniel Stabile
Address: PO# 21494078
Email: daniel.stabile@wsp.com

Sample Matrix Legend

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	BTEX, F1-F4 PHCs Analyze F4G if required ☐ Yes ☐ No	PAHs	Total PCBs ☐ Aroclor	VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	Potentially Hazardous or High Concentration (Y/N)
22-05	Nov 15/22	1:50 PM	3	GW								✓					N
21-14	↓	1:50 PM	3	GW								✓					Y
DUP 1		1:50 PM	3	GW	Please hold							✓					Y
21-4		3:40 PM	3	GW								✓					N
DUP 2	↓	3:40 PM	3	GW								✓					N
22-1	Nov 16/22	11:00 PM	3	GW								✓					N
22-2	↓	12:45 PM	3	GW								✓					N
22-4	↓	1:30 PM	3	GW								✓					Y
Trip Blank			3	GW								✓					

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Ryan Francis	Nov 16/22	3:30	Ben Thelet	22-11-16	15h38
Carlo Pinto	NOV 17 2022	16h00	Sana Qureshi	16 Nov/22	9:10 am

Page 1 of 1

N°: T 122894

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CLIENT NAME: WSP CANADA INC.
1931 ROBERTSON ROAD
OTTAWA, ON K2H5B7
(613) 592-9600
ATTENTION TO: Daniel Stabile
PROJECT: 21494078
AGAT WORK ORDER: 23Z996204
TRACE ORGANICS REVIEWED BY: Radhika Chakraberty, Trace Organics Lab Manager
DATE REPORTED: Feb 15, 2023
PAGES (INCLUDING COVER): 9
VERSION*: 1

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

*Notes

Disclaimer:

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

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Certificate of Analysis

AGAT WORK ORDER: 23Z996204

PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis

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

DATE RECEIVED: 2023-02-09

DATE REPORTED: 2023-02-15

		SAMPLE DESCRIPTION:		MW22-02	DUP-1
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2023-02-09 13:20	2023-02-09 13:20
Parameter	Unit	G / S	RDL	4762797	4762799
Dichlorodifluoromethane	µg/L	3500	0.80	<0.80	<0.80
Vinyl Chloride	µg/L	0.5	0.34	<0.34	<0.34
Bromomethane	µg/L	0.89	0.40	<0.40	<0.40
Trichlorofluoromethane	µg/L	2000	0.80	<0.80	<0.80
Acetone	µg/L	100000	2.0	<2.0	<2.0
1,1-Dichloroethylene	µg/L	0.5	0.60	<0.60	<0.60
Methylene Chloride	µg/L	26	0.60	<0.60	<0.60
trans- 1,2-Dichloroethylene	µg/L	1.6	0.40	<0.40	<0.40
Methyl tert-butyl ether	µg/L	15	0.40	<0.40	<0.40
1,1-Dichloroethane	µg/L	11	0.60	<0.60	<0.60
Methyl Ethyl Ketone	µg/L	21000	2.0	<2.0	<2.0
cis- 1,2-Dichloroethylene	µg/L	1.6	0.40	<0.40	<0.40
Chloroform	µg/L	2	0.40	<0.40	<0.40
1,2-Dichloroethane	µg/L	0.5	0.40	2.48	2.58
1,1,1-Trichloroethane	µg/L	23	0.60	<0.60	<0.60
Carbon Tetrachloride	µg/L	0.2	0.40	<0.40	<0.40
Benzene	µg/L	0.5	0.40	<0.40	<0.40
1,2-Dichloropropane	µg/L	0.58	0.40	<0.40	<0.40
Trichloroethylene	µg/L	0.5	0.40	<0.40	<0.40
Bromodichloromethane	µg/L	67000	0.40	<0.40	<0.40
Methyl Isobutyl Ketone	µg/L	5200	2.0	<2.0	<2.0
1,1,2-Trichloroethane	µg/L	0.5	0.40	<0.40	<0.40
Toluene	µg/L	320	0.40	<0.40	<0.40
Dibromochloromethane	µg/L	65000	0.20	<0.20	<0.20
Ethylene Dibromide	µg/L	0.2	0.20	<0.20	<0.20
Tetrachloroethylene	µg/L	0.5	0.40	<0.40	<0.40
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.20	<0.20	<0.20
Chlorobenzene	µg/L	140	0.20	<0.20	<0.20
Ethylbenzene	µg/L	54	0.20	<0.20	<0.20

Certified By: R. Chakraberty

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Certificate of Analysis

AGAT WORK ORDER: 23Z996204

PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis

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

DATE RECEIVED: 2023-02-09

DATE REPORTED: 2023-02-15

				SAMPLE DESCRIPTION:	MW22-02	DUP-1
				SAMPLE TYPE:	Water	Water
				DATE SAMPLED:	2023-02-09 13:20	2023-02-09 13:20
Parameter	Unit	G / S	RDL		4762797	4762799
m & p-Xylene	µg/L		0.40		<0.40	<0.40
Bromoform	µg/L	5	0.20		<0.20	<0.20
Styrene	µg/L	43	0.20		<0.20	<0.20
1,1,2,2-Tetrachloroethane	µg/L	0.5	0.20		<0.20	<0.20
o-Xylene	µg/L		0.20		<0.20	<0.20
1,3-Dichlorobenzene	µg/L	7600	0.20		<0.20	<0.20
1,4-Dichlorobenzene	µg/L	0.5	0.20		<0.20	<0.20
1,2-Dichlorobenzene	µg/L	150	0.20		<0.20	<0.20
1,3-Dichloropropene	µg/L	0.5	0.30		<0.30	<0.30
Xylenes (Total)	µg/L	72	0.20		<0.20	<0.20
n-Hexane	µg/L	5	0.40		<0.40	<0.40
Surrogate	Unit	Acceptable Limits				
Toluene-d8	% Recovery	50-140			112	108
4-Bromofluorobenzene	% Recovery	50-140			81	81

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

4762797-4762799 Dilution factor=2
VOC-The sample was diluted because it was foamy. The reporting detection limit has been corrected for the dilution factor used.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: R. Chakraberty

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Exceedance Summary

AGAT WORK ORDER: 23Z996204

PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
4762797	MW22-02	ON T7 NPGW CT	O. Reg. 153(511) - VOCs (Water)	1,2-Dichloroethane	µg/L	0.5	2.48
4762799	DUP-1	ON T7 NPGW CT	O. Reg. 153(511) - VOCs (Water)	1,2-Dichloroethane	µg/L	0.5	2.58

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 21494078
SAMPLING SITE:1047 Richmond Rd

AGAT WORK ORDER: 23Z996204
ATTENTION TO: Daniel Stabile
SAMPLED BY:Ryan Francis

Trace Organics Analysis

RPT Date: Feb 15, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - VOCs (Water)															
Dichlorodifluoromethane	4765688		<0.40	<0.40	NA	< 0.40	109%	50%	140%	98%	50%	140%	112%	50%	140%
Vinyl Chloride	4765688		<0.17	<0.17	NA	< 0.17	79%	50%	140%	106%	50%	140%	82%	50%	140%
Bromomethane	4765688		<0.20	<0.20	NA	< 0.20	115%	50%	140%	94%	50%	140%	97%	50%	140%
Trichlorofluoromethane	4765688		<0.40	<0.40	NA	< 0.40	103%	50%	140%	105%	50%	140%	90%	50%	140%
Acetone	4765688		<1.0	<1.0	NA	< 1.0	97%	50%	140%	103%	50%	140%	106%	50%	140%
1,1-Dichloroethylene	4765688		<0.30	<0.30	NA	< 0.30	89%	50%	140%	98%	60%	130%	74%	50%	140%
Methylene Chloride	4765688		<0.30	<0.30	NA	< 0.30	97%	50%	140%	95%	60%	130%	80%	50%	140%
trans- 1,2-Dichloroethylene	4765688		<0.20	<0.20	NA	< 0.20	98%	50%	140%	104%	60%	130%	76%	50%	140%
Methyl tert-butyl ether	4765688		<0.20	<0.20	NA	< 0.20	93%	50%	140%	88%	60%	130%	80%	50%	140%
1,1-Dichloroethane	4765688		<0.30	<0.30	NA	< 0.30	97%	50%	140%	105%	60%	130%	80%	50%	140%
Methyl Ethyl Ketone	4765688		<1.0	<1.0	NA	< 1.0	99%	50%	140%	97%	50%	140%	84%	50%	140%
cis- 1,2-Dichloroethylene	4765688		<0.20	<0.20	NA	< 0.20	105%	50%	140%	89%	60%	130%	83%	50%	140%
Chloroform	4765688		<0.20	<0.20	NA	< 0.20	111%	50%	140%	118%	60%	130%	94%	50%	140%
1,2-Dichloroethane	4765688		<0.20	<0.20	NA	< 0.20	114%	50%	140%	117%	60%	130%	91%	50%	140%
1,1,1-Trichloroethane	4765688		<0.30	<0.30	NA	< 0.30	84%	50%	140%	97%	60%	130%	108%	50%	140%
Carbon Tetrachloride	4765688		<0.20	<0.20	NA	< 0.20	88%	50%	140%	79%	60%	130%	75%	50%	140%
Benzene	4765688		<0.20	<0.20	NA	< 0.20	105%	50%	140%	111%	60%	130%	85%	50%	140%
1,2-Dichloropropane	4765688		<0.20	<0.20	NA	< 0.20	109%	50%	140%	114%	60%	130%	84%	50%	140%
Trichloroethylene	4765688		<0.20	<0.20	NA	< 0.20	78%	50%	140%	79%	60%	130%	84%	50%	140%
Bromodichloromethane	4765688		<0.20	<0.20	NA	< 0.20	76%	50%	140%	85%	60%	130%	70%	50%	140%
Methyl Isobutyl Ketone	4765688		<1.0	<1.0	NA	< 1.0	86%	50%	140%	113%	50%	140%	111%	50%	140%
1,1,2-Trichloroethane	4765688		<0.20	<0.20	NA	< 0.20	102%	50%	140%	108%	60%	130%	113%	50%	140%
Toluene	4765688		<0.20	<0.20	NA	< 0.20	86%	50%	140%	100%	60%	130%	100%	50%	140%
Dibromochloromethane	4765688		<0.10	<0.10	NA	< 0.10	72%	50%	140%	76%	60%	130%	94%	50%	140%
Ethylene Dibromide	4765688		<0.10	<0.10	NA	< 0.10	98%	50%	140%	99%	60%	130%	105%	50%	140%
Tetrachloroethylene	4765688		<0.20	<0.20	NA	< 0.20	80%	50%	140%	99%	60%	130%	90%	50%	140%
1,1,1,2-Tetrachloroethane	4765688		<0.10	<0.10	NA	< 0.10	92%	50%	140%	105%	60%	130%	89%	50%	140%
Chlorobenzene	4765688		<0.10	<0.10	NA	< 0.10	90%	50%	140%	101%	60%	130%	102%	50%	140%
Ethylbenzene	4765688		<0.10	<0.10	NA	< 0.10	81%	50%	140%	96%	60%	130%	94%	50%	140%
m & p-Xylene	4765688		<0.20	<0.20	NA	< 0.20	83%	50%	140%	96%	60%	130%	94%	50%	140%
Bromoform	4765688		<0.10	<0.10	NA	< 0.10	75%	50%	140%	75%	60%	130%	75%	50%	140%
Styrene	4765688		<0.10	<0.10	NA	< 0.10	82%	50%	140%	89%	60%	130%	90%	50%	140%
1,1,2,2-Tetrachloroethane	4765688		<0.10	<0.10	NA	< 0.10	106%	50%	140%	102%	60%	130%	115%	50%	140%
o-Xylene	4765688		<0.10	<0.10	NA	< 0.10	86%	50%	140%	99%	60%	130%	99%	50%	140%
1,3-Dichlorobenzene	4765688		<0.10	<0.10	NA	< 0.10	92%	50%	140%	94%	60%	130%	101%	50%	140%
1,4-Dichlorobenzene	4765688		<0.10	<0.10	NA	< 0.10	94%	50%	140%	96%	60%	130%	98%	50%	140%
1,2-Dichlorobenzene	4765688		<0.10	<0.10	NA	< 0.10	96%	50%	140%	97%	60%	130%	100%	50%	140%
n-Hexane	4765688		<0.20	<0.20	NA	< 0.20	87%	50%	140%	92%	60%	130%	81%	50%	140%

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Quality Assurance

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z996204

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis

Trace Organics Analysis (Continued)

RPT Date: Feb 15, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper

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

Certified By: R. Chakraberty

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z996204

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Dichlorodifluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Vinyl Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
trans- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl tert-butyl ether	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
cis- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z996204

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Chlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
m & p-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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WORK ORDER

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

Chain of Custody Record

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

Laboratory Use Only

Work Order #: 2379962O4

Cooler Quantity: one - loose ice.

Arrival Temperatures: 4.1 | 4.0 | 4.1

LT 6.1 | 4.4 | 5.9

Custody Seal Intact: ☐ Yes ☐ No ☐ N/A

Notes:

Report Information:

Company: WSP Canada Inc.
Contact: Daniel Stabile
Address: 1931 Robertson Rd.
Ottawa, ON
Phone: 905 723 2727 Fax:
Reports to be sent to:
1. Email: daniel.stabile@wsp.com
2. Email:

Project Information:

Project: 21494078
Site Location: 1047 Richmond Rd
Sampled By: Ryan Francis
AGAT Quote #: PO: Competitive 2023 quote
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☑ No ☐

Company:
Contact:
Address:
Email: gld-canada_accountspayableinvoices@wsp.com

Regulatory Requirements:

(Please check all applicable boxes)

☑ Regulation 153/04
Table 7 (Indicate One)
☑ Ind/Com
☐ Res/Park
☐ Agriculture
Soil Texture (Check One)
☑ Coarse
☐ Fine

☐ Excess Soils R406
Table (Indicate One)

☐ Regulation 558

☐ CCME

☐ Sewer Use
☐ Sanitary ☐ Storm
(Region)

☐ Prov. Water Quality Objectives (PWQO)

☐ Other
(Indicate One)

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

Report Guideline on *Certificate of Analysis* ☐ Yes ☐ No

Turnaround Time (TAT) Required:

Regular TAT ☑ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply):

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

For 'Same Day' analysis, please contact your AGAT CPM

Sample Matrix Legend

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	Y/N
MW 22-02	Feb 9/23	1:29 PM	3	GW		N
DUP-1	Feb 9/23	1:20 PM	3	GW		N
		AM PM				
		AM PM				
		AM PM				
		AM PM				
		AM PM				
		AM PM				
		AM PM				
		AM PM				
		AM PM				
		AM PM				

Field Filtered - Metals, Hg, CrVI, DOC	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs	PAHs	PCBs	VOC	Aroclors	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Corrosivity: Include Moisture ☐ Sulphide ☐	Potentially Hazardous or High Concentration (Y/N)
						✓						
						✓						

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Ryan Francis	Feb 9/23	2:45	C. Christian	FEB 09 2023	4:56
C. Christian	FEB 09 2023	16:00	M. GRASIC	Feb 10	8:45

Page 1 of 1

N°: T - 139028

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CLIENT NAME: WSP CANADA INC.
1931 ROBERTSON ROAD
OTTAWA, ON K2H5B7
(613) 592-9600
ATTENTION TO: Daniel Stabile
PROJECT: 21494078
AGAT WORK ORDER: 23Z006506
TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist
DATE REPORTED: Mar 22, 2023
PAGES (INCLUDING COVER): 9
VERSION*: 1

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

*Notes

Disclaimer:

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

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Certificate of Analysis

AGAT WORK ORDER: 23Z006506

PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:

SAMPLED BY:Ryan Francis

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

DATE RECEIVED: 2023-03-16

DATE REPORTED: 2023-03-22

		SAMPLE DESCRIPTION:		MW 22-02	DUP-1
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2023-03-16 15:20	2023-03-16 15:20
Parameter	Unit	G / S	RDL	4860658	4860659
Dichlorodifluoromethane	µg/L	3500	0.80	<0.80	<0.80
Vinyl Chloride	µg/L	0.5	0.34	<0.34	<0.34
Bromomethane	µg/L	0.89	0.40	<0.40	<0.40
Trichlorofluoromethane	µg/L	2000	0.80	<0.80	<0.80
Acetone	µg/L	100000	2.0	<2.0	<2.0
1,1-Dichloroethylene	µg/L	0.5	0.60	<0.60	<0.60
Methylene Chloride	µg/L	26	0.60	<0.60	<0.60
trans- 1,2-Dichloroethylene	µg/L	1.6	0.40	<0.40	<0.40
Methyl tert-butyl ether	µg/L	15	0.40	<0.40	<0.40
1,1-Dichloroethane	µg/L	11	0.60	<0.60	<0.60
Methyl Ethyl Ketone	µg/L	21000	2.0	<2.0	<2.0
cis- 1,2-Dichloroethylene	µg/L	1.6	0.40	<0.40	<0.40
Chloroform	µg/L	2	0.40	<0.40	<0.40
1,2-Dichloroethane	µg/L	0.5	0.40	5.03	5.17
1,1,1-Trichloroethane	µg/L	23	0.60	<0.60	<0.60
Carbon Tetrachloride	µg/L	0.2	0.40	<0.40	<0.40
Benzene	µg/L	0.5	0.40	<0.40	<0.40
1,2-Dichloropropane	µg/L	0.58	0.40	<0.40	<0.40
Trichloroethylene	µg/L	0.5	0.40	<0.40	<0.40
Bromodichloromethane	µg/L	67000	0.40	<0.40	<0.40
Methyl Isobutyl Ketone	µg/L	5200	2.0	<2.0	<2.0
1,1,2-Trichloroethane	µg/L	0.5	0.40	<0.40	<0.40
Toluene	µg/L	320	0.40	<0.40	<0.40
Dibromochloromethane	µg/L	65000	0.20	<0.20	<0.20
Ethylene Dibromide	µg/L	0.2	0.20	<0.20	<0.20
Tetrachloroethylene	µg/L	0.5	0.40	<0.40	<0.40
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.20	<0.20	<0.20
Chlorobenzene	µg/L	140	0.20	<0.20	<0.20
Ethylbenzene	µg/L	54	0.20	<0.20	<0.20

Certified By: NPopowkof

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Certificate of Analysis

AGAT WORK ORDER: 23Z006506

PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:

SAMPLED BY:Ryan Francis

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

DATE RECEIVED: 2023-03-16

DATE REPORTED: 2023-03-22

				SAMPLE DESCRIPTION:	MW 22-02	DUP-1
				SAMPLE TYPE:	Water	Water
				DATE SAMPLED:	2023-03-16 15:20	2023-03-16 15:20
Parameter	Unit	G / S	RDL		4860658	4860659
m & p-Xylene	µg/L		0.40		<0.40	<0.40
Bromoform	µg/L	5	0.20		<0.20	<0.20
Styrene	µg/L	43	0.20		<0.20	<0.20
1,1,2,2-Tetrachloroethane	µg/L	0.5	0.20		<0.20	<0.20
o-Xylene	µg/L		0.20		<0.20	<0.20
1,3-Dichlorobenzene	µg/L	7600	0.20		<0.20	<0.20
1,4-Dichlorobenzene	µg/L	0.5	0.20		<0.20	<0.20
1,2-Dichlorobenzene	µg/L	150	0.20		<0.20	<0.20
1,3-Dichloropropene	µg/L	0.5	0.30		<0.30	<0.30
Xylenes (Total)	µg/L	72	0.20		<0.20	<0.20
n-Hexane	µg/L	5	0.40		<0.40	<0.40
Surrogate	Unit	Acceptable Limits				
Toluene-d8	% Recovery	50-140			100	100
4-Bromofluorobenzene	% Recovery	50-140			81	83

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

4860658-4860659 Dilution factor=2
VOC-The sample was diluted because it was foamy. The reporting detection limit has been corrected for the dilution factor used.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popowkolof

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Exceedance Summary

AGAT WORK ORDER: 23Z006506

PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
4860658	MW 22-02	ON T7 NPGW CT	O. Reg. 153(511) - VOCs (Water)	1,2-Dichloroethane	µg/L	0.5	5.03
4860659	DUP-1	ON T7 NPGW CT	O. Reg. 153(511) - VOCs (Water)	1,2-Dichloroethane	µg/L	0.5	5.17

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Quality Assurance

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z006506

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:

SAMPLED BY:Ryan Francis

Trace Organics Analysis

RPT Date: Mar 22, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - VOCs (Water)															
Dichlorodifluoromethane	4857271		<0.40	<0.40	NA	< 0.40	72%	50%	140%	73%	50%	140%	90%	50%	140%
Vinyl Chloride	4857271		<0.17	<0.17	NA	< 0.17	90%	50%	140%	99%	50%	140%	107%	50%	140%
Bromomethane	4857271		<0.20	<0.20	NA	< 0.20	70%	50%	140%	72%	50%	140%	99%	50%	140%
Trichlorofluoromethane	4857271		<0.40	<0.40	NA	< 0.40	78%	50%	140%	77%	50%	140%	111%	50%	140%
Acetone	4857271		<1.0	<1.0	NA	< 1.0	90%	50%	140%	95%	50%	140%	106%	50%	140%
1,1-Dichloroethylene	4857271		<0.30	<0.30	NA	< 0.30	72%	50%	140%	76%	60%	130%	91%	50%	140%
Methylene Chloride	4857271		<0.30	<0.30	NA	< 0.30	78%	50%	140%	115%	60%	130%	111%	50%	140%
trans- 1,2-Dichloroethylene	4857271		<0.20	<0.20	NA	< 0.20	112%	50%	140%	73%	60%	130%	72%	50%	140%
Methyl tert-butyl ether	4857271		<0.20	<0.20	NA	< 0.20	77%	50%	140%	78%	60%	130%	89%	50%	140%
1,1-Dichloroethane	4857271		<0.30	<0.30	NA	< 0.30	88%	50%	140%	76%	60%	130%	83%	50%	140%
Methyl Ethyl Ketone	4857271		<1.0	<1.0	NA	< 1.0	88%	50%	140%	83%	50%	140%	100%	50%	140%
cis- 1,2-Dichloroethylene	4857271		1.99	1.89	5.2%	< 0.20	88%	50%	140%	77%	60%	130%	80%	50%	140%
Chloroform	4857271		<0.20	<0.20	NA	< 0.20	108%	50%	140%	91%	60%	130%	79%	50%	140%
1,2-Dichloroethane	4857271		<0.20	<0.20	NA	< 0.20	116%	50%	140%	95%	60%	130%	96%	50%	140%
1,1,1-Trichloroethane	4857271		<0.30	<0.30	NA	< 0.30	75%	50%	140%	105%	60%	130%	104%	50%	140%
Carbon Tetrachloride	4857271		<0.20	<0.20	NA	< 0.20	83%	50%	140%	71%	60%	130%	76%	50%	140%
Benzene	4857271		<0.20	<0.20	NA	< 0.20	92%	50%	140%	76%	60%	130%	76%	50%	140%
1,2-Dichloropropane	4857271		<0.20	<0.20	NA	< 0.20	95%	50%	140%	77%	60%	130%	79%	50%	140%
Trichloroethylene	4857271		3.56	3.45	3.1%	< 0.20	92%	50%	140%	73%	60%	130%	100%	50%	140%
Bromodichloromethane	4857271		<0.20	<0.20	NA	< 0.20	81%	50%	140%	75%	60%	130%	117%	50%	140%
Methyl Isobutyl Ketone	4857271		<1.0	<1.0	NA	< 1.0	94%	50%	140%	86%	50%	140%	86%	50%	140%
1,1,2-Trichloroethane	4857271		<0.20	<0.20	NA	< 0.20	104%	50%	140%	103%	60%	130%	92%	50%	140%
Toluene	4857271		<0.20	<0.20	NA	< 0.20	120%	50%	140%	89%	60%	130%	83%	50%	140%
Dibromochloromethane	4857271		<0.10	<0.10	NA	< 0.10	93%	50%	140%	86%	60%	130%	75%	50%	140%
Ethylene Dibromide	4857271		<0.10	<0.10	NA	< 0.10	118%	50%	140%	92%	60%	130%	83%	50%	140%
Tetrachloroethylene	4857271		23.9	22.8	4.8%	< 0.20	104%	50%	140%	85%	60%	130%	84%	50%	140%
1,1,1,2-Tetrachloroethane	4857271		<0.10	<0.10	NA	< 0.10	119%	50%	140%	93%	60%	130%	80%	50%	140%
Chlorobenzene	4857271		<0.10	<0.10	NA	< 0.10	103%	50%	140%	92%	60%	130%	87%	50%	140%
Ethylbenzene	4857271		<0.10	<0.10	NA	< 0.10	111%	50%	140%	75%	60%	130%	76%	50%	140%
m & p-Xylene	4857271		<0.20	<0.20	NA	< 0.20	108%	50%	140%	118%	60%	130%	101%	50%	140%
Bromoform	4857271		<0.10	<0.10	NA	< 0.10	87%	50%	140%	71%	60%	130%	82%	50%	140%
Styrene	4857271		<0.10	<0.10	NA	< 0.10	100%	50%	140%	84%	60%	130%	82%	50%	140%
1,1,2,2-Tetrachloroethane	4857271		<0.10	<0.10	NA	< 0.10	117%	50%	140%	104%	60%	130%	79%	50%	140%
o-Xylene	4857271		<0.10	<0.10	NA	< 0.10	112%	50%	140%	80%	60%	130%	74%	50%	140%
1,3-Dichlorobenzene	4857271		<0.10	<0.10	NA	< 0.10	119%	50%	140%	92%	60%	130%	89%	50%	140%
1,4-Dichlorobenzene	4857271		<0.10	<0.10	NA	< 0.10	113%	50%	140%	94%	60%	130%	90%	50%	140%
1,2-Dichlorobenzene	4857271		<0.10	<0.10	NA	< 0.10	112%	50%	140%	92%	60%	130%	85%	50%	140%
n-Hexane	4857271		<0.20	<0.20	NA	< 0.20	96%	50%	140%	100%	60%	130%	105%	50%	140%

AGAT Laboratories

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CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Quality Assurance

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z006506

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:

SAMPLED BY:Ryan Francis

Trace Organics Analysis (Continued)

RPT Date: Mar 22, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper

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

Certified By:

AGAT Laboratories

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MISSISSAUGA, ONTARIO
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FAX (905)712-5122
http://www.agatlabs.com

Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z006506

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:

SAMPLED BY:Ryan Francis

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Dichlorodifluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Vinyl Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
trans- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl tert-butyl ether	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
cis- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z006506

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:

SAMPLED BY:Ryan Francis

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Chlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
m & p-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

AGAT Laboratories

Work Order

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

Chain of Custody Record

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

Laboratory Use Only

Work Order #: 23700650

Cooler Quantity: one - loose ice.

Arrival Temperatures: 6.4 16.2 16.3 3 7 13.9 14.1

Custody Seal Intact: ☐ Yes ☐ No ☐ N/A

Notes:

Report Information:

Company: WSP Canada Inc.
Contact: Daniel Stabile
Address: 1931 Robertson Rd Ottawa, ON. K2H 5B7
Phone: Fax:
Reports to be sent to:
1. Email: daniel.stabile@wsp.com
2. Email:

Project Information:

Project: 21494078
Site Location:
Sampled By: Ryan Francis
AGAT Quote #: MSA AGAT-WSP.735800-2023 Ottawa PO:
Please provide Invitation number if provided. Client will be invoiced full price for analysis.

Invoice Information:

Bill To Same: Yes ☐ No ☐

Company: WSP Canada Inc.
Contact: Daniel Stabile
Address: Project #: 21494078
Email: daniel.stabile@wsp.com

Regulatory Requirements:

(Please check all applicable boxes)

☒ Regulation 153/04
Table 7 (Indicate One)
☐ Ind/Com
☒ Res/Park
☐ Agriculture

Soil Texture (Check One)
☒ Coarse
☐ Fine

☐ Excess Soils R406
Table ____ (Indicate One)

☐ Regulation 558

☐ CCME

☐ Sewer Use ☐ Sanitary ☐ Storm
Region

☐ Prov. Water Quality Objectives (PWQO)

☐ Other
Indicate One

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

Report Guideline on *Certificate of Analysis* ☒ Yes ☐ No

Turnaround Time (TAT) Required:

Regular TAT ☒ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply):

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

For 'Same Day' analysis, please contact your AGAT CPM

Sample Matrix Legend

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC Y/N	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs	PAHs	PCBs	VOC	Aroclors	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Corrosivity: Include Moisture ☐ Sulphide ☐	Potentially Hazardous or High Concentration (Y/N)
MW 22-02	March 16/23	3:20 PM	3	GW								✓						
DUP-1	March 16/23	3:20 PM	3	GW								✓						
		AM PM																
		AM PM																
		AM PM																
		AM PM																
		AM PM																
		AM PM																
		AM PM																
		AM PM																
		AM PM																

Samples Relinquished By (Print Name and Sign): Ryan Francis	Date: March 16/23	Time: 4:30	Samples Received By (Print Name and Sign):	Date: MAR 16 2023 Time: 16h35
Samples Relinquished By (Print Name and Sign):	Date: MAR 17 2023	Time: 16h00	Samples Received By (Print Name and Sign):	Date: Time:
Samples Relinquished By (Print Name and Sign):	Date:	Time:	Samples Received By (Print Name and Sign):	Date: Time:

'23MAR 18 10:38 AM

Page 1 of 1

N°: T-139995

Document ID: DIV-78-1511.022

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

Date: 2022

AGAT Laboratories

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CLIENT NAME: WSP CANADA INC.
1931 ROBERTSON ROAD
OTTAWA, ON K2H5B7
(613) 592-9600

ATTENTION TO: Brian Henderson

PROJECT: 21494078

AGAT WORK ORDER: 23Z029521

TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist

DATE REPORTED: Jun 02, 2023

PAGES (INCLUDING COVER): 8

VERSION*: 1

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

*Notes

Disclaimer:

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

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Certificate of Analysis

AGAT WORK ORDER: 23Z029521

PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Brian Henderson

SAMPLING SITE:1047 Richmond Rd.

SAMPLED BY:Rob Ireland

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

DATE RECEIVED: 2023-05-29

DATE REPORTED: 2023-06-02

SAMPLE DESCRIPTION:				Trip Blank VOCs	Field Blank VOCs	22-10D	22-10S	22-09D	22-09S	DUP2
SAMPLE TYPE:				Water	Water	Water	Water	Water	Water	Water
DATE SAMPLED:				2023-05-29	2023-05-29 12:20	2023-05-29 09:50	2023-05-29 10:15	2023-05-29 11:48	2023-05-29 12:20	2023-05-29 11:48
Parameter	Unit	G / S	RDL	5025065	5025070	5025071	5025072	5025073	5025074	5025075
Dichlorodifluoromethane	µg/L	3500	0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Vinyl Chloride	µg/L	0.5	0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Bromomethane	µg/L	0.89	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L	2000	0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Acetone	µg/L	100000	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene	µg/L	0.5	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Methylene Chloride	µg/L	26	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Methyl tert-butyl ether	µg/L	15	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1-Dichloroethane	µg/L	11	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Methyl Ethyl Ketone	µg/L	21000	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chloroform	µg/L	2	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloroethane	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1,1-Trichloroethane	µg/L	23	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Carbon Tetrachloride	µg/L	0.2	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Benzene	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloropropane	µg/L	0.58	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichloroethylene	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Bromodichloromethane	µg/L	67000	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Methyl Isobutyl Ketone	µg/L	5200	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	µg/L	320	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dibromochloromethane	µg/L	65000	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ethylene Dibromide	µg/L	0.2	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Tetrachloroethylene	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chlorobenzene	µg/L	140	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10

Certified By: N Popowkolof

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Certificate of Analysis

AGAT WORK ORDER: 23Z029521

PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.

SAMPLING SITE:1047 Richmond Rd.

ATTENTION TO: Brian Henderson

SAMPLED BY:Rob Ireland

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

DATE RECEIVED: 2023-05-29

DATE REPORTED: 2023-06-02

SAMPLE DESCRIPTION:				Trip Blank VOCs	Field Blank VOCs	22-10D	22-10S	22-09D	22-09S	DUP2
SAMPLE TYPE:				Water	Water	Water	Water	Water	Water	Water
DATE SAMPLED:				2023-05-29	2023-05-29 12:20	2023-05-29 09:50	2023-05-29 10:15	2023-05-29 11:48	2023-05-29 12:20	2023-05-29 11:48
Parameter	Unit	G / S	RDL	5025065	5025070	5025071	5025072	5025073	5025074	5025075
Ethylbenzene	µg/L	54	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
m & p-Xylene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Bromoform	µg/L	5	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Styrene	µg/L	43	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	0.5	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
o-Xylene	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,3-Dichlorobenzene	µg/L	7600	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,4-Dichlorobenzene	µg/L	0.5	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,2-Dichlorobenzene	µg/L	150	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,3-Dichloropropene	µg/L	0.5	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Xylenes (Total)	µg/L	72	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
n-Hexane	µg/L	5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Surrogate	Unit	Acceptable Limits								
Toluene-d8	% Recovery	50-140		103	101	103	100	99	103	104
4-Bromofluorobenzene	% Recovery	50-140		86	86	92	90	87	90	89

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

5025065-5025075 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popowkolof

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 21494078
SAMPLING SITE:1047 Richmond Rd.

AGAT WORK ORDER: 23Z029521
ATTENTION TO: Brian Henderson
SAMPLED BY:Rob Ireland

Trace Organics Analysis

RPT Date: Jun 02, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - VOCs (Water)															
Dichlorodifluoromethane	5027165		<0.40	<0.40	NA	< 0.40	108%	50%	140%	80%	50%	140%	100%	50%	140%
Vinyl Chloride	5027165		<0.17	<0.17	NA	< 0.17	111%	50%	140%	105%	50%	140%	111%	50%	140%
Bromomethane	5027165		<0.20	<0.20	NA	< 0.20	112%	50%	140%	115%	50%	140%	97%	50%	140%
Trichlorofluoromethane	5027165		<0.40	<0.40	NA	< 0.40	104%	50%	140%	106%	50%	140%	115%	50%	140%
Acetone	5027165		<1.0	<1.0	NA	< 1.0	103%	50%	140%	98%	50%	140%	90%	50%	140%
1,1-Dichloroethylene	5027165		<0.30	<0.30	NA	< 0.30	81%	50%	140%	78%	60%	130%	101%	50%	140%
Methylene Chloride	5027165		<0.30	<0.30	NA	< 0.30	71%	50%	140%	111%	60%	130%	105%	50%	140%
trans- 1,2-Dichloroethylene	5027165		<0.20	<0.20	NA	< 0.20	104%	50%	140%	119%	60%	130%	102%	50%	140%
Methyl tert-butyl ether	5027165		<0.20	<0.20	NA	< 0.20	106%	50%	140%	82%	60%	130%	93%	50%	140%
1,1-Dichloroethane	5027165		<0.30	<0.30	NA	< 0.30	90%	50%	140%	97%	60%	130%	114%	50%	140%
Methyl Ethyl Ketone	5027165		<1.0	<1.0	NA	< 1.0	98%	50%	140%	101%	50%	140%	84%	50%	140%
cis- 1,2-Dichloroethylene	5027165		<0.20	<0.20	NA	< 0.20	78%	50%	140%	112%	60%	130%	116%	50%	140%
Chloroform	5027165		<0.20	<0.20	NA	< 0.20	80%	50%	140%	104%	60%	130%	114%	50%	140%
1,2-Dichloroethane	5027165		<0.20	<0.20	NA	< 0.20	77%	50%	140%	88%	60%	130%	104%	50%	140%
1,1,1-Trichloroethane	5027165		<0.30	<0.30	NA	< 0.30	82%	50%	140%	88%	60%	130%	104%	50%	140%
Carbon Tetrachloride	5027165		<0.20	<0.20	NA	< 0.20	87%	50%	140%	83%	60%	130%	105%	50%	140%
Benzene	5027165		<0.20	<0.20	NA	< 0.20	86%	50%	140%	119%	60%	130%	103%	50%	140%
1,2-Dichloropropane	5027165		<0.20	<0.20	NA	< 0.20	110%	50%	140%	107%	60%	130%	109%	50%	140%
Trichloroethylene	5027165		<0.20	<0.20	NA	< 0.20	103%	50%	140%	116%	60%	130%	117%	50%	140%
Bromodichloromethane	5027165		<0.20	<0.20	NA	< 0.20	93%	50%	140%	71%	60%	130%	87%	50%	140%
Methyl Isobutyl Ketone	5027165		<1.0	<1.0	NA	< 1.0	84%	50%	140%	80%	50%	140%	83%	50%	140%
1,1,2-Trichloroethane	5027165		<0.20	<0.20	NA	< 0.20	105%	50%	140%	108%	60%	130%	111%	50%	140%
Toluene	5027165		<0.20	<0.20	NA	< 0.20	116%	50%	140%	117%	60%	130%	104%	50%	140%
Dibromochloromethane	5027165		<0.10	<0.10	NA	< 0.10	74%	50%	140%	72%	60%	130%	77%	50%	140%
Ethylene Dibromide	5027165		<0.10	<0.10	NA	< 0.10	89%	50%	140%	98%	60%	130%	106%	50%	140%
Tetrachloroethylene	5027165		<0.20	<0.20	NA	< 0.20	117%	50%	140%	113%	60%	130%	113%	50%	140%
1,1,1,2-Tetrachloroethane	5027165		<0.10	<0.10	NA	< 0.10	90%	50%	140%	96%	60%	130%	110%	50%	140%
Chlorobenzene	5027165		<0.10	<0.10	NA	< 0.10	110%	50%	140%	120%	60%	130%	107%	50%	140%
Ethylbenzene	5027165		<0.10	<0.10	NA	< 0.10	112%	50%	140%	119%	60%	130%	112%	50%	140%
m & p-Xylene	5027165		<0.20	<0.20	NA	< 0.20	115%	50%	140%	109%	60%	130%	100%	50%	140%
Bromoform	5027165		<0.10	<0.10	NA	< 0.10	75%	50%	140%	87%	60%	130%	90%	50%	140%
Styrene	5027165		<0.10	<0.10	NA	< 0.10	99%	50%	140%	108%	60%	130%	108%	50%	140%
1,1,2,2-Tetrachloroethane	5027165		<0.10	<0.10	NA	< 0.10	102%	50%	140%	109%	60%	130%	115%	50%	140%
o-Xylene	5027165		<0.10	<0.10	NA	< 0.10	114%	50%	140%	111%	60%	130%	102%	50%	140%
1,3-Dichlorobenzene	5027165		<0.10	<0.10	NA	< 0.10	119%	50%	140%	114%	60%	130%	108%	50%	140%
1,4-Dichlorobenzene	5027165		<0.10	<0.10	NA	< 0.10	118%	50%	140%	112%	60%	130%	96%	50%	140%
1,2-Dichlorobenzene	5027165		<0.10	<0.10	NA	< 0.10	112%	50%	140%	110%	60%	130%	118%	50%	140%
n-Hexane	5027165		<0.20	<0.20	NA	< 0.20	80%	50%	140%	92%	60%	130%	88%	50%	140%

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 21494078
SAMPLING SITE:1047 Richmond Rd.

AGAT WORK ORDER: 23Z029521
ATTENTION TO: Brian Henderson
SAMPLED BY:Rob Ireland

Trace Organics Analysis (Continued)

RPT Date: Jun 02, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper

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

Certified By: N Popowkolof

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z029521

PROJECT: 21494078

ATTENTION TO: Brian Henderson

SAMPLING SITE:1047 Richmond Rd.

SAMPLED BY:Rob Ireland

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Dichlorodifluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Vinyl Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
trans- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl tert-butyl ether	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
cis- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z029521

PROJECT: 21494078

ATTENTION TO: Brian Henderson

SAMPLING SITE:1047 Richmond Rd.

SAMPLED BY:Rob Ireland

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Chlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
m & p-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

AGAT Laboratories

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Mississauga, Ontario L4Z 1Y2
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webearth.agatlabs.com

WORK ORDER

Chain of Custody Record

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

Report Information:

Company: WSP
Contact: Daniel Stabile / Paul Hurst
Address: 1931 Robertson Rd
Ottawa, Ont. K2H 5B7
Phone: 613-592-9600 Fax: 613-592-9601
Reports to be sent to:
1. Email: Daniel.Stabile@wsp.com
2. Email: Paul.Hurst@wsp.com

Project Information:

Project: 21494078
Site Location: 1047 Richmond Rd
Sampled By: Rob Ireland
AGAT Quote #: 2023 Golder - AGAT MSA 735000EB
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☐ No ☐

Company: WSP
Contact: Daniele Stabile/Paul Hurst
Address:
Email: AP-CustomerService@wsp.com

Regulatory Requirements:

(Please check all applicable boxes)

- ☒ Regulation 153/04 — Table 7 (Indicate One) — ☐ Ind/Com ☒ Res/Park ☐ Agriculture
- Soil Texture (Check One): ☐ Coarse ☐ Fine
- ☐ Excess Soils R406 — Table ____ (Indicate One)
- ☐ Regulation 558
- ☐ CCME
- ☐ Sewer Use ☐ Sanitary ☐ Storm — ____ Region
- ☐ Prov. Water Quality Objectives (PWQO)
- ☐ Other ____ Indicate One

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

Laboratory Use Only

Work Order #: 23T02952|

Cooler Quantity: one-ice,
Arrival Temperatures: 9.8 | 10.2 | 10.5
7.4 | 2.9 | 3.7
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes: ice Pack

Turnaround Time (TAT) Required:

Regular TAT ☒ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply): ____

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

For 'Same Day' analysis, please contact your AGAT CPM

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	Metals - ☐ CrVI, ☐ Hg ☐ HWSB	BTEX, F1-F4 PHCs Analyze F4G if required ☐ Yes ☐ No	PAHs	PCBs	VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	Potentially Hazardous or High Concentration (Y/N)
Trip blank VOC's		AM PM	3		Lab Supplied							✓					
Field Blank VOC's	2023-05-29	17:20 PM	3	DI Water	Lab supplied DI water							✓					
22-10D	2023-05-29	9:50 AM PM	3	GW								✓					
22-10S	2023-05-29	10:15 AM PM	3	GW								✓					
22-09D	2023-05-29	11:48 AM PM	3	GW								✓					
22-09S	2023-05-29	12:20 AM PM	3	GW								✓					
Dup 2	2023-05-29	11:48 AM PM	3	GW								✓					
		AM PM															
		AM PM			EQUIS EDD												
		AM PM			Facility #												
		AM PM			2303660930												

'23 MAY 30 8:38 AM

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Rob Ireland	2023-05-29	15:00	Bertholet/Ferreira	2023/05/29	15h00
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
	23/05/29	16h00	A. Ferreira	May 30/23	8:36am
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time

Page 1 of 1

Nº: T 129230

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

Document ID: DIV 78 1511 021

Date Issued: March 9, 2021

AGAT Laboratories

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CLIENT NAME: WSP CANADA INC.
1931 ROBERTSON ROAD
OTTAWA, ON K2H5B7
(613) 592-9600

ATTENTION TO: Daniel Stabile

PROJECT: 21494078

AGAT WORK ORDER: 23Z045388

TRACE ORGANICS REVIEWED BY: Pinkal Patel, Report Reviewer

DATE REPORTED: Jul 13, 2023

PAGES (INCLUDING COVER): 13

VERSION*: 1

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

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
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- The test results reported herewith relate only to the samples as received by the laboratory.
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- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.
- For environmental samples in the Province of Quebec: The analysis is performed on and results apply to samples as received. A temperature above 6°C upon receipt, as indicated in the Sample Reception Notification (SRN), could indicate the integrity of the samples has been compromised if the delay between sampling and submission to the laboratory could not be minimized.

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 23Z045388

PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis / Rob Ireland

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

DATE RECEIVED: 2023-07-11

DATE REPORTED: 2023-07-13

SAMPLE DESCRIPTION:				MW22-04	DUP-2	MW22-01		MW22-02		21-14	MW21-04
SAMPLE TYPE:				Water	Water	Water		Water		Water	Water
DATE SAMPLED:				2023-07-07 14:45	2023-07-07 14:45	2023-07-07 13:50		2023-07-07 13:30		2023-07-07 11:53	2023-07-07 14:45
Parameter	Unit	G / S	RDL	5133118	5133134	5133135	RDL	5133136	RDL	5133137	5133138
F1 (C6 - C10)	µg/L		25	<25	<25	<25	25	<25	25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L	420	25	<25	<25	<25	25	<25	25	<25	<25
F2 (C10 to C16)	µg/L	150	100	<100	<100	<100	100	<100	100	<100	<100
F3 (C16 to C34)	µg/L	500	100	542	569	<100	100	<100	100	<100	<100
F4 (C34 to C50)	µg/L	500	100	<100	<100	<100	100	<100	100	<100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500	NA	NA	NA	500	NA	500	NA	NA
Sediment				1	1	3		1		1	1
Surrogate	Unit	Acceptable Limits									
Toluene-d8	%	50-140		97	96	97	2	97	1	94	95
Terphenyl	% Recovery	60-140		66	75	72	1	66	1	82	74

SAMPLE DESCRIPTION:				Dup 1	
SAMPLE TYPE:				Water	
DATE SAMPLED:				2023-07-07 14:45	
Parameter	Unit	G / S	RDL	5133139	
F1 (C6 - C10)	µg/L		25	<25	
F1 (C6 to C10) minus BTEX	µg/L	420	25	<25	
F2 (C10 to C16)	µg/L	150	100	<100	
F3 (C16 to C34)	µg/L	500	100	<100	
F4 (C34 to C50)	µg/L	500	100	<100	
Gravimetric Heavy Hydrocarbons	µg/L		500	NA	
Sediment				1	
Surrogate	Unit	Acceptable Limits			
Toluene-d8	%	50-140		94	
Terphenyl	% Recovery	60-140		102	

Certified By: Pinkal Patel

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Certificate of Analysis

AGAT WORK ORDER: 23Z045388

PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis / Rob Ireland

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

DATE RECEIVED: 2023-07-11

DATE REPORTED: 2023-07-13

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

5133118-5133139 The C6-C10 fraction is calculated using Toluene response factor.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and 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 contribution.
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 with the contribution of PAHs. Under Ontario Regulation 153/04, results are considered valid without determining the PAH contribution if not requested by the client.
NA = Not Applicable

Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.
Legend: 1 = no sediment present; 2 = sediment present; 3 = sediment present in trace amounts

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: 

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AGAT WORK ORDER: 23Z045388

PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis / Rob Ireland

O. Reg. 153(511) - VOCs (with PHC) (Water)

DATE RECEIVED: 2023-07-11

DATE REPORTED: 2023-07-13

SAMPLE DESCRIPTION:				MW22-04	DUP-2	MW22-01		MW22-02		21-14	MW21-04
SAMPLE TYPE:				Water	Water	Water		Water		Water	Water
DATE SAMPLED:				2023-07-07 14:45	2023-07-07 14:45	2023-07-07 13:50		2023-07-07 13:30		2023-07-07 11:53	2023-07-07 14:45
Parameter	Unit	G / S	RDL	5133118	5133134	5133135	RDL	5133136	RDL	5133137	5133138
Dichlorodifluoromethane	µg/L	3500	0.40	<0.40	<0.40	<0.40	0.80	<0.80	0.40	<0.40	<0.40
Vinyl Chloride	µg/L	0.5	0.17	<0.17	<0.17	<0.17	0.34	<0.34	0.17	<0.17	<0.17
Bromomethane	µg/L	0.89	0.20	<0.20	<0.20	<0.20	0.40	<0.40	0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L	2000	0.40	<0.40	<0.40	<0.40	0.80	<0.80	0.40	<0.40	<0.40
Acetone	µg/L	100000	1.0	<1.0	<1.0	<1.0	2.0	<2.0	1.0	<1.0	<1.0
1,1-Dichloroethylene	µg/L	0.5	0.30	<0.30	<0.30	<0.30	0.50	<0.50	0.30	<0.30	<0.30
Methylene Chloride	µg/L	26	0.30	<0.30	<0.30	<0.30	0.60	<0.60	0.30	<0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20	<0.20	0.40	<0.40	0.20	<0.20	<0.20
Methyl tert-butyl ether	µg/L	15	0.20	<0.20	<0.20	<0.20	0.40	<0.40	0.20	<0.20	<0.20
1,1-Dichloroethane	µg/L	11	0.30	<0.30	<0.30	<0.30	0.60	<0.60	0.30	<0.30	<0.30
Methyl Ethyl Ketone	µg/L	21000	1.0	<1.0	<1.0	<1.0	2.0	<2.0	1.0	<1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20	<0.20	0.40	<0.40	0.20	<0.20	<0.20
Chloroform	µg/L	2	0.20	<0.20	<0.20	<0.20	0.40	<0.40	0.20	<0.20	<0.20
1,2-Dichloroethane	µg/L	0.5	0.20	<0.20	<0.20	<0.20	0.40	4.26	0.20	<0.20	4.11
1,1,1-Trichloroethane	µg/L	23	0.30	<0.30	<0.30	<0.30	0.60	<0.60	0.30	<0.30	<0.30
Carbon Tetrachloride	µg/L	0.2	0.20	<0.20	<0.20	<0.20	0.20	<0.20	0.20	<0.20	<0.20
Benzene	µg/L	0.5	0.20	<0.20	<0.20	<0.20	0.40	<0.40	0.20	<0.20	<0.20
1,2-Dichloropropane	µg/L	0.58	0.20	<0.20	<0.20	<0.20	0.40	<0.40	0.20	<0.20	<0.20
Trichloroethylene	µg/L	0.5	0.20	<0.20	<0.20	<0.20	0.40	<0.40	0.20	<0.20	<0.20
Bromodichloromethane	µg/L	67000	0.20	<0.20	<0.20	<0.20	0.40	<0.40	0.20	<0.20	<0.20
Methyl Isobutyl Ketone	µg/L	5200	1.0	<1.0	<1.0	<1.0	2.0	<2.0	1.0	<1.0	<1.0
1,1,2-Trichloroethane	µg/L	0.5	0.20	<0.20	<0.20	<0.20	0.40	<0.40	0.20	<0.20	<0.20
Toluene	µg/L	320	0.20	<0.20	<0.20	<0.20	0.40	<0.40	0.20	<0.20	<0.20
Dibromochloromethane	µg/L	65000	0.10	<0.10	<0.10	<0.10	0.20	<0.20	0.10	<0.10	<0.10
Ethylene Dibromide	µg/L	0.2	0.10	<0.10	<0.10	<0.10	0.20	<0.20	0.10	<0.10	<0.10
Tetrachloroethylene	µg/L	0.5	0.20	<0.20	<0.20	<0.20	0.40	<0.40	0.20	<0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.10	<0.10	<0.10	<0.10	0.20	<0.20	0.10	<0.10	<0.10
Chlorobenzene	µg/L	140	0.10	<0.10	<0.10	<0.10	0.20	<0.20	0.10	<0.10	<0.10
Ethylbenzene	µg/L	54	0.10	<0.10	<0.10	<0.10	0.20	<0.20	0.10	<0.10	<0.10

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Certificate of Analysis

AGAT WORK ORDER: 23Z045388

PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis / Rob Ireland

O. Reg. 153(511) - VOCs (with PHC) (Water)

DATE RECEIVED: 2023-07-11

DATE REPORTED: 2023-07-13

		SAMPLE DESCRIPTION:		MW22-04	DUP-2	MW22-01		MW22-02		21-14	MW21-04
		SAMPLE TYPE:		Water	Water	Water		Water		Water	Water
		DATE SAMPLED:		2023-07-07 14:45	2023-07-07 14:45	2023-07-07 13:50		2023-07-07 13:30		2023-07-07 11:53	2023-07-07 14:45
Parameter	Unit	G / S	RDL	5133118	5133134	5133135	RDL	5133136	RDL	5133137	5133138
m & p-Xylene	µg/L		0.20	<0.20	<0.20	<0.20	0.40	<0.40	0.20	<0.20	<0.20
Bromoform	µg/L	5	0.10	<0.10	<0.10	<0.10	0.20	<0.20	0.10	<0.10	<0.10
Styrene	µg/L	43	0.10	<0.10	<0.10	<0.10	0.20	<0.20	0.10	<0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	0.5	0.10	<0.10	<0.10	<0.10	0.20	<0.20	0.10	<0.10	<0.10
o-Xylene	µg/L		0.10	<0.10	<0.10	<0.10	0.20	<0.20	0.10	<0.10	<0.10
1,3-Dichlorobenzene	µg/L	7600	0.10	<0.10	<0.10	<0.10	0.20	<0.20	0.10	<0.10	<0.10
1,4-Dichlorobenzene	µg/L	0.5	0.10	<0.10	<0.10	<0.10	0.20	<0.20	0.10	<0.10	<0.10
1,2-Dichlorobenzene	µg/L	150	0.10	<0.10	<0.10	<0.10	0.20	<0.20	0.10	0.53	2.50
1,3-Dichloropropene	µg/L	0.5	0.30	<0.30	<0.30	<0.30	0.30	<0.30	0.30	<0.30	<0.30
Xylenes (Total)	µg/L	72	0.20	<0.20	<0.20	<0.20	0.20	<0.20	0.20	<0.20	<0.20
n-Hexane	µg/L	5	0.20	<0.20	<0.20	<0.20	0.40	<0.40	0.20	<0.20	<0.20
Surrogate	Unit	Acceptable Limits									
Toluene-d8	% Recovery	50-140		97	96	97	2	97	1	94	95
4-Bromofluorobenzene	% Recovery	50-140		86	92	77	2	83	1	77	81

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AGAT WORK ORDER: 23Z045388

PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis / Rob Ireland

O. Reg. 153(511) - VOCs (with PHC) (Water)

DATE RECEIVED: 2023-07-11

DATE REPORTED: 2023-07-13

		SAMPLE DESCRIPTION:		Dup 1
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2023-07-07 14:45
Parameter	Unit	G / S	RDL	5133139
Dichlorodifluoromethane	µg/L	3500	0.40	<0.40
Vinyl Chloride	µg/L	0.5	0.17	<0.17
Bromomethane	µg/L	0.89	0.20	<0.20
Trichlorofluoromethane	µg/L	2000	0.40	<0.40
Acetone	µg/L	100000	1.0	<1.0
1,1-Dichloroethylene	µg/L	0.5	0.30	<0.30
Methylene Chloride	µg/L	26	0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20
Methyl tert-butyl ether	µg/L	15	0.20	<0.20
1,1-Dichloroethane	µg/L	11	0.30	<0.30
Methyl Ethyl Ketone	µg/L	21000	1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20
Chloroform	µg/L	2	0.20	<0.20
1,2-Dichloroethane	µg/L	0.5	0.20	<0.20
1,1,1-Trichloroethane	µg/L	23	0.30	<0.30
Carbon Tetrachloride	µg/L	0.2	0.20	<0.20
Benzene	µg/L	0.5	0.20	<0.20
1,2-Dichloropropane	µg/L	0.58	0.20	<0.20
Trichloroethylene	µg/L	0.5	0.20	<0.20
Bromodichloromethane	µg/L	67000	0.20	<0.20
Methyl Isobutyl Ketone	µg/L	5200	1.0	<1.0
1,1,2-Trichloroethane	µg/L	0.5	0.20	<0.20
Toluene	µg/L	320	0.20	<0.20
Dibromochloromethane	µg/L	65000	0.10	<0.10
Ethylene Dibromide	µg/L	0.2	0.10	<0.10
Tetrachloroethylene	µg/L	0.5	0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.10	<0.10
Chlorobenzene	µg/L	140	0.10	<0.10
Ethylbenzene	µg/L	54	0.10	<0.10

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AGAT WORK ORDER: 23Z045388

PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis / Rob Ireland

O. Reg. 153(511) - VOCs (with PHC) (Water)

DATE RECEIVED: 2023-07-11

DATE REPORTED: 2023-07-13

				SAMPLE DESCRIPTION:	Dup 1
				SAMPLE TYPE:	Water
				DATE SAMPLED:	2023-07-07 14:45
Parameter	Unit	G / S	RDL		5133139
m & p-Xylene	µg/L		0.20		<0.20
Bromoform	µg/L	5	0.10		<0.10
Styrene	µg/L	43	0.10		<0.10
1,1,2,2-Tetrachloroethane	µg/L	0.5	0.10		<0.10
o-Xylene	µg/L		0.10		<0.10
1,3-Dichlorobenzene	µg/L	7600	0.10		<0.10
1,4-Dichlorobenzene	µg/L	0.5	0.10		<0.10
1,2-Dichlorobenzene	µg/L	150	0.10		0.58
1,3-Dichloropropene	µg/L	0.5	0.30		<0.30
Xylenes (Total)	µg/L	72	0.20		<0.20
n-Hexane	µg/L	5	0.20		<0.20
Surrogate	Unit	Acceptable Limits			
Toluene-d8	% Recovery	50-140			94
4-Bromofluorobenzene	% Recovery	50-140			89

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

5133118-5133135 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

5133136 Dilution factor=2
VOC-The sample was diluted because it was foamy. The reporting detection limit has been corrected for the dilution factor used.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

5133137-5133139 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: Pinkal Patel

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Exceedance Summary

AGAT WORK ORDER: 23Z045388

PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
5133118	MW22-04	ON T7 NPGW CT	O. Reg. 153(511) - PHCs F1 - F4 (with VOC) (Water)	F3 (C16 to C34)	µg/L	500	542
5133134	DUP-2	ON T7 NPGW CT	O. Reg. 153(511) - PHCs F1 - F4 (with VOC) (Water)	F3 (C16 to C34)	µg/L	500	569
5133136	MW22-02	ON T7 NPGW CT	O. Reg. 153(511) - VOCs (with PHC) (Water)	1,2-Dichloroethane	µg/L	0.5	4.26
5133138	MW21-04	ON T7 NPGW CT	O. Reg. 153(511) - VOCs (with PHC) (Water)	1,2-Dichloroethane	µg/L	0.5	4.11

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
AGAT WORK ORDER: 23Z045388
PROJECT: 21494078
ATTENTION TO: Daniel Stabile
SAMPLING SITE:1047 Richmond Rd
SAMPLED BY:Ryan Francis / Rob Ireland

Trace Organics Analysis

RPT Date: Jul 13, 2023

PARAMETER	Batch	Sample Id	DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
			Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (with VOC) (Water)															
F1 (C6 - C10)	5128709		<25	<25	NA	< 25	95%	60%	140%	80%	60%	140%	88%	60%	140%
F2 (C10 to C16)	5127761		<100	<100	NA	< 100	86%	60%	140%	80%	60%	140%	77%	60%	140%
F3 (C16 to C34)	5127761		<100	<100	NA	< 100	92%	60%	140%	103%	60%	140%	93%	60%	140%
F4 (C34 to C50)	5127761		<100	<100	NA	< 100	86%	60%	140%	131%	60%	140%	105%	60%	140%
O. Reg. 153(511) - VOCs (with PHC) (Water)															
Dichlorodifluoromethane	5133138	5133138	<0.40	<0.40	NA	< 0.40	80%	50%	140%	75%	50%	140%	92%	50%	140%
Vinyl Chloride	5133138	5133138	<0.17	<0.17	NA	< 0.17	111%	50%	140%	105%	50%	140%	90%	50%	140%
Bromomethane	5133138	5133138	<0.20	<0.20	NA	< 0.20	104%	50%	140%	90%	50%	140%	82%	50%	140%
Trichlorofluoromethane	5133138	5133138	<0.40	<0.40	NA	< 0.40	89%	50%	140%	80%	50%	140%	83%	50%	140%
Acetone	5133138	5133138	<1.0	<1.0	NA	< 1.0	92%	50%	140%	97%	50%	140%	88%	50%	140%
1,1-Dichloroethylene	5133138	5133138	<0.30	<0.30	NA	< 0.30	76%	50%	140%	113%	60%	130%	94%	50%	140%
Methylene Chloride	5133138	5133138	<0.30	<0.30	NA	< 0.30	92%	50%	140%	113%	60%	130%	104%	50%	140%
trans- 1,2-Dichloroethylene	5133138	5133138	<0.20	<0.20	NA	< 0.20	72%	50%	140%	97%	60%	130%	73%	50%	140%
Methyl tert-butyl ether	5133138	5133138	<0.20	<0.20	NA	< 0.20	83%	50%	140%	83%	60%	130%	72%	50%	140%
1,1-Dichloroethane	5133138	5133138	<0.30	<0.30	NA	< 0.30	83%	50%	140%	96%	60%	130%	75%	50%	140%
Methyl Ethyl Ketone	5133138	5133138	<1.0	<1.0	NA	< 1.0	85%	50%	140%	86%	50%	140%	86%	50%	140%
cis- 1,2-Dichloroethylene	5133138	5133138	<0.20	<0.20	NA	< 0.20	85%	50%	140%	94%	60%	130%	73%	50%	140%
Chloroform	5133138	5133138	<0.20	<0.20	NA	< 0.20	97%	50%	140%	96%	60%	130%	79%	50%	140%
1,2-Dichloroethane	5133138	5133138	4.11	3.78	8.4%	< 0.20	105%	50%	140%	95%	60%	130%	78%	50%	140%
1,1,1-Trichloroethane	5133138	5133138	<0.30	<0.30	NA	< 0.30	87%	50%	140%	98%	60%	130%	78%	50%	140%
Carbon Tetrachloride	5133138	5133138	<0.20	<0.20	NA	< 0.20	80%	50%	140%	90%	60%	130%	72%	50%	140%
Benzene	5133138	5133138	<0.20	<0.20	NA	< 0.20	89%	50%	140%	92%	60%	130%	73%	50%	140%
1,2-Dichloropropane	5133138	5133138	<0.20	<0.20	NA	< 0.20	92%	50%	140%	87%	60%	130%	98%	50%	140%
Trichloroethylene	5133138	5133138	<0.20	<0.20	NA	< 0.20	95%	50%	140%	97%	60%	130%	77%	50%	140%
Bromodichloromethane	5133138	5133138	<0.20	<0.20	NA	< 0.20	95%	50%	140%	90%	60%	130%	80%	50%	140%
Methyl Isobutyl Ketone	5133138	5133138	<1.0	<1.0	NA	< 1.0	104%	50%	140%	82%	50%	140%	75%	50%	140%
1,1,2-Trichloroethane	5133138	5133138	<0.20	<0.20	NA	< 0.20	113%	50%	140%	100%	60%	130%	79%	50%	140%
Toluene	5133138	5133138	<0.20	<0.20	NA	< 0.20	107%	50%	140%	103%	60%	130%	81%	50%	140%
Dibromochloromethane	5133138	5133138	<0.10	<0.10	NA	< 0.10	104%	50%	140%	96%	60%	130%	80%	50%	140%
Ethylene Dibromide	5133138	5133138	<0.10	<0.10	NA	< 0.10	104%	50%	140%	91%	60%	130%	76%	50%	140%
Tetrachloroethylene	5133138	5133138	<0.20	<0.20	NA	< 0.20	105%	50%	140%	109%	60%	130%	88%	50%	140%
1,1,1,2-Tetrachloroethane	5133138	5133138	<0.10	<0.10	NA	< 0.10	105%	50%	140%	97%	60%	130%	80%	50%	140%
Chlorobenzene	5133138	5133138	<0.10	<0.10	NA	< 0.10	113%	50%	140%	100%	60%	130%	78%	50%	140%
Ethylbenzene	5133138	5133138	<0.10	<0.10	NA	< 0.10	106%	50%	140%	100%	60%	130%	75%	50%	140%
m & p-Xylene	5133138	5133138	<0.20	<0.20	NA	< 0.20	105%	50%	140%	101%	60%	130%	78%	50%	140%
Bromoform	5133138	5133138	<0.10	<0.10	NA	< 0.10	111%	50%	140%	89%	60%	130%	79%	50%	140%
Styrene	5133138	5133138	<0.10	<0.10	NA	< 0.10	92%	50%	140%	84%	60%	130%	70%	50%	140%
1,1,2,2-Tetrachloroethane	5133138	5133138	<0.10	<0.10	NA	< 0.10	116%	50%	140%	93%	60%	130%	78%	50%	140%
o-Xylene	5133138	5133138	<0.10	<0.10	NA	< 0.10	109%	50%	140%	99%	60%	130%	78%	50%	140%

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Quality Assurance

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z045388

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis / Rob Ireland

Trace Organics Analysis (Continued)

RPT Date: Jul 13, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
1,3-Dichlorobenzene	5133138	5133138	<0.10	<0.10	NA	< 0.10	107%	50%	140%	95%	60%	130%	77%	50%	140%
1,4-Dichlorobenzene	5133138	5133138	<0.10	<0.10	NA	< 0.10	110%	50%	140%	101%	60%	130%	81%	50%	140%
1,2-Dichlorobenzene	5133138	5133138	2.50	2.40	4.1%	< 0.10	113%	50%	140%	98%	60%	130%	77%	50%	140%
n-Hexane	5133138	5133138	<0.20	<0.20	NA	< 0.20	98%	50%	140%	76%	60%	130%	74%	50%	140%

Certified By:

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z045388

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis / Rob Ireland

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
F1 (C6 - C10)	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/FID
Toluene-d8	VOL-91- 5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F3 (C16 to C34)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F4 (C34 to C50)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	modified from MOE PHC-E3421	BALANCE
Terphenyl	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Sediment			N/A
Dichlorodifluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Vinyl Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
trans- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl tert-butyl ether	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
cis- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z045388

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis / Rob Ireland

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Toluene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
m & p-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Chain of Custody Record

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

Laboratory Use Only

Work Order #: 2320145388

Cooler Quantity: One - loose ice packs

Arrival Temperatures: 9.9 | 9.6 | 9.4 / 4.4 | 5.3 | 5.1

Custody Seal Intact: ☐ Yes ☐ No ☒ N/A

Notes: B

Report Information:

Company: WSP Canada Inc.
Contact: Daniel Stabile
Address: 1931 Robertson Rd. Ottawa, ON K2H 5B7
Phone: Fax:
Reports to be sent to:
1. Email: daniel.stabile@wsp.com
2. Email:

Project Information:

Project: 21494078
Site Location: 1247 Richmond Rd
Sampled By: Ryan Francis / Rob Ireland
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☒ No ☐

Company: WSP Canada Inc
Contact: Daniel Stabile
Address:
Email: CA payables invoice@wsp.com

Regulatory Requirements:

(Please check all applicable boxes)

☒ Regulation 153/04 — Table 7 (Indicate One) — ☐ Ind/Com ☒ Res/Park ☐ Agriculture
Soil Texture (Check One): ☒ Coarse ☐ Fine

☐ Excess Soils R406 — Table ____ (Indicate One)
☐ Regulation 558
☐ CCME

☐ Sewer Use ☐ Sanitary ☐ Storm — ____ (Region)
☐ Prov. Water Quality Objectives (PWQO)
☐ Other ____ (Indicate One)

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

Report Guideline on *Certificate of Analysis* ☐ Yes ☐ No

Turnaround Time (TAT) Required:

Regular TAT ☒ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply): ____

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

For 'Same Day' analysis, please contact your AGAT CPM

Sample Matrix Legend

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs	O. Reg 153: PAHs	O. Reg 153: PCBs	O. Reg 153: VOC	O. Reg 153: Aroclors	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach: SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Excess Soils Characterization Package: pH, ICPMS Metals, BTEX, F1-F4	Corrosivity: Include Moisture ☐ Sulphide ☐	Potentially Hazardous or High Concentration (Y/N)
MW22-04	July 7/23	2:45 PM	5	GW					✓			✓						Y
DUP-2		2:45 PM	5	GW					✓			✓						
MW22-01		1:50 PM	5	GW					✓			✓						
MW22-02		1:30 PM	5	GW					✓			✓						
21-14		11:53 PM	5	GW					✓			✓						
MW21-04		12:35 PM	5	GW					✓			✓						
Dup 1		11:53 PM	5	GW	Extract and Hold				✓			✓						
VOC Trip Blank		AM PM										✓		+				
		AM PM																
		AM PM																
		AM PM																

Samples Relinquished By (Print Name and Sign): Ryan Francis	Date: July 7/23	Time: 5:45	Samples Received By (Print Name and Sign): C. Griffith	Date: JUL 11 2023	Time: 08h30
Samples Relinquished By (Print Name and Sign): ~~JUL 11 2023~~	Date:	Time: 5:20	Samples Received By (Print Name and Sign): Michael Dirito	Date: Jul 12/23	Time: 8:40am
Samples Relinquished By (Print Name and Sign): CA to Pick	Date: JUL 11 2023	Time: 15h30	Samples Received By (Print Name and Sign):	Date:	Time:

Page 1 of 1

N°: T - 142651

Document ID: DIV-78-3511.022

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

Date Issued: April 21, 2022

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CLIENT NAME: WSP CANADA INC.
1931 ROBERTSON ROAD
OTTAWA, ON K2H5B7
(613) 592-9600
ATTENTION TO: Daniel Stabile
PROJECT: 21494078
AGAT WORK ORDER: 23Z048562
TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist
DATE REPORTED: Oct 02, 2023
PAGES (INCLUDING COVER): 9
VERSION*: 1

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

*Notes

VERSION 1:Client ID updated as per request. 08/17

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Certificate of Analysis

AGAT WORK ORDER: 23Z048562

PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd, Ottawa

SAMPLED BY:Ryan Francis

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

DATE RECEIVED: 2023-07-18

DATE REPORTED: 2023-10-02

		SAMPLE DESCRIPTION:		MW22-06
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2023-07-18
Parameter	Unit	G / S	RDL	5155137
F1 (C6 - C10)	µg/L		25	<25
F1 (C6 to C10) minus BTEX	µg/L	420	25	<25
F2 (C10 to C16)	µg/L	150	100	<100
F3 (C16 to C34)	µg/L	500	100	<100
F4 (C34 to C50)	µg/L	500	100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500	NA
Sediment				1
Surrogate	Unit	Acceptable Limits		
Toluene-d8	%	50-140		96
Terphenyl	% Recovery	60-140		63

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

5155137 The C6-C10 fraction is calculated using Toluene response factor.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and 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 contribution.
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 with the contribution of PAHs. Under Ontario Regulation 153/04, results are considered valid without determining the PAH contribution if not requested by the client.
NA = Not Applicable

Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.
Legend: 1 = no sediment present; 2 = sediment present; 3 = sediment present in trace amounts

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: NPopowkolof

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Certificate of Analysis

AGAT WORK ORDER: 23Z048562

PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd, Ottawa

SAMPLED BY:Ryan Francis

O. Reg. 153(511) - VOCs (with PHC) (Water)

DATE RECEIVED: 2023-07-18

DATE REPORTED: 2023-10-02

		SAMPLE DESCRIPTION:		MW22-06
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2023-07-18
Parameter	Unit	G / S	RDL	5155137
Dichlorodifluoromethane	µg/L	3500	0.40	<0.40
Vinyl Chloride	µg/L	0.5	0.17	<0.17
Bromomethane	µg/L	0.89	0.20	<0.20
Trichlorofluoromethane	µg/L	2000	0.40	<0.40
Acetone	µg/L	100000	1.0	<1.0
1,1-Dichloroethylene	µg/L	0.5	0.30	<0.30
Methylene Chloride	µg/L	26	0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20
Methyl tert-butyl ether	µg/L	15	0.20	<0.20
1,1-Dichloroethane	µg/L	11	0.30	<0.30
Methyl Ethyl Ketone	µg/L	21000	1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20
Chloroform	µg/L	2	0.20	<0.20
1,2-Dichloroethane	µg/L	0.5	0.20	<0.20
1,1,1-Trichloroethane	µg/L	23	0.30	<0.30
Carbon Tetrachloride	µg/L	0.2	0.20	<0.20
Benzene	µg/L	0.5	0.20	<0.20
1,2-Dichloropropane	µg/L	0.58	0.20	<0.20
Trichloroethylene	µg/L	0.5	0.20	<0.20
Bromodichloromethane	µg/L	67000	0.20	<0.20
Methyl Isobutyl Ketone	µg/L	5200	1.0	<1.0
1,1,2-Trichloroethane	µg/L	0.5	0.20	<0.20
Toluene	µg/L	320	0.20	<0.20
Dibromochloromethane	µg/L	65000	0.10	<0.10
Ethylene Dibromide	µg/L	0.2	0.10	<0.10
Tetrachloroethylene	µg/L	0.5	0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.10	<0.10
Chlorobenzene	µg/L	140	0.10	<0.10
Ethylbenzene	µg/L	54	0.10	<0.10
m & p-Xylene	µg/L		0.20	<0.20

Certified By: N Popowkolof

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Certificate of Analysis

AGAT WORK ORDER: 23Z048562

PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd, Ottawa

SAMPLED BY:Ryan Francis

O. Reg. 153(511) - VOCs (with PHC) (Water)

DATE RECEIVED: 2023-07-18

DATE REPORTED: 2023-10-02

		SAMPLE DESCRIPTION:		MW22-06
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2023-07-18
Parameter	Unit	G / S	RDL	5155137
Bromoform	µg/L	5	0.10	<0.10
Styrene	µg/L	43	0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	0.5	0.10	<0.10
o-Xylene	µg/L		0.10	<0.10
1,3-Dichlorobenzene	µg/L	7600	0.10	<0.10
1,4-Dichlorobenzene	µg/L	0.5	0.10	<0.10
1,2-Dichlorobenzene	µg/L	150	0.10	<0.10
1,3-Dichloropropene	µg/L	0.5	0.30	<0.30
Xylenes (Total)	µg/L	72	0.20	<0.20
n-Hexane	µg/L	5	0.20	<0.20
Surrogate	Unit	Acceptable Limits		
Toluene-d8	% Recovery	50-140		96
4-Bromofluorobenzene	% Recovery	50-140		92

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

5155137 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: NPopowkolof

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 21494078
SAMPLING SITE:1047 Richmond Rd, Ottawa

AGAT WORK ORDER: 23Z048562
ATTENTION TO: Daniel Stabile
SAMPLED BY:Ryan Francis

Trace Organics Analysis

RPT Date: Oct 02, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (with VOC) (Water)															
F1 (C6 - C10)	5152353		<25	<25	NA	< 25	99%	60%	140%	108%	60%	140%	96%	60%	140%
F2 (C10 to C16)	5144964		< 100	< 100	NA	< 100	103%	60%	140%	62%	60%	140%	79%	60%	140%
F3 (C16 to C34)	5144964		< 100	< 100	NA	< 100	96%	60%	140%	62%	60%	140%	62%	60%	140%
F4 (C34 to C50)	5144964		< 100	< 100	NA	< 100	65%	60%	140%	86%	60%	140%	80%	60%	140%
O. Reg. 153(511) - VOCs (with PHC) (Water)															
Dichlorodifluoromethane	5152353		<0.40	<0.40	NA	< 0.40	98%	50%	140%	110%	50%	140%	80%	50%	140%
Vinyl Chloride	5152353		<0.17	<0.17	NA	< 0.17	86%	50%	140%	101%	50%	140%	99%	50%	140%
Bromomethane	5152353		<0.20	<0.20	NA	< 0.20	76%	50%	140%	102%	50%	140%	82%	50%	140%
Trichlorofluoromethane	5152353		<0.40	<0.40	NA	< 0.40	78%	50%	140%	95%	50%	140%	96%	50%	140%
Acetone	5152353		<1.0	<1.0	NA	< 1.0	96%	50%	140%	84%	50%	140%	89%	50%	140%
1,1-Dichloroethylene	5152353		<0.30	<0.30	NA	< 0.30	103%	50%	140%	84%	60%	130%	80%	50%	140%
Methylene Chloride	5152353		<0.30	<0.30	NA	< 0.30	112%	50%	140%	113%	60%	130%	119%	50%	140%
trans- 1,2-Dichloroethylene	5152353		<0.20	<0.20	NA	< 0.20	114%	50%	140%	99%	60%	130%	84%	50%	140%
Methyl tert-butyl ether	5152353		<0.20	<0.20	NA	< 0.20	75%	50%	140%	82%	60%	130%	91%	50%	140%
1,1-Dichloroethane	5152353		<0.30	<0.30	NA	< 0.30	75%	50%	140%	72%	60%	130%	98%	50%	140%
Methyl Ethyl Ketone	5152353		<1.0	<1.0	NA	< 1.0	94%	50%	140%	80%	50%	140%	91%	50%	140%
cis- 1,2-Dichloroethylene	5152353		<0.20	<0.20	NA	< 0.20	78%	50%	140%	79%	60%	130%	78%	50%	140%
Chloroform	5152353		<0.20	<0.20	NA	< 0.20	83%	50%	140%	77%	60%	130%	74%	50%	140%
1,2-Dichloroethane	5152353		<0.20	<0.20	NA	< 0.20	72%	50%	140%	76%	60%	130%	78%	50%	140%
1,1,1-Trichloroethane	5152353		<0.30	<0.30	NA	< 0.30	73%	50%	140%	71%	60%	130%	75%	50%	140%
Carbon Tetrachloride	5152353		<0.20	<0.20	NA	< 0.20	90%	50%	140%	88%	60%	130%	85%	50%	140%
Benzene	5152353		<0.20	<0.20	NA	< 0.20	82%	50%	140%	79%	60%	130%	83%	50%	140%
1,2-Dichloropropane	5152353		<0.20	<0.20	NA	< 0.20	78%	50%	140%	83%	60%	130%	82%	50%	140%
Trichloroethylene	5152353		<0.20	<0.20	NA	< 0.20	82%	50%	140%	76%	60%	130%	73%	50%	140%
Bromodichloromethane	5152353		<0.20	<0.20	NA	< 0.20	82%	50%	140%	78%	60%	130%	75%	50%	140%
Methyl Isobutyl Ketone	5152353		<1.0	<1.0	NA	< 1.0	76%	50%	140%	83%	50%	140%	90%	50%	140%
1,1,2-Trichloroethane	5152353		<0.20	<0.20	NA	< 0.20	82%	50%	140%	93%	60%	130%	89%	50%	140%
Toluene	5152353		<0.20	<0.20	NA	< 0.20	85%	50%	140%	90%	60%	130%	85%	50%	140%
Dibromochloromethane	5152353		<0.10	<0.10	NA	< 0.10	84%	50%	140%	95%	60%	130%	80%	50%	140%
Ethylene Dibromide	5152353		<0.10	<0.10	NA	< 0.10	84%	50%	140%	95%	60%	130%	90%	50%	140%
Tetrachloroethylene	5152353		<0.20	<0.20	NA	< 0.20	79%	50%	140%	84%	60%	130%	73%	50%	140%
1,1,1,2-Tetrachloroethane	5152353		<0.10	<0.10	NA	< 0.10	78%	50%	140%	86%	60%	130%	76%	50%	140%
Chlorobenzene	5152353		<0.10	<0.10	NA	< 0.10	84%	50%	140%	90%	60%	130%	76%	50%	140%
Ethylbenzene	5152353		<0.10	<0.10	NA	< 0.10	81%	50%	140%	86%	60%	130%	76%	50%	140%
m & p-Xylene	5152353		<0.20	<0.20	NA	< 0.20	77%	50%	140%	83%	60%	130%	79%	50%	140%
Bromoform	5152353		<0.10	<0.10	NA	< 0.10	80%	50%	140%	90%	60%	130%	71%	50%	140%
Styrene	5152353		<0.10	<0.10	NA	< 0.10	81%	50%	140%	76%	60%	130%	81%	50%	140%
1,1,2,2-Tetrachloroethane	5152353		<0.10	<0.10	NA	< 0.10	92%	50%	140%	100%	60%	130%	94%	50%	140%
o-Xylene	5152353		<0.10	<0.10	NA	< 0.10	76%	50%	140%	83%	60%	130%	77%	50%	140%

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
AGAT WORK ORDER: 23Z048562
PROJECT: 21494078
ATTENTION TO: Daniel Stabile
SAMPLING SITE:1047 Richmond Rd, Ottawa
SAMPLED BY:Ryan Francis

Trace Organics Analysis (Continued)

RPT Date: Oct 02, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
1,3-Dichlorobenzene	5152353		<0.10	<0.10	NA	< 0.10	75%	50%	140%	80%	60%	130%	73%	50%	140%
1,4-Dichlorobenzene	5152353		<0.10	<0.10	NA	< 0.10	73%	50%	140%	81%	60%	130%	75%	50%	140%
1,2-Dichlorobenzene	5152353		<0.10	<0.10	NA	< 0.10	76%	50%	140%	80%	60%	130%	75%	50%	140%
n-Hexane	5152353		<0.20	<0.20	NA	< 0.20	108%	50%	140%	79%	60%	130%	76%	50%	140%

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

Certified By: N Popnikolof

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z048562

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd, Ottawa

SAMPLED BY:Ryan Francis

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
F1 (C6 - C10)	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/FID
Toluene-d8	VOL-91- 5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F3 (C16 to C34)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F4 (C34 to C50)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	modified from MOE PHC-E3421	BALANCE
Terphenyl	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Sediment			N/A
Dichlorodifluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Vinyl Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
trans- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl tert-butyl ether	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
cis- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z048562

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd, Ottawa

SAMPLED BY:Ryan Francis

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Toluene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
m & p-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

AGAT Laboratories

RUSH!

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Chain of Custody Record

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

Laboratory Use Only

Work Order #: 2320485620

Cooler Quantity: one - loose ice

Arrival Temperatures: 19.9 | 19.8 | 19.8 / 8.2 | 8.0 | 8.5

Custody Seal Intact: ☐ Yes ☐ No ☒ N/A

Notes: bagged ice

Report Information:

Company: WSP Canada Inc
Contact: Daniel Stabile
Address: 1931 Robertson Rd, Ottawa, ON, K2H 5B7
Phone: Fax:
Reports to be sent to:
1. Email: daniel.stabile@wsp.com
2. Email:

Project Information:

Project: 21494078
Site Location: 1947 Richmond Rd, Ottawa
Sampled By: Ryan Francis
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis

Invoice Information:

Bill To Same: Yes ☒ No ☐

Company: WSP Canada Inc
Contact: Daniel Stabile
Address:
Email: CAPayableInvoice@WSP.com

Regulatory Requirements:

(Please check all applicable boxes)

☒ Regulation 153/04
Table 7 (Indicate One)
☐ Ind/Com ☐ Res/Park ☐ Agriculture
Soil Texture (Check One) ☒ Coarse ☐ Fine

☐ Excess Soils R406
Table ____ (Indicate One)

☐ Regulation 558

☐ CCME

☐ Sewer Use ☐ Sanitary ☐ Storm
____ (Region)

☐ Prov. Water Quality Objectives (PWQO)

☐ Other
____ (Indicate One)

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

Report Guideline on *Certificate of Analysis* ☐ Yes ☐ No

Turnaround Time (TAT) Required:

Regular TAT ☐ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☒ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply): ____

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

For 'Same Day' analysis, please contact your AGAT CPM

Sample Matrix Legend

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC Y/N	O. Reg 153: Metals & Inorganics	Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	BTEX, F1-F4 PHCs Analyze F4G if required ☐ Yes ☐ No	PHCs	PCBs	VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach ☐ Metals ☐ VOCs ☐ SVOCs	Excess Soils Characterization Package	Salt - EC/SAR	Potentially Hazardous or High Concentration (Y/N)
MW22-08	July 18/23	2:45 PM	5	GW					✓			✓					
		AM PM															
		AM PM															
		AM PM															
		AM PM															
		AM PM															
		AM PM															
		AM PM															
		AM PM															
		AM PM															
		AM PM															

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Ryan Francis / [signature]	July 18/23	4:45	C. Griffith	07/18/23	16h50
[signature] to Dano	07/19/23	15h30	[signature]	July 20	9:35 am
	Date	Time	Samples Received By (Print Name and Sign)	Date	Time

Page 1 of 1

N°: T 129258

Document ID: DIV 78 1511 021

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

Document Updated: March 9, 2021

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CLIENT NAME: WSP CANADA INC.
1931 ROBERTSON ROAD
OTTAWA, ON K2H5B7
(613) 592-9600
ATTENTION TO: Daniel Stabile
PROJECT: 21494078
AGAT WORK ORDER: 23Z049375
TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist
DATE REPORTED: Jul 24, 2023
PAGES (INCLUDING COVER): 9
VERSION*: 1

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

*Notes

Disclaimer:

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

AGAT Laboratories

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

Certificate of Analysis

AGAT WORK ORDER: 23Z049375

PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis

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

DATE RECEIVED: 2023-07-20

DATE REPORTED: 2023-07-24

				SAMPLE DESCRIPTION:	MW22-8
				SAMPLE TYPE:	Water
				DATE SAMPLED:	2023-07-19 16:15
Parameter	Unit	G / S	RDL		5157690
F1 (C6 - C10)	µg/L		25		<25
F1 (C6 to C10) minus BTEX	µg/L	420	25		<25
F2 (C10 to C16)	µg/L	150	100		<100
F3 (C16 to C34)	µg/L	500	100		<100
F4 (C34 to C50)	µg/L	500	100		<100
Gravimetric Heavy Hydrocarbons	µg/L		500		NA
Sediment					1
Surrogate	Unit	Acceptable Limits			
Toluene-d8	%	50-140			106
Terphenyl	% Recovery	60-140			80

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

5157690 The C6-C10 fraction is calculated using Toluene response factor.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and 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 contribution.
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 with the contribution of PAHs. Under Ontario Regulation 153/04, results are considered valid without determining the PAH contribution if not requested by the client.
NA = Not Applicable

Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.
Legend: 1 = no sediment present; 2 = sediment present; 3 = sediment present in trace amounts

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: 

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CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis

O. Reg. 153(511) - VOCs (with PHC) (Water)

DATE RECEIVED: 2023-07-20

DATE REPORTED: 2023-07-24

		SAMPLE DESCRIPTION:		MW22-8
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2023-07-19 16:15
Parameter	Unit	G / S	RDL	5157690
Dichlorodifluoromethane	µg/L	3500	0.40	<0.40
Vinyl Chloride	µg/L	0.5	0.17	<0.17
Bromomethane	µg/L	0.89	0.20	<0.20
Trichlorofluoromethane	µg/L	2000	0.40	<0.40
Acetone	µg/L	100000	1.0	<1.0
1,1-Dichloroethylene	µg/L	0.5	0.30	<0.30
Methylene Chloride	µg/L	26	0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20
Methyl tert-butyl ether	µg/L	15	0.20	<0.20
1,1-Dichloroethane	µg/L	11	0.30	<0.30
Methyl Ethyl Ketone	µg/L	21000	1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20
Chloroform	µg/L	2	0.20	<0.20
1,2-Dichloroethane	µg/L	0.5	0.20	<0.20
1,1,1-Trichloroethane	µg/L	23	0.30	<0.30
Carbon Tetrachloride	µg/L	0.2	0.20	<0.20
Benzene	µg/L	0.5	0.20	<0.20
1,2-Dichloropropane	µg/L	0.58	0.20	<0.20
Trichloroethylene	µg/L	0.5	0.20	<0.20
Bromodichloromethane	µg/L	67000	0.20	<0.20
Methyl Isobutyl Ketone	µg/L	5200	1.0	<1.0
1,1,2-Trichloroethane	µg/L	0.5	0.20	<0.20
Toluene	µg/L	320	0.20	<0.20
Dibromochloromethane	µg/L	65000	0.10	<0.10
Ethylene Dibromide	µg/L	0.2	0.10	<0.10
Tetrachloroethylene	µg/L	0.5	0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.10	<0.10
Chlorobenzene	µg/L	140	0.10	<0.10
Ethylbenzene	µg/L	54	0.10	<0.10

Certified By: N Popowkolof

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AGAT WORK ORDER: 23Z049375

PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis

O. Reg. 153(511) - VOCs (with PHC) (Water)

DATE RECEIVED: 2023-07-20

DATE REPORTED: 2023-07-24

			SAMPLE DESCRIPTION:	MW22-8
			SAMPLE TYPE:	Water
			DATE SAMPLED:	2023-07-19 16:15
Parameter	Unit	G / S	RDL	5157690
m & p-Xylene	µg/L		0.20	<0.20
Bromoform	µg/L	5	0.10	<0.10
Styrene	µg/L	43	0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	0.5	0.10	<0.10
o-Xylene	µg/L		0.10	<0.10
1,3-Dichlorobenzene	µg/L	7600	0.10	<0.10
1,4-Dichlorobenzene	µg/L	0.5	0.10	<0.10
1,2-Dichlorobenzene	µg/L	150	0.10	<0.10
1,3-Dichloropropene	µg/L	0.5	0.30	<0.30
Xylenes (Total)	µg/L	72	0.20	<0.20
n-Hexane	µg/L	5	0.20	<0.20
Surrogate	Unit	Acceptable Limits		
Toluene-d8	% Recovery	50-140		106
4-Bromofluorobenzene	% Recovery	50-140		88

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

5157690 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popowkolof

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 21494078
SAMPLING SITE:1047 Richmond Rd

AGAT WORK ORDER: 23Z049375
ATTENTION TO: Daniel Stabile
SAMPLED BY:Ryan Francis

Trace Organics Analysis

RPT Date: Jul 24, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (with VOC) (Water)															
F1 (C6 - C10)	5156928		<25	<25	NA	< 25	96%	60%	140%	81%	60%	140%	101%	60%	140%
F2 (C10 to C16)	5147573		<100	<100	NA	< 100	102%	60%	140%	70%	60%	140%	62%	60%	140%
F3 (C16 to C34)	5147573		<100	<100	NA	< 100	105%	60%	140%	82%	60%	140%	72%	60%	140%
F4 (C34 to C50)	5147573		<100	<100	NA	< 100	76%	60%	140%	87%	60%	140%	68%	60%	140%
O. Reg. 153(511) - VOCs (with PHC) (Water)															
Dichlorodifluoromethane	5156928		<0.40	<0.40	NA	< 0.40	81%	50%	140%	98%	50%	140%	79%	50%	140%
Vinyl Chloride	5156928		<0.17	<0.17	NA	< 0.17	101%	50%	140%	104%	50%	140%	85%	50%	140%
Bromomethane	5156928		<0.20	<0.20	NA	< 0.20	86%	50%	140%	97%	50%	140%	84%	50%	140%
Trichlorofluoromethane	5156928		<0.40	<0.40	NA	< 0.40	83%	50%	140%	114%	50%	140%	87%	50%	140%
Acetone	5156928		<1.0	<1.0	NA	< 1.0	92%	50%	140%	84%	50%	140%	104%	50%	140%
1,1-Dichloroethylene	5156928		<0.30	<0.30	NA	< 0.30	98%	50%	140%	91%	60%	130%	85%	50%	140%
Methylene Chloride	5156928		<0.30	<0.30	NA	< 0.30	114%	50%	140%	112%	60%	130%	93%	50%	140%
trans- 1,2-Dichloroethylene	5156928		<0.20	<0.20	NA	< 0.20	110%	50%	140%	96%	60%	130%	79%	50%	140%
Methyl tert-butyl ether	5156928		<0.20	<0.20	NA	< 0.20	84%	50%	140%	84%	60%	130%	101%	50%	140%
1,1-Dichloroethane	5156928		<0.30	<0.30	NA	< 0.30	79%	50%	140%	77%	60%	130%	87%	50%	140%
Methyl Ethyl Ketone	5156928		<1.0	<1.0	NA	< 1.0	85%	50%	140%	80%	50%	140%	106%	50%	140%
cis- 1,2-Dichloroethylene	5156928		<0.20	<0.20	NA	< 0.20	85%	50%	140%	82%	60%	130%	89%	50%	140%
Chloroform	5156928		<0.20	<0.20	NA	< 0.20	83%	50%	140%	81%	60%	130%	110%	50%	140%
1,2-Dichloroethane	5156928		<0.20	<0.20	NA	< 0.20	86%	50%	140%	71%	60%	130%	73%	50%	140%
1,1,1-Trichloroethane	5156928		<0.30	<0.30	NA	< 0.30	80%	50%	140%	75%	60%	130%	85%	50%	140%
Carbon Tetrachloride	5156928		<0.20	<0.20	NA	< 0.20	92%	50%	140%	89%	60%	130%	82%	50%	140%
Benzene	5156928		<0.20	<0.20	NA	< 0.20	97%	50%	140%	92%	60%	130%	71%	50%	140%
1,2-Dichloropropane	5156928		<0.20	<0.20	NA	< 0.20	79%	50%	140%	75%	60%	130%	85%	50%	140%
Trichloroethylene	5156928		<0.20	<0.20	NA	< 0.20	89%	50%	140%	79%	60%	130%	95%	50%	140%
Bromodichloromethane	5156928		<0.20	<0.20	NA	< 0.20	81%	50%	140%	77%	60%	130%	92%	50%	140%
Methyl Isobutyl Ketone	5156928		<1.0	<1.0	NA	< 1.0	106%	50%	140%	84%	50%	140%	83%	50%	140%
1,1,2-Trichloroethane	5156928		<0.20	<0.20	NA	< 0.20	96%	50%	140%	97%	60%	130%	89%	50%	140%
Toluene	5156928		<0.20	<0.20	NA	< 0.20	102%	50%	140%	100%	60%	130%	82%	50%	140%
Dibromochloromethane	5156928		<0.10	<0.10	NA	< 0.10	90%	50%	140%	93%	60%	130%	84%	50%	140%
Ethylene Dibromide	5156928		<0.10	<0.10	NA	< 0.10	92%	50%	140%	97%	60%	130%	91%	50%	140%
Tetrachloroethylene	5156928		<0.20	<0.20	NA	< 0.20	95%	50%	140%	88%	60%	130%	79%	50%	140%
1,1,1,2-Tetrachloroethane	5156928		<0.10	<0.10	NA	< 0.10	86%	50%	140%	88%	60%	130%	75%	50%	140%
Chlorobenzene	5156928		<0.10	<0.10	NA	< 0.10	97%	50%	140%	92%	60%	130%	81%	50%	140%
Ethylbenzene	5156928		<0.10	<0.10	NA	< 0.10	94%	50%	140%	91%	60%	130%	75%	50%	140%
m & p-Xylene	5156928		<0.20	<0.20	NA	< 0.20	91%	50%	140%	88%	60%	130%	74%	50%	140%
Bromoform	5156928		<0.10	<0.10	NA	< 0.10	82%	50%	140%	88%	60%	130%	79%	50%	140%
Styrene	5156928		<0.10	<0.10	NA	< 0.10	73%	50%	140%	90%	60%	130%	79%	50%	140%
1,1,2,2-Tetrachloroethane	5156928		<0.10	<0.10	NA	< 0.10	90%	50%	140%	101%	60%	130%	84%	50%	140%
o-Xylene	5156928		<0.10	<0.10	NA	< 0.10	90%	50%	140%	88%	60%	130%	75%	50%	140%

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 21494078
SAMPLING SITE:1047 Richmond Rd

AGAT WORK ORDER: 23Z049375
ATTENTION TO: Daniel Stabile
SAMPLED BY:Ryan Francis

Trace Organics Analysis (Continued)

RPT Date: Jul 24, 2023

PARAMETER	Batch	Sample Id	DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
			Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
1,3-Dichlorobenzene	5156928		<0.10	<0.10	NA	< 0.10	82%	50%	140%	79%	60%	130%	75%	50%	140%
1,4-Dichlorobenzene	5156928		<0.10	<0.10	NA	< 0.10	83%	50%	140%	79%	60%	130%	78%	50%	140%
1,2-Dichlorobenzene	5156928		<0.10	<0.10	NA	< 0.10	83%	50%	140%	81%	60%	130%	77%	50%	140%
n-Hexane	5156928		<0.20	<0.20	NA	< 0.20	93%	50%	140%	76%	60%	130%	84%	50%	140%

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

Certified By: NPopnikolof

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z049375

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
F1 (C6 - C10)	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/FID
Toluene-d8	VOL-91- 5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F3 (C16 to C34)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F4 (C34 to C50)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	modified from MOE PHC-E3421	BALANCE
Terphenyl	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Sediment			N/A
Dichlorodifluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Vinyl Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
trans- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl tert-butyl ether	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
cis- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z049375

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Toluene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
m & p-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

AGAT Laboratories

RUSH!

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Chain of Custody Record

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

Laboratory Use Only

Work Order #: 23704937S

Cooler Quantity: One - Ice | Packs

Arrival Temperatures: 7.0 | 6.7 | 6.6 | 8.3 | 8.1 | 8.0

Custody Seal Intact: ☐ Yes ☐ No ☒ N/A

Notes: bagged ice

Report Information:

Company: WSP Canada Inc
Contact: Daniel Stabile
Address: 1931 Robertson Rd. Ottawa, ON K2H 5B7
Phone: Fax:
Reports to be sent to:
1. Email: daniel.stabile@wsp.com
2. Email:

Project Information:

Project: 21494078
Site Location: 1047 Richmond Rd
Sampled By: Ryan Francis
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☒ No ☐

Company: WSP Canada Inc
Contact: Daniel Stabile
Address:
Email: CA.Payables.Invoice@wsp.com

Regulatory Requirements:
(Please check all applicable boxes)

☒ Regulation 153/04 — Table 7 (Indicate One) — ☐ Ind/Com ☒ Res/Park ☐ Agriculture — Soil Texture (Check One): ☒ Coarse ☐ Fine
☐ Excess Soils R406 — Table (Indicate One) — ☐ Regulation 558 — ☐ CCME
☐ Sewer Use ☐ Sanitary ☐ Storm — (Region) — ☐ Prov. Water Quality Objectives (PWQO) — ☐ Other (Indicate One)

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

Report Guideline on *Certificate of Analysis* ☐ Yes ☐ No

Turnaround Time (TAT) Required:

Regular TAT ☐ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☒ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply):

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

For 'Same Day' analysis, please contact your AGAT CPM

Sample Matrix Legend

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	BTEX, F1-F4 PHCs (Analyze F4G if required ☐ Yes ☐ No)	PAHs	PCBs	VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach: ☐ Metals ☐ VOCs ☐ SVOCs	Excess Soils Characterization Package: pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	Potentially Hazardous or High Concentration (Y/N)
MW22-3	July 19/23	4:15 PM	8	GW					✓			✓					

Samples Relinquished By (Print Name and Sign): Ryan Francis / Ryan — Date: July 20/23 — Time: 2:44
Samples Received By (Print Name and Sign): C. Griffiths — Date: JUL 20 2023 — Time: 14h45

Samples Relinquished By (Print Name and Sign): CA to Penco — Date: JUL 20 2023 — Time: 15h30
Samples Received By (Print Name and Sign): T-R — Date: July 21 — Time: 8:40AM

Samples Relinquished By (Print Name and Sign): — Date: — Time:
Samples Received By (Print Name and Sign): — Date: — Time:

Page 1 of 1

Nº: T 129261

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CLIENT NAME: WSP CANADA INC.
1931 ROBERTSON ROAD
OTTAWA, ON K2H5B7
(613) 592-9600
ATTENTION TO: Daniel Stabile; Kristina Small
PROJECT: 21494078
AGAT WORK ORDER: 23Z058034
TRACE ORGANICS REVIEWED BY: Radhika Chakraberty, Trace Organics Lab Manager
DATE REPORTED: Aug 17, 2023
PAGES (INCLUDING COVER): 9
VERSION*: 1

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

*Notes

Disclaimer:

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

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Certificate of Analysis

AGAT WORK ORDER: 23Z058034
PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.
SAMPLING SITE:1047 Robertson Rd

ATTENTION TO: Daniel Stabile; Kristina Small
SAMPLED BY:Rob Ireland

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

DATE RECEIVED: 2023-08-15 DATE REPORTED: 2023-08-17

				SAMPLE DESCRIPTION:	Z2-04
				SAMPLE TYPE:	Water
				DATE SAMPLED:	2023-08-15 14:15
Parameter	Unit	G / S	RDL		5217525
F1 (C6 - C10)	µg/L		25		<25
F1 (C6 to C10) minus BTEX	µg/L	420	25		<25
F2 (C10 to C16)	µg/L	150	100		<100
F3 (C16 to C34)	µg/L	500	100		<100
F4 (C34 to C50)	µg/L	500	100		<100
Gravimetric Heavy Hydrocarbons	µg/L		500		NA
Sediment					1
Surrogate	Unit	Acceptable Limits			
Toluene-d8	%	50-140			101
Terphenyl	% Recovery	60-140			93

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

5217525 The C6-C10 fraction is calculated using Toluene response factor.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and 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 contribution.
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 with the contribution of PAHs. Under Ontario Regulation 153/04, results are considered valid without determining the PAH contribution if not requested by the client.
NA = Not Applicable

Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.
Legend: 1 = no sediment present; 2 = sediment present; 3 = sediment present in trace amounts

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: R. Chakraberty

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Certificate of Analysis

AGAT WORK ORDER: 23Z058034

PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile; Kristina Small

SAMPLING SITE:1047 Robertson Rd

SAMPLED BY:Rob Ireland

O. Reg. 153(511) - VOCs (with PHC) (Water)

DATE RECEIVED: 2023-08-15

DATE REPORTED: 2023-08-17

		SAMPLE DESCRIPTION:		Z2-04
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2023-08-15 14:15
Parameter	Unit	G / S	RDL	5217525
Dichlorodifluoromethane	µg/L	3500	0.40	<0.40
Vinyl Chloride	µg/L	0.5	0.17	<0.17
Bromomethane	µg/L	0.89	0.20	<0.20
Trichlorofluoromethane	µg/L	2000	0.40	<0.40
Acetone	µg/L	100000	1.0	<1.0
1,1-Dichloroethylene	µg/L	0.5	0.30	<0.30
Methylene Chloride	µg/L	26	0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20
Methyl tert-butyl ether	µg/L	15	0.20	<0.20
1,1-Dichloroethane	µg/L	11	0.30	<0.30
Methyl Ethyl Ketone	µg/L	21000	1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20
Chloroform	µg/L	2	0.20	<0.20
1,2-Dichloroethane	µg/L	0.5	0.20	<0.20
1,1,1-Trichloroethane	µg/L	23	0.30	<0.30
Carbon Tetrachloride	µg/L	0.2	0.20	<0.20
Benzene	µg/L	0.5	0.20	<0.20
1,2-Dichloropropane	µg/L	0.58	0.20	<0.20
Trichloroethylene	µg/L	0.5	0.20	<0.20
Bromodichloromethane	µg/L	67000	0.20	<0.20
Methyl Isobutyl Ketone	µg/L	5200	1.0	<1.0
1,1,2-Trichloroethane	µg/L	0.5	0.20	<0.20
Toluene	µg/L	320	0.20	<0.20
Dibromochloromethane	µg/L	65000	0.10	<0.10
Ethylene Dibromide	µg/L	0.2	0.10	<0.10
Tetrachloroethylene	µg/L	0.5	0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.10	<0.10
Chlorobenzene	µg/L	140	0.10	<0.10
Ethylbenzene	µg/L	54	0.10	<0.10

Certified By: R. Chakraberty

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Certificate of Analysis

AGAT WORK ORDER: 23Z058034
PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.
SAMPLING SITE:1047 Robertson Rd

ATTENTION TO: Daniel Stabile; Kristina Small
SAMPLED BY:Rob Ireland

O. Reg. 153(511) - VOCs (with PHC) (Water)

DATE RECEIVED: 2023-08-15 DATE REPORTED: 2023-08-17

			SAMPLE DESCRIPTION:	Z2-04
			SAMPLE TYPE:	Water
			DATE SAMPLED:	2023-08-15 14:15
Parameter	Unit	G / S	RDL	5217525
m & p-Xylene	µg/L		0.20	<0.20
Bromoform	µg/L	5	0.10	<0.10
Styrene	µg/L	43	0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	0.5	0.10	<0.10
o-Xylene	µg/L		0.10	<0.10
1,3-Dichlorobenzene	µg/L	7600	0.10	<0.10
1,4-Dichlorobenzene	µg/L	0.5	0.10	<0.10
1,2-Dichlorobenzene	µg/L	150	0.10	<0.10
1,3-Dichloropropene	µg/L	0.5	0.30	<0.30
Xylenes (Total)	µg/L	72	0.20	<0.20
n-Hexane	µg/L	5	0.20	<0.20
Surrogate	Unit	Acceptable Limits		
Toluene-d8	% Recovery	50-140		101
4-Bromofluorobenzene	% Recovery	50-140		92

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

5217525 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: R. Chakraberty

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 21494078
SAMPLING SITE:1047 Robertson Rd

AGAT WORK ORDER: 23Z058034
ATTENTION TO: Daniel Stabile; Kristina Small
SAMPLED BY:Rob Ireland

Trace Organics Analysis

RPT Date: Aug 17, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (with VOC) (Water)															
F1 (C6 - C10)	5206742		<25	<25	NA	< 25	99%	60%	140%	79%	60%	140%	84%	60%	140%
F2 (C10 to C16)	5212514		<100	<100	NA	< 100	88%	60%	140%	63%	60%	140%	62%	60%	140%
F3 (C16 to C34)	5212514		<100	<100	NA	< 100	98%	60%	140%	60%	60%	140%	75%	60%	140%
F4 (C34 to C50)	5212514		<100	<100	NA	< 100	87%	60%	140%	93%	60%	140%	85%	60%	140%
O. Reg. 153(511) - VOCs (with PHC) (Water)															
Dichlorodifluoromethane	5206742		<0.40	<0.40	NA	< 0.40	96%	50%	140%	91%	50%	140%	84%	50%	140%
Vinyl Chloride	5206742		<0.17	<0.17	NA	< 0.17	97%	50%	140%	96%	50%	140%	101%	50%	140%
Bromomethane	5206742		<0.20	<0.20	NA	< 0.20	105%	50%	140%	95%	50%	140%	85%	50%	140%
Trichlorofluoromethane	5206742		<0.40	<0.40	NA	< 0.40	95%	50%	140%	92%	50%	140%	101%	50%	140%
Acetone	5206742		<1.0	<1.0	NA	< 1.0	100%	50%	140%	118%	50%	140%	97%	50%	140%
1,1-Dichloroethylene	5206742		<0.30	<0.30	NA	< 0.30	99%	50%	140%	110%	60%	130%	108%	50%	140%
Methylene Chloride	5206742		<0.30	<0.30	NA	< 0.30	108%	50%	140%	109%	60%	130%	108%	50%	140%
trans- 1,2-Dichloroethylene	5206742		<0.20	<0.20	NA	< 0.20	97%	50%	140%	106%	60%	130%	99%	50%	140%
Methyl tert-butyl ether	5206742		<0.20	<0.20	NA	< 0.20	106%	50%	140%	100%	60%	130%	101%	50%	140%
1,1-Dichloroethane	5206742		<0.30	<0.30	NA	< 0.30	104%	50%	140%	115%	60%	130%	109%	50%	140%
Methyl Ethyl Ketone	5206742		<1.0	<1.0	NA	< 1.0	86%	50%	140%	98%	50%	140%	89%	50%	140%
cis- 1,2-Dichloroethylene	5206742		1.66	1.49	10.8%	< 0.20	101%	50%	140%	103%	60%	130%	68%	50%	140%
Chloroform	5206742		<0.20	<0.20	NA	< 0.20	103%	50%	140%	93%	60%	130%	102%	50%	140%
1,2-Dichloroethane	5206742		<0.20	<0.20	NA	< 0.20	88%	50%	140%	86%	60%	130%	102%	50%	140%
1,1,1-Trichloroethane	5206742		<0.30	<0.30	NA	< 0.30	105%	50%	140%	114%	60%	130%	94%	50%	140%
Carbon Tetrachloride	5206742		<0.20	<0.20	NA	< 0.20	92%	50%	140%	104%	60%	130%	80%	50%	140%
Benzene	5206742		<0.20	<0.20	NA	< 0.20	100%	50%	140%	103%	60%	130%	99%	50%	140%
1,2-Dichloropropane	5206742		<0.20	<0.20	NA	< 0.20	99%	50%	140%	102%	60%	130%	96%	50%	140%
Trichloroethylene	5206742		<0.20	<0.20	NA	< 0.20	101%	50%	140%	110%	60%	130%	104%	50%	140%
Bromodichloromethane	5206742		<0.20	<0.20	NA	< 0.20	97%	50%	140%	96%	60%	130%	89%	50%	140%
Methyl Isobutyl Ketone	5206742		<1.0	<1.0	NA	< 1.0	90%	50%	140%	101%	50%	140%	100%	50%	140%
1,1,2-Trichloroethane	5206742		<0.20	<0.20	NA	< 0.20	105%	50%	140%	111%	60%	130%	119%	50%	140%
Toluene	5206742		0.44	0.43	NA	< 0.20	107%	50%	140%	118%	60%	130%	107%	50%	140%
Dibromochloromethane	5206742		<0.10	<0.10	NA	< 0.10	108%	50%	140%	116%	60%	130%	108%	50%	140%
Ethylene Dibromide	5206742		<0.10	<0.10	NA	< 0.10	102%	50%	140%	109%	60%	130%	104%	50%	140%
Tetrachloroethylene	5206742		<0.20	<0.20	NA	< 0.20	115%	50%	140%	105%	60%	130%	115%	50%	140%
1,1,1,2-Tetrachloroethane	5206742		<0.10	<0.10	NA	< 0.10	101%	50%	140%	113%	60%	130%	88%	50%	140%
Chlorobenzene	5206742		<0.10	<0.10	NA	< 0.10	95%	50%	140%	113%	60%	130%	102%	50%	140%
Ethylbenzene	5206742		<0.10	<0.10	NA	< 0.10	97%	50%	140%	118%	60%	130%	92%	50%	140%
m & p-Xylene	5206742		<0.20	<0.20	NA	< 0.20	104%	50%	140%	109%	60%	130%	103%	50%	140%
Bromoform	5206742		<0.10	<0.10	NA	< 0.10	101%	50%	140%	105%	60%	130%	93%	50%	140%
Styrene	5206742		<0.10	<0.10	NA	< 0.10	110%	50%	140%	117%	60%	130%	91%	50%	140%
1,1,2,2-Tetrachloroethane	5206742		<0.10	<0.10	NA	< 0.10	97%	50%	140%	106%	60%	130%	100%	50%	140%
o-Xylene	5206742		<0.10	<0.10	NA	< 0.10	95%	50%	140%	111%	60%	130%	98%	50%	140%

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 21494078
SAMPLING SITE:1047 Robertson Rd

AGAT WORK ORDER: 23Z058034
ATTENTION TO: Daniel Stabile; Kristina Small
SAMPLED BY:Rob Ireland

Trace Organics Analysis (Continued)

RPT Date: Aug 17, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
1,3-Dichlorobenzene	5206742		<0.10	<0.10	NA	< 0.10	110%	50%	140%	103%	60%	130%	103%	50%	140%
1,4-Dichlorobenzene	5206742		<0.10	<0.10	NA	< 0.10	115%	50%	140%	104%	60%	130%	110%	50%	140%
1,2-Dichlorobenzene	5206742		<0.10	<0.10	NA	< 0.10	114%	50%	140%	104%	60%	130%	107%	50%	140%
n-Hexane	5206742		<0.20	<0.20	NA	< 0.20	101%	50%	140%	103%	60%	130%	77%	50%	140%

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

Certified By: R. Chakraborty

AGAT Laboratories

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z058034

PROJECT: 21494078

ATTENTION TO: Daniel Stabile; Kristina Small

SAMPLING SITE:1047 Robertson Rd

SAMPLED BY:Rob Ireland

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
F1 (C6 - C10)	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/FID
Toluene-d8	VOL-91- 5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F3 (C16 to C34)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F4 (C34 to C50)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	modified from MOE PHC-E3421	BALANCE
Terphenyl	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Sediment			N/A
Dichlorodifluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Vinyl Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
trans- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl tert-butyl ether	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
cis- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z058034

PROJECT: 21494078

ATTENTION TO: Daniel Stabile; Kristina Small

SAMPLING SITE:1047 Robertson Rd

SAMPLED BY:Rob Ireland

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Toluene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
m & p-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

AGAT Laboratories

Have feedback? Scan here for a quick survey!

RUSH!

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Mississauga, Ontario L4Z 1Y2
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webearth.agatlabs.com

Chain of Custody Record

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

Laboratory Use Only

Work Order #: 23Z058034

Cooler Quantity: One-Bagged Ice

Arrival Temperatures: 17.0 | 17.4 | 17.1 | 5.2 | 5.5 | 5.1

Custody Seal Intact: ☐ Yes ☐ No ☒ N/A

Notes: bagged ice

Report Information:

Company: WSP
Contact: Daniel Stabile / Kristina Small
Address: 1931 Robertson Rd
Ottawa, ON K2H 5B7
Phone: 613-592-9600 Fax: 613-592-9601
Reports to be sent to:
1. Email: Daniel.Stabile@wsp.com
2. Email: Kristina.Small@wsp.com

Regulatory Requirements:

(Please check all applicable boxes)

☒ Regulation 153/04
Table 7 (Indicate One)
☐ Ind/Com
☒ Res/Park
☐ Agriculture
Soil Texture (Check One)
☐ Coarse
☐ Fine

☐ Regulation 406
Table ____ (Indicate One)

☐ Regulation 558

☐ CCME

☐ Sewer Use
☐ Sanitary ☐ Storm
____ (Region)

☐ Prov. Water Quality Objectives (PWQO)

☐ Other
____ (Indicate One)

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

Report Guideline on *Certificate of Analysis* ☒ Yes ☐ No

Turnaround Time (TAT) Required:

Regular TAT ☒ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☒ Next Business Day

OR Date Required (Rush Surcharges May Apply): ____

Please provide prior notification for rush TAT

**TAT is exclusive of weekends and statutory holidays*

For 'Same Day' analysis, please contact your AGAT CPM

Project Information:

Project: 21494078
Site Location: 1042 Robertson Rd
Sampled By: Rob Treland
AGAT Quote #: 2023 Golder - AGAT MSA 735908 EB

Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☐ No ☐

Company: WSP
Contact: Daniel Stabile / Kristina Small
Address:
Email: AP-CustomerService@wsp.com

Sample Matrix Legend

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs	O. Reg 153: VOC	O. Reg 153: PAHs	O. Reg 153: PCBs	O. Reg 153: PCBs: Aroclors ☐	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Regulation 406 SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Regulation 406 Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Corrosivity: ☐ Moisture ☐ Sulphide	Potentially Hazardous or High Concentration (Y/N)
1. ZZ-04	2023-08-15	14:15 AM PM	8	GW					✓	✓								
2. ~~Dup~~ Dup 1	2023-08-15	14:15 AM PM	8	GW	HOLD													
3.		AM PM																
4.		AM PM																
5.		AM PM																
6.		AM PM																
7.		AM PM																
8.		AM PM																
9.		AM PM																
10.		AM PM																
11.		AM PM																

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Rob Treland	2023-08-15	15:25	C. Cunliffe	08/15/23	15h30
CC to pick up	08/16/23	15h30		Aug 17	8:50 AM

Page 1 of 1

N°: T-146541

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

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CLIENT NAME: WSP CANADA INC.
100 SCOTIA COURT
WHITBY, ON L1N8Y6
(905) 723-2727

ATTENTION TO: Daniel Stabile

PROJECT: 21404978

AGAT WORK ORDER: 23Z095888

TRACE ORGANICS REVIEWED BY: Pinkal Patel, Report Reviewer

DATE REPORTED: Nov 27, 2023

PAGES (INCLUDING COVER): 10

VERSION*: 1

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

*Notes

Disclaimer:

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

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Certificate of Analysis

AGAT WORK ORDER: 23Z095888

PROJECT: 21404978

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:

SAMPLED BY:B Jelly

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

DATE RECEIVED: 2023-11-21

DATE REPORTED: 2023-11-27

				SAMPLE DESCRIPTION:	MW 22-04	MW 22-08	DUP-GW
				SAMPLE TYPE:	Water	Water	Water
				DATE SAMPLED:	2023-11-21 15:26	2023-11-21 13:45	2023-11-21
Parameter	Unit	G / S	RDL		5485598	5485600	5485601
F1 (C6 to C10)	µg/L		25		<25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L	420	25		<25	<25	<25
F2 (C10 to C16)	µg/L	150	100		214	<100	<100
F3 (C16 to C34)	µg/L	500	100		2840	<100	<100
F4 (C34 to C50)	µg/L	500	100		<100	<100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500		NA	NA	NA
Sediment					1	1	1
Surrogate	Unit	Acceptable Limits					
Toluene-d8	%	50-140			99	93	102
Terphenyl	% Recovery	60-140			67	84	76

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

5485598-5485601 The C6-C10 fraction is calculated using Toluene response factor.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and 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 contribution.
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 with the contribution of PAHs. Under Ontario Regulation 153/04, results are considered valid without determining the PAH contribution if not requested by the client.
NA = Not Applicable

Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.
Legend: 1 = no sediment present; 2 = sediment present; 3 = sediment present in trace amounts

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: Pinkal Patel

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Certificate of Analysis

AGAT WORK ORDER: 23Z095888

PROJECT: 21404978

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:

SAMPLED BY:B Jelly

O. Reg. 153(511) - VOCs (with PHC) (Water)

DATE RECEIVED: 2023-11-21

DATE REPORTED: 2023-11-27

		SAMPLE DESCRIPTION:		MW 22-04	MW 22-08	DUP-GW
		SAMPLE TYPE:		Water	Water	Water
		DATE SAMPLED:		2023-11-21 15:26	2023-11-21 13:45	2023-11-21
Parameter	Unit	G / S	RDL	5485598	5485600	5485601
Dichlorodifluoromethane	µg/L	3500	0.40	<0.40	<0.40	<0.40
Vinyl Chloride	µg/L	0.5	0.17	<0.17	<0.17	<0.17
Bromomethane	µg/L	0.89	0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L	2000	0.40	<0.40	<0.40	<0.40
Acetone	µg/L	100000	1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene	µg/L	0.5	0.30	<0.30	<0.30	<0.30
Methylene Chloride	µg/L	26	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	15	0.20	<0.20	<0.20	<0.20
1,1-Dichloroethane	µg/L	11	0.30	<0.30	<0.30	<0.30
Methyl Ethyl Ketone	µg/L	21000	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	0.20	<0.20	<0.20	<0.20
1,2-Dichloroethane	µg/L	0.5	0.20	<0.20	<0.20	<0.20
1,1,1-Trichloroethane	µg/L	23	0.30	<0.30	<0.30	<0.30
Carbon Tetrachloride	µg/L	0.2	0.20	<0.20	<0.20	<0.20
Benzene	µg/L	0.5	0.20	<0.20	<0.20	<0.20
1,2-Dichloropropane	µg/L	0.58	0.20	<0.20	<0.20	<0.20
Trichloroethylene	µg/L	0.5	0.20	<0.20	<0.20	<0.20
Bromodichloromethane	µg/L	67000	0.20	<0.20	<0.20	<0.20
Methyl Isobutyl Ketone	µg/L	5200	1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	µg/L	0.5	0.20	<0.20	<0.20	<0.20
Toluene	µg/L	320	0.20	<0.20	<0.20	<0.20
Dibromochloromethane	µg/L	65000	0.10	<0.10	<0.10	<0.10
Ethylene Dibromide	µg/L	0.2	0.10	<0.10	<0.10	<0.10
Tetrachloroethylene	µg/L	0.5	0.20	<0.20	<0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.10	<0.10	<0.10	<0.10
Chlorobenzene	µg/L	140	0.10	<0.10	<0.10	<0.10
Ethylbenzene	µg/L	54	0.10	<0.10	<0.10	<0.10

Certified By: Jinkal Patel

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Certificate of Analysis

AGAT WORK ORDER: 23Z095888

PROJECT: 21404978

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:

SAMPLED BY:B Jelly

O. Reg. 153(511) - VOCs (with PHC) (Water)

DATE RECEIVED: 2023-11-21

DATE REPORTED: 2023-11-27

				SAMPLE DESCRIPTION:	MW 22-04	MW 22-08	DUP-GW
				SAMPLE TYPE:	Water	Water	Water
				DATE SAMPLED:	2023-11-21 15:26	2023-11-21 13:45	2023-11-21
Parameter	Unit	G / S	RDL		5485598	5485600	5485601
m & p-Xylene	µg/L		0.20		<0.20	<0.20	<0.20
Bromoform	µg/L	5	0.10		<0.10	<0.10	<0.10
Styrene	µg/L	43	0.10		<0.10	<0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	0.5	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	7600	0.10		<0.10	<0.10	<0.10
1,4-Dichlorobenzene	µg/L	0.5	0.10		<0.10	<0.10	<0.10
1,2-Dichlorobenzene	µg/L	150	0.10		<0.10	<0.10	<0.10
1,3-Dichloropropene	µg/L	0.5	0.30		<0.30	<0.30	<0.30
Xylenes (Total)	µg/L	72	0.20		<0.20	<0.20	<0.20
n-Hexane	µg/L	5	0.20		<0.20	<0.20	<0.20
Surrogate	Unit	Acceptable Limits					
Toluene-d8	% Recovery	50-140			99	93	102
4-Bromofluorobenzene	% Recovery	50-140			88	83	70

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

5485598-5485601 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: Jinkal Patel

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Exceedance Summary

AGAT WORK ORDER: 23Z095888

PROJECT: 21404978

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
5485598	MW 22-04	ON T7 NPGW CT	O. Reg. 153(511) - PHCs F1 - F4 (with VOC) (Water)	F2 (C10 to C16)	µg/L	150	214
5485598	MW 22-04	ON T7 NPGW CT	O. Reg. 153(511) - PHCs F1 - F4 (with VOC) (Water)	F3 (C16 to C34)	µg/L	500	2840

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 21404978
SAMPLING SITE:

AGAT WORK ORDER: 23Z095888
ATTENTION TO: Daniel Stabile
SAMPLED BY:B Jelly

Trace Organics Analysis

RPT Date: Nov 27, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (with VOC) (Water)															
F1 (C6 to C10)	5483060		37	36	NA	< 25	97%	60%	140%	88%	60%	140%	84%	60%	140%
F2 (C10 to C16)	5476835		< 100	< 100	NA	< 100	113%	60%	140%	66%	60%	140%	70%	60%	140%
F3 (C16 to C34)	5476835		< 100	< 100	NA	< 100	107%	60%	140%	64%	60%	140%	68%	60%	140%
F4 (C34 to C50)	5476835		< 100	< 100	NA	< 100	74%	60%	140%	76%	60%	140%	97%	60%	140%
O. Reg. 153(511) - VOCs (with PHC) (Water)															
Dichlorodifluoromethane	5483060		<0.40	<0.40	NA	< 0.40	87%	50%	140%	101%	50%	140%	89%	50%	140%
Vinyl Chloride	5483060		<0.17	<0.17	NA	< 0.17	102%	50%	140%	101%	50%	140%	88%	50%	140%
Bromomethane	5483060		<0.20	<0.20	NA	< 0.20	107%	50%	140%	104%	50%	140%	94%	50%	140%
Trichlorofluoromethane	5483060		<0.40	<0.40	NA	< 0.40	103%	50%	140%	109%	50%	140%	86%	50%	140%
Acetone	5483060		<1.0	<1.0	NA	< 1.0	96%	50%	140%	81%	50%	140%	112%	50%	140%
1,1-Dichloroethylene	5483060		<0.30	<0.30	NA	< 0.30	93%	50%	140%	98%	60%	130%	105%	50%	140%
Methylene Chloride	5483060		<0.30	<0.30	NA	< 0.30	91%	50%	140%	96%	60%	130%	105%	50%	140%
trans- 1,2-Dichloroethylene	5483060		<0.20	<0.20	NA	< 0.20	102%	50%	140%	107%	60%	130%	109%	50%	140%
Methyl tert-butyl ether	5483060		<0.20	<0.20	NA	< 0.20	107%	50%	140%	112%	60%	130%	72%	50%	140%
1,1-Dichloroethane	5483060		<0.30	<0.30	NA	< 0.30	116%	50%	140%	94%	60%	130%	118%	50%	140%
Methyl Ethyl Ketone	5483060		<1.0	<1.0	NA	< 1.0	98%	50%	140%	106%	50%	140%	111%	50%	140%
cis- 1,2-Dichloroethylene	5483060		<0.20	<0.20	NA	< 0.20	113%	50%	140%	114%	60%	130%	118%	50%	140%
Chloroform	5483060		<0.20	<0.20	NA	< 0.20	106%	50%	140%	108%	60%	130%	102%	50%	140%
1,2-Dichloroethane	5483060		<0.20	<0.20	NA	< 0.20	95%	50%	140%	88%	60%	130%	100%	50%	140%
1,1,1-Trichloroethane	5483060		<0.30	<0.30	NA	< 0.30	108%	50%	140%	107%	60%	130%	111%	50%	140%
Carbon Tetrachloride	5483060		<0.20	<0.20	NA	< 0.20	107%	50%	140%	103%	60%	130%	115%	50%	140%
Benzene	5483060		1.31	1.60	19.9%	< 0.20	103%	50%	140%	85%	60%	130%	115%	50%	140%
1,2-Dichloropropane	5483060		<0.20	<0.20	NA	< 0.20	99%	50%	140%	110%	60%	130%	106%	50%	140%
Trichloroethylene	5483060		<0.20	<0.20	NA	< 0.20	78%	50%	140%	79%	60%	130%	85%	50%	140%
Bromodichloromethane	5483060		<0.20	<0.20	NA	< 0.20	112%	50%	140%	113%	60%	130%	117%	50%	140%
Methyl Isobutyl Ketone	5483060		<1.0	<1.0	NA	< 1.0	101%	50%	140%	94%	50%	140%	88%	50%	140%
1,1,2-Trichloroethane	5483060		<0.20	<0.20	NA	< 0.20	104%	50%	140%	104%	60%	130%	117%	50%	140%
Toluene	5483060		24.1	22.0	9.5%	< 0.20	98%	50%	140%	100%	60%	130%	116%	50%	140%
Dibromochloromethane	5483060		<0.10	<0.10	NA	< 0.10	107%	50%	140%	97%	60%	130%	117%	50%	140%
Ethylene Dibromide	5483060		<0.10	<0.10	NA	< 0.10	114%	50%	140%	116%	60%	130%	96%	50%	140%
Tetrachloroethylene	5483060		<0.20	<0.20	NA	< 0.20	92%	50%	140%	96%	60%	130%	94%	50%	140%
1,1,1,2-Tetrachloroethane	5483060		<0.10	<0.10	NA	< 0.10	110%	50%	140%	106%	60%	130%	117%	50%	140%
Chlorobenzene	5483060		<0.10	<0.10	NA	< 0.10	92%	50%	140%	93%	60%	130%	103%	50%	140%
Ethylbenzene	5483060		1.97	2.20	11.0%	< 0.10	104%	50%	140%	109%	60%	130%	113%	50%	140%
m & p-Xylene	5483060		8.70	9.98	13.7%	< 0.20	103%	50%	140%	109%	60%	130%	108%	50%	140%
Bromoform	5483060		<0.10	<0.10	NA	< 0.10	112%	50%	140%	113%	60%	130%	114%	50%	140%
Styrene	5483060		<0.10	<0.10	NA	< 0.10	107%	50%	140%	120%	60%	130%	104%	50%	140%
1,1,2,2-Tetrachloroethane	5483060		<0.10	<0.10	NA	< 0.10	118%	50%	140%	114%	60%	130%	97%	50%	140%
o-Xylene	5483060		3.61	4.08	12.2%	< 0.10	115%	50%	140%	116%	60%	130%	104%	50%	140%

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

Quality Assurance

CLIENT NAME: WSP CANADA INC.
AGAT WORK ORDER: 23Z095888
PROJECT: 21404978
ATTENTION TO: Daniel Stabile
SAMPLING SITE:
SAMPLED BY:B Jelly

Trace Organics Analysis (Continued)

RPT Date: Nov 27, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
1,3-Dichlorobenzene	5483060		<0.10	<0.10	NA	< 0.10	95%	50%	140%	93%	60%	130%	102%	50%	140%
1,4-Dichlorobenzene	5483060		<0.10	<0.10	NA	< 0.10	96%	50%	140%	92%	60%	130%	103%	50%	140%
1,2-Dichlorobenzene	5483060		<0.10	<0.10	NA	< 0.10	95%	50%	140%	91%	60%	130%	100%	50%	140%
n-Hexane	5483060		<0.20	<0.20	NA	< 0.20	109%	50%	140%	117%	60%	130%	102%	50%	140%

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

Certified By: Jinkal Patel

AGAT Laboratories

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

Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z095888

PROJECT: 21404978

ATTENTION TO: Daniel Stabile

SAMPLING SITE:

SAMPLED BY:B Jelly

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
F1 (C6 to C10)	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/FID
Toluene-d8	VOL-91- 5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F3 (C16 to C34)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F4 (C34 to C50)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	modified from MOE PHC-E3421	BALANCE
Terphenyl	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Sediment			N/A
Dichlorodifluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Vinyl Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
trans- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl tert-butyl ether	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
cis- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

AGAT Laboratories

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TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z095888

PROJECT: 21404978

ATTENTION TO: Daniel Stabile

SAMPLING SITE:

SAMPLED BY:B Jelly

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Toluene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
m & p-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

AGAT Laboratories

Have feedback? Scan here for a quick survey!

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

Chain of Custody Record

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

Report Information:

Company: WSP GLOBAL
Contact: DANIEL STABILE
Address: 100 SCOTIA COURT WHITBY ON L1N 8Y8
Phone: 1905 213 4732 Fax:
Reports to be sent to:
1. Email: DANIEL.STABILE@WSP.COM
2. Email:

Project Information:

Project: 21404978
Site Location:
Sampled By: B JELLY
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☒ No ☐
Company:
Contact:
Address:
Email:

Regulatory Requirements:

(Please check all applicable boxes)

☒ Regulation 153/04
Table 7 *Indicate One*
☐ Ind/Com
☒ Res/Park
☐ Agriculture
Soil Texture *(Check One)*
☒ Coarse
☐ Fine

☐ Regulation 406
Table _____ *Indicate One*

☐ Regulation 558

☐ CCME

☐ Sewer Use ☐ Sanitary ☐ Storm
_____ *Region*

☐ Prov. Water Quality Objectives (PWQO)

☐ Other
_____ *Indicate One*

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

Report Guideline on *Certificate of Analysis* ☒ Yes ☐ No

Laboratory Use Only

Work Order #: 23T095888

Cooler Quantity: one - no ice packs
Arrival Temperatures: 1.0 | 1.1 | 1.5
1.5 | 1.1 | 1.2
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 ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply):

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

For 'Same Day' analysis, please contact your AGAT CPM

Sample Matrix Legend

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC Y/N	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs	VOC	PAHs	PCBs	PCBs: Aroclors ☐	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Regulation 406 SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Regulation 406 Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Corrosivity: ☐ Moisture ☐ Sulphide	VOC, PHC F1-F4						Potentially Hazardous or High Concentration (Y/N)
1. MW 22-04	11/21/23	3:26 AM/PM	4	GW														X						
2. MW 22-08	11/21/23	1:45 AM/PM	4	GW														X						
3. DUP-GW	11/21/23	AM/PM	4	GW														X						
4.		AM/PM																						
5.		AM/PM																						
6.		AM/PM																						
7.		AM/PM																						
8.		AM/PM																						
9.		AM/PM																						
10.		AM/PM																						
11.		AM/PM																						

Samples Relinquished By (Print Name and Sign): BRYNT JELLY	Date 11/21/23	Time	Samples Received By (Print Name and Sign):	Date 11/21/23 Time 16h17
Samples Relinquished By (Print Name and Sign):	Date 11/22/23	Time 15h30	Samples Received By (Print Name and Sign):	Date NOV 23 Time 8:55
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date Time

Page 1 of 1
N°: T-150455

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

APPENDIX C

Correspondence with the Area Municipality Regarding the Use of Non-potable Groundwater Standards

From: Kearney, Michel <Michel.Kearney@ottawa.ca>
Sent: September 14, 2022 2:31 PM
To: Stabile, Daniel
Cc: Hurst, Paul; 21494078, Fengate Ph One Two RSC Richmond Ottawa
Subject: [INFO: MESSAGE ENCRYPTED - CES]RE: Notice of Non Potable Groundwater Use - 1047 Richmond Road, Ottawa, Ontario
Attachments: 21494078-L-Rev0-1047Richmond NonPotNotification 28Feb2022.pdf; RSC Non-Potable Request 1047 Richmond - Sept 14 2022.pdf

EXTERNAL EMAIL

EXTERNAL EMAIL - We could not verify the authenticity of this message. Please be cautious when clicking on links or opening attachments.

Hi Daniel,

Please find the City's clearance letter attached.

Best Regards,

Michel Kearney, P.Geo.

Senior Hydrogeologist
Asset Management
Infrastructure and Water Services Department

Hydrogéologue principal
Gestion des actifs
Direction générale des services d'infrastructure et d'eau

City of Ottawa | Ville d'Ottawa
Cell: 613-606-5862
ottawa.ca/planning / ottawa.ca/urbanisme

From: Stabile, Daniel <Daniel_Stabile@golder.com>
Sent: February 28, 2022 3:46 PM
To: Kearney, Michel <Michel.Kearney@ottawa.ca>
Cc: Hurst, Paul <Paul_Hurst@golder.com>; 21494078, Fengate Ph One Two RSC Richmond Ottawa <152441@golder.com>
Subject: Notice of Non Potable Groundwater Use - 1047 Richmond Road, Ottawa, Ontario

Good morning Michel,

Golder intends to submit an RSC for 1047 Richmond Road, Ottawa, Ontario, based on Phase One and Two ESA reports. We've assumed non-potable groundwater standards. The site boundary on a topographic map is attached for your reference, as well as the site plan.

Appreciate it if you kindly confirm the use of non-potable groundwater standards for this property. Please let me know if additional info is required.

Thanks and regards,

Daniel Stabile, B.Sc., MBA, EPt
Project Manager, Contaminated Sites

T+ 1 905 723-2727 x6683
M+ 1 905-213-7432

GOLDER

100 Scotia Court, Whitby, Ontario, Canada L1N 8Y6

wsp.com | **golder.com**

GOLDER
MEMBER OF WSP

February 28,2022

Project No. 21494078

Michel Kearney, P.Geo., Senior Hydrogeologist - Asset Management
City of Ottawa
Ottawa City Hall
110 Laurier Ave W,
Ottawa, ON K1P 1J1

NOTIFICATION OF INTENT TO USE NON-POTABLE GROUNDWATER SITE CONDITION STANDARDS FOR RECORD OF SITE CONDITION FOR THE PROPERTY LOCATED AT 1047 RICHMOND ROAD, OTTAWA, ONTARIO

Dear Mr. Kearney

Golder Associates Ltd. (Golder) was retained by LPF Development Fund 3 LP to conduct a Phase Two Environmental Site Assessment (ESA) of the property located at located at 1047 Richmond Road (Site or Phase Two Property). The location of the Phase Two Property is shown on **Figure 1 and Figure 2**.

On behalf of LPF Development Fund 3 LP, Golder is submitting this letter to the City of Ottawa as a formal notification of intent to apply non-potable groundwater Site Condition Standards for the above noted site for the purposes of filing a Record of Site Condition under Ontario Regulation 153/04, Records of Site Condition Under Part XV.1 of the *Environmental Protection Act.* Provision of written notice to the municipality is a requirement of Ontario Regulation 153/04.

If you have any questions or comments, please feel free to contact the undersigned.

Yours truly,

Golder Associates Ltd.

Daniel Stabile, B.Sc., MBA, EPt
Project Manager - Contaminated Sites Team Lead

Paul Hurst, PEng
Associate Partner, National Capital Region Contaminated Sites

DS/PH;lb

Attachments: Figure 1 – Key Plan
Figure 2 – Site Plan

https://golderassociates.sharepoint.com/sites/152441/project files/6 deliverables/ph two report/7. phase two esa o.reg report/appendix c - correspondence area mun re use of non-potable gw standards/21494078-l-rev0-1047 richmond rd. nonpotablenotification 28feb2022.docx

Golder Associates Ltd.
100 Scotia Court, Whitby, Ontario, L1N 8Y6, Canada
T: +1 905 723 2727 F: +1 905 723 2182

LEGEND

APPROXIMATE SITE BOUNDARY

0 250 500 1,000

1:25,000 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83
COORDINATE SYSTEM: MTM ZONE 9 VERTICAL DATUM: CGVD28

CLIENT

FENGATE DEVELOPMENT HOLDINGS LP

PROJECT

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE

KEY PLAN

CONSULTANT

GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-02-15
DESIGNED	----
PREPARED	JEM
REVIEWED	----
APPROVED	----

PROJECT NO.	CONTROL	REV.	FIGURE
21494078	0002	A	1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm 0

Path: N:\Active\Spatial\MFengate\1047 Richmond Rd\99_PROJ\21494078 Fengate GeoEnviro\0002 Phase Two ESA\21494078-0002-HS-0001.mxd

LEGEND

ROADWAY

APPROXIMATE SITE BOUNDARY

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2020
2. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: MTM ZONE 9, VERTICAL DATUM: CGVD28

0 10 20 40

1:750 METRES

CLIENT

FENGATE DEVELOPMENT HOLDINGS LP

PROJECT

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE

SITE PLAN

CONSULTANT

GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-02-15
DESIGNED	----
PREPARED	JEM
REVIEWED	----
APPROVED	----

PROJECT NO.	CONTROL	REV.	FIGURE
21494078	0002	A	**2**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm

Path: N:\Active\Spatial_IM\Fengate\1047_Richmond_Rd\99_PROJ\21494078_Fengate_GeoEnviro\0002_PhaseTwo_ESA\21494078-A002-MS-0002.mxd

14 September 2022

Mr. Daniel Stabile, B.Sc., MBA, EPt
WSP Golder
100 Scotia Court
Whitby, Ontario
L1N 8Y6

Dear Mr. Stabile,

Re: Record of Site Condition – 1047 Richmond Road

As per your letter of February 28, 2022 (attached) requesting to use non-potable standards, this is to advise that the City of Ottawa does not object to the use of non-potable groundwater standards for the property identified as 1047 Richmond Road, Ottawa, ON, as part of the filing of a Record of Site Condition.

Best Regards,

Michel Kearney, P.Geo.

Senior Hydrogeologist
Asset Management
Infrastructure and Water Services Department

Hydrogéologue principal
Gestion des actifs
Direction générale des services d'infrastructure et d'eau

City of Ottawa | Ville d'Ottawa
Cell: 613-606-5862
ottawa.ca/planning / ottawa.ca/urbanisme

APPENDIX D

Sampling and Analysis Plan

SAMPLING AND ANALYSIS PLAN

DATE December 20, 2021 **Project No.** 21494078

TO Field Supervisor
Golder Associates Ltd.

CC Paul Hurst, Project Director, QP

FROM Daniel Stabile, Project Manager **EMAIL Daniel_Stabile@golder.com**

SAMPLING AND ANALYSIS PLAN, 1047 RICHMOND ROAD, OTTAWA, ONTARIO

1.0 OBJECTIVE

The intent of this Phase Two Environmental Site Assessment (ESA) is to investigate the soil and groundwater within the areas of potential environmental concern (APECs) identified in the Phase One ESA at 1047 Richmond Rd., Ottawa, Ontario (the "Site").

The Site is currently an active car dealership, and we need to keep our operations confidential and not disclose any information to the business employees. The Phase Two ESA is required to support a future filing of a Record of Site Condition (RSC) if financing and/or sale of the property is intended in the future.

2.0 SITE BACKGROUND

One round of drilling was performed in September 2021 when the Phase One, Phase Two and Geotechnical assessments were carried out, and two locations presented exeeedances of the Table 3 Site ondition Standards, one in soil and one in groundwater. A second mobilization was conducted in November 2021 with the objective to delineate the impacts in soil and in groundwater by adding three additional boreholes around BH21-05 which presented exceedances of PHC F2-F4 and 1,4-dichlorobenzene, and monitoring wells aiming to assess the extent of the exceedances at the BH21-04 and BH21-14 with exceedances of benzene, 1,2-dichloroethane and trichloroethylene. On December 2021, a third drilling program was performed to determine average PHC concentrations at BH21-05 and assess if impacted groundwater was possibly flowing off-site, beyond the property limit.

Golder's Phase One team conducted a site visit in September 2021, and the following APECs were identified. A summary of the APECs identified at the Phase One Property site visit is provided in the following table.

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Area of Potential Environmental Concern[1]	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity[2]	Location of PCA (on-Site or off-Site)	Contaminants of Potential Concern[3]	Media Potentially Impacted (Groundwater, soil and/or Sediment)
APEC 1 – On-site automotive garage	Centre of the Site	*#10. Commercial Autobody Shops*	On-Site	PHCs F1-F4, BTEX and VOCs	Soil and groundwater
APEC 2A – Former UST location	Northeast portion of the Site building	*#28. Gasoline and Associated Products Storage in Fixed Tanks*	On-Site	PHCs F1-F4 and BTEX	Soil and groundwater
APEC 2B – Former UST location	Southeats portion of the Site building			PHCs F1-F4 and BTEX	Soil
APEC 3 –Presence of an AST for used waste lubricant oil and oil-stained asphalt	Northeast portion of the Site building	*#28. Gasoline and Associated Products Storage in Fixed Tanks*	On-Site	PHCs F1-F4 and BTEX	Soil and groundwater
APEC 4 – Presence of painting operations (paint booth)	Northeast and Northwest of the Site building	*#39. Paints Manufacturing, Processing and Bulk Storage*	On-Site	Metals, Hydride-Forming Metals, ORP, VOCs and PHCs	Soil and groundwater
APEC 5 – Inferred fill materials site-wide	Entire Site	*# 30. Importation of Fill Material of Unknown Quality*	On-Site	Metals, Hydride-Forming Metals, ORP and PHCs	Soil and groundwater
APEC 6 – Pole mounted transformer and fuse box	Four pole-mounted transformers were observed on the driveway of New Orchard Ave.	*#55. Transformer Manufacturing, Processing and Use*	On-Site	PCBs, PHCs	Soil

Notes:

1 Area of potential environmental concern means the area on, in or under a phase one property where one or more contaminants are potentially present, as determined through the phase one environmental Site assessment, including through, •(a) identification of past or present uses on, in or under the phase one property, and •(b) identification of potentially contaminating activity

2 Potentially contaminating activity means a use or activity set out in Column A of Table 2 of Schedule D that is occurring or has occurred in a phase one study area

3 Contaminants of potential concern specified using the method groups as identified in the "Protocol for in the Assessment of Properties under Part XV.1 of the Environmental Protection Act, March 9, 2004, amended as of July 1, 2011

4 Metals – Ba (Barium), Beryllium (Be), Boron (B), Cadmium (Cd), Chromium (Cr), Cobalt (Co), Copper (Cu), Lead (Pb), Molybdenum (Mo), Nickel (Ni), Silver (Ag), Thallium (Th), Uranium (U), Vanadium (V), Zinc (Zn); Hydride-Forming Metals – Arsenic (As), Selenium (Se), Antimony (Sb); ORP – Hexavalent Chromium (Cr-VI), Sodium (Na), Mercury (Hg), Hot Water Soluble Boron (B-HWS), Chloride (Cl-), Cyanide (CN-), Sodium Adsorption Ratio (SAR), Electrical Conductivity (EC); PHC – Petroleum Hydrocarbons; BTEX – Benzene, Toluene, Ethylbenzene and Xylenes; VOC – Volatile Organic Compounds; PCB – Polychlorinated Byphenils.

3.0 SITE ACCESS REQUIREMENTS

Table 1: Site Access

Access Concern	Information
Site Contacts	Mr. Peter Pears and Ms. Michele Pears Office: 613-327-5153 michelep@metrochrysler.com
Access	No restrictions.
Hours of Work	■ Within daylight hours (Approx. 7 am to 6 pm) ■ Interior drilling from 06:00pm to 12:00 am ■ Exterior drilling From 08:00am to 05:00pm
Site Check-In/Out Procedures	Daily check-in/out with Daniel Stabile
Photography	No restrictions
H&S	■ Follow the HaSEP and COVID procedures; and conduct tailgate with drilling crew. ■ Not to disclose any information to the site employees. Ask Michele help if this happens

4.0 GENERAL REQUIREMENTS

- Follow standard operating procedures for drilling, soil logging, and soil sampling. All work is to be completed assuming a Record of Site Condition will be required.
- Follow Golder Standard Operating Procedures (SOPs) referenced in this sampling and analysis plan and use Golder standard field forms.
- Complete a Daily Log and Job Safety and Environment Analysis (JSEA) form for every day of fieldwork.
- New disposable Nitrile™ gloves will be used at each sampling location to prevent cross-contamination.
- All non-dedicated sampling equipment (e.g., interface probes) will be decontaminated between sampling locations. Sampling equipment in contact with soil or groundwater will be washed with a laboratory-grade detergent solution (i.e. phosphate-free AlcoNox) and thoroughly rinsed with analyte-free water. Use plastic pales from any hardware store. They can also be used for wastewater storage.

5.0 PRIVATE LOCATES

- Private locates was performed on September 16, 2021, November 2, 2021 and December 16, 2021, with USL-1.
- Bring public locate sheets with you to the Site.
- Ensure the private locator clears each borehole location before leaving the Site and that the radius of 2-3 m clearance is provided by the locator for each location. Adjust locations as applicable. If in doubt/clear a second nearby location as an alternate.

6.0 DRILLING ACTIVITIES

- Borehole drilling and monitoring well installation is booked for September 21-24, 2021, with CCC Group.
- Borehole drilling and monitoring well installation is booked for November 11-12, 2021, with Marathon Underground.
- Borehole drilling and monitoring well installation is booked for November 22, 24-25, 2021, with Marathon Underground.
- Borehole drilling and monitoring well installation is booked for December 22, 2021, with Strata Group.

6.1 Borehole Drilling and Soil Sampling

- Ensure that borehole drilling and soil sampling is carried out in conformance with SOP No. 3: Borehole Drilling and Sampling.
- Confirm that the private locator has cleared every drilling location before penetrating the ground.
- Borehole IDs are found in the proposed BH locations plan.
- Screen overburden soil samples at maximum 0.6 m (2 ft) intervals using a combustible gas and photoionization detector (i.e. RKI Eagle, calibrated for hexane and isobutylene), as per SOP No. 4: Headspace Screening.
- Log overburden soil stratigraphy at maximum 0.6 m (2 ft) intervals, as per SOP No. 6: Soil Logging and SOP No. 14: Soil Classification and Description.
- Bedrock is expected to be encountered from 3 – 4 m bgs. After this depth, the drilling will be performed with rock coring tooling, and no soil samples will be collected. Keep the rock cores in the core box.
- Collect soil samples (including 2 x vials per interval) at a maximum of 0.6 m (2 ft) intervals from the ground surface to borehole refusal (call Daniel Stabile if soil conditions are tight or soil recovery is not satisfactory). Submit soil samples in accordance with Table 2 (below).
- Duplicate *samples to be collected and submitted for analysis at a rate of one duplicate per every ten samples submitted to the laboratory. A summary of duplicates required is included at the end of Table 2.*
- Collect *duplicates at the same intervals of the higher headspace readings and/or according to Table 2. (keep your soil cores until you finalize the headspace headings); and from the inferred capillary fringe/water table interface interval.*
- Soil jar quantities: 2 x 40 ml Methanol Vails for VOC and PHC F1/BTEX analysis; 1 x 120 ml jar for PHC F2-F4 and moisture and 1 x 250 ml jar (up to 1.5 m bgs) for Metals and ORP. At the transformers location, fill 1 x 250 ml jar (up to 15 cm bgs). *For duplicates, double the amount of container for the duplicated interval.*
- Samples are to be stored in coolers with ice after collection (the samples must be below 10°C upon receipt to the lab). Bring ice to the Site in the morning.
- Fill out the chain of custody per the details in Table 5.

- Ask drillers to leave two 200L drums to store purged groundwater for the development and sampling stages and one (as needed) steel drum per BH locations to store drilling cutting.
- The first five boreholes will be used for environmental purposes. See Geotech instructions for the

Table 2: Drilling Program Summary and Soil Sampling Details

ID	Rationale	Proposed Investigation	Laboratory Soil Analysis
BH21-1	Investigate possible impacts at the front of the building, possible off-site impacts, and sewer line (tank present on fire plans from 1976)	- APEC 1 – On-site automotive garage (*#10. Commercial Autobody Shops*) - APEC 5 – Inferred fill materials to be present site-wide (*# 30. Importation of Fill Material of Unknown Quality*) - Perform headspace reading every 0.6 m. Drill borehole and install monitoring well to screen the water table (water table is anticipated to be approx. 5-7 m bgs).	**1 x Sample** *(higher headspace reading/capillary fringe – Keep other samples ON HOLD at Golder warehouse fridge)*: - **VOC** *(based on headspace and visual/olfactory observations)* - **PHC/BTEX** *(based on headspace and visual/olfactory observations)* **1 x Sample** *(1 surface soil – up to 1.5 mbgs)*: - **Metals, Hydride-Forming Metals and ORP** *(based on visual observations)*
BH21-2	Investigate possible impacts at waste oil AST location. Some stains on asphalt are to be assessed	- APEC 1 – On-site automotive garage (*#10. Commercial Autobody Shops*) - APEC 3 –Presence of an AST used waste lubricant oil and oil-stained asphalt (*#28. Gasoline and Associated)* - Perform headspace reading every 0.6 m. Drill borehole and install monitoring well to screen the water table (water table is anticipated to be approx. 5-7 m bgs).	**1 x Samples** *(higher headspace reading/capillary fringe – Keep other samples ON HOLD at Golder warehouse fridge)*: - **VOC** *(based on headspace and visual/olfactory observations)* - **PHC/BTEX** *(based on headspace and visual/olfactory observations)*
BH21-3 and BH21-5	Investigate possible impacts at the paint booth	- APEC 4 – Presence of painting operations - paint booth (*#39 Paints Manufacturing, Processing and Bulk Storage*) - APEC 5 – Inferred fill materials to be present site-wide (*# 30 Importation of Fill Material of Unknown Quality*) - Perform headspace reading every 0.6 m. Drill borehole and install monitoring well to screen the water table (water table is anticipated to be approx. 5-7 m bgs).	**2 x Sample** *(higher headspace reading/capillary fringe – Keep other samples ON HOLD at Golder warehouse fridge)*: - **VOC** *(based on headspace and visual/olfactory observations)* - **PHC/BTEX** *(based on headspace and visual/olfactory observations)* **2 x Sample** *(2 subsurface soil – > 1.5 mbgs)*: - **Metals, Hydride-Forming Metals and ORP** *(based on visual observations)*

ID	Rationale	Proposed Investigation	Laboratory Soil Analysis
BH21-4	Investigate possible impacts at former UST location at northeast corner of the building	- APEC 2A – Former UST location *(#28. Gasoline and Associated Products Storage in Fixed Tanks*) - APEC 5 – Inferred fill materials to be present site-wide (*# 30. Importation of Fill Material of Unknown Quality*) - Perform headspace reading every 0.6 m. Drill borehole and install monitoring well to screen the water table (water table is anticipated to be approx. 5 - 7 m bgs).	**1 x Sample** *(1 higher headspace reading/capillary fringe zone and 1 deeper sample for delineation - ON HOLD)*: - **VOC** *(based on headspace and visual/olfactory observations)* - **PHC/BTEX** *(based on headspace and visual/olfactory observations)* **1 x Sample** *(1 surface soil – up to 1.5 mbgs)*: - **Metals, Hydride-Forming Metals and ORP** *(based on visual observations)*
BH21-11 and BH21-12	Attempt to delineate SAR exceedances at BH21-03 and to assess potential cross gradient impacts at potential former body shop	- APEC 1 – On-site automotive garage (*#10. Commercial Autobody Shops*) - APEC 4 – Presence of painting operations - paint booth (*#39 Paints Manufacturing, Processing and Bulk Storage*) - APEC 5 – Inferred fill materials to be present site-wide (*# 30 Importation of Fill Material of Unknown Quality*) - Perform headspace reading every 0.6 m. Drill borehole and install monitoring well to screen the water table (water table is anticipated to be approx. 3 - 4 m bgs).	**2 x Sample** *(1 higher headspace reading/capillary fringe zone and 1 deeper sample for delineation - ON HOLD)*: - **VOC** *(based on headspace and visual/olfactory observations)* - **PHC/BTEX** *(based on headspace and visual/olfactory observations)* **2 x Sample** *(1 surface soil – up to 1.5 mbgs)*: **Metals, Hydride-Forming Metals and ORP** *(based on visual observations)*
BH21-13	Attempt to delineate SAR exceedances at BH21-03.	- APEC 1 – On-site automotive garage (*#10. Commercial Autobody Shops*) - APEC 5 – Inferred fill materials to be present site-wide (*# 30 Importation of Fill Material of Unknown Quality*) - Perform headspace reading every 0.6 m.	**1 x Sample** *(1 surface soil – up to 1.5 mbgs)*: **Metals, Hydride-Forming Metals and ORP** *(based on visual observations)*
BH21-14 and BH21-15	Attempt to provide context on potential magnitude of 1,2-DCA exceedance at BH21-04 in GW. Multilevel well at BH21-15 shalow and deep screened	- APEC 1 – On-site automotive garage (*#10. Commercial Autobody Shops*) - APEC 4 – Presence of painting operations - paint booth (*#39 Paints Manufacturing, Processing and Bulk Storage*) - Perform headspace reading every 0.6 m. Drill borehole and install monitoring well to screen the water table (water table is anticipated to be approx. 3 - 4 m bgs).	**2 x Sample** *(1 higher headspace reading/capillary fringe zone and 1 deeper sample for delineation - ON HOLD)*: - **VOC** *(based on headspace and visual/olfactory observations)* - **PHC/BTEX** *(based on headspace and visual/olfactory observations)*

ID	Rationale	Proposed Investigation	Laboratory Soil Analysis
BH21-16 to BH21-18	Attempt to delineate PHC F2-F4 exceedances at BH21-04	- APEC 1 – On-site automotive garage (*#10. Commercial Autobody Shops*) - APEC 5 – Inferred fill materials to be present site-wide *(# 30 Importation of Fill Material of Unknown Quality*) - Perform headspace reading every 0.6 m.	**3 x Sample** *(1 higher headspace reading/capillary fringe zone and 1 deeper sample for delineation - ON HOLD)*: - **VOC** *(based on headspace and visual/olfactory observations)* - **PHC/BTEX** *(based on headspace and visual/olfactory observations)*
BH21-19 and BH21-20	Investigate possible impacts at at interior, area of hoists and paint booth	- APEC 1 – On-site automotive garage (*#10. Commercial Autobody Shops*) - APEC 4 – Presence of painting operations - paint booth (*#39 Paints Manufacturing, Processing and Bulk Storage*) - Perform headspace reading every 0.6 m. Drill borehole and install monitoring well to screen the water table (water table is anticipated to be approx. 3 - 4 m bgs).	**2 x Sample** *(1 higher headspace reading/capillary fringe zone and 1 deeper sample for delineation - ON HOLD)*: - **VOC** *(based on headspace and visual/olfactory observations)* - **PHC/BTEX** *(based on headspace and visual/olfactory observations)*
BH21-21 and BH21-22	Investigate possible impacted groundwater flowing off-site, beyond the property limit	- APEC 1 – On-site automotive garage (*#10. Commercial Autobody Shops*) - APEC 4 – Presence of painting operations - paint booth (*#39 Paints Manufacturing, Processing and Bulk Storage*) - Perform headspace reading every 0.6 m. Drill borehole and install monitoring well to screen the water table (water table is anticipated to be approx. 3 - 4 m bgs).	**2 x Sample** *(1 higher headspace reading/capillary fringe zone and 1 deeper sample for delineation - ON HOLD)*: - **VOC** *(based on headspace and visual/olfactory observations)* **PHC/BTEX** *(based on headspace and visual/olfactory observations)*
BH21-23 and BH21-24	Averaging PHC concentrations at BH21-05	- APEC 1 – On-site automotive garage (*#10. Commercial Autobody Shops*) - Perform headspace reading every 0.6 m.	**2 x Sample** *(1 higher headspace reading/capillary fringe zone and 1 deeper sample for delineation - ON HOLD)*: - **PHC/BTEX** *(based on headspace and visual/olfactory observations)*
BH21-25	Investigate possible impacts at former UST location at southeast corner of the building	- APEC 2A – Former UST location *(#28. Gasoline and Associated Products Storage in Fixed Tanks*) - Perform headspace reading every 0.6 m.	**1 x Sample** *(1 higher headspace reading/capillary fringe zone and 1 deeper sample for delineation - ON HOLD)*: - **PHC/BTEX** *(based on headspace and visual/olfactory observations)*

ID	Rationale	Proposed Investigation	Laboratory Soil Analysis
TP21-1	Investigate possible impacts at pole-mounted transformers at the entrance driveway of New Orchard Ave.	- APEC 6 - Four pole-mounted transformers and fuse box were observed on the driveway of New Orchard Ave. (*#55. Transformer Manufacturing, Processing and Use)*	**1 x Sample** *(1 hand-dug sample from the first 15 cm of soil profile)*: - **PCB** - **PHC/BTEX**
Grain Size: submit **two soil samples** for grain size at or near the anticipated water table (check Geotech sampling plan) **pH**: in conjunction with other parameters - **two soil samples** (two of surface soil (0-1.5 m bgs), two of subsurface soil (> 1.5 m bgs)) for pH **Duplicate Samples**: One duplicate soil sample for each VOC, PHC/BTEX, and M&ORP (Higher VOC/worst case)			

6.2 Monitoring Well Installation

- Refer to SOP No. 1: Monitoring Well Installation. The monitoring wells will consist of 50 mm inner diameter ("ID") Schedule 40 polyvinyl chloride ("PVC") casing and 50 mm ID Schedule 40 PVC well screen (up to 3 metres in length, #10 slot size); sand pack surrounding the screen will be #00 or #0. The annulus will be backfilled using clean silica sand around the screened portion, extending approximately 0.3 to 0.6 m above the screen, followed by bentonite to just below the ground surface. The monitoring wells will be completed with a flush-mounted style protective casing set in concrete and sealed with a PVC j-plug. Label the j-plug with the monitoring well ID during installation. Mark the reference point at the top of well pipe with a small notch. Do NOT use sharpie/marker to mark out reference point.
- Please confirm monitoring well construction with Daniel Stabile prior to installation where any deviation from our typical monitoring well construction is expected.
- Install environmental monitoring wells per the details in Table 3.
- If water table is encountered within overburden, before the last spoon/interval is sampled, take a picture of the BH log and send it to Daniel Stabile for review and definition on the monitoring well design.
- If water table is within the bedrock, well is to be sealed completely on the bedrock to avoid water from the overburden to infiltrate inside the well through the bentonite seal and sand pack.

Table 3: Monitoring Well Construction Details

Location	Screen Depth (m bgs)	Screen Length (ft / m)	Well Diameter (mm/inches)	Protective Casing Type
BH21-01	Set to straddle the water table	10 / 3	51 / 2	Flush-mount
BH21-02	Set to straddle the water table	10 / 3	51 / 2	Flush-mount
BH21-03	Set to straddle the water table	10 / 3	51 / 2	Flush-mount
BH21-04	Set to straddle the water table	10 / 3	51 / 2	Flush-mount
BH21-05	Set to straddle the water table	10 / 3	51 / 2	Flush-mount

Location	Screen Depth (m bgs)	Screen Length (ft / m)	Well Diameter (mm/inches)	Protective Casing Type
BH21-11	Set to straddle the water table	10 / 3	51 / 2	Flush-mount
BH21-14	Set to straddle the water table	10 / 3	51 / 2	Flush-mount
BH21-15S	Set to straddle the water table	10 / 3	51 / 2	Flush-mount
BH21-15D	Set to straddle the water table	10 / 3	51 / 2	Flush-mount
BH21-19	Set to straddle the water table	10 / 3	51 / 2	Flush-mount
BH21-20	Set to straddle the water table	10 / 3	51 / 2	Flush-mount
BH21-21	Set to straddle the water table	10 / 3	51 / 2	Flush-mount
BH21-22	Set to straddle the water table	10 / 3	51 / 2	Flush-mount

7.0 MONITORING WELL DEVELOPMENT OF NEWLY INSTALLED WELLS

- Monitoring well development to be conductec upon completion of the monitoring well installation.
- Develop each newly installed monitoring well in accordance with SOP No. 5: Monitoring Well Development.
- Develop the monitoring well with Waterra tubing, foot valve, and surge block for two minutes of pumping for each 0.3 m (1 ft) of the screen.
- Following the surging, continue to purge the ten well volumes or until dry three times.
- Contain all purge water in labelled and sealed drums/totes for off-site disposal.
- Please contact Daniel Stabile if you observe or suspect that there is sheen/product in any monitoring well.

8.0 GROUNDWATER MONITORING AND SAMPLE COLLECTION

8.1 Groundwater Monitoring

- Collect water levels using an interface probe from all the monitoring wells at the Site before collecting groundwater samples from any monitoring wells.
- Please contact Daniel Stabile if you observe or suspect that there is free product in any monitoring well.
- If product is detected with the interface probe or product signs are observed during monitoring well development, check for product thickness with a bailer and take photos of the bailer (regardless of whether product is observed). Record product thickness using the interface probe and the bailer.
    - Clean interface probe and dispose of bailer immediately if impacts are observed.

8.2 Groundwater Sample Collection

- Refer to SOP No. 10: Low Flow Sample Collection and SOP No. 12: Measurement of Field Parameters. Use the "Groundwater Sample Collection" form to collect all data during groundwater sampling.

- Use a low-flow pump for purging and sample collection and monitor depth to groundwater and water quality field parameters (i.e., pH, specific conductivity, temperature, dissolved oxygen, and reduction-oxidation potential) in accordance with SOP Nos. 10 and 12. If field water quality parameters do not stabilize during low flow purging, do not purge longer than 30 minutes before collecting a groundwater sample.
- If drawdown in the monitoring well is greater than 0.3 m but remains stable, continue purging. If the drawdown is more significant than 0.3 m and is not stable, then complete purging and sample collection in accordance with SOP No. 9: Conventional Groundwater Sample Collection or use the low-field procedure. Sample with a bailer if using the conventional method.
- For wells that can use the conventional method based on observations during development, complete the purging at the beginning of the day and return to the well at the end of the day for sampling.
- Collect groundwater samples in accordance with Table 4. Collect QA/QC samples as indicated at the end of Table 4. The duplicate groundwater samples should be labelled in a manner that the laboratory cannot readily identify the sample as a duplicate (i.e. DUP1). A trip blank sample is required for every groundwater sample submission and one field blank sample is also required.
- Metals are to be field filtered per lab requirements.
- For the resamapling of BH21-04 on November 30, 2021, sample needs to be collected from the top of the screened section (aprox. 4.5-4.7 m btoc).
- BH21-01 were found dry after installation and did not recovered enough water for sampling, during the first investigation effort. Measure the water level on both wells and if water column is observed to be sampable, please collect sample without purging the well.
- Samples are to be stored in coolers with ice after collection (the samples **must** be below 10°C upon receipt to the lab).
- Fill out the chain of custody per the details in Table 5.

Table 4: Groundwater Sampling Plan (Field Check List)

Location	Sampling Date	Laboratory Groundwater Analysis			Sampled?		OBS.
		VOC	PHC (F1-F4) and BTEX	Metals and ORP	YES	NO	
BH21-1	04-Oct-2021	X	X	X	☐	☒	Dry well
BH21-2	04-Oct-2021	X	X	X	☒	☐	
BH21-3	04-Oct-2021	X	X	X	☒	☐	
BH21-4	04-Oct-2021	X	X	X	☒	☐	
	30-Nov-2021	X	X		☒	☐	DUP-1
	09-Dec-2021	X	X		☒	☐	
	22-Dec-2021	X	X		☒	☐	
BH21-05	04-Oct-2021	X	X	X	☒	☐	DUP-1

Location	Sampling Date	Laboratory Groundwater Analysis			Sampled?		OBS.
		VOC	PHC (F1-F4) and BTEX	Metals and ORP	YES	NO	
BH21-11	30-Nov-2021	X	X	X	☒	☐	DUP-2
BH21-14	30-Nov-2021	X	X		☒	☐	
	09-Dec-2021	X	X		☒	☐	DUP
	22-Dec-2021	X	X		☒	☐	
BH21-15S	30-Nov-2021	X	X		☒	☐	
BH21-15D	30-Nov-2021	X	X		☒	☐	
BH21-19	30-Nov-2021	X	X		☒	☐	
BH21-20	30-Nov-2021	X	X		☒	☐	
BH21-21	22-Dec-2021	X	X		☒	☐	DUP
BH21-22	22-Dec-2021	X	X		☒	☐	
Total Samples		**17**	**17**	**5**			

Duplicate Sample: One duplicate groundwater sample VOC, PHC/BTEX
Trip Blanks: One trip blank per groundwater sample submission for VOC (per cooler)
Field Blank: One field blank for VOC

9.0 CHAIN OF CUSTODY INFORMATION

- Please send a copy of the chain of custody to Daniel Stabile for review prior to submitting the soil and groundwater samples to the laboratory.
- After confirmation/approval, staff can submit samples for analysis.

Table 5: Chain of Custody Details

Chain of Custody Item	Information
Analytical Laboratory	BV Labs and AGAT Laboratory
Generic Site Condition Standards (SCS)	O. Reg 153/05 Table 7, R/P/I and I/C/C (don't report SCS on CofA)
Use Record of Site Condition analytical procedures?	Yes
Turn-around Time	48hs soil and GW TAT
Golder Reporting Contact	Daniel_Stabile@golder.com Paul_Hurst@golder.com
Project-Specific Quote Number	Golder-BV MSA and Golder-AGAT MSA (include *WORK ORDER* on the header of the CoC and provide the MSA signature date of May 18, 2020)
Billing Details	AP_CustomerService@golder.com
Is an EQUIS EDD Required?	Yes -
Lab User Certificate Facility	230360930

10.0 SURVEYING

- Drilling locations will be surveyed after monitoring well installations.
- Northing and easting coordinates are to be collected to a +/- 10 cm accuracy (Phone APP should work).
- Elevations of the ground surface and top of pipe to be measured off of a local benchmark (previous MW's).
- During monitoring events, measure the distance from the top of the pipe to the ground surface/flushmount if top of pipe can not be surveyed.

11.0 INVESTIGATION DERIVED WASTE

- Garbage, such as gloves, bags, etc., is to be taken off-site for disposal.
- Label drums for waste management purposes include the project number, date, site location, drum contents (soil cuttings, purge water).
- Drums should be grouped and placed in an area of the Site for easy access. Confirm with the Property Representative (Peter/Michelle) where the best location on the Site would be. This is needed to be agreed upon between the Site Supervisor, PM and site representee as soon as possible during the first day of fieldwork.
- Record inventory of waste containers in the field notes.

12.0 DOCUMENT MANAGEMENT

- Field staff submits scanned field notes to GTAFieldFile@golder.com and Daniel_Stabile@golder.com. This does not need to be daily but should be weekly for more extensive programs or at the fieldwork's end.
- Put all files in one single pdf, and the file name should be as follows: PROJECT_NUMBER Field Notes COMPLETION_DATE" (for example, "1712345 Field Notes April 27, 2017.pdf).
- Take photos, at least two at each one of the drilling/sampling locations showing: (1) general area of drilling; (2) detailed photo of the drilling or some specific aspect you want to highlight and; (3) H&S photo – optional. Take photo of the drums storage area.

Golder Associates Ltd.

SAMPLING AND ANALYSIS PLAN

DATE May 5, 2022 **Project No.** 21494078

TO Field Supervisor
Golder Associates Ltd.

CC Paul Hurst, Project Director, QP

FROM Daniel Stabile, Project Manager **EMAIL Daniel_Stabile@golder.com**

SAMPLING AND ANALYSIS PLAN, 1047 RICHMOND ROAD, OTTAWA, ONTARIO

1.0 OBJECTIVE

The intent of this Phase Two Environmental Site Assessment (ESA) is to investigate the soil and groundwater within the areas of potential environmental concern (APECs) identified in the Phase One ESA at 1047 Richmond Rd., Ottawa, Ontario (the Site).

The Site is currently an active car dealership, and we need to keep our operations confidential and not disclose any information to the business employees. The Phase Two ESA is required to support a future filing of a Record of Site Condition (RSC) if financing and/or sale of the property is intended in the future.

Four rounds of drilling were completed, and this stage's objective is to delineate GW impacts at BH21-4 and BH21-14 vertically and horizontally. Telescope drilling will be performed to install multilevel monitoring well pairs at BH21-4 and BH21-14 to achieve horizontal delineation. Since these boreholes will be drilled through an impacted GW zone, telescopic drilling will be required to avoid dragging contamination from upper zones to deeper depths.

2.0 SITE ACCESS REQUIREMENTS

Table 1: Site Access

Access Concern	Information
Site Contacts	Mr. Peter Pears and Ms. Michele Pears Office: 613-327-5153 michelep@metrochrysler.com
Access	No restrictions.
Hours of Work	■ Within daylight hours (Approx. 7 am to 6 pm) ■ Interior drilling from 06:00pm to 12:00 am ■ Exterior drilling From 08:00am to 05:00pm
Site Check-In/Out Procedures	Daily check-in/out with Daniel Stabile
Photography	No restrictions

Golder Associates Ltd.
6925 Century Avenue, Suite #100 Mississauga, Ontario, L5N 7K2 Canada T: +1 905 567 4444 +1 905 567 6561

Access Concern	Information
H&S	■ Follow the HaSEP and COVID procedures; and conduct tailgate with drilling crew. ■ Not to disclose any information to the site employees. Ask Michele help if this happens

3.0 GENERAL REQUIREMENTS

- Follow standard operating procedures for drilling, soil logging, and soil sampling. All work is to be completed assuming a Record of Site Condition will be required.
- Follow Golder Standard Operating Procedures (SOPs) referenced in this sampling and analysis plan and use Golder standard field forms.
- Complete a Daily Log and Job Safety and Environment Analysis (JSEA) form for every day of fieldwork.
- New disposable Nitrile™ gloves will be used at each sampling location to prevent cross-contamination.
- All non-dedicated sampling equipment (e.g., interface probes) will be decontaminated between sampling locations. Sampling equipment in contact with soil or groundwater will be washed with a laboratory-grade detergent solution (i.e. phosphate-free AlcoNox) and thoroughly rinsed with analyte-free water. Use plastic pales from any hardware store. They can also be used for wastewater storage.

4.0 PRIVATE LOCATES

- Private locates was performed on May 5, 2022, with USL-1.
- Bring public locate sheets with you to the Site.
- Ensure the private locator clears each borehole location before leaving the Site and that the radius of 2-3 m clearance is provided by the locator for each location. Adjust locations as applicable. If in doubt/clear a second nearby location as an alternate.

5.0 DRILLING ACTIVITIES

- Borehole drilling and monitoring well installation is booked for May 9, 2022, with Strata Group.

5.1 Borehole Drilling and Soil Sampling

- Ensure that borehole drilling and soil sampling is carried out in conformance with SOP No. 3: Borehole Drilling and Sampling.
- Confirm that the private locator has cleared every drilling location before penetrating the ground.
- Borehole IDs are found in the proposed BH locations plan.
- Screen overburden soil samples at maximum 0.75 m (2.5 ft) intervals using a combustible gas and photoionization detector (i.e. RKI Eagle, calibrated for hexane and isobutylene), as per SOP No. 4: Headspace Screening.
- Log overburden soil stratigraphy, as per SOP No. 6: Soil Logging and SOP No. 14: Soil Classification and Description.

- Bedrock is expected to be encountered from 3 – 4 m bgs. After this depth, the drilling will be performed with ait hammer tooling, and no soil samples or soil cores will be collected.
- Collect soil samples (including 2 x vials per interval) at a maximum of 0.75 m (2.5 ft) intervals from the ground surface to borehole refusal (call Daniel Stabile if soil conditions are tight or soil recovery is not satisfactory). Submit soil samples in accordance with Table 2 (below).
- Duplicate *samples to be collected and submitted for analysis at a rate of one duplicate per every ten samples submitted to the laboratory. A summary of duplicates required is included at the end of Table 2.*
- Collect *duplicates at the same intervals of the higher headspace readings and/or according to Table 2. (keep your soil cores until you finalize the headspace headings); and from the inferred capillary fringe/water table interface interval.*
- Soil jar quantities: 2 x 40 ml Methanol Vails for VOC and PHC F1/BTEX analysis; 2 x 120 ml jar for PHC F2-F4 and moisture. *For duplicates, double the amount of container for the duplicated interval.*
- Samples are to be stored in coolers with ice after collection (the samples must be below 10°C upon receipt to the lab). Bring ice to the Site in the morning.
- Fill out the chain of custody per the details in Table 5.
- Ask drillers to leave two 200L drums to store purged groundwater for the development and sampling stages and one (as needed) steel drum per BH locations to store drilling cutting.

Table 2: Drilling Program Summary and Soil Sampling Details

Borehole	MW	Analysis	Rationale	OBS
BH22-01	Deep BR: 8 - 9.5 mbgs	Soil: (1) PHC/BTEX/VOC GW: (1) PHC/BTEX /VOC	Telescopic drilling to avoid cross-contamination and access groundwater quality and delineate vertical impact at BH21-04.	BH21-04 is screened from 4.5 – 7.5 mbgs
BH22-02	Upper BR: 4.5-7.5 mbgs	Soil: (1) PHC/BTEX/VOC GW: (1) PHC/BTEX /VOC	Upper bedrock wells to delineate east of BH21-04 area	
BH22-03	Deep BR: 5 - 6.5 mbgs	Soil: (1) PHC/BTEX/VOC GW: (1) PHC/BTEX /VOC	Telescopic drilling to avoid cross-contamination and access groundwater quality and delineate vertical impact at BH21-14.	BH21-14 is screened from 3 – 4.5 mbgs
BH22-04	Upper BR: 5 -8 mbgs	Soil: (1) PHC/BTEX/VOC GW: (1) PHC/BTEX /VOC	Upper bedrock wells to delineate west of BH21-14 area	
BH22-05	OB: 2 - 5 mbgs BR: 8.5 - 11.5 mbgs	Soil: (1) PHC/BTEX GW: (2) PHC/BTEX	Additional bedrock MW at the possible UST nest in the front of the building to confirm no impacts on that APEC in groundwater.	BH21-07 located west of this area presented water at 9.5 m bgs

BH21-04	Existing MW	GW: (1) PHC/BTEX /VOC	Re-sample PHC /BTEX /VOC	-
BH21-14	Existing MW	GW: (1) PHC/BTEX /VOC	Re-sample PHC /BTEX /VOC	-
GW: (2) Field Trip/Field Blank for VOC			QA/QC	-
Soil/GW Duplicates @ 10% ratio: Soil (1), GW (1)			QA/QC	-

5.2 Monitoring Well Installation

- Refer to SOP No. 1: Monitoring Well Installation. The monitoring wells will consist of 50 mm inner diameter ("ID") Schedule 40 polyvinyl chloride ("PVC") casing and 50 mm ID Schedule 40 PVC well screen (up to 3 metres in length, #10 slot size); sand pack surrounding the screen will be #00 or #0. The annulus will be backfilled using clean silica sand around the screened portion, extending approximately 0.3 to 0.6 m above the screen, followed by bentonite to just below the ground surface. The monitoring wells will be completed with a flush-mounted style protective casing set in concrete and sealed with a PVC j-plug. Label the j-plug with the monitoring well ID during installation. Mark the reference point at the top of well pipe with a small notch. Do NOT use sharpie/marker to mark out reference point.
- Please confirm monitoring well construction with Daniel Stabile prior to installation where any deviation from our typical monitoring well construction is expected.
- Install environmental monitoring wells per the details in Table 3.
- If water table is encountered within overburden, before the last spoon/interval is sampled, take a picture of the BH log and send it to Daniel Stabile for review and definition on the monitoring well design.
- If water table is within the bedrock, well is to be sealed completely on the bedrock to avoid water from the overburden to infiltrate inside the well through the bentonite seal and sand pack.

Table 3: Monitoring Well Construction Details

Location	Screen Depth (m bgs)	Screen Length (ft / m)	Well Diameter (mm/inches)	Protective Casing Type
BH22-01	8 - 9.5 mbgs	3 / 1.5	51 / 2	Flush-mount
BH22-02	4.5 - 7.5 mbgs	10 / 3	51 / 2	Flush-mount
BH22-03	5 - 6.5 mbgs	3 / 1.5	51 / 2	Flush-mount
BH22-04	5 - 8 mbgs	10 / 3	51 / 2	Flush-mount
BH22-05	8.5 - 11.5 mbgs	10 / 3	51 / 2	Flush-mount

6.0 MONITORING WELL DEVELOPMENT OF NEWLY INSTALLED WELLS

- Monitoring well development to be conductec upon completion of the monitoring well installation.
- Develop each newly installed monitoring well in accordance with SOP No. 5: Monitoring Well Development.
- Develop the monitoring well with Waterra tubing, foot valve, and surge block for two minutes of pumping for each 0.3 m (1 ft) of the screen.

- Following the surging, continue to purge the ten well volumes or until dry three times.
- Contain all purge water in labelled and sealed drums/totes for off-site disposal.
- Please contact Daniel Stabile if you observe or suspect that there is sheen/product in any monitoring well.

7.0 GROUNDWATER MONITORING AND SAMPLE COLLECTION

7.1 Groundwater Monitoring

- Collect water levels using an interface probe from all the monitoring wells at the Site before collecting groundwater samples from any monitoring wells.
- Please contact Daniel Stabile if you observe or suspect that there is free product in any monitoring well.
- If product is detected with the interface probe or product signs are observed during monitoring well development, check for product thickness with a bailer and take photos of the bailer (regardless of whether product is observed). Record product thickness using the interface probe and the bailer.
    - Clean interface probe and dispose of bailer immediately if impacts are observed.

7.2 Groundwater Sample Collection

- Refer to SOP No. 10: Low Flow Sample Collection and SOP No. 12: Measurement of Field Parameters. Use the "Groundwater Sample Collection" form to collect all data during groundwater sampling.
- Use a low-flow pump for purging and sample collection and monitor the depth to groundwater and water quality field parameters (i.e., pH, specific conductivity, temperature, dissolved oxygen, and reduction-oxidation potential) in accordance with SOP Nos. 10 and 12. If field water quality parameters do not stabilize during low flow purging, do not purge longer than 30 minutes before collecting a groundwater sample.
- If drawdown in the monitoring well is greater than 0.3 m but remains stable, continue purging. If the drawdown is more significant than 0.3 m and is not stable, then complete purging and sample collection in accordance with SOP No. 9: Conventional Groundwater Sample Collection or use the low-field procedure. Sample with a bailer if using the conventional method.
- For wells that can use the conventional method based on observations during development, complete the purging at the beginning of the day and return to the well at the end of the day for sampling.
- Collect groundwater samples in accordance with Table 4. Collect QA/QC samples as indicated at the end of Table 4. The duplicate groundwater samples should be labelled in a manner that the laboratory cannot readily identify the sample as a duplicate (i.e. DUP1). A trip blank sample is required for every groundwater sample submission and one field blank sample is also required.
- For BH21-04, sample needs to be collected from the top of the screened section (aprox. 4.5-4.7 m btoc).
- Samples are to be stored in coolers with ice after collection (the samples **must** be below 10°C upon receipt to the lab).
- Fill out the chain of custody per the details in Table 5.

8.0 CHAIN OF CUSTODY INFORMATION

- Please send a copy of the chain of custody to Daniel Stabile for review prior to submitting the soil and groundwater samples to the laboratory.
- After confirmation/approval, staff can submit samples for analysis.

Table 4: Chain of Custody Details

Chain of Custody Item	Information
Analytical Laboratory	AGAT Laboratory
Generic Site Condition Standards (SCS)	O. Reg 153/05 Table 7, R/P/I and I/C/C (don't report SCS on CofA)
Use Record of Site Condition analytical procedures?	Yes
Turn-around Time	Regular TAT
Golder Reporting Contact	Daniel_Stabile@golder.com Paul_Hurst@golder.com
Project-Specific Quote Number	Golder-BV MSA and Golder-AGAT MSA (include *WORK ORDER* on the header of the CoC and provide the MSA signature date of May 18, 2020)
Billing Details	AP_CustomerService@golder.com
Is an EQUIS EDD Required?	Yes -
Lab User Certificate Facility	230360930

9.0 SURVEYING

- Drilling locations will be surveyed after monitoring well installations.
- Northing and easting coordinates are to be collected to a +/- 10 cm accuracy (Phone APP should work).
- Elevations of the ground surface and top of pipe to be measured off of a local benchmark (previous MW's).
- During monitoring events, measure the distance from the top of the pipe to the ground surface/flushmount if top of pipe can not be surveyed.

10.0 INVESTIGATION DERIVED WASTE

- Garbage, such as gloves, bags, etc., is to be taken off-site for disposal.
- Label drums for waste management purposes include the project number, date, site location, drum contents (soil cuttings, purge water).
- Drums should be grouped and placed in an area of the Site for easy access. Confirm with the Property Representative (Peter/Michele) where the best location on the Site would be. This is needed to be agreed upon between the Site Supervisor, PM and site representee as soon as possible during the first day of fieldwork.
- Record inventory of waste containers in the field notes.

11.0 DOCUMENT MANAGEMENT

- Field staff submits scanned field notes to GTAFieldFile@golder.com and Daniel_Stabile@golder.com. This does not need to be daily but should be weekly for more extensive programs or at the fieldwork's end.
- Put all files in one single pdf, and the file name should be as follows: PROJECT_NUMBER Field Notes COMPLETION_DATE" (for example, "1712345 Field Notes April 27, 2017.pdf).
- Take photos, at least two at each one of the drilling/sampling locations showing: (1) general area of drilling; (2) detailed photo of the drilling or some specific aspect you want to highlight and; (3) H&S photo – optional. Take photo of the drums storage area.

Golder Associates Ltd.

GOLDER
MEMBER OF WSP

SAMPLING AND ANALYSIS PLAN

DATE October 2, 2022 **Project No.** 21494078

TO Field Supervisor
Golder Associates Ltd.

CC Paul Hurst, Project Director, QP

FROM Daniel Stabile, Project Manager **EMAIL Daniel_Stabile@golder.com**

SAMPLING AND ANALYSIS PLAN, 1047 RICHMOND ROAD, OTTAWA, ONTARIO

1.0 OBJECTIVE

The intent of this Phase Two Environmental Site Assessment (ESA) is to investigate the soil and groundwater within the areas of potential environmental concern (APECs) identified in the Phase One ESA at 1047 Richmond Rd., Ottawa, Ontario (the Site).

The Site is currently an active car dealership, and we need to keep our operations confidential and not disclose any information to the business employees. The Phase Two ESA is required to support a future filing of a Record of Site Condition (RSC) if financing and/or sale of the property is intended in the future.

Several rounds of drilling were completed, and this stage's objective is to delineate GW impacts at BH21-4 and BH21-14 vertically and horizontally. Telescope drilling will be performed to install multilevel monitoring well pairs at BH21-4 and BH21-14 to achieve horizontal delineation. Since these boreholes will be drilled through an impacted GW zone, telescopic drilling will be required to avoid dragging contamination from upper zones to deeper depths.

2.0 SITE ACCESS REQUIREMENTS

Table 1: Site Access

Access Concern	Information
Site Contacts	Mr. Peter Pears and Ms. Michele Pears Office: 613-327-5153 michelep@metrochrysler.com
Access	No restrictions.
Hours of Work	■ Within daylight hours (Approx. 7 am to 6 pm) ■ Interior drilling from 06:00pm to 12:00 am ■ Exterior drilling From 08:00am to 05:00pm
Site Check-In/Out Procedures	Daily check-in/out with Daniel Stabile
Photography	No restrictions

Golder Associates Ltd.
6925 Century Avenue, Suite #100 Mississauga, Ontario, L5N 7K2 Canada T: +1 905 567 4444 +1 905 567 6561

Access Concern	Information
H&S	■ Follow the HaSEP and COVID procedures; and conduct tailgate with drilling crew. ■ Not to disclose any information to the site employees. Ask Michele help if this happens

3.0 GENERAL REQUIREMENTS

- Follow standard operating procedures for drilling, soil logging, and soil sampling. All work is to be completed assuming a Record of Site Condition will be required.
- Follow Golder Standard Operating Procedures (SOPs) referenced in this sampling and analysis plan and use Golder standard field forms.
- Complete a Daily Log and Job Safety and Environment Analysis (JSEA) form for every day of fieldwork.
- New disposable Nitrile™ gloves will be used at each sampling location to prevent cross-contamination.
- All non-dedicated sampling equipment (e.g., interface probes) will be decontaminated between sampling locations. Sampling equipment in contact with soil or groundwater will be washed with a laboratory-grade detergent solution (i.e. phosphate-free AlcoNox) and thoroughly rinsed with analyte-free water. Use plastic pales from any hardware store. They can also be used for wastewater storage.

4.0 PRIVATE LOCATES

- Private locates was performed on May 5, 2022, with USL-1.
- Bring public locate sheets with you to the Site.
- Ensure the private locator clears each borehole location before leaving the Site and that the radius of 2-3 m clearance is provided by the locator for each location. Adjust locations as applicable. If in doubt/clear a second nearby location as an alternate.

5.0 DRILLING ACTIVITIES

- Borehole drilling and monitoring well installation is booked for October 3 and October 4 2022, with Strata Group.

5.1 Borehole Drilling and Soil Sampling

- Ensure that borehole drilling and soil sampling is carried out in conformance with SOP No. 3: Borehole Drilling and Sampling.
- Confirm that the private locator has cleared every drilling location before penetrating the ground.
- Borehole IDs are found in the proposed BH locations plan.
- Screen overburden soil samples at maximum 0.75 m (2.5 ft) intervals using a combustible gas and photoionization detector (i.e. RKI Eagle, calibrated for hexane and isobutylene), as per SOP No. 4: Headspace Screening.

- Log overburden soil stratigraphy, as per SOP No. 6: Soil Logging and SOP No. 14: Soil Classification and Description.
- Bedrock is expected to be encountered from 3 – 4 m bgs. After this depth, the drilling will be performed with ait hammer tooling, and no soil samples or soil cores will be collected.
- Collect soil samples (including 2 x vials per interval) at a maximum of 0.75 m (2.5 ft) intervals from the ground surface to borehole refusal (call Daniel Stabile if soil conditions are tight or soil recovery is not satisfactory). Submit soil samples in accordance with Table 2 (below).
- Duplicate *samples to be collected and submitted for analysis at a rate of one duplicate per every ten samples submitted to the laboratory. A summary of duplicates required is included at the end of Table 2.*
- Collect *duplicates at the same intervals of the higher headspace readings and/or according to Table 2. (keep your soil cores until you finalize the headspace headings); and from the inferred capillary fringe/water table interface interval.*
- Soil jar quantities: 2 x 40 ml Methanol Vails for VOC and PHC F1/BTEX analysis; 2 x 120 ml jar for PHC F2-F4 and moisture. *For duplicates, double the amount of container for the duplicated interval.*
- Samples are to be stored in coolers with ice after collection (the samples must be below 10°C upon receipt to the lab). Bring ice to the Site in the morning.
- Fill out the chain of custody per the details in Table 5.
- Ask drillers to leave two 200L drums to store purged groundwater for the development and sampling stages and one (as needed) steel drum per BH locations to store drilling cutting.

Table 2: Drilling Program Summary and Soil Sampling Details

Borehole	MW	Analysis	Rationale	OBS
BH22-06	~7 mbgs	GW: (1) VOC, PHC (F1-F4), BTEX	Telescopic drilling to avoid cross-contamination and access groundwater quality and delineate vertical impact at BH21-04.	BH21-04 is screened from 4.5 – 7.5 mbgs
BH22-07	~7 mbgs	GW: (1) PHC/BTEX /VOC	Upper bedrock wells to delineate east of BH21-04 area	
BH22-08	Deep ~10 mbgs	GW: (1) VOC	Telescopic drilling to avoid cross-contamination and access groundwater quality and delineate vertical impact at BH21-14.	BH21-14 is screened from 3 – 4.5 mbgs
BH21-04	Existing MW	GW: (1) PHC/BTEX /VOC	Re-sample PHC /BTEX /VOC	-
BH21-14	Existing MW	GW: (1) PHC/BTEX /VOC	Re-sample PHC /BTEX /VOC	-
GW: (2) Field Trip/Field Blank for VOC			QA/QC	-

Soil/GW Duplicates @ 10% ratio: Soil (1), GW (1)	QA/QC	-

5.2 Monitoring Well Installation

- Refer to SOP No. 1: Monitoring Well Installation. The monitoring wells will consist of 50 mm inner diameter ("ID") Schedule 40 polyvinyl chloride ("PVC") casing and 50 mm ID Schedule 40 PVC well screen (up to 3 metres in length, #10 slot size); sand pack surrounding the screen will be #00 or #0. The annulus will be backfilled using clean silica sand around the screened portion, extending approximately 0.3 to 0.6 m above the screen, followed by bentonite to just below the ground surface. The monitoring wells will be completed with a flush-mounted style protective casing set in concrete and sealed with a PVC j-plug. Label the j-plug with the monitoring well ID during installation. Mark the reference point at the top of well pipe with a small notch. Do NOT use sharpie/marker to mark out reference point.
- Please confirm monitoring well construction with Daniel Stabile prior to installation where any deviation from our typical monitoring well construction is expected.
- Install environmental monitoring wells per the details in Table 3.
- If water table is encountered within overburden, before the last spoon/interval is sampled, take a picture of the BH log and send it to Daniel Stabile for review and definition on the monitoring well design.
- If water table is within the bedrock, well is to be sealed completely on the bedrock to avoid water from the overburden to infiltrate inside the well through the bentonite seal and sand pack.

Table 3: Monitoring Well Construction Details

Location	Screen Depth (m bgs)	Screen Length (m)	Well Diameter (mm/inches)	Protective Casing Type
BH22-06	6.00 - 7.00 mbgs	1	51 / 2	Flush-mount
BH22-07	6.00 - 7.00 mbgs	1	51 / 2	Flush-mount
BH22-08	9.00 - 10.00 mbgs	1	51 / 2	Flush-mount

6.0 MONITORING WELL DEVELOPMENT OF NEWLY INSTALLED WELLS

- Monitoring well development to be conducted upon completion of the monitoring well installation.
- Develop each newly installed monitoring well in accordance with SOP No. 5: Monitoring Well Development.
- Develop the monitoring well with Waterra tubing, foot valve, and surge block for two minutes of pumping for each 0.3 m (1 ft) of the screen.
- Following the surging, continue to purge the ten well volumes or until dry three times.
- Contain all purge water in labelled and sealed drums/totes for off-site disposal.
- Please contact Daniel Stabile if you observe or suspect that there is sheen/product in any monitoring well.

7.0 GROUNDWATER MONITORING AND SAMPLE COLLECTION

7.1 Groundwater Monitoring

- Collect water levels using an interface probe from all the monitoring wells at the Site before collecting groundwater samples from any monitoring wells.
- Please contact Daniel Stabile if you observe or suspect that there is free product in any monitoring well.
- If product is detected with the interface probe or product signs are observed during monitoring well development, check for product thickness with a bailer and take photos of the bailer (regardless of whether product is observed). Record product thickness using the interface probe and the bailer.
    - Clean interface probe and dispose of bailer immediately if impacts are observed.

7.2 Groundwater Sample Collection

- Refer to SOP No. 10: Low Flow Sample Collection and SOP No. 12: Measurement of Field Parameters. Use the "Groundwater Sample Collection" form to collect all data during groundwater sampling.
- Use a low-flow pump for purging and sample collection and monitor the depth to groundwater and water quality field parameters (i.e., pH, specific conductivity, temperature, dissolved oxygen, and reduction-oxidation potential) in accordance with SOP Nos. 10 and 12. If field water quality parameters do not stabilize during low flow purging, do not purge longer than 30 minutes before collecting a groundwater sample.
- If drawdown in the monitoring well is greater than 0.3 m but remains stable, continue purging. If the drawdown is more significant than 0.3 m and is not stable, then complete purging and sample collection in accordance with SOP No. 9: Conventional Groundwater Sample Collection or use the low-field procedure. Sample with a bailer if using the conventional method.
- For wells that can use the conventional method based on observations during development, complete the purging at the beginning of the day and return to the well at the end of the day for sampling.
- Collect groundwater samples in accordance with Table 4. Collect QA/QC samples as indicated at the end of Table 4. The duplicate groundwater samples should be labelled in a manner that the laboratory cannot readily identify the sample as a duplicate (i.e. DUP1). A trip blank sample is required for every groundwater sample submission and one field blank sample is also required.
- Samples are to be stored in coolers with ice after collection (the samples **must** be below 10°C upon receipt to the lab).
- Fill out the chain of custody per the details in Table 5.

8.0 CHAIN OF CUSTODY INFORMATION

- Please send a copy of the chain of custody to Daniel Stabile for review prior to submitting the soil and groundwater samples to the laboratory.
- After confirmation/approval, staff can submit samples for analysis.

Table 4: Chain of Custody Details

Chain of Custody Item	Information
Analytical Laboratory	AGAT Laboratory
Generic Site Condition Standards (SCS)	O. Reg 153/05 Table 7, R/P/I and I/C/C (don't report SCS on CofA)
Use Record of Site Condition analytical procedures?	Yes
Turn-around Time	Regular TAT
Golder Reporting Contact	Daniel_Stabile@golder.com Paul_Hurst@golder.com
Project-Specific Quote Number	Golder-BV MSA and Golder-AGAT MSA (include *WORK ORDER* on the header of the CoC and provide the MSA signature date of May 18, 2020)
Billing Details	AP_CustomerService@golder.com
Is an EQUIS EDD Required?	Yes -
Lab User Certificate Facility	230360930

9.0 SURVEYING

- Drilling locations will be surveyed after monitoring well installations.
- Northing and easting coordinates are to be collected to a +/- 10 cm accuracy (Phone APP should work).
- Elevations of the ground surface and top of pipe to be measured off of a local benchmark (previous MW's).
- During monitoring events, measure the distance from the top of the pipe to the ground surface/flushmount if top of pipe can not be surveyed.

10.0 INVESTIGATION DERIVED WASTE

- Garbage, such as gloves, bags, etc., is to be taken off-site for disposal.
- Label drums for waste management purposes include the project number, date, site location, drum contents (soil cuttings, purge water).
- Drums should be grouped and placed in an area of the Site for easy access. Confirm with the Property Representative (Peter/Michele) where the best location on the Site would be. This is needed to be agreed upon between the Site Supervisor, PM and site representee as soon as possible during the first day of fieldwork.
- Record inventory of waste containers in the field notes.

11.0 DOCUMENT MANAGEMENT

- Field staff submits scanned field notes to GTAFieldFile@golder.com and Daniel_Stabile@golder.com. This does not need to be daily but should be weekly for more extensive programs or at the fieldwork's end.
- Put all files in one single pdf, and the file name should be as follows: PROJECT_NUMBER Field Notes COMPLETION_DATE" (for example, "1712345 Field Notes April 27, 2017.pdf).

- Take photos, at least two at each one of the drilling/sampling locations showing: (1) general area of drilling; (2) detailed photo of the drilling or some specific aspect you want to highlight and; (3) H&S photo – optional. Take photo of the drums storage area.

Golder Associates Ltd.

SAMPLING AND ANALYSIS PLAN

DATE May 10, 2023 **Project No.** 21494078

TO Field Supervisor
Golder Associates Ltd.

CC Paul Hurst, Project Director, QP;

FROM Daniel Stabile, Project Manager **EMAIL Daniel_Stabile@golder.com**

SAMPLING AND ANALYSIS PLAN, 1047 RICHMOND ROAD, OTTAWA, ONTARIO

1.0 OBJECTIVE

The intent of this Phase Two Environmental Site Assessment (ESA) is to investigate the soil and groundwater within the areas of potential environmental concern (APECs) identified in the Phase One ESA at 1047 Richmond Rd., Ottawa, Ontario (the Site).

The Site is currently an inactive car dealership and the Phase Two ESA is required to support a future filing of a Record of Site Condition (RSC) in the future.

2.0 SITE BACKGROUND

Several rounds of drilling were performed in 2021 and 2022. Two locations presented exceedances of the Table 7 in groundwater (BH21-4 and 21-14) with exceedances of benzene, 1,2-dichloroethane and trichloroethylene. The present delineation attempt is to delineate impacts at BH22-2, discovered on the last delineation round, to north and east of this BH location to install shallow and deep monitoring wells and assess if impacted groundwater is possibly flowing off-site, beyond the property limit.

3.0 SITE ACCESS REQUIREMENTS

Table 1: Site Access

Access Concern	Information
Site Contacts	Corina Sajewski Director, Development C: +1-(647)-895-7245 corina.sajewski@fengate.com
Access	No restrictions.
Hours of Work	Within daylight hours (Approx. 7 am to 6 pm)
Site Check-In/Out Procedures	Daily check-in/out with Daniel Stabile
Photography	No restrictions.

Access Concern	Information
H&S	Follow the HaSEP and COVID procedure Conduct tailgate with drilling crew.

4.0 GENERAL REQUIREMENTS

- Follow standard operating procedures for drilling, soil logging, and soil sampling. All work is to be completed assuming a Record of Site Condition will be required.
- Follow Golder Standard Operating Procedures (SOPs) referenced in this sampling and analysis plan and use Golder standard field forms.
- Complete a Daily Log and Job Safety and Environment Analysis (JSEA) form for every day of fieldwork.
- New disposable Nitrile™ gloves will be used at each sampling location to prevent cross-contamination.
- All non-dedicated sampling equipment (e.g., interface probes) will be decontaminated between sampling locations. Sampling equipment in contact with soil or groundwater will be washed with a laboratory-grade detergent solution (i.e. phosphate-free AlcoNox) and thoroughly rinsed with analyte-free water. Use plastic pales from any hardware store. They can also be used for wastewater storage.

5.0 PRIVATE LOCATES

- Private locates was completed in May 8, 2023, with USL-1.
- Bring public and private locate sheets with you to the Site.
- Ensure the private locator clears each borehole location before leaving the Site and that the radius of 2-3 m clearance is provided by the locator for each location. Adjust locations as applicable. If in doubt/clear a second nearby location as an alternate.

6.0 DRILLING ACTIVITIES

- Borehole drilling and monitoring well installation is booked for May 15-17, 2023, with Strata Drilling Group at 8 am.

6.1 Borehole Drilling and Soil Sampling

- Ensure that borehole drilling and soil sampling is carried out in conformance with SOP No. 3: Borehole Drilling and Sampling.
- Confirm that the private locator has cleared every drilling location before penetrating the ground.
- Borehole IDs are found in the proposed BH locations plan.
- Screen overburden soil samples at maximum 0.6 m (2 ft) intervals using a combustible gas and photoionization detector (i.e. RKI Eagle, calibrated for hexane and isobutylene), as per SOP No. 4: Headspace Screening.
- Log overburden soil stratigraphy at maximum 0.6 m (2 ft) intervals, as per SOP No. 6: Soil Logging and SOP No. 14: Soil Classification and Description.
- Bedrock is expected to be encountered from 2 – 4 m bgs. After this depth, the drilling will be performed with rock coring tooling or air hammer, and no soil samples will be collected.
- No soil samples will be collected. The borehole is exclusively for headspace screening of the overburden soil, bedrock drilling and for monitoring well installation

- Ask drillers to leave two 200L drums to store purged groundwater for the development and sampling stages and one (as needed) steel drum per BH locations to store drilling cutting.

Table 2: Drilling Program Summary and Soil Sampling Details

ID	Rationale	Proposed Investigation	Laboratory GW Analysis
BH22-9S/D	Horizontal and vertical delineation from BH22-2	Shallow screen: 3-6 m (3 m of screened section) Deep screen: 9-10 m (1m of screened section)	**2 x VOC** Samples (one each monitoring well)
BH22-10S/D	Horizontal and vertical delineation from BH22-2	Shallow screen: 3-6 m (3 m of screened section) Deep screen: 9-10 m (1m of screened section)	**2 x VOC** Samples (one each monitoring well)
Duplicate Samples: One duplicate GW sample for each VOC **QA/QC samples:** One trip blank (VOC) and one field blank (VOC)			

6.2 Monitoring Well Installation

- Refer to SOP No. 1: Monitoring Well Installation. The monitoring wells will consist of 50 mm inner diameter ("ID") Schedule 40 polyvinyl chloride ("PVC") casing and 50 mm ID Schedule 40 PVC well screen (up to 3 metres in length, #10 slot size); sand pack surrounding the screen will be #00 or #0. The annulus will be backfilled using clean silica sand around the screened portion, extending approximately 0.3 to 0.6 m above the screen, followed by bentonite to just below the ground surface. The monitoring wells will be completed with a flush-mounted style protective casing set in concrete and sealed with a PVC j-plug. Label the j-plug with the monitoring well ID during installation. Mark the reference point at the top of well pipe with a small notch. Do NOT use sharpie/marker to mark out reference point.
- Please confirm monitoring well construction with Daniel Stabile prior to installation where any deviation from our typical monitoring well construction is expected.
- Install environmental monitoring wells per the details in Table 3.
- If water table is encountered within overburden before the last interval is sampled, take a picture of the BH log and send it to Daniel Stabile for review and definition on the monitoring well design.
- If water table is within the bedrock, the well is to be sealed completely on the bedrock to avoid water from the overburden to infiltrate inside the well through the bentonite seal and sand pack.

Table 3: Monitoring Well Construction Details

Location	Well Screen (m bgs)	Screen Length (ft / m)	Well Diameter (mm/inches)	Protective Casing Type
BH22-9S	3.0 – 6.0 m bgs	10 / 3	50 / 2	Flush mount
BH22-9D	9.0 – 10.0 m bgs	3.2 / 1		
BH22-10S	3.0 – 6.0 m bgs	10 / 3		
BH22-10D	9.0 – 10.0 m bgs	3.2 / 1		

7.0 MONITORING WELL DEVELOPMENT OF NEWLY INSTALLED WELLS

- Monitoring well development to be conducted upon completion of the monitoring well installation.
- Develop each newly installed monitoring well in accordance with SOP No. 5: Monitoring Well Development.
- Develop the monitoring well with Waterra tubing, foot valve, and surge block for two minutes of pumping for each 0.3 m (1 ft) of the screen.
- Following the surging, continue to purge the ten well volumes or until dry three times.
- Contain all purge water in labelled and sealed drums/totes for off-site disposal.
- Please contact Daniel Stabile if you observe or suspect that there is sheen/product in any monitoring well.

8.0 GROUNDWATER MONITORING AND SAMPLE COLLECTION

8.1 Groundwater Monitoring

- Collect water levels using a water tape from all the monitoring wells at the Site before collecting groundwater samples from any monitoring wells.
- Please contact Daniel Stabile if you observe or suspect that there is free product in any monitoring well.
- If product is detected or product signs are observed during monitoring well development, check for product thickness with a bailer and take photos of the bailer (regardless of whether product is observed). Record product thickness using the interface probe and the bailer.
    - Clean interface probe and dispose of bailer immediately if impacts are observed.

8.2 Groundwater Sample Collection

- Refer to SOP No. 10: Low Flow Sample Collection and SOP No. 12: Measurement of Field Parameters. Use the "Groundwater Sample Collection" form to collect all data during groundwater sampling.
- Use a low-flow pump for purging and sample collection and monitor depth to groundwater and water quality field parameters (i.e., pH, specific conductivity, temperature, dissolved oxygen, and reduction-oxidation potential) in accordance with SOP Nos. 10 and 12. If field water quality parameters do not stabilize during low flow purging, do not purge longer than 30 minutes before collecting a groundwater sample.
- If drawdown in the monitoring well is greater than 0.3 m but remains stable, continue purging. If the drawdown is more significant than 0.3 m and is not stable, then complete purging and sample collection in accordance with SOP No. 9: Conventional Groundwater Sample Collection or use the low-field procedure. Sample with a bailer if using the conventional method.
- For wells that can use the conventional method based on observations during development, complete the purging at the beginning of the day and return to the well at the end of the day for sampling.
- Collect groundwater samples in accordance with Table 4. Collect QA/QC samples as indicated at the end of Table 4. The duplicate groundwater samples should be labelled in a manner that the laboratory cannot readily identify the sample as a duplicate (i.e. DUP1). A trip blank sample is required for every groundwater sample submission and one field blank sample is also required.
- Samples are to be stored in coolers with ice after collection (the samples must be below 10°C upon receipt to the lab). Bring ice to the Site in the morning.
- Fill out the chain of custody per the details in Table 5.

Table 4: Groundwater Sampling Plan (Field Check List)

Location	Laboratory GW Analysis	Sampled?	
	VOC	YES	NO
BH21-9S	1	☐	☐
BH21-9D	1	☐	☐
BH21-10S	1	☐	☐
BH21-10D	1	☐	☐
Duplicate Sample: One duplicate groundwater sample VOC **Trip Blanks:** One trip blank for VOC **Field Blank:** One field blank for VOC			

9.0 CHAIN OF CUSTODY INFORMATION

- Please send a copy of the chain of custody to Daniel Stabile for review prior to submitting the groundwater samples to the laboratory.
- After confirmation/approval, staff can submit samples for analysis.

Table 5: Chain of Custody Details

Chain of Custody Item	Information
Analytical Laboratory	AGAT Labs
Generic Site Condition Standards (SCS)	O. Reg 153/05 Table 7, Residential/Parkland/Institutional (don't report SCS on CofA)
Use Record of Site Condition analytical procedures?	Yes
Turn-around Time	Regular TAT
Golder Reporting Contact	Daniel.Stabile@wsp.com Paul.Hurst@wsp.com
Project-Specific Quote Number	2023 Golder-AGAT MSA 735000EB (include *WORK ORDER* on the header of the CoC and provide a signature on the bottom)
Billing Details	AP_CustomerService@wsp.com
Is an EQUIS EDD Required?	YES - Facility # 230360930

10.0 SURVEYING

- Drilling locations will be surveyed after monitoring well installations.
- Northing and easting coordinates are to be collected to a +/- 10 cm accuracy (Phone APP should work).

- Elevations of the ground surface and top of pipe are to be measured off of a local benchmark (previous MW's).
- During monitoring events, measure the distance from the top of the pipe to the ground surface/flushmount if top of pipe can not be surveyed.

11.0 INVESTIGATION DERIVED WASTE

- Garbage, such as gloves, bags, etc., must be disposed of off-site.
- Label drums for waste management purposes, including the project number, date, site location, and drum contents (soil cuttings, purge water).
- Drums should be grouped and placed in an area of the Site for easy access. Confirm with the Property Representative (Peter/Michelle) where the best location on the Site would be. This is needed to be agreed upon between the Site Supervisor, PM and site representative as soon as possible during the first day of fieldwork.
- Record inventory of waste containers in the field notes.

12.0 DOCUMENT MANAGEMENT

- Field staff submits scanned field notes to Daniel.Stabile@wsp.com. This does not need to be daily but should be weekly for more extensive programs or at the fieldwork's end.
- Put all files in one single pdf, and the file name should be as follows: PROJECT_NUMBER Field Notes COMPLETION_DATE" (for example, "1712345 Field Notes April 27, 2017.pdf).
- Take photos, at least two at each one of the drilling/sampling locations showing: (1) general area of drilling; (2) a detailed photo of the drilling or some specific aspect you want to highlight and; (3) H&S photo – optional. Take a photo of the drum's storage area.

Golder Associates Ltd.

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Project Manager - Contaminated Sites *Associate, National Capital Region Contaminated Sites Team Lead*

DS/PH/ds;lb

https://golderassociates.sharepoint.com/sites/152441/project files/6 deliverables/ph two report/1. sampling and analysis plan/21494078-reva-1047 richmond rd bh22-2 delin. sap-8may2023 .docx

APPENDIX E

Record of Borehole Sheets

PROJECT: 21494078

RECORD OF BOREHOLE: 21-01

SHEET 1 OF 1

LOCATION: N 5026314.5 ;E 361326.2

BORING DATE: September 24, 2021

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.30m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ (ND = Not Detected; 100 200 300 400) / HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ (ND = Not Detected; 100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W Wl; 20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		65.73						
0	Power Auger 200 mm Diam. (Hollow Stem)	ASPHALT		0.00						
		FILL - (SW) gravelly SAND, angular; brown (PAVEMENT STRUCTURE); non-cohesive, moist		0.10 65.43	1	SS	19	ND		Flush Mount Casing
		FILL - (SM) gravelly SILTY SAND; grey to dark brown, trace sand (SP); non-coohesive, moist, compact to very loose		0.30					Metals	
1					2	SS	4	ND		
					3	SS	2	ND	PHCs, VOCs	
				63.90						
2	Air Hammer H Bit	BEDROCK (Auger Refusal) (Air hammer from 1.83 m to 7.62 m)		1.83						Bentonite Seal
3										
4										Sllica Sand
5										
6										50 mm Diam. PVC #10 Slot Screen
7				58.11						
		End of Borehole		7.62						
8		Note(s): 1. Water level at BH21-01 measured at a depth of 7.68 m (Elev. 58.04 m) on October 4, 2021 2. Record of borehole log not prepared for geotechnical engineering purposes								
9										
10										

DEPTH SCALE

1 : 50

GOLDER

LOGGED: DG

CHECKED: AG

MIS-BHS 001 21494078.GPJ GAL-MIS.GDT 3/3/22 ZS

PROJECT: 21494078

RECORD OF BOREHOLE: 21-02

SHEET 1 OF 1

LOCATION: N 5026359.3 ;E 361297.8

BORING DATE: September 21, 2021

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.30m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ ND = Not Detected (100 200 300 400) / HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ ND = Not Detected (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT Wp W Wl (20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		65.46						
0	Power Auger 200 mm Diam. (Hollow Stem)	ASPHALT		0.08						Flush Mount Casing
		FILL - (SW) gravellyl SAND, angular; grey (PAVEMENT STRUCTURE); non-cohesive, moist		65.16						
		FILL - (SP) SAND, fine to medium, trace silt; brown; non-cohesive, moist, compact to dense		0.30	1	SS	22	ND		
1					2	SS	31	ND		Metals
		FILL - (SM/GP) SILTY SAND and GRAVEL; dark brown, contains brick fragments and rootlets; non-cohesive, moist, compact		64.24 1.22	3	SS	10	ND		
		Highly weathered BEDROCK		63.63 1.83	4	SS	>84	ND		Bentonite Seal
2					5	SS	>50	ND		PHCs, VOCs
3	Air Hammer H Bit	BEDROCK (Auger Refusal) (Air hammer from 3.05 M TO 7.62 M)		62.41 3.05						
4										Sllica Sand
5										
6										50 mm Diam. PVC #10 Slot Screen
7				57.84						
		End of Borehole		7.62						
8		Note(s):								
		1. Water level at BH21-03 measured at a depth of 3.17 m (Elev. 62.28 m) on October 4, 2021								
		2. Record of borehole log not prepared for geotechnical engineering purposes								
9										
10										

DEPTH SCALE

1 : 50

GOLDER

LOGGED: DG

CHECKED: AG

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PROJECT: 21494078

RECORD OF BOREHOLE: 21-03

SHEET 1 OF 1

LOCATION: N 5026355.1 ;E 361289.2

BORING DATE: September 21 & 22, 2021

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS/0.30m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ ND = Not Detected (100 200 300 400) / HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ ND = Not Detected (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT Wp W Wl (20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		65.24							
0	Power Auger 200 mm Diam. (Hollow Stem)	ASPHALT		0.08							Flush Mount Casing
		FILL - (SW) gravelly SAND, angular; grey (PAVEMENT STRUCTURE); non-cohesive, moist		64.63	1	SS	43	ND		VOCs	
1		FILL - (SP) SAND, fine to medium, trace silt; brown; non-cohesive, moist, dense		0.61 64.02	2	SS	31	ND		PHCs	
		FILL - (SM) SILTY SAND, some topsoil, trace gravel; dark brown, contains shale fragments; non-cohesive, moist, compact		1.22 63.41	3	SS	12	ND		Metals	
2		Highly weathered BEDROCK		1.83	4	SS	>94	ND			Bentonite Seal
					5	SS	52/ 6"				
3	Air Hammer H Bit	BEDROCK (Auger Refusal) (Air hammer from 3.05 m to 7.62 m)		62.19 3.05							
4											
5											Sllica Sand
6											50 mm Diam. PVC #10 Slot Screen
7				57.62							
		End of Borehole		7.62							
8		Note(s): 1. Water level at BH21-03 measured at a depth of 3.56 m (Elev. 61.68 m) on October 4, 2021 2. Record of borehole log not prepared for geotechnical engineering purposes									
9											
10											

DEPTH SCALE

1 : 50

GOLDER

LOGGED: DG

CHECKED: AG

MIS-BHS 001 21494078.GPJ GAL-MIS.GDT 3/3/22 ZS

PROJECT: 21494078

RECORD OF BOREHOLE: 21-04

SHEET 1 OF 1

LOCATION: N 5026369.7 ;E 361313.7

BORING DATE: September 21, 2021

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.30m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ ND = Not Detected (100 200 300 400) / HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ ND = Not Detected (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT Wp W Wl (20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		65.09							
0	Power Auger 200 mm Diam. (Hollow Stem)	ASPHALT		0.05							Flush Mount Casing
		FILL - (SM) SILTY SAND, trace gravel; brown to grey brown, contains wood fragments; non-cohesive, moist, loose to compact			1	SS	9	ND		VOCs	
1					2	SS	10	ND			
					3	SS	7	ND			
2					4	SS	14	ND			Bentonite Seal
				62.65							
		(SM) gravelly SILTY SAND; grey brown, contains cobbles and boulders (GLACIAL TILL); non-cohesive, wet, dense		2.44	5	SS	49	ND			
3					6	SS	55/4"	ND		PHCs	
				61.43							
	Air Hammer H Bit	BEDROCK (Auger Refusal) (Air hammer from 3.66 m to 7.62 m)		3.66							
4											Sllica Sand
5											
6											50 mm Diam. PVC #10 Slot Screen
7				57.47							
		End of Borehole		7.62							
8		Note(s):									
		1. Water level at BH21-01 measured at a depth of 2.50 m (Elev. 62.59 m) on October 4, 2021									
		2. Record of borehole log not prepared for geotechnical engineering purposes									
9											
10											

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DEPTH SCALE

1 : 50

GOLDER

LOGGED: DG

CHECKED: AG

PROJECT: 21494078

RECORD OF BOREHOLE: 21-05

SHEET 1 OF 1

LOCATION: N 5026358.2 ;E 361327.9

BORING DATE: September 22/24, 2021

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.30m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ (ND = Not Detected) 100 200 300 400	HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ (ND = Not Detected) 100 200 300 400	HYDRAULIC CONDUCTIVITY, k, cm/s 10^{-6} 10^{-5} 10^{-4} 10^{-3}	WATER CONTENT PERCENT Wp W Wl 20 40 60 80	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		65.47									
0	Power Auger 200 mm Diam. (Hollow Stem)	ASPHALT		0.08									Flush Mount Casing
		FILL - (SP) SAND, fine to coarse, some gravel, trace silt; brown; non-cohesive, moist, compact		64.86	1	SS	15	ND				
1		FILL - (SM/GW) SILTY SAND and GRAVEL; dark brown, contains wood fragments; non-cohesive, moist, compact		0.61	2	SS	20	ND				PHCs, VOCs
				64.02	3	SS	52/0"	ND				PHCs, VOCs
2		Possible FILL - (SP) SILTY SAND, fine to coarse, trace silt, trace gravel; grey brown; non-cohesive, moist, compact to dense		1.45	4	SS	20	ND				Bentonite Seal
					5	SS	39	ND				
				62.73								
3		(SM) gravelly SILTY SAND, non-plastic fines; grey brown, contains cobbles (GLACIAL TILL); non-cohesive, moist, dense		2.74	6	SS	46	ND				
					7	SS	34/10"	ND				
				61.82								
4	Air Hammer H Bit	BEDROCK (Auger Refusal) (Air hammer from 3.65 m to 7.62 m)		3.65									Sllica Sand
5													
6													50 mm Diam. PVC #10 Slot Screen
7				57.85									
		End of Borehole		7.62									
8		Note(s):											
		1. Water level at BH21-01 measured at a depth of 3.85 m (Elev 61.62 m) on October 4, 2021											
9		2. Record of borehole log not prepared for geotechnical engineering purposes											
10													

DEPTH SCALE

1 : 50

GOLDER

LOGGED: DG

CHECKED: AG

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PROJECT: 21494078

RECORD OF BOREHOLE: 21-11

SHEET 1 OF 1

LOCATION: N 5026332.1 ;E 361283.0

BORING DATE: November 12, 2021

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.30m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ (ND = Not Detected) 100 200 300 400 / HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ (ND = Not Detected) 100 200 300 400	HYDRAULIC CONDUCTIVITY, k, cm/s 10^{-6} 10^{-5} 10^{-4} 10^{-3} / WATER CONTENT PERCENT Wp W Wl 20 40 60 80	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		65.26						
0	Power Auger Geoprobe	GRAVEL		0.00 / 64.96						Flush Mount Casing
		(SP) SAND; brown; non-cohesive, dry		0.30 / 64.50	1	SS		ND		
1		(SM) SILTY SAND; grey-brown; non-cohesive, dry		0.76 / 63.74	2	SS		ND	Metals, PHCs, VOCs	Bentonite Seal
		Soft, broken, LIMESTONE		1.52	3	SS		ND	Metals	
2										Sllica Sand
3										
4										50 mm Diam. PVC #10 Slot Screen
5				59.72						
6		End of Borehole Upon Refusal Note(s): 1. Water level at BH21-11 measured at a depth of 2.96 m (Elev. 62.30 m) on November 30, 2021 2. Record of borehole log not prepared for geotechnical engineering purposes		5.54						
7										
8										
9										
10										

DEPTH SCALE

1 : 50

GOLDER

LOGGED: AB

CHECKED: DS

MIS-BHS 001 21494078.GPJ GAL-MIS.GDT 3/3/22 ZS

PROJECT: 21494078

RECORD OF BOREHOLE: 21-12

SHEET 1 OF 1

LOCATION: N 5026352.5 ;E 361280.2

BORING DATE: November 11, 2021

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS/0.30m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ ND = Not Detected (100 200 300 400) / HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ ND = Not Detected (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT Wp — W — Wl (20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		64.88							
0	Power Auger Geoprobe	GRAVEL		0.00							
				64.58	1	SS		ND			
		(SP) SAND; brown; non-cohesive, dry		0.30							
1					2	SS		ND		Metals	
					3	SS		ND	⊕	Metals, PHCs, VOCs	
2		Soft, crushed, LIMESTONE		1.98							
				62.34	4	SS					
		End of Borehole Upon Refusal		2.54							
3		Note(s): 1. Record of borehole log not prepared for geotechnical engineering purposes									
4											
5											
6											
7											
8											
9											
10											

DEPTH SCALE

1 : 50

GOLDER

LOGGED: AB

CHECKED: DS

MIS-BHS 001 21494078.GPJ GAL-MIS.GDT 3/3/22 ZS

PROJECT: 21494078

RECORD OF BOREHOLE: 21-13

SHEET 1 OF 1

LOCATION: N 5026364.0 ;E 361291.0

BORING DATE: November 11, 2021

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.30m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ *ND = Not Detected* (100 200 300 400) / HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ *ND = Not Detected* (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT Wp — W — Wl (20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		64.86						
0	Power Auger Geoprobe	GRAVEL		0.00 / 64.56	1	SS		ND		
1		(SP) SAND; brown; non-cohesive, dry		0.30	2	SS		ND		Metals
				63.18						
2		Soft, crushed, LIMESTONE		1.68 / 62.73	3	SS		ND		Metals
		End of Borehole Upon Refusal		2.13						
3		Note(s): 1. Record of borehole log not prepared for geotechnical engineering purposes								
4										
5										
6										
7										
8										
9										
10										

DEPTH SCALE
1 : 50

GOLDER

LOGGED: AB
CHECKED: DS

MIS-BHS 001 21494078.GPJ GAL-MIS.GDT 3/3/22 ZS

PROJECT: 21494078

RECORD OF BOREHOLE: 21-14

SHEET 1 OF 1

LOCATION: N 5026375.7 ;E 361302.2

BORING DATE: November 12, 2021

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.30m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ (ND = Not Detected) 100 200 300 400	HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ (ND = Not Detected) 100 200 300 400	HYDRAULIC CONDUCTIVITY, k, cm/s 10^{-6} 10^{-5} 10^{-4} 10^{-3}	WATER CONTENT PERCENT Wp W Wl 20 40 60 80	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		64.84									
0	Power Auger Geoprobe	GRAVEL		0.00									Flush Mount Casing
		(SP) SAND; brown; non-cohesive, dry		0.15	1	SS		ND					
		(SM) SILTY SAND; grey-brown; non-cohesive, dry		64.08									
1					2	SS		ND					Bentonite Seal
				63.16									
		Soft, crushed, LIMESTONE		1.68	3	SS		ND				PHCs, VOCs	
2													
3													Sllica Sand
4													50 mm Diam. PVC #10 Slot Screen
				60.27									
		End of Borehole Upon Refusal		4.57									
5		Note(s):											
		1. Water level at BH21-14 measured at a depth of 2.48 m (Elev. 62.36 m) on November 30, 2021											
		2. Record of borehole log not prepared for geotechnical engineering purposes											
6													
7													
8													
9													
10													

DEPTH SCALE
1 : 50

GOLDER

LOGGED: AB
CHECKED: DS

MIS-BHS 001 21494078.GPJ GAL-MIS.GDT 3/3/22 ZS

PROJECT: 21494078

RECORD OF BOREHOLE: 21-15

SHEET 1 OF 2

LOCATION: N 5026380.1 ;E 361312.4

BORING DATE: November 12, 2021

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.30m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ (ND = Not Detected; 100 200 300 400) / HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ (ND = Not Detected; 100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp — W — Wl; 20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		64.84						A B
0	Power Auger / Geoprobe	GRAVEL		0.00						
		(SP) SAND; brown; non-cohesive, dry		0.15	1	SS		⊕ ND		
				64.08						
1		(SM) SILTY SAND; grey-brown; non-cohesive, moist		0.76	2	SS		⊕ ND		
				63.01	3	SS		□ ND	⊕	PHCs, VOCs
2		(SP) SAND; grey; non-cohesive, wet		1.83	4	SS		□⊕ ND		
3				61.69	5	SS				
		Soft, crushed, LIMESTONE		3.15						
				61.05						
		Borehole continued on RECORD OF DRILLHOLE 21-15		3.79						
4										
5										
6										
7										
8										
9										
10										

DEPTH SCALE
1 : 50

GOLDER

LOGGED: AB
CHECKED: DS

MIS-BHS 001 21494078.GPJ GAL-MIS.GDT 3/3/22 ZS

PROJECT: 21494078

RECORD OF DRILLHOLE: 21-15

SHEET 2 OF 2

LOCATION: N 5026380.1 ;E 361312.4

DRILLING DATE: November 12, 2021

DATUM: Geodetic

INCLINATION: -90° AZIMUTH: ---

DRILL RIG: Geoprobe

DRILLING CONTRACTOR: Marathon

JN - Joint; FLT - Fault; SHR- Shear; VN - Vein; CJ - Conjugate
BD - Bedding; FO- Foliation; CO- Contact; OR- Orthogonal; CL - Cleavage
PL - Planar; CU- Curved; UN- Undulating; ST - Stepped; IR - Irregular
PO- Polished; K - Slickensided; SM- Smooth; Ro - Rough; MB- Mechanical Break
BR - Broken Rock
NOTE: For additional abbreviations refer to list of abbreviations & symbols.

DEPTH SCALE METRES	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. / DEPTH (m)	RUN No.	COLOUR % RETURN / FLUSH	RECOVERY: TOTAL CORE %	RECOVERY: SOLID CORE %	R.Q.D. %	FRACT. INDEX PER 0.25 m	DISCONTINUITY DATA: DIP w.r.t. CORE AXIS	DISCONTINUITY DATA: TYPE AND SURFACE DESCRIPTION	DISCONTINUITY DATA: Jcon	DISCONTINUITY DATA: Jr	DISCONTINUITY DATA: Ja	HYDRAULIC CONDUCTIVITY K, cm/sec	Diametral Point Load Index (MPa)	RMC -Q' AVG.	A	B
		BEDROCK SURFACE		60.88																
4	Rotary Drill HQ3 Core	Thin-medium bedded, grey, LIMESTONE		3.96	1	100														
5				59.48																
		Thin-medium bedded, grey, LIMESTONE		5.36	2	100														
6																				
7				57.83																
		End of Drillhole		7.01																
		Note(s):																		
		1. Water level at BH21-15A measured at a depth of 2.74 m (Elev. 62.10 m) on November 30, 2021																		
8		2. Water level at BH21-15B measured at a depth of 2.59 m (Elev. 62.25 m) on November 30, 2021																		
		3. Record of borehole log not prepared for geotechnical engineering purposes																		
9																				
10																				
11																				
12																				
13																				

DEPTH SCALE

1 : 50

GOLDER

LOGGED: AB

CHECKED: DS

MIS-RCK 004 21494078.GPJ GAL-MISS.GDT 3/3/22 ZS

PROJECT: 21494078

RECORD OF BOREHOLE: 21-16

SHEET 1 OF 1

LOCATION: N 5026367.9 ;E 361324.2

BORING DATE: November 11, 2021

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.30m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ (ND = Not Detected; 100 200 300 400) / HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ (ND = Not Detected; 100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp — W — Wl; 20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		65.27						
0	Power Auger / Geoprobe	GRAVEL		0.00						
		(SM) SILTY SAND; grey-brown; non-cohesive, dry		0.15	1	SS		ND		
1					2	SS				PHCs, VOCs
					3	SS				
				63.34						
2		End of Borehole Upon Refusal		1.93						
		Note(s): 1. Record of borehole log not prepared for geotechnical engineering purposes								
3										
4										
5										
6										
7										
8										
9										
10										

DEPTH SCALE

1 : 50

GOLDER

LOGGED: AB

CHECKED: DS

MIS-BHS 001 21494078.GPJ GAL-MIS.GDT 3/3/22 ZS

PROJECT: 21494078

RECORD OF BOREHOLE: 21-17

SHEET 1 OF 1

LOCATION: N 5026361.4 ;E 361337.9

BORING DATE: November 11, 2021

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.30m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ (ND = Not Detected; 100 200 300 400) / HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ (ND = Not Detected; 100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp — W — Wl; 20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		65.64							
0	Power Auger Geoprobe	GRAVEL		0.00							
		(SM) SILTY SAND; grey-brown; non-cohesive, dry		0.15	1	SS		ND			
1					2	SS		ND		PHCs, VOCs	
2					3	SS		ND			
				63.15							
		End of Borehole Upon Refusal		2.49							
3		Note(s): 1. Record of borehole log not prepared for geotechnical engineering purposes									
4											
5											
6											
7											
8											
9											
10											

DEPTH SCALE

1 : 50

GOLDER

LOGGED: AB

CHECKED: DS

MIS-BHS 001 21494078.GPJ GAL-MIS.GDT 3/3/22 ZS

PROJECT: 21494078

RECORD OF BOREHOLE: 21-18

SHEET 1 OF 1

LOCATION: N 5026348.5 ;E 361331.5

BORING DATE: November 11, 2021

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.30m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ (ND = Not Detected) 100 200 300 400	HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ (ND = Not Detected) 100 200 300 400	HYDRAULIC CONDUCTIVITY, k, cm/s 10^{-6} 10^{-5} 10^{-4} 10^{-3}	WATER CONTENT PERCENT Wp W Wl 20 40 60 80	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		65.70									
0	Power Auger Geoprobe	GRAVEL		0.00									
		(SP) SAND; brown; non-cohesive, dry		0.15	1	SS		⊕ ND					
1					2	SS		⊕ ND				PHCs, VOCs	
				64.18									
		(SM) SILTY SAND; grey-brown; non-cohesive, moist to wet		1.52	3	SS		⊕ ND					
2					4	SS		⊕ ND					
				62.96									
		End of Borehole Upon Refusal		2.74									
3		Note(s): 1. Record of borehole log not prepared for geotechnical engineering purposes											
4													
5													
6													
7													
8													
9													
10													

DEPTH SCALE
1 : 50

GOLDER

LOGGED: AB
CHECKED: DS

MIS-BHS 001 21494078.GPJ GAL-MIS.GDT 3/3/22 ZS

PROJECT: 21494078

RECORD OF BOREHOLE: 21-19

SHEET 1 OF 1

LOCATION: N 5026348.9 ;E 361305.7

BORING DATE: November 25, 2021

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS/0.30m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ ND = Not Detected; HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ ND = Not Detected	HYDRAULIC CONDUCTIVITY, k, cm/s; WATER CONTENT PERCENT Wp W Wl	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		65.95							
0	Hitti TE 3000 AVR Hammer Drill	CONCRETE pad		0.00 65.75							Flush Mount Casing
		FILL - (SP) SAND, fine, trace silt; light brown; non-cohesive, dry, loose		0.20	1	SS		ND		PHCs, VOCs	
1					2	SS		ND			
					3	SS		ND			Bentonite Seal
				64.32							
		(CL) SILTY CLAY, trace sand; dark grey; non-cohesive, dry, compact		1.63							
2				63.92	4	SS		ND			
		BEDROCK		2.03							
		- Fractured zone from 2.4 m to 3.1 m depth									Silica Sand
3	Power Auger Geoprobe										
4											52 mm Diam. PVC #10 Slot Screen
5				60.82							
		End of Borehole		5.13							
		Note(s): 1. Water level at BH21-19 measured at a depth of 3.44 m (Elev. 62.51 m) on November 30, 2021 2. Record of borehole log not prepared for geotechnical engineering purposes									
6											
7											
8											
9											
10											

DEPTH SCALE
1 : 50

GOLDER

LOGGED: GS
CHECKED: DS

MIS-BHS 001 21494078.GPJ GAL-MIS.GDT 3/3/22 ZS

PROJECT: 21494078

RECORD OF BOREHOLE: 21-20

SHEET 1 OF 1

LOCATION: N 5026328.5 ;E 361313.9

BORING DATE: November 24, 2021

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS/0.30m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ ND = Not Detected (100 200 300 400) / HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ ND = Not Detected (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT Wp — W — Wl (20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		65.93							
0	Power Auger / Geoprobe	CONCRETE pad		0.00							Flush Mount Casing
		FILL - (SP) SAND, fine, trace silt, trace clay, trace gravel; light to dark brown, cobbles; non-cohesive; dry		0.13	1	SS		ND			
1					2	SS		ND		PHCs, VOCs	
				64.41							
		(CL) SILTY CLAY, trace sand, trace gravel; dark grey; non-cohesive, dry		1.52							Bentonite Seal
2					3	SS		ND			
				63.64							
		BEDROCK		2.29	4	SS		ND			
3											Silica Sand
4											52 mm Diam. PVC #10 Slot Screen
5				60.75							
		End of Borehole		5.18							
6		Note(s): 1. Water level at BH21-20 measured at a depth of 3.82 m (Elev. 62.11 m) on November 30, 2021 2. Record of borehole log not prepared for geotechnical engineering purposes									
7											
8											
9											
10											

DEPTH SCALE

1 : 50

GOLDER

LOGGED: GS

CHECKED: DS

MIS-BHS 001 21494078.GPJ GAL-MIS.GDT 3/3/22 ZS

PROJECT: 21494078

RECORD OF BOREHOLE: 21-21

SHEET 1 OF 1

LOCATION: N 5026393.6 ;E 361305.9

BORING DATE: December 21, 2021

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.30m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ (ND = Not Detected) 100 200 300 400 / HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ (ND = Not Detected) 100 200 300 400	HYDRAULIC CONDUCTIVITY, k, cm/s 10^{-6} 10^{-5} 10^{-4} 10^{-3} / WATER CONTENT PERCENT Wp W Wl 20 40 60 80	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		64.41						
0	Power Auger / Geoprobe	ASPHALT		0.00						
		SAND; brown; non-cohesive, moist		0.15	1	SS		ND		Bentonite
				63.60						
1		SILT, trace sand; grey; cohesive, moidy		0.81	2	SS		ND		Silica Sand
				62.89						
		SAND, trace gravel; brown; non-cohesive		1.52	3	SS				
2					4	SS		ND		
				61.36						
3		SAND, trace gravel; brown; non-cohesive, wet		3.05	5	SS				#10 Slot Screen
				60.90						
		BEDROCK		3.51	6	SS		ND		
				60.45						
4		End of Borehole		3.96						
		Note(s):								
		1. Water level at BH21-21 measured at a depth of 2.43 m (Elev. 61.98 m) on December 22, 2021								
		2. Record of borehole log not prepared for geotechnical engineering purposes								
5										
6										
7										
8										
9										
10										

DEPTH SCALE

1 : 50

GOLDER

LOGGED: DS

CHECKED: DS

MIS-BHS 001 21494078.GPJ GAL-MIS.GDT 3/3/22 ZS

PROJECT: 21494078

RECORD OF BOREHOLE: 21-22

SHEET 1 OF 1

LOCATION: N 5026381.4 ;E 361298.9

BORING DATE: December 21, 2021

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS/0.30m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ ND = Not Detected (100 200 300 400) / HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ ND = Not Detected (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT Wp W Wl (20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		64.62							
0	Power Auger / Geoprobe	ASPHALT		0.00							
		SAND; brown; non-cohesive, moist		0.15	1	SS		ND			Bentonite
1											Silica Sand
				63.10							
		SAND; brown; non-cohesive, moist		1.52	2	SS		ND			
2				62.18							
		SILT, trace sand; grey brown; non-cohesive, moist		2.44	3	SS		ND			PVC #10 Slot Screen
				61.88							
		BEDROCK		2.74							
3											
4				60.35							
		End of Borehole		4.27							
5		Note(s):									
		1. Water level at BH21-22 measured at a depth of 2.72 m (Elev. 61.90 m) on December 22, 2021									
		2. Record of borehole log not prepared for geotechnical engineering purposes									
6											
7											
8											
9											
10											

DEPTH SCALE

1 : 50

GOLDER

LOGGED: DS

CHECKED: DS

MIS-BHS 001 21494078.GPJ GAL-MIS.GDT 3/3/22 ZS

PROJECT: 21494078

RECORD OF BOREHOLE: 21-23

SHEET 1 OF 1

LOCATION: N 5026359.1 ;E 361327.6

BORING DATE: December 21, 2021

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS/0.30m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ ND = Not Detected (100 200 300 400) / HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ ND = Not Detected (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT Wp W Wl (20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		65.50							
0	Power Auger Geoprobe	ASPHALT		0.00							
		SAND; brown; non-cohesive, moist		0.15	1	SS		⊕ ND			
1											
				63.98							
		SILTY SAND, some coarse sand; brown; non-cohesive, moist		1.52	2	SS		⊕ ND			
2											
					3	SS		⊕ ND			
3											
				62.15	4	SS		□ ⊕			
		BEDROCK		3.35							
				61.84							
		End of Borehole		3.66							
4		Note(s):									
		1. Borehole log not for geotechnical purposes.									
5											
6											
7											
8											
9											
10											

DEPTH SCALE

1 : 50

GOLDER

LOGGED: DS

CHECKED: DS

MIS-BHS 001 21494078.GPJ GAL-MIS.GDT 3/3/22 ZS

PROJECT: 21494078

RECORD OF BOREHOLE: 21-24

SHEET 1 OF 1

LOCATION: N 5026357.1 ;E 361328.2

BORING DATE: December 21, 2021

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.30m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ (ND = Not Detected) 100 200 300 400 / HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ (ND = Not Detected) 100 200 300 400	HYDRAULIC CONDUCTIVITY, k, cm/s 10^{-6} 10^{-5} 10^{-4} 10^{-3} / WATER CONTENT PERCENT Wp W Wl 20 40 60 80	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		65.51						
0	Power Auger / Geoprobe	ASPHALTIC CONCRETE		0.00						
		SAND; dark brown, contains rootlets; non-cohesive, moist		0.15	1	SS				
1					2	SS		⊕□		
				63.99						
		SILTY SAND; grey; non-cohesive, moist		1.52	3	SS				
2										
					4	SS		⊕ □		
3										
					5	SS		□ ⊕		
				61.85						
		End of Borehole		3.66						
4		Note(s):								
		1. Borehole log not for geotechnical purposes.								
5										
6										
7										
8										
9										
10										

DEPTH SCALE

1 : 50

GOLDER

LOGGED: DS

CHECKED: DS

MIS-BHS 001 21494078.GPJ GAL-MIS.GDT 3/3/22 ZS

PROJECT: 21494078

RECORD OF BOREHOLE: 21-25

SHEET 1 OF 1

LOCATION: N 5026315.8 ;E 361338.3

BORING DATE: December 21, 2021

DATUM: Geodetic

SAMPLER HAMMER, 64kg; DROP, 760mm

PENETRATION TEST HAMMER, 64kg; DROP, 760mm

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS/0.30m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ ND = Not Detected (100 200 300 400) / HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ ND = Not Detected (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT Wp — W — Wl (20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		66.01							
0	Power Auger / Geoprobe	ASPHALT		0.00							
		SAND		0.15	1	SS		ND			
1											
					2	SS		ND			
2				63.93							
		SILTY SAND, trace gravel; grey; non-cohesive, moist		2.08	3	SS					
3				62.96							
		BEDROCK		3.05	4	SS		ND			
				62.66							
		End of Borehole		3.35							
		Note(s):									
4		1. Borehole log not for geotechnical purposes.									
5											
6											
7											
8											
9											
10											

DEPTH SCALE

1 : 50

GOLDER

LOGGED: DS

CHECKED: DS

MIS-BHS 001 21494078.GPJ GAL-MIS.GDT 3/3/22 ZS

PROJECT: 21494078

RECORD OF BOREHOLE: BH22-01

SHEET 1 OF 2

LOCATION: N 5026373.18; E 361314.80

BORING DATE: May 11, 2022

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

DRILL RIG: Geoprobe

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ (ND = Not Detected) 100 200 300 400	HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ (ND = Not Detected) 100 200 300 400	HYDRAULIC CONDUCTIVITY, k, cm/s 10^{-6} 10^{-5} 10^{-4} 10^{-3}	WATER CONTENT PERCENT Wp W Wl 20 40 60 80	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		65.02									
0	Power Auger / Geoprobe	FILL - (SW) SAND and GRAVEL, with asphalt fragments; non-cohesive, dry		0.00 / 64.77									Flush Mount Casing
		FILL - (SP) SAND, medium to coarse, trace silt and gravel; brown; non-cohesive, moist		0.25 / 63.50	1	DP	-	ND					
1					2	DP	-	ND					
2		FILL - (SM) SILTY SAND, medium to coarse, gravelly; grey brown; non-cohesive, moist to wet		1.52 / 61.62	3	DP	-	ND					
					4	DP	-	ND					Bentonite Seal
3					5	DP	-	ND					
	Air Hammer	BEDROCK		3.40									
4													
5													
6													
7													D
8													Silica Sand
		CONTINUED NEXT PAGE											

DEPTH SCALE

1 : 40

LOGGED: DG

CHECKED:

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PROJECT: 21494078

RECORD OF BOREHOLE: BH22-01

SHEET 2 OF 2

LOCATION: N 5026373.18; E 361314.80

BORING DATE: May 11, 2022

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

DRILL RIG: Geoprobe

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ *ND = Not Detected* 100 200 300 400 / HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ *ND = Not Detected* 100 200 300 400	HYDRAULIC CONDUCTIVITY, k, cm/s 10^{-6} 10^{-5} 10^{-4} 10^{-3} / WATER CONTENT PERCENT Wp W Wl 20 40 60 80	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
8		*--- CONTINUED FROM PREVIOUS PAGE ---*								
8	Air Hammer	BEDROCK		55.42						52 mm Diam. PVC #10 Slot Screen
9		END OF BOREHOLE		9.60						
10		Notes: 1. Water level at BH22-01 measured at a depth of 8.20 m (Elev. 56.82 m) on May 26, 2022. 2. Borehole log not prepared for geotechnical engineering purposes.								
11										
12										
13										
14										
15										
16										

DEPTH SCALE

1 : 40

LOGGED: DG

CHECKED:

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PROJECT: 21494078

RECORD OF BOREHOLE: BH22-02

SHEET 1 OF 2

LOCATION: N 5026383.15; E 361318.50

BORING DATE: May 9, 2022

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

DRILL RIG: Geoprobe

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] (ND = Not Detected) 100 200 300 400	HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] (ND = Not Detected) 100 200 300 400	HYDRAULIC CONDUCTIVITY, k, cm/s 10^{-6} 10^{-5} 10^{-4} 10^{-3}	WATER CONTENT PERCENT Wp W Wl 20 40 60 80	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		64.90									
0	Direct Push, 130 mm Diam. Casing	FILL - (SP) gravelly SAND, with asphalt fragments; grey brown; moist, non-cohesive, moist		0.00 / 64.60									
		FILL - (SP) SAND, medium to coarse, some fines; brown; non-cohesive, moist		0.30	1	DP	-	ND					Silica Sand
1					2	DP	-	ND					
		FILL - (SP/SC) SAND to CLAYEY SAND, low to high plastic fines; grey to dark brown; non-cohesive, moist		63.61 / 1.29 / 63.38									
		GLACIAL TILL to WEATHERED BEDROCK		1.52	3	DP	-	ND					
2					4	DP	-	ND					Bentonite Seal
				62.00									
3	Air Hammer	BEDROCK		2.90									
4													Silica Sand
5													
6													52 mm Diam. PVC #10 Slot Screen
7				57.44									
		END OF BOREHOLE		7.46									
		Notes:											
8		1. Water level at BH22-02 measured at a											
		CONTINUED NEXT PAGE											

DEPTH SCALE

1 : 40

LOGGED: KG

CHECKED:

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PROJECT: 21494078

RECORD OF BOREHOLE: BH22-02

SHEET 2 OF 2

LOCATION: N 5026383.15; E 361318.50

BORING DATE: May 9, 2022

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

DRILL RIG: Geoprobe

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	SOIL PROFILE: STRATA PLOT	SOIL PROFILE: ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ *ND = Not Detected* 100 200 300 400 / HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ *ND = Not Detected* 100 200 300 400	HYDRAULIC CONDUCTIVITY, k, cm/s 10^{-6} 10^{-5} 10^{-4} 10^{-3} / WATER CONTENT PERCENT Wp W Wl 20 40 60 80	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
8		*--- CONTINUED FROM PREVIOUS PAGE ---*								
		depth of 2.98 m (Elev. 61.92 m) on May 26, 2022.								
		2. Borehole log not prepared for geotechnical engineering purposes.								
9										
10										
11										
12										
13										
14										
15										
16										

DEPTH SCALE

1 : 40

LOGGED: KG

CHECKED:

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PROJECT: 21494078

LOCATION: N 5026373.77; E 361301.53

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

RECORD OF BOREHOLE: BH22-03

BORING DATE: May 10, 2022

DRILL RIG: Geoprobe

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ ND = Not Detected (100 200 300 400) / HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ ND = Not Detected (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT Wp W Wl (20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE		64.85						
	Power Auger Geoprobe	FILL - (SW) gravelly SAND, asphalt, fragments; grey brown; non-cohesive, dry		0.00 / 64.55						Flush Mount Casing
		FILL - (SM) SILTY SAND, medium to coarse, gravelly; brown; non-cohesive, moist		0.30	1	DP	-	ND		
1					2	DP	-	ND		
					3	DP	-	ND		
2					4	DP	-	ND		Bentonite Seal
	Air Hammer	BEDROCK		62.11 / 2.74						
3										
4										
5										Silica Sand
6										52 mm Diam. PVC #10 Slot Screen
				58.15						
7		END OF BOREHOLE Notes: 1. Water level at BH22-03 measured at a depth of 7.38 m (Elev. 57.47 m) on May 26, 2022. 2. Borehole log not prepared for geotechnical engineering purposes.		6.70						▽ S
8										

DEPTH SCALE

1 : 40

LOGGED: DG

CHECKED:

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PROJECT: 21494078

RECORD OF BOREHOLE: BH22-04

SHEET 1 OF 2

LOCATION: N 5026371.34; E 361293.22

BORING DATE: May 9, 2022

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

DRILL RIG: Geoprobe

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● / rem V. ⊕ U - ○)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp — W — Wl)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE		64.75							
	Direct Push, 130 mm Diam. Casing	FILL - (SP) gravelly SAND, with asphalt fragments; grey brown; non-cohesive, moist		0.00 / 64.45							
		FILL - (SP) SAND, medium to coarse, some fines; brown; non-cohesive, moist		0.30	1	DP	-				Silica Sand
1					2	DP	-				
				63.46							
		FILL - (SP/SC) SAND to CLAYEY SAND, low plastic fines; brown; non-cohesive, moist		1.29 / 63.23							
		GLACIAL TILL to WEATHERED CRUST		1.52	3	DP	-				
2				62.46							
	Air Hammer	BEDROCK		2.29							Bentonite Seal
3											
4											Silica Sand
5											
6											52 mm Diam. PVC #10 Slot Screen
7											▽ S
				56.83							
8				7.92							
		CONTINUED NEXT PAGE									

DEPTH SCALE

1 : 40

LOGGED: DG

CHECKED:

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PROJECT: 21494078

RECORD OF BOREHOLE: BH22-04

SHEET 2 OF 2

LOCATION: N 5026371.34; E 361293.22

BORING DATE: May 9, 2022

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

DRILL RIG: Geoprobe

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	SOIL PROFILE: STRATA PLOT	SOIL PROFILE: ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. +, rem V. ⊕, Q - ●, U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp, W, Wl) (20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
8		*--- CONTINUED FROM PREVIOUS PAGE ---*									
		END OF BOREHOLE Notes: 1. Water level at BH22-04 measured at a depth of 7.09 m (Elev. 57.66 m) on May 26, 2022. 2. Borehole log not prepared for geotechnical engineering purposes.									
9											
10											
11											
12											
13											
14											
15											
16											

DEPTH SCALE

1 : 40

LOGGED: DG

CHECKED:

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PROJECT: 21494078

RECORD OF BOREHOLE: BH22-05

SHEET 1 OF 2

LOCATION: N 5026323.15; E 361338.38

BORING DATE: May 11, 2022

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

DRILL RIG: Geoprobe

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ (ND = Not Detected) 100 200 300 400	HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ (ND = Not Detected) 100 200 300 400	HYDRAULIC CONDUCTIVITY, k, cm/s 10^{-6} 10^{-5} 10^{-4} 10^{-3}	WATER CONTENT PERCENT Wp W Wl 20 40 60 80	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		65.94									
0	Power Auger / Geoprobe	FILL - (SW) gravelly SAND, angular; grey, with asphalt fragments; non-cohesive, dry		0.00 / 65.64									Flush Mount Casing
		FILL - (SP) SAND, medium to coarse, gravelly; brown; non-cohesive, moist		0.30	1	DP	-	ND					
1					2	DP	-	ND					
		FILL - (SM) SILTY SAND, medium to coarse, gravelly; grey brown; non-cohesie, moist		64.42 / 1.52	3	DP	-	ND					
2					4	DP	-	ND					
3					5	DP	-	ND					
	Air Hammer	BEDROCK		62.59 / 3.35									Bentonite Seal
4													
5													
6													
7													Silica Sand
													52 mm Diam. PVC #10 Slot Screen
8		*CONTINUED NEXT PAGE*											

DEPTH SCALE

1 : 40

LOGGED: DG

CHECKED:

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PROJECT: 21494078

RECORD OF BOREHOLE: BH22-05

SHEET 2 OF 2

LOCATION: N 5026323.15; E 361338.38

BORING DATE: May 11, 2022

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

DRILL RIG: Geoprobe

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ ND = Not Detected (100 200 300 400) / HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ ND = Not Detected (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT Wp W Wl (20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
8		*--- CONTINUED FROM PREVIOUS PAGE ---*								
8	Air Hammer	BEDROCK								52 mm Diam. PVC #10 Slot Screen
9										
10				55.28						
		END OF BOREHOLE		10.66						
11		Notes:								
		1. Water level at BH22-05 measured at a depth of 7.79 m (Elev. 58.15 m) on May 26, 2022.								
		2. Borehole log not prepared for geotechnical engineering purposes.								
12										
13										
14										
15										
16										

DEPTH SCALE

1 : 40

LOGGED: DG

CHECKED:

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PROJECT: 21494078

RECORD OF BOREHOLE: BH22-06

SHEET 1 OF 2

LOCATION: N 5026374.80; E 361302.66

BORING DATE: October 3, 2022

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

DRILL RIG:

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● / rem V. ⊕ U - ○)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp — W — Wl)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE		64.90							
		ASPHALT (50 mm)		0.00 0.05							
		FILL - (SP/GP) SAND and GRAVEL		64.65							
		FILL - (SP) SAND, trace gravel; brown; non-cohesive, moist		0.25							Flush Mount Casing
1											
2				62.85							
		(SM) SILTY SAND, some fines, trace gravel; brown-grey; non-cohesive, moist		2.05							
				62.40							
		BEDROCK (Limestone)		2.50							
3											Bentonite Seal
4											
5											
6											Sllica Sand 50 mm Diam. PVC #10 Slot Screen
7				57.90							
		END OF BOREHOLE Notes: 1. Water level at BH22-06 measured at a depth of 6.08 m (Elev. 58.82 m) on May 26, 2022. 2. Borehole log not prepared for geotechnical engineering purposes.		7.00							▽
8		*CONTINUED NEXT PAGE*									

DEPTH SCALE

1 : 40

LOGGED: JB

CHECKED: DS

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PROJECT: 21494078

RECORD OF BOREHOLE: BH22-06

SHEET 2 OF 2

LOCATION: N 5026374.80; E 361302.66

BORING DATE: October 3, 2022

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

DRILL RIG:

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	SOIL PROFILE: STRATA PLOT	SOIL PROFILE: ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. +, rem V. ⊕, Q - ●, U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp, W, Wl) (20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
8		*--- CONTINUED FROM PREVIOUS PAGE ---*									S
9											
10											
11											
12											
13											
14											
15											
16											

DEPTH SCALE

1 : 40

LOGGED: JB

CHECKED: DS

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PROJECT: 21494078

RECORD OF BOREHOLE: BH22-07

SHEET 1 OF 1

LOCATION: N 5026370.88; E 361313.48

BORING DATE: October 3, 2022

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

DRILL RIG:

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80)	SHEAR STRENGTH Cu, kPa (nat V. + Q - ● / rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3})	WATER CONTENT PERCENT (Wp — W — Wl) (20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE		65.11									
		ASPHALT (50 mm)		0.00 / 0.05									
		FILL - (SP/GP) SAND and GRAVEL		64.91									
		FILL - (SM) SILTY SAND, trace gravel; brown; non-cohesive, moist		0.20									Flush Mount Casing
1													
2				63.06									
		(SM) Gravelly SILTY SAND, trace cobbles and crushed boulders; brown-grey; non-cohesive, moist		2.05									
3				61.91									Bentonite Seal
		BEDROCK (Limestone)		3.20									
4													
5													
6													Silica Sand
													50 mm Diam. PVC #10 Slot Screen
7				58.11									
		END OF BOREHOLE		7.00									
8													

Notes:

1. Water level at BH22-07 measured at a depth of 6.91 m (Elev. 58.20 m) on May 26, 2022.

2. Borehole log not prepared for geotechnical engineering purposes.

DEPTH SCALE

1 : 40

LOGGED: JB

CHECKED: DS

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PROJECT: 21494078

RECORD OF BOREHOLE: BH22-08

SHEET 1 OF 2

LOCATION: N 5026375.62; E 361303.08

BORING DATE: October 3, 2022

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

DRILL RIG:

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● / rem V. ⊕ U - ○)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp — W — Wl)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE		64.87							
		ASPHALT (50 mm)		0.00 / 0.05							Flush Mount Casing
		FILL - (SP/GP) SAND and GRAVEL		64.57 / 0.30							
1		FILL - (SP) SAND, trace gravel; brown; non-cohesive, moist									
2				62.69							
		(SM) SILTY SAND, some fines, trace gravel; brown-grey; non-cohesive, moist		2.18 / 62.22							
		BEDROCK (Limestone)		2.65							
3											
4											Bentonite Seal
5											
6											
7											▽ D
8		*CONTINUED NEXT PAGE*									

DEPTH SCALE

1 : 40

LOGGED: JB

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PROJECT: 21494078

RECORD OF BOREHOLE: BH22-08

SHEET 2 OF 2

LOCATION: N 5026375.62; E 361303.08

BORING DATE: October 3, 2022

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

DRILL RIG:

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● / rem V. ⊕ U - ○) (20 40 60 80)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp — W — Wl) (20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
8		*--- CONTINUED FROM PREVIOUS PAGE ---*									
8		BEDROCK (Limestone)									Bentonite Seal
9											Silica Sand
10				54.87							50 mm Diam. PVC #10 Slot Screen
10		END OF BOREHOLE		10.00							
11		Notes:									
12		1. Water level at BH22-08 measured at a depth of 8.11 m (Elev. 56.76 m) on May 26, 2022.									
13		2. Borehole log not prepared for geotechnical engineering purposes.									
14											
15											
16											

DEPTH SCALE

1 : 40

LOGGED: JB

CHECKED: DS

PROJECT: 21494078

LOCATION: N 5026404.46; E 361315.65

RECORD OF BOREHOLE: BH22-09

BORING DATE: May 15 - 16, 2023

DRILL RIG: Massenza MI3

SHEET 1 OF 3

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ (ND = Not Detected; 100 200 300 400) / HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ (ND = Not Detected; 100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp — W — Wl; 20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE		64.23						
		ASPHALTIC CONCRETE		0.00						
		FILL - (SW) gravelly SAND, angular; grey; (Pavement Structure)		0.05 64.03 0.20						
		FILL - (SM) SILTY SAND, trace gravel, organic matter; dark brown; non-cohesive, moist		0.30	1			ND		Flushmount
1		FILL - (SW) gravelly SAND, fine to coarse, trace silt; brown; non-cohesive, moist			2			ND		
	Air Rotary, 140 mm Casing	(SM) gravelly SILTY SAND, thin to thick laminations, fine to coarse, contains cobbles and boulders; brown to grey-brown (TILL); non-cohesive, moist to wet		63.16 1.07	3			ND		
2					4			ND		
										Bentonite Seal
3					5			ND		
					6			ND		
4				60.12						
	Air Rotary, 89 mm Air Hammer	Slightly weathered to fresh, medium to thickly bedded, medium grey, fine grained, non-porous to faintly porous, medium strong, Dolostone interbedded with shale, limestone and sandstone		4.11						Sand #2
5										
6										Screen
7										
										Bentonite Seal
8		*CONTINUED NEXT PAGE*								

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DEPTH SCALE

1 : 40

LOGGED:

CHECKED: DS

PROJECT: 21494078

LOCATION: N 5026404.46; E 361315.65

RECORD OF BOREHOLE: BH22-09

BORING DATE: May 15 - 16, 2023

DRILL RIG: Massenza MI3

SHEET 2 OF 3

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ (ND = Not Detected; 100 200 300 400) / HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ (ND = Not Detected; 100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp — W — Wl; 20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
8		*--- CONTINUED FROM PREVIOUS PAGE ---*								
8	Air Rotary, 89 mm Air Hammer	Slightly weathered to fresh, medium to thickly bedded, medium grey, fine grained, non-porous to faintly porous, medium strong, Dolostone interbedded with shale, limestone and sandstone								Bentonite Seal; D; Sand #2; Screen
10				54.17						
10		END OF BOREHOLE		10.06						
11										
12										
13										
14										
15										
16										

DEPTH SCALE

1 : 40

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PROJECT: 21494078

LOCATION: N 5026390.88; E 361333.63

RECORD OF BOREHOLE: BH22-10

BORING DATE: May 15 - 16, 2023

DRILL RIG: Massenza MI3

SHEET 1 OF 3

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ ND = Not Detected (100 200 300 400) / HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ ND = Not Detected (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT Wp W Wl (20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE		64.81						
	Air Rotary 140 mm Casing	ASPHALTIC CONCRETE		0.00						
		FILL - (SW) gravelly SAND, angular; grey; (Pavement Structure)		0.08						
		FILL - (SP) SAND, fine to medium, some gravel to gravelly, trace silt; brown; non-cohesive, moist		0.15 / 64.35	1			ND		Flushmount
				0.46						
1		(SM) gravelly SILTY SAND, trace plastic fines, contains cobbles and boulders; grey-brown (TILL); non-cohesive, moist			2			ND		
					3			ND		
		(SW) gravelly SAND, fine to coarse, trace silt; brown; non-cohesive, moist		63.29 / 1.52						
2					4			ND		
		(SM) gravelly SILTY SAND, contains cobbles and boulders, thin laminations of sand, fine to coarse; grey-brown (TILL); non-cohesive, wet		62.52 / 2.29						Bentonite Seal
3					5			ND		
					6			ND		
					7			ND		
4				60.85						
	Air Rotary 89 mm Air Hammer	Slightly weathered to fresh, medium to thickly bedded, medium grey, fine grained, non-porous to faintly porous, medium strong, Dolostone, interbeddded witth shale, limestone and sandstone		3.96						Sand #2
5										
6										Screen
7										SP
8										Bentonite Seal
		CONTINUED NEXT PAGE								

DEPTH SCALE

1 : 40

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PROJECT: 21494078

LOCATION: N 5026390.88; E 361333.63

RECORD OF BOREHOLE: BH22-10

BORING DATE: May 15 - 16, 2023

DRILL RIG: Massenza MI3

SHEET 2 OF 3

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ (ND = Not Detected; 100 200 300 400) / HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ (ND = Not Detected; 100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp — W — Wl; 20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
8		*--- CONTINUED FROM PREVIOUS PAGE ---*								
8	Air Rotary, 89 mm Air Hammer	Slightly weathered to fresh, medium to thickly bedded, medium grey, fine grained, non-porous to faintly porous, medium strong, Dolostone, interbeddded witth shale, limestone and sandstone								Bentonite Seal; Sand #2; D; Screen; Sand #2
10				54.45						
		END OF BOREHOLE		10.36						
11										
12										
13										
14										
15										
16										

DEPTH SCALE

1 : 40

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APPENDIX F

Soil Excavation and Confirmatory Sampling Report

September 4, 2024 Project No. 21494078

Corina Sajewski – Director, Development
1047 Richmond Nominee Inc.
2275 Upper Middle Road East
Oakville ON L6H 0C3

CONFIRMATORY SOIL SAMPLING PROGRAM FOLLOWING SOIL EXCEEDANCES EXCAVATION AT 1047 RICHMOND ROAD, OTTAWA, ONTARIO

Ms. Sajewski,

WSP Canada Inc. (WSP) was retained by 1047 Richmond Nominee Inc. (the Client) to complete confirmatory soil sampling following the excavation and removal of soil exceedances in the area of BH21-05 and BH21-24 located at 1047 Richmond Road, Ottawa, Ontario (the Site). The soil excavation was executed on July 25 and 26, 2023. The excavated soil was segregated into separate stockpiles based on the inferred presence of potential residues, odours and stained soil impacts.

This letter provides the results of soil sampling to characterize the environmental quality of the soil in the immediate vicinity of the soil excavation area for evidence of petroleum hydrocarbon (PHC), benzene, toluene, ethylbenzene and xylenes (BTEX), and polycyclic aromatic hydrocarbons (PAH) impacts and assess the quality of the soil generated to determine disposal options. The excavation area was approximately 135 m^2, and the volume of soil excavated was approximately 220 m^3.

SCOPE OF WORK

The scope of work included:

- Collection of eleven soil samples from the sidewalls of the excavation for field screening of combustible vapour concentrations using a portable gas detector (RKI Eagle II). The detector was calibrated with isobutylene and hexane gas according to the manufacturer's specifications and methods. The excavation was advanced to the bedrock surface, therefore no soil samples were collected from the base of the excavation.
- Submission of four sidewall samples soil samples for laboratory analysis of PHC, BTEX and PAH. Soil samples were selected based on the results of field screening.
- Submission of one duplicate soil sample for PHC, BTEX, and PAH analysis for quality assurance and quality control purposes.
- Collection of one composite soil sample for analysis by Toxicity Characteristic Leaching Procedure (TCLP) to determine if the excavated soil was considered hazardous or non-hazardous under Ontario regulation (O.Reg), 558/00 (Schedule 4).
- Provision of a report summarizing the soil testing results.

SAMPLE COLLECTION AND ANALYSIS

A WSP field technician was present on Site on July 25 and 26, 2023 to supervise the excavation of soil in the vicinity of exceedances that were detected at BH21-05 and BH21-24 in 2021. The excavator and operator were provided by Inflector Environmental Services (the Contractor). The area of excavation at the Site is shown in Figure 1.

During excavation, soil samples were collected for field screening consisting of visual examination, soil classification, and headspace screening using a portable combustible gas detector (RKI Eagle II). The excavated soil was segregated into separate stockpiles based on the presence of potential impact as determined by field screening. The stockpile of material with evidence of potential impact was placed on an impermeable tarp. Potentially clean material that had no evidence of potential impact was placed in a separate stockpile located adjacent to the excavation.

The bedrock surface was reached at approximately 3.0 m below ground surface (mbgs) in the area where BH21-05 and BH21-24 were located. The excavation area was delimited to a 5 x 5 m square centered at BH21-05. Due to the soil properties encountered in the area, benching and sloping were used to stabilize the walls of the excavation, slope factor of 1:1 (H:V) was used. Two additional test pits were advanced 3.0 and 6.0 m north of the main excavation to achieve delineation of the soil impacts observed on the north wall of the main excavation. The test pits also had a slope factor of 1:1 (H:V).

A total of eleven soil samples were collected for field screening from the sidewalls. No floor samples were collected, as the excavation reached the top of the bedrock. The location of the field screening and final confirmatory samples is shown in Figure 19. Each soil sample was split in the field into two components. One component was placed into a laboratory-prepared container with minimal headspace for potential laboratory analysis. The second component was placed inside a plastic bag for field screening, and noting the presence of any staining, odour and/or debris. Soil headspace concentrations of bagged samples were measured using a photoionization detector and a combustible gas detector, calibrated using isobutylene and hexane, respectively, to determine total organic vapour and combustible gas concentrations in the headspace in the sealed plastic bag. Soil samples were submitted to AGAT Laboratories (AGAT) for PHC, BTEX, and PAH analysis. No samples were submitted from the north wall of the excavation as visual impacts were observed in this area and the decision was made in the field to discontinue the excavation in this direction and instead to advance two test pits to the north of the excavation to delineate the impacted area.

Table 1: Summary of Screening Soil Samples and Samples Submitted for Laboratory Analysis

Sample ID	Sample Location	Sample Depth (mbgs)	Analyses	Headspace		Field Observations
				Combustible gas (ppm)	Total Organic Vapour (ppm)	
NW-SA1	North wall	1.4	PHC, BTEX and PAH	30	43	Black stained soil, strong PHC-like odour
NW-SA2	North wall	3.4	PHC, BTEX and PAH	180	217	Dark grey greasy soil, strong PHC-like odour
SW-SA3	South wall	1.5	PHC, BTEX and PAH	0	0	No stains/grease or strong odour
SW-SA4*	South wall	3.7	PHC, BTEX and PAH	0	0	No stains/grease or strong odour
EW-SA5*	East wall	1.0	PHC, BTEX and PAH	0	0	No stains/grease, slight PHC-like odour
EW-SA6	East wall	3.0	PHC, BTEX and PAH	0	0	No stains/grease or strong odour
WW-SA7*	West wall	1.5	PHC, BTEX and PAH	0	0	No stains/grease, slight PHC-like odour
WW-SA8	West wall	3.7	PHC, BTEX and PAH	0	0	No stains/grease or strong odour
NW-SA9	West wall	2.5	PHC, BTEX and PAH	0	9	Grey soil, strong PHC-like odour
NW-SA10	North wall	3.0	PHC, BTEX and PAH	155	127	Grey soil, strong PHC-like odour
TP-SA11*	South wall of Test Pit 2	3.5	PHC, BTEX and PAH	0	0	Grey soil, slight PHC-like odour

Notes:
(mbgs) meters below ground surface; (ppm) parts per million by volume ; (*) Samples selected for laboratory analysis

Quality Assurance and Quality Control Measures

WSP's quality assurance program for environmental investigations was implemented to ensure that analytical data obtained by the investigation were valid and representative. The quality assurance program included the following measures:

- The use of standard operating procedures for all field investigation activities;
- All monitoring wells were developed following installation to remove fine particles from the filter pack and any water introduced during drilling;
- Monitoring wells were appropriately purged prior to groundwater sample collection to remove stagnant water from the well bore and improve sample representativeness, minimizing sample agitation and aeration to the extent practicable; and
- The collection of field duplicate samples at a minimum frequency of one duplicate for every ten samples.

One soil duplicate sample was analyzed for the six overall soil samples analyzed. Overall 7 samples were analyzed:

- Initial calibration of field equipment was performed at the start of each field day, with daily checks of calibration, as needed, using a standard of known concentration.
- Soil samples were handled and stored in accordance with the sample collection and preservation requirement of the Ministry of the Environment (MOE) *Protocol for Analytical Methods Used in the Assessment of Properties Under Part XV.I of the Environmental Protection Act*, July 1, 2011. Samples were collected directly into pre-cleaned, laboratory-supplied sample containers with the appropriate preservative for the analyte group. Upon collection, samples were placed in insulated coolers with ice for storage and transport to the analytical laboratory under chain-of-custody.
- Dedicated sampling equipment and clean disposable Nitrile™ gloves were used at each sampling location to prevent cross-contamination. All non-dedicated sampling equipment was decontaminated between sampling locations.
- Detailed field records documenting the methods and circumstances of collection for each field sample were prepared at the time of sample collection. Each sample was assigned a unique sample identification number recorded in the field notes, along with the date and time of sample collection, the sample matrix, and the requested analyses.
- The submission of samples to the analytical laboratory in accordance with standard chain of custody procedures.

RESULTS

The soil excavated consisted of a layer of fill underlain by native soil predominantly described as sand and silty sand, followed by bedrock described as limestone. The fill materials predominantly consisted of surficial granular gravel with sand, silty sand and trace gravel below. Native soil below the fill consisted of sand and silty sand with isolated grey glacial till (silt and silty clay). Bedrock was encountered at depths ranging from 3.0 m to 3.7 m bgs at the northern test pits.

Headspace readings obtained as part of the excavation ranged from 0 ppm to 180 ppm for the hexane sensor (Gastech) and ranged from 0 ppm to 217 ppm for the isobutylene sensor (PID). Olfactory evidence of environmental impact including staining, soil that was greasy to the touch, and the presence of old oil cans, oil filters and some weathered garbage was noted at the north wall of the excavation, at depths ranging from 2.0 m to 3.7 m bgs. No samples were analysed from the north wall given the obvious presence of impacts based on observations.

Two additional test pits were excavated to delineate the extent of the impacts to the north. The first test pit was excavated 3.0 m north of the north wall of the main excavation. Similar impacts to those observed at the north wall of the excavation were observed in the first test pit. A second test pit was excavated 6.0 m north of the first test pit. No observable evidence of potential impacts was observed in the second test pit and a soil sample submitted from the south wall of this test pit confirmed that impacts were delineated to the north. Note that during development construction, all overburdened soils will be excavated for the construction of the parking levels and will be disposed of at a licensed facility.

The analytical results for confirmatory soil samples were compared to the Table 7 site condition standards (SCS) residential/parkland/institutional (RPI) listed in the Ontario Ministry of Environment, Conservation and Parks (MECP) document "*Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*", dated April 15, 2011. All analytical results met the Table 7 SCS. The laboratory certificates of analysis are provided in Attachment A. The reported concentrations for the confirmatory soil samples are summarized in Table 2 following the text of this report.

The TCLP analytical results were compared to the O.Reg. 558/00 (Schedule 4). Based on the analytical results, the reported concentrations were below the Schedule 4 criteria for the parameters tested and the potentially impacted soil is considered a non-hazardous waste.

Soil Management

The contractor for 1047 Richmond Nominee managed the hauling of impacted soil from the excavation on-Site. The impacted soil was transported to Centre FilloGreen at 152 Chemin de L'industrie Nord in Litchfield, Quebec, on September 8, 2023. According to the waste manifests, 412.26 tonnes of impacted soil were transported to the landfill. WSP was not on-site during soil waste hauling activities. The waste manifests are provided in Attachment B.

CONCLUSIONS

The reported concentrations of all final confirmatory samples analysed met the Table 7 RPI SCS. The excavated soil is considered non-hazardous waste for the purposes of disposal. According to waste manifests provided by 1047 Richmond Road, 412.26 tonnes of impacted soil resulting from the excavation activities were disposed of at Centre FilloGreen in Litchfield, Québec, on September 8, 2023.

LIMITATIONS

It should be noted that the results of the chemical analysis refer only to the soil samples analyzed which were obtained from specific sampling locations and sampling depths; soil chemistry may vary between and beyond the locations and depths of the samples analyzed.

This report was prepared for the exclusive use of 1047 Richmond Nominee Inc. No third parties may rely upon this report. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, is the sole responsibility of such third party. This report is based on data and information collected during this investigation by WSP Canada Inc. in accordance with our proposal and is based solely on on-Site conditions encountered at the time.

Only limited chemical analyses of soil samples were carried out. Regulatory criteria are used for comparison purposes only and are not necessarily enforceable on the Site owner. It should be noted that the results of an investigation of this nature should, in no way, be construed as a warranty that the site is free from any and all contamination from past or current practices. If additional information is obtained during future work at the Site, including excavations, borings, or other studies, and/or if conditions exposed during construction are different from those encountered in this assessment, WSP should be requested to re-evaluate the conclusions presented in this report and provide amendments as required.

CLOSING

We trust this letter is sufficient for your current needs. If you have any questions, please do not hesitate to contact the undersigned.

WSP Canada Inc.

Paul Hurst, MSc, PEng, QP(ESA)
Principal, Senior Environmental Engineer

Kristina Small, MSc, PGeo (ON), QP(ESA)
Senior Contaminant Hydrogeologist

CP/KS/sg
https://wsponline.sharepoint.com/sites/gld-152441/project files/6 deliverables/ph two report(s)/7. phase two esa october 2023/final/app f_remedial excavation letter/21494078-l-rev0-phc excavation letter-4sept2024.docx

Attachments: Table 2 – Summary of Soil Analytical Results
Figure 1 – Site Plan – Remedial Excavation Area and Sampling Locations
Attachment A – Certificates of Analysis
Attachment B – Waste Manifests

Tables

Table 2
Soil Results Summary - Petroleum Hydrocarbons, Polycyclic Aromatic Hydrocarbons and Benzene, Toluene, Ethylbenzene and Xylenes
1047 Richmond Road, Ottawa, Ontario

			Location	East Wall	South Wall	West Wall	TP-SA11	TP-SA11
			Sample Name	EW-SA5	SW-SA4	WW-SA7	TP-SA11	DUP-3
			Sample Date	25-07-2023	25-07-2023	25-07-2023	26-07-2023	26-07-2023
			Sample Depth	1 m	3.5-3.7 m	1-1.8 m	3.2-3.5 m	3.2-3.5 m
Parameter	**REG153 (11) T7-R/P/I SOIL COARSE**	**Unit**						
Petroleum Hydrocarbons								
Petroleum Hydrocarbons - F1 (C6-C10)	55	ug/g	< 5	< 5	< 5	< 5	< 5	
Petroleum Hydrocarbons - F2 (C10-C16)	98	ug/g	< 10	< 10	< 10	< 10	< 10	
Petroleum Hydrocarbons - F3 (C16-C34)	300	ug/g	51	< 50	< 50	< 50	< 50	
Petroleum Hydrocarbons - F4 (C34-C50)	2800	ug/g	< 50	< 50	< 50	< 50	< 50	
Petroleum Hydrocarbons - F1 (C6-C10)-BTEX	55	ug/g	< 5	< 5	< 5	< 5	< 5	
Petroleum Hydrocarbons - F2 (C10-C16) less Naphthalene	98	ug/g	< 10	< 10	< 10	< 10	< 10	
Petroleum Hydrocarbons - F3 (C16-C34) less PAHs	300	ug/g	50	< 50	< 50	< 50	< 50	
Polycyclic Aromatic Hydrocarbons								
Acenaphthene	7.9	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Benzo[g,h,i]perylene	6.6	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Indeno[1,2,3-cd]pyrene	0.38	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Acenaphthylene	0.15	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Benzo[k]fluoranthene	0.78	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Anthracene	0.67	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Chrysene	7	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Naphthalene	0.6	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Benzo[a]anthracene	0.5	ug/g	0.06	< 0.05	< 0.05	< 0.05	< 0.05	
Dibenzo[a,h]anthracene	0.1	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Phenanthrene	6.2	ug/g	0.08	< 0.05	< 0.05	< 0.05	< 0.05	
Benzo[a]pyrene	0.3	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Fluoranthene	0.69	ug/g	0.24	< 0.05	< 0.05	< 0.05	< 0.05	
Pyrene	78	ug/g	0.16	< 0.05	< 0.05	< 0.05	< 0.05	
Benzo[b]fluoranthene	0.78	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Fluorene	62	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
BTEX								
Benzene	0.21	ug/g	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	
Ethylbenzene	2	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Toluene	2.3	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Xylenes, Total	3.1	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
m,p-Xylenes	NV	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
o-Xylene	NV	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Ungrouped Analytes								
Dimethylnaphthalene	NV	ug/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Moisture, Percent	NV	%	12.8	10.6	14.8	15.3	13.6	

Notes:
Bold: Value exceeding Table 7 standards
ug/g: micrograms per gram
%: percentage
NV: No Value
<: Indicates parameter not detected above laboratory method detection limit.

REG153 (11) T7-R/P/I SOIL COARSE	Table 7 = Ontario Ministry of the Environment, Conservation and Parks (MECP), "Soil, Ground Water 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

Figures

LEGEND

- APPROXIMATE SAMPLE LOCATION
- LOCATIONS WHERE ALL SAMPLES MEET APPLICABLE STANDARDS
- SLOPE 2:1
- EXCAVATION AREA

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE
2. O.REG 153 (2011) TABLE STANDARDS FOR RESIDENTIAL/PARKLAND/INSTITUTIONAL (R/P/I) PROPERTY USE FOR COARSE TEXTURED SOIL IN GENERIC SITE CONDITION FOR SHALLOW SOILS IN A NON-POTABLE GROUND WATER CONDITION.

REFERENCE(S)

1. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2020
2. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: MTM ZONE 9, VERTICAL DATUM: CGVD28

0 1.5 3 6
1:125 METRES

CLIENT
1047 RICHMOND NOMINEE INC.

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1047 RICHMOND ROAD, OTTAWA, ONTARIO

TITLE
SITE EXCAVATION AREA AND CONFIRMATORY SAMPLE LOCATION

CONSULTANT

YYYY-MM-DD	9/27/2023
DESIGNED	RF
PREPARED	JT
REVIEWED	DS
APPROVED	KS

PROJECT NO.	CONTROL	REV.	FIGURE
21494078	0008	0	**19**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm 0

Path: S:\Clients\Fengate\1047_Richmond_R d\99_PRO\21494078_Fengate_GeoEnviro\0008_Excavation\21494078-0008-HS-0001.mxd

ATTACHMENT A

Certificates of Analysis

AGAT Laboratories

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FAX (905)712-5122
http://www.agatlabs.com

CLIENT NAME: WSP CANADA INC.
100 SCOTIA COURT
WHITBY, ON L1N8Y6
(905) 723-2727

ATTENTION TO: Daniel Stabile

PROJECT: 21494078

AGAT WORK ORDER: 23Z051494

SOIL ANALYSIS REVIEWED BY: Amanjot Bhela, Inorganic Lab Manager

TRACE ORGANICS REVIEWED BY: Radhika Chakraberty, Trace Organics Lab Manager

DATE REPORTED: Aug 03, 2023

PAGES (INCLUDING COVER): 14

VERSION*: 1

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

*Notes

Disclaimer:

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

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Certificate of Analysis

AGAT WORK ORDER: 23Z051494

PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis

O. Reg. 558 Metals and Inorganics

DATE RECEIVED: 2023-07-26

DATE REPORTED: 2023-08-03

		SAMPLE DESCRIPTION:		TCLP
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2023-07-26
Parameter	Unit	G / S	RDL	5169651
Arsenic Leachate	mg/L	2.5	0.010	<0.010
Barium Leachate	mg/L	100	0.020	2.32
Boron Leachate	mg/L	500	0.050	0.066
Cadmium Leachate	mg/L	0.5	0.010	<0.010
Chromium Leachate	mg/L	5	0.050	<0.050
Lead Leachate	mg/L	5	0.010	0.134
Mercury Leachate	mg/L	0.1	0.01	<0.01
Selenium Leachate	mg/L	1	0.020	<0.020
Silver Leachate	mg/L	5	0.010	<0.010
Uranium Leachate	mg/L	10	0.050	<0.050
Fluoride Leachate	mg/L	150	0.10	0.11
Cyanide Leachate	mg/L	20	0.05	<0.05
(Nitrate + Nitrite) as N Leachate	mg/L	1000	0.70	<0.70

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to O. Reg. 558 - Schedule IV Leachate Quality Criteria
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

Amanjot Bhela

ASSOCIATION OF THE CHEMICAL PROFESSION OF ONTARIO
CHARTERED
AMANJOT BHELA
CHEMIST

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 23Z051494
PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.
SAMPLING SITE:1047 Richmond Rd

ATTENTION TO: Daniel Stabile
SAMPLED BY:Ryan Francis

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

DATE RECEIVED: 2023-07-26

DATE REPORTED: 2023-08-03

		SAMPLE DESCRIPTION:		EW-SA5	WW-SA7	SW-SA4	TP-SA11	DUP-3
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2023-07-25	2023-07-25	2023-07-25	2023-07-26	2023-07-26
Parameter	Unit	G / S	RDL	5169635	5169637	5169638	5169639	5169649
Naphthalene	µg/g	0.6	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
Acenaphthene	µg/g	7.9	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
Phenanthrene	µg/g	6.2	0.05	0.08	<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
Fluoranthene	µg/g	0.69	0.05	0.24	<0.05	<0.05	<0.05	<0.05
Pyrene	µg/g	78	0.05	0.16	<0.05	<0.05	<0.05	<0.05
Benz(a)anthracene	µg/g	0.5	0.05	0.06	<0.05	<0.05	<0.05	<0.05
Chrysene	µg/g	7	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
Benzo(k)fluoranthene	µg/g	0.78	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
Indeno(1,2,3-cd)pyrene	µg/g	0.38	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
Benzo(g,h,i)perylene	µg/g	6.6	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1 and 2 Methlynaphthalene	µg/g	0.99	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	12.8	14.8	10.6	15.3	13.6
Surrogate	Unit	Acceptable Limits						
Naphthalene-d8	%	50-140		90	90	95	90	85
Acridine-d9	%	50-140		115	115	115	90	90
Terphenyl-d14	%	50-140		80	90	70	115	75

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

5169635-5169649 Results are based on the dry weight of the soil.
Note: The result for Benzo(b)Fluoranthene is the total of the Benzo(b)&j)Fluoranthene isomers because the isomers co-elute on the GC column.
2- and 1-Methyl Naphthalene is a calculated parameter. The calculated value is the sum of 2-Methyl Naphthalene and 1-Methyl Naphthalene.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: R. Chakraberty

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Certificate of Analysis

AGAT WORK ORDER: 23Z051494

PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis

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

DATE RECEIVED: 2023-07-26

DATE REPORTED: 2023-08-03

		SAMPLE DESCRIPTION:		EW-SA5	WW-SA7	SW-SA4	TP-SA11	DUP-3
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2023-07-25	2023-07-25	2023-07-25	2023-07-26	2023-07-26
Parameter	Unit	G / S	RDL	5169635	5169637	5169638	5169639	5169649
Benzene	µg/g	0.21	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	µg/g	2.3	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	µg/g	2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
m & p-Xylene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
o-Xylene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	µg/g	3.1	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
F1 (C6 - C10)	µg/g		5	<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	55	5	<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g	98	10	<10	<10	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10	<10	<10	<10	<10
F3 (C16 to C34)	µg/g	300	50	51	<50	<50	<50	<50
F3 (C16 to C34) minus PAHs	µg/g		50	50	<50	<50	<50	<50
F4 (C34 to C50)	µg/g	2800	50	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	2800	50	NA	NA	NA	NA	NA
Moisture Content	%		0.1	12.8	14.8	10.6	15.3	13.6
Surrogate	Unit	Acceptable Limits						
Toluene-d8	% Recovery	60-140		114	103	94	79	84
Terphenyl	%	60-140		71	81	84	84	88

Certified By: R. Chakraberty

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AGAT WORK ORDER: 23Z051494

PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis

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

DATE RECEIVED: 2023-07-26

DATE REPORTED: 2023-08-03

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

5169635-5169649 Results are based on sample dry weight.
The C6-C10 fraction is calculated using toluene response factor.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX and PAH contributions.
C>10 – C16 (F2- Naphthalene) is a calculated parameter. The calculated value is F2 - Naphthalene.
C>16 - C34 (F3-PAH) is a calculated parameter. The calculated value is F3-PAH (PAH: sum of Phenanthrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Fluoranthene, Dibenzo(a,h)anthracene, Indeno(1,2,3-c,d)pyrene and Pyrene).
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: R. Chakraberty

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AGAT WORK ORDER: 23Z051494

PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis

O. Reg. 558 - Benzo(a) pyrene

DATE RECEIVED: 2023-07-26

DATE REPORTED: 2023-08-03

		SAMPLE DESCRIPTION:		TCLP
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2023-07-26
Parameter	Unit	G / S	RDL	5169651
Benzo(a)pyrene Leachate	mg/L	0.001	0.001	<0.001
Surrogate	Unit	Acceptable Limits		
Acridine-d9	%	50-140		95
Naphthalene-d8	%	50-140		75
Terphenyl-d14	%	50-140		81

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to O. Reg. 558 - Schedule IV Leachate Quality Criteria
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

5169651 The sample was leached according to Regulation 558 protocol. Analysis was performed on the leachate.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: R. Chakraberty

AGAT Laboratories

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AGAT WORK ORDER: 23Z051494

PROJECT: 21494078

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis

O. Reg. 558 - VOCs

DATE RECEIVED: 2023-07-26

DATE REPORTED: 2023-08-03

		SAMPLE DESCRIPTION:		TCLP
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2023-07-26
Parameter	Unit	G / S	RDL	5169651
Vinyl Chloride Leachate	mg/L	0.2	0.030	<0.030
1,1 Dichloroethene Leachate	mg/L	1.4	0.020	<0.020
Dichloromethane Leachate	mg/L	5.0	0.030	<0.030
Methyl Ethyl Ketone Leachate	mg/L	200	0.090	<0.090
Chloroform Leachate	mg/L	10.0	0.020	<0.020
1,2-Dichloroethane Leachate	mg/L	0.5	0.020	<0.020
Carbon Tetrachloride Leachate	mg/L	0.5	0.020	<0.020
Benzene Leachate	mg/L	0.5	0.020	<0.020
Trichloroethene Leachate	mg/L	5.0	0.020	<0.020
Tetrachloroethene Leachate	mg/L	3.0	0.050	<0.050
Chlorobenzene Leachate	mg/L	8.0	0.010	<0.010
1,2-Dichlorobenzene Leachate	mg/L	20.0	0.010	<0.010
1,4-Dichlorobenzene Leachate	mg/L	0.5	0.010	<0.010
Surrogate	Unit	Acceptable Limits		
Toluene-d8	% Recovery	50-140		117
4-Bromofluorobenzene	% Recovery	50-140		84

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to O. Reg. 558 - Schedule IV Leachate Quality Criteria
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

5169651 Sample was prepared using Regulation 558 protocol and a zero headspace extractor.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: R. Chakraberty

AGAT Laboratories

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Quality Assurance

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z051494

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis

Soil Analysis

RPT Date: Aug 03, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 558 Metals and Inorganics															
Arsenic Leachate	5165829		<0.010	<0.010	NA	< 0.010	89%	70%	130%	95%	80%	120%	129%	70%	130%
Barium Leachate	5165829		0.479	0.471	1.7%	< 0.020	99%	70%	130%	100%	80%	120%	108%	70%	130%
Boron Leachate	5165829		0.063	0.057	NA	< 0.050	101%	70%	130%	98%	80%	120%	79%	70%	130%
Cadmium Leachate	5165829		<0.010	<0.010	NA	< 0.010	100%	70%	130%	107%	80%	120%	98%	70%	130%
Chromium Leachate	5165829		<0.050	<0.050	NA	< 0.050	100%	70%	130%	105%	80%	120%	99%	70%	130%
Lead Leachate	5165829		0.012	0.012	NA	< 0.010	98%	70%	130%	103%	80%	120%	101%	70%	130%
Mercury Leachate	5165829		<0.01	<0.01	NA	< 0.01	98%	70%	130%	98%	80%	120%	85%	70%	130%
Selenium Leachate	5165829		<0.020	<0.020	NA	< 0.020	101%	70%	130%	112%	80%	120%	111%	70%	130%
Silver Leachate	5165829		<0.010	<0.010	NA	< 0.010	96%	70%	130%	114%	80%	120%	104%	70%	130%
Uranium Leachate	5165829		<0.050	<0.050	NA	< 0.050	97%	70%	130%	104%	80%	120%	113%	70%	130%
Fluoride Leachate	5165829		0.13	0.14	NA	< 0.10	107%	90%	110%	103%	90%	110%	115%	70%	130%
Cyanide Leachate	5165829		<0.05	<0.05	NA	< 0.05	92%	70%	130%	103%	80%	120%	103%	70%	130%
(Nitrate + Nitrite) as N Leachate	5165829		<0.70	<0.70	NA	< 0.70	102%	80%	120%	99%	80%	120%	96%	70%	130%

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

Certified By:

Amanjot Bhela

ASSOCIATION OF THE CHEMICAL PROFESSION OF ONTARIO
CHARTERED
AMANJOT BHELA
CHEMIST

AGAT Laboratories

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

Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 21494078
SAMPLING SITE:1047 Richmond Rd

AGAT WORK ORDER: 23Z051494
ATTENTION TO: Daniel Stabile
SAMPLED BY:Ryan Francis

Trace Organics Analysis

RPT Date: Aug 03, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	5159475		<0.05	<0.05	NA	< 0.05	109%	50%	140%	83%	50%	140%	83%	50%	140%
Acenaphthylene	5159475		<0.05	<0.05	NA	< 0.05	79%	50%	140%	78%	50%	140%	80%	50%	140%
Acenaphthene	5159475		<0.05	<0.05	NA	< 0.05	95%	50%	140%	98%	50%	140%	85%	50%	140%
Fluorene	5159475		<0.05	<0.05	NA	< 0.05	104%	50%	140%	88%	50%	140%	83%	50%	140%
Phenanthrene	5159475		<0.05	<0.05	NA	< 0.05	100%	50%	140%	110%	50%	140%	78%	50%	140%
Anthracene	5159475		<0.05	<0.05	NA	< 0.05	102%	50%	140%	88%	50%	140%	83%	50%	140%
Fluoranthene	5159475		0.10	0.11	NA	< 0.05	113%	50%	140%	75%	50%	140%	65%	50%	140%
Pyrene	5159475		0.08	0.10	NA	< 0.05	105%	50%	140%	85%	50%	140%	73%	50%	140%
Benz(a)anthracene	5159475		<0.05	<0.05	NA	< 0.05	78%	50%	140%	103%	50%	140%	105%	50%	140%
Chrysene	5159475		<0.05	<0.05	NA	< 0.05	98%	50%	140%	113%	50%	140%	113%	50%	140%
Benzo(b)fluoranthene	5159475		<0.05	<0.05	NA	< 0.05	95%	50%	140%	85%	50%	140%	90%	50%	140%
Benzo(k)fluoranthene	5159475		<0.05	<0.05	NA	< 0.05	110%	50%	140%	80%	50%	140%	85%	50%	140%
Benzo(a)pyrene	5159475		<0.05	<0.05	NA	< 0.05	78%	50%	140%	90%	50%	140%	88%	50%	140%
Indeno(1,2,3-cd)pyrene	5159475		<0.05	<0.05	NA	< 0.05	71%	50%	140%	110%	50%	140%	100%	50%	140%
Dibenz(a,h)anthracene	5159475		<0.05	<0.05	NA	< 0.05	66%	50%	140%	83%	50%	140%	83%	50%	140%
Benzo(g,h,i)perylene	5159475		<0.05	<0.05	NA	< 0.05	71%	50%	140%	80%	50%	140%	78%	50%	140%
O. Reg. 558 - VOCs															
Vinyl Chloride Leachate	5178215		< 0.030	< 0.030	NA	< 0.030	97%	50%	140%	97%	50%	140%	107%	50%	140%
1,1 Dichloroethene Leachate	5178215		< 0.020	< 0.020	NA	< 0.020	76%	50%	140%	98%	60%	130%	75%	50%	140%
Dichloromethane Leachate	5178215		< 0.030	< 0.030	NA	< 0.030	82%	50%	140%	91%	60%	130%	77%	50%	140%
Methyl Ethyl Ketone Leachate	5178215		< 0.090	< 0.090	NA	< 0.090	90%	50%	140%	81%	50%	140%	90%	50%	140%
Chloroform Leachate	5178215		< 0.020	< 0.020	NA	< 0.020	95%	50%	140%	83%	60%	130%	99%	50%	140%
1,2-Dichloroethane Leachate	5178215		< 0.020	< 0.020	NA	< 0.020	108%	50%	140%	93%	60%	130%	90%	50%	140%
Carbon Tetrachloride Leachate	5178215		< 0.020	< 0.020	NA	< 0.020	102%	50%	140%	99%	60%	130%	101%	50%	140%
Benzene Leachate	5178215		< 0.020	< 0.020	NA	< 0.020	76%	50%	140%	99%	60%	130%	74%	50%	140%
Trichloroethene Leachate	5178215		< 0.020	< 0.020	NA	< 0.020	88%	50%	140%	101%	60%	130%	94%	50%	140%
Tetrachloroethene Leachate	5178215		< 0.050	< 0.050	NA	< 0.050	83%	50%	140%	119%	60%	130%	69%	50%	140%
Chlorobenzene Leachate	5178215		< 0.010	< 0.010	NA	< 0.010	88%	50%	140%	106%	60%	130%	77%	50%	140%
1,2-Dichlorobenzene Leachate	5178215		< 0.010	< 0.010	NA	< 0.010	93%	50%	140%	98%	60%	130%	82%	50%	140%
1,4-Dichlorobenzene Leachate	5178215		< 0.010	< 0.010	NA	< 0.010	94%	50%	140%	103%	60%	130%	83%	50%	140%
O. Reg. 558 - Benzo(a) pyrene															
Benzo(a)pyrene Leachate	5137581		< 0.001	< 0.001	NA	< 0.001	76%	50%	140%	90%	50%	140%	84%	50%	140%
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)															
Benzene	5168927		< 0.02	< 0.02	NA	< 0.02	74%	60%	140%	84%	60%	140%	74%	60%	140%
Toluene	5168927		< 0.05	< 0.05	NA	< 0.05	93%	60%	140%	68%	60%	140%	96%	60%	140%
Ethylbenzene	5168927		< 0.05	< 0.05	NA	< 0.05	95%	60%	140%	78%	60%	140%	100%	60%	140%
m & p-Xylene	5168927		< 0.05	< 0.05	NA	< 0.05	106%	60%	140%	108%	60%	140%	96%	60%	140%

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 21494078
SAMPLING SITE:1047 Richmond Rd

AGAT WORK ORDER: 23Z051494
ATTENTION TO: Daniel Stabile
SAMPLED BY:Ryan Francis

Trace Organics Analysis (Continued)

RPT Date: Aug 03, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
o-Xylene	5168927		< 0.05	< 0.05	NA	< 0.05	106%	60%	140%	75%	60%	140%	118%	60%	140%
F1 (C6 - C10)	5168927		< 5	< 5	NA	< 5	110%	60%	140%	112%	60%	140%	100%	60%	140%
F2 (C10 to C16)	5165429		<10	<10	NA	< 10	101%	60%	140%	120%	60%	140%	92%	60%	140%
F3 (C16 to C34)	5165429		<50	<50	NA	< 50	98%	60%	140%	109%	60%	140%	90%	60%	140%
F4 (C34 to C50)	5165429		<50	<50	NA	< 50	84%	60%	140%	113%	60%	140%	103%	60%	140%

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

Certified By: R. Chakraberty

AGAT Laboratories

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z051494

PROJECT: 21494078

ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Arsenic Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020B	ICP-MS
Barium Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020B	ICP-MS
Boron Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020B	ICP-MS
Cadmium Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020B	ICP-MS
Chromium Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020B	ICP-MS
Lead Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020B	ICP-MS
Mercury Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020B	ICP-MS
Selenium Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020B	ICP-MS
Silver Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020B	ICP-MS
Uranium Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020B	ICP-MS
Fluoride Leachate	INOR-93-6000	EPA SW 846-1311; SM 4500F-C	ION SELECTIVE ELECTRODE
Cyanide Leachate	INOR-93-6052	EPA 1311 modified from MOE 3015 SM 4500 CN-I,G387	SEGMENTED FLOW ANALYSIS
(Nitrate + Nitrite) as N Leachate	INOR-93-6053	EPA SW 846-1311 & modified from SM 4500 - NO3- I	LACHAT FIA

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Method Summary

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AGAT WORK ORDER: 23Z051494

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ATTENTION TO: Daniel Stabile

SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluorene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benz(a)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Chrysene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
1 and 2 Methlynaphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Moisture Content	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Benzene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Toluene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Ethylbenzene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
m & p-Xylene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
o-Xylene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Xylenes (Total)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
F1 (C6 - C10)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	P&T GC/FID
Toluene-d8	VOL-91-5009	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID

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CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z051494

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SAMPLING SITE:1047 Richmond Rd

SAMPLED BY:Ryan Francis

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
F3 (C16 to C34) minus PAHs	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F4 (C34 to C50)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Terphenyl	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Benzo(a)pyrene Leachate	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Vinyl Chloride Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
1,1 Dichloroethene Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
Dichloromethane Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
Chloroform Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
Benzene Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
Trichloroethene Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
Tetrachloroethene Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
Chlorobenzene Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91- 5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

AGAT Laboratories

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Chain of Custody Record

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

Laboratory Use Only

Work Order #: 2320514 94

Cooler Quantity: one - melteeye

Arrival Temperatures: 24.5 | 24.4 | 24.5
3.4 | 3.7 | 4.0

Custody Seal Intact: ☐ Yes ☐ No ☒ N/A

Notes: bag sealed

Report Information:

Company: WSP Canada Inc
Contact: Daniel Stabile
Address: 1931 Robertson Rd. Ottawa, ON, K2H 5B7
Phone: (905) 213-4732 Fax:
Reports to be sent to:
1. Email: daniel.stabile@wsp.com
2. Email:

Regulatory Requirements:

(Please check all applicable boxes)

☒ Regulation 153/04 — Table 7 (Indicate One) — ☐ Ind/Com ☒ Res/Park ☐ Agriculture
Soil Texture (Check One): ☒ Coarse ☐ Fine

☐ Excess Soils R406 — Table ____ (Indicate One)

☐ Regulation 558

☐ CCME

☐ Sewer Use ☐ Sanitary ☐ Storm — Region

☐ Prov. Water Quality Objectives (PWQO)

☐ Other — Indicate One

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

Report Guideline on *Certificate of Analysis* ☐ Yes ☐ No

Turnaround Time (TAT) Required:

Regular TAT ☐ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☒ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply): ____

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

For 'Same Day' analysis, please contact your AGAT CPM

Project Information:

Project: 21494078
Site Location: 1047 Richmond Rd
Sampled By: Ryan Francis
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☒ No ☐

Company: WSP Canada Inc
Contact: Daniel Stabile
Address:
Email: CAPayablesInvoice@WSP.com

Sample Matrix Legend

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs — Analyze F4G if required ☐ Yes ☐ No	O. Reg 153: PAHs	O. Reg 153: PCBs	O. Reg 153: VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	TCLP							Potentially Hazardous or High Concentration (Y/N)
EW-SA5	July 25/23	12:55 AM/PM	2	S					✓															
WW-SA7	July 25/23	1:35 AM/PM	2	S					✓															
SW-SA4	July 25/23	1:55 AM/PM	2	S					✓															
TP-SA11	July 26/23	11:35 AM/PM	2	S					✓															
DUP-3	July 26/23	11:35 AM/PM	2	S													✓							
TCLP	July 26/23	2:40 AM/PM	3	S																				Y
EW-SA12	July 27/23	2:30 AM/PM	2	S					✓															
WW-SA13	July 27/23	2:35 AM/PM	2	S					✓															
		AM/PM																						
		AM/PM																						
		AM/PM																						

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Ryan Francis	July 26, 2023		C. Griffiths	July 26 2023	15h00
CA to Pure	JUL 26 2023	15h30	T. K	July 27	8:40 AM

Page 1 of 1

N°: T 129276

Document ID: DIV-78 1511_021

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

Date Issued: March 9, 2021

ATTACHMENT B

Waste Manifests

Centre FilloGreen
VALORISATION DE MATÉRIAUX SECS/RECOVERY OF DRY MATERIALS
PARC INDUSTRIEL REGIONAL INDUSTRIAL PARK

Réception

 # Livr. : 0016905
Date : 2023-09-08
 # Réf. : Job# 23-197

9231-6082 Québec Inc./Centre

Site
152 chemin de l'Industrie Nord
Litchfield (Québec)
J0X 1K0

Facturation : Amor Construction (ON) [BC0000130]
134 St-Paul, Unit 1
Ottawa (Ontario)
K1L 6A3

Livraison : Demolition Plus
1047 Richmond Road
Ottawa (Ontario)

# Produit	Description	Qté	Prix/Unité	Prix Fixe	Rabais	Taxation	Montant
081	Sol A&B	30.54 t GROSS : 51740 kg TARE : 21200 kg NET : 30540 kg				FO	

Commentaires :

WO# 197-013 Job# 23-197 PO# 23240-02
Ticket# 49433

Terms: Invoices are payable in 30 days. 2% per month (24% per year) are charged on unpaid bills.
Please pay to: 9231-6082 Québec Inc./FilloGreen, 14 ch Richard, La Pêche (Québec) J0X 2W0

P.-S.: Pricing may vary without notice.

Véhicule : PA66364/S4471P
Transporteur : Demolition Plus
Chauffeur : Marcel St-Denis

Sommaire des taxes :

831684519 RT0001 (13%) : 0,00 $

Transport :
Sous-Total :
Taxes :
Total :

Signature : _____

Centre FilloGreen
VALORISATION DE MATÉRIAUX SECS/RECOVERY OF DRY MATERIALS
PARC INDUSTRIEL REGIONAL INDUSTRIAL PARK

Réception

 # Livr. : 0016908
Date : 2023-09-08
 # Réf. : Job# 23-197

9231-6082 Québec Inc./Centre

Site
152 chemin de l'Industrie Nord
Litchfield (Québec)
J0X 1K0

Facturation : Amor Construction (ON) [BC0000130]
134 St-Paul, Unit 1
Ottawa (Ontario)
K1L 6A3

Livraison : Demolition Plus
1047 Richmond Road
Ottawa (Ontario)

# Produit	Description	Qté	Prix/Unité	Prix Fixe	Rabais	Taxation	Montant
081	Sol A&B	30.36 t GROSS : 50570 kg TARE : 20210 kg NET : 30360 kg				FO	

Commentaires :

WO# 197-014 Job# 23-197 PO# 23240-02
Ticket# 49434

Terms: Invoices are payable in 30 days. 2% per month (24% per year) are charged on unpaid bills.
Please pay to: 9231-6082 Québec Inc./FilloGreen, 14 ch Richard, La Pêche (Québec) J0X 2W0

P.-S.: Pricing may vary without notice.

Véhicule : PA14740/S2704S
Transporteur : Ray A. Thompson Truckin
Chauffeur : Chris Thompson

Sommaire des taxes :

831684519 RT0001 (13%) : 0,00 $

Transport :
Sous-Total :
Taxes :
Total :

Signature : _____

Centre FilloGreen
VALORISATION DE MATÉRIAUX SECS/RECOVERY OF DRY MATERIALS
PARC INDUSTRIEL REGIONAL INDUSTRIAL PARK

Réception

 # Livr. : 0016915
Date : 2023-09-08
 # Réf. : Job# 23-197

9231-6082 Québec Inc./Centre

Site
152 chemin de l'Industrie Nord
Litchfield (Québec)
J0X 1K0

Facturation : Amor Construction (ON) [BC0000130]
134 St-Paul, Unit 1
Ottawa (Ontario)
K1L 6A3

Livraison : Demolition Plus
1047 Richmond Road
Ottawa (Ontario)

# Produit	Description	Qté	Prix/Unité	Prix Fixe	Rabais	Taxation	Montant
081	Sol A&B	22.98 t GROSS : 35700 kg TARE : 12720 kg NET : 22980 kg				FO	

Commentaires :

WO# 197-015 Job# 23-197 PO# 23240-02
Ticket# 49436

Terms: Invoices are payable in 30 days. 2% per month (24% per year) are charged on unpaid bills.
Please pay to: 9231-6082 Québec Inc./FilloGreen, 14 ch Richard, La Pêche (Québec) J0X 2W0

P.-S.: Pricing may vary without notice.

Véhicule : PA27041
Transporteur : Demolition Plus
Chauffeur : Zachary Roy

Sommaire des taxes :

831684519 RT0001 (13%) : 0,00 $

Transport :
Sous-Total :
Taxes :
Total :

Signature : _____

Centre FilloGreen
VALORISATION DE MATÉRIAUX SECS/RECOVERY OF DRY MATERIALS
PARC INDUSTRIEL REGIONAL INDUSTRIAL PARK

Réception

 # Livr. : 0016916
Date : 2023-09-08
 # Réf. : Job# 23-197

9231-6082 Québec Inc./Centre

Site
152 chemin de l'Industrie Nord
Litchfield (Québec)
J0X 1K0

Facturation : Amor Construction (ON) [BC0000130]
134 St-Paul, Unit 1
Ottawa (Ontario)
K1L 6A3

Livraison : Demolition Plus
1047 Richmond Road
Ottawa (Ontario)

# Produit	Description	Qté	Prix/Unité	Prix Fixe	Rabais	Taxation	Montant
081	Sol A&B	33.75 t GROSS : 52780 kg TARE : 19030 kg NET : 33750 kg				FO	

Commentaires :

WO# 197-016 Job# 23-197 PO# 23240-02
Ticket# 49438

Terms: Invoices are payable in 30 days. 2% per month (24% per year) are charged on unpaid bills.
Please pay to: 9231-6082 Québec Inc./FilloGreen, 14 ch Richard, La Pêche (Québec) J0X 2W0

P.-S.: Pricing may vary without notice.

Véhicule : L988506/RL9261
Transporteur : Ray A. Thompson Truckin
Chauffeur : Derek Ardies

Sommaire des taxes :

831684519 RT0001 (13%) : 0,00 $

Transport :
Sous-Total :
Taxes :
Total :

Signature : _____

Centre FilloGreen
VALORISATION DE MATÉRIAUX SECS/RECOVERY OF DRY MATERIALS
PARC INDUSTRIEL REGIONAL INDUSTRIAL PARK

Réception

 # Livr. : 0016917
Date : 2023-09-08
 # Réf. : Job# 23-197

9231-6082 Québec Inc./Centre

Site
152 chemin de l'Industrie Nord
Litchfield (Québec)
J0X 1K0

Facturation : Amor Construction (ON) [BC0000130]
134 St-Paul, Unit 1
Ottawa (Ontario)
K1L 6A3

Livraison : Demolition Plus
1047 Richmond Road
Ottawa (Ontario)

# Produit	Description	Qté	Prix/Unité	Prix Fixe	Rabais	Taxation	Montant
081	Sol A&B	46.36 t GROSS : 66870 kg TARE : 20510 kg NET : 46360 kg				FO	

Commentaires :

WO# 197-017 Job# 23-197 PO# 23240-02
Ticket# 49437

Terms: Invoices are payable in 30 days. 2% per month (24% per year) are charged on unpaid bills.
Please pay to: 9231-6082 Québec Inc./FilloGreen, 14 ch Richard, La Pêche (Québec) J0X 2W0

P.-S.: Pricing may vary without notice.

Véhicule : L846779/RJ4390R
Transporteur : Ray A. Thompson Truckin
Chauffeur : Mathieu Lafrenière

Sommaire des taxes :

831684519 RT0001 (13%) : 0,00 $

Transport :
Sous-Total :
Taxes :
Total :

Signature : _____

Centre FilloGreen
VALORISATION DE MATÉRIAUX SECS/RECOVERY OF DRY MATERIALS
PARC INDUSTRIEL REGIONAL INDUSTRIAL PARK

Réception

 # Livr. : 0016919
Date : 2023-09-08
 # Réf. : Job# 23-197

9231-6082 Québec Inc./Centre

Site
152 chemin de l'Industrie Nord
Litchfield (Québec)
J0X 1K0

Facturation : Amor Construction (ON) [BC0000130]
134 St-Paul, Unit 1
Ottawa (Ontario)
K1L 6A3

Livraison : Demolition Plus
1047 Richmond Road
Ottawa (Ontario)

# Produit	Description	Qté	Prix/Unité	Prix Fixe	Rabais	Taxation	Montant
081	Sol A&B	40.85 t GROSS : 60160 kg TARE : 19310 kg NET : 40850 kg				FO	

Commentaires :

WO# 197-018 Job# 23-197 PO# 23240-02
Ticket# 49443

Terms: Invoices are payable in 30 days. 2% per month (24% per year) are charged on unpaid bills.
Please pay to: 9231-6082 Québec Inc./FilloGreen, 14 ch Richard, La Pêche (Québec) J0X 2W0

P.-S.: Pricing may vary without notice.

Véhicule : L759043/RM0523L
Transporteur : Ray A. Thompson Truckin
Chauffeur : Olivier Leblanc

Sommaire des taxes :

831684519 RT0001 (13%) : 0,00 $

Transport :
Sous-Total :
Taxes :
Total :

Signature : _____

Centre FilloGreen
VALORISATION DE MATÉRIAUX SECS/RECOVERY OF DRY MATERIALS
PARC INDUSTRIEL REGIONAL INDUSTRIAL PARK

Réception

 # Livr. : 0016922
Date : 2023-09-08
 # Réf. : Job# 23-197

9231-6082 Québec Inc./Centre

Site
152 chemin de l'Industrie Nord
Litchfield (Québec)
J0X 1K0

Facturation : Amor Construction (ON) [BC0000130]
134 St-Paul, Unit 1
Ottawa (Ontario)
K1L 6A3

Livraison : Demolition Plus
1047 Richmond Road
Ottawa (Ontario)

# Produit	Description	Qté	Prix/Unité	Prix Fixe	Rabais	Taxation	Montant
081	Sol A&B	31 t GROSS : 52200 kg TARE : 21200 kg NET : 31000 kg				FO	

Commentaires :

WO# 197-019 Job# 23-197 PO# 23240-02
Ticket# 49439

Terms: Invoices are payable in 30 days. 2% per month (24% per year) are charged on unpaid bills.
Please pay to: 9231-6082 Québec Inc./FilloGreen, 14 ch Richard, La Pêche (Québec) J0X 2W0

P.-S.: Pricing may vary without notice.

Véhicule : PA66364/S4471P
Transporteur : Demolition Plus
Chauffeur : Marcel St-Denis

Sommaire des taxes :

831684519 RT0001 (13%) : 0,00 $

Transport :
Sous-Total :
Taxes :
Total :

Signature : _____

Centre FilloGreen
VALORISATION DE MATÉRIAUX SECS/RECOVERY OF DRY MATERIALS
PARC INDUSTRIEL REGIONAL INDUSTRIAL PARK

Réception

 # Livr. : 0016923
Date : 2023-09-08
 # Réf. : Job# 23-197

9231-6082 Québec Inc./Centre

Site
152 chemin de l'Industrie Nord
Litchfield (Québec)
J0X 1K0

Facturation : Amor Construction (ON) [BC0000130]
134 St-Paul, Unit 1
Ottawa (Ontario)
K1L 6A3

Livraison : Demolition Plus
1047 Richmond Road
Ottawa (Ontario)

# Produit	Description	Qté	Prix/Unité	Prix Fixe	Rabais	Taxation	Montant
081	Sol A&B	30.97 t GROSS : 51180 kg TARE : 20210 kg NET : 30970 kg				FO	

Commentaires :

WO# 197-020 Job# 23-197 PO# 23240-02
Ticket# 49440

Terms: Invoices are payable in 30 days. 2% per month (24% per year) are charged on unpaid bills.
Please pay to: 9231-6082 Québec Inc./FilloGreen, 14 ch Richard, La Pêche (Québec) J0X 2W0

P.-S.: Pricing may vary without notice.

Véhicule : PA14740/S2704S
Transporteur : Demolition Plus
Chauffeur : Chris Thompson

Sommaire des taxes :

831684519 RT0001 (13%) : 0,00 $

Transport :
Sous-Total :
Taxes :
Total :

Signature : _____

Centre FilloGreen
VALORISATION DE MATÉRIAUX SECS/RECOVERY OF DRY MATERIALS
PARC INDUSTRIEL REGIONAL INDUSTRIAL PARK

Réception

 # Livr. : 0016924
Date : 2023-09-08
 # Réf. : Job# 23-197

9231-6082 Québec Inc./Centre

Site
152 chemin de l'Industrie Nord
Litchfield (Québec)
J0X 1K0

Facturation : Amor Construction (ON) [BC0000130]
134 St-Paul, Unit 1
Ottawa (Ontario)
K1L 6A3

Livraison : Demolition Plus
1047 Richmond Road
Ottawa (Ontario)

# Produit	Description	Qté	Prix/Unité	Prix Fixe	Rabais	Taxation	Montant
081	Sol A&B	23.95 t GROSS : 36670 kg TARE : 12720 kg NET : 23950 kg				FO	

Commentaires :

WO# 197-021 Job# 23-197 PO# 23240-02
Ticket# 49435

Terms: Invoices are payable in 30 days. 2% per month (24% per year) are charged on unpaid bills.
Please pay to: 9231-6082 Québec Inc./FilloGreen, 14 ch Richard, La Pêche (Québec) J0X 2W0

P.-S.: Pricing may vary without notice.

Véhicule : PA27041
Transporteur : Demolition Plus
Chauffeur : Zachary Roy

Sommaire des taxes :

831684519 RT0001 (13%) : 0,00 $

Transport :
Sous-Total :
Taxes :
Total :

Signature : _____

Centre FilloGreen
VALORISATION DE MATÉRIAUX SECS/RECOVERY OF DRY MATERIALS
PARC INDUSTRIEL REGIONAL INDUSTRIAL PARK

Réception

 # Livr. : 0016925
Date : 2023-09-08
 # Réf. : Job# 23-197

9231-6082 Québec Inc./Centre

Site
152 chemin de l'Industrie Nord
Litchfield (Québec)
J0X 1K0

Facturation : Amor Construction (ON) [BC0000130]
134 St-Paul, Unit 1
Ottawa (Ontario)
K1L 6A3

Livraison : Demolition Plus
1047 Richmond Road
Ottawa (Ontario)

# Produit	Description	Qté	Prix/Unité	Prix Fixe	Rabais	Taxation	Montant
081	Sol A&B	46.53 t GROSS : 66580 kg TARE : 20050 kg NET : 46530 kg				FO	

Commentaires :

WO# 197-022 Job# 23-197 PO# 23240-02
Ticket# 49444

Terms: Invoices are payable in 30 days. 2% per month (24% per year) are charged on unpaid bills.
Please pay to: 9231-6082 Québec Inc./FilloGreen, 14 ch Richard, La Pêche (Québec) J0X 2W0

P.-S.: Pricing may vary without notice.

Véhicule : L741539/RL9670N
Transporteur : Ray A. Thompson Truckin
Chauffeur : Marc Gervais

Sommaire des taxes :

831684519 RT0001 (13%) : 0,00 $

Transport :
Sous-Total :
Taxes :
Total :

Signature : _____

Centre FilloGreen
VALORISATION DE MATÉRIAUX SECS/RECOVERY OF DRY MATERIALS
PARC INDUSTRIEL REGIONAL INDUSTRIAL PARK

Réception

 # Livr. : 0016927
Date : 2023-09-08
 # Réf. : Job# 23-197

9231-6082 Québec Inc./Centre

Site
152 chemin de l'Industrie Nord
Litchfield (Québec)
J0X 1K0

Facturation : Amor Construction (ON) [BC0000130]
134 St-Paul, Unit 1
Ottawa (Ontario)
K1L 6A3

Livraison : Demolition Plus
1047 Richmond Road
Ottawa (Ontario)

# Produit	Description	Qté	Prix/Unité	Prix Fixe	Rabais	Taxation	Montant
081	Sol A&B	36.67 t GROSS : 55700 kg TARE : 19030 kg NET : 36670 kg				FO	

Commentaires :

WO# 197-023 Job# 23-197 PO# 23240-02
Ticket# 49442

Terms: Invoices are payable in 30 days. 2% per month (24% per year) are charged on unpaid bills.
Please pay to: 9231-6082 Québec Inc./FilloGreen, 14 ch Richard, La Pêche (Québec) J0X 2W0

P.-S.: Pricing may vary without notice.

Véhicule : L988506/RL9261
Transporteur : Ray A. Thompson Truckin
Chauffeur : Derek Ardies

Sommaire des taxes :

831684519 RT0001 (13%) : 0,00 $

Transport :
Sous-Total :
Taxes :
Total :

Signature : _____

Centre FilloGreen
VALORISATION DE MATÉRIAUX SECS/RECOVERY OF DRY MATERIALS
PARC INDUSTRIEL REGIONAL INDUSTRIAL PARK

Réception

 # Livr. : 0016929
Date : 2023-09-08
 # Réf. : Job# 23-197

9231-6082 Québec Inc./Centre

Site
152 chemin de l'Industrie Nord
Litchfield (Québec)
J0X 1K0

Facturation : Amor Construction (ON) [BC0000130]
134 St-Paul, Unit 1
Ottawa (Ontario)
K1L 6A3

Livraison : Demolition Plus
1047 Richmond Road
Ottawa (Ontario)

# Produit	Description	Qté	Prix/Unité	Prix Fixe	Rabais	Taxation	Montant
081	Sol A&B	38.3 t GROSS : 57610 kg TARE : 19310 kg NET : 38300 kg				FO	

Commentaires :

WO# 197-024 Job# 23-197 PO# 23240-02
Ticket# 49441

Terms: Invoices are payable in 30 days. 2% per month (24% per year) are charged on unpaid bills.
Please pay to: 9231-6082 Québec Inc./FilloGreen, 14 ch Richard, La Pêche (Québec) J0X 2W0

P.-S.: Pricing may vary without notice.

Véhicule : L759043/RM0523L
Transporteur : Ray A. Thompson Truckin
Chauffeur : Olivier Leblanc

Sommaire des taxes :

831684519 RT0001 (13%) : 0,00 $

Transport :
Sous-Total :
Taxes :
Total :

Signature : _____

Centre FilloGreen

VALORISATION DE MATÉRIAUX SECS/RECOVERY OF DRY MATERIALS
PARC INDUSTRIEL RÉGIONAL INDUSTRIAL PARK

Réception

 # Livr. : 0016776

Date : 2023-09-06

 # Réf. : Job# 23-197

9231-6082 Québec Inc./Centre

Site
152 chemin de l'Industrie Nord
Litchfield (Québec)
J0X 1K0

Facturation : Amor Construction (ON) [BC0000130]
134 St-Paul, Unit 1
Ottawa (Ontario)
K1L 6A3

Livraison : Demolition Plus
1047 Richmond Road
Ottawa (Ontario)

# Produit	Description	Qté	Prix/Unité	Prix Fixe	Rabais	Taxation	Montant
081	Sol A&B	29.03 t GROSS : 49240 kg TARE : 20210 kg NET : 29030 kg				FO	

Commentaires :

WO#197-001 Job# 23-197 PO# 23240-02
Ticket 49427

Terms: Invoices are payable in 30 days. 2% per month (24% per year) are charged on unpaid bills.
Please pay to: 9231-6082 Québec Inc./FilloGreen, 14 ch Richard, La Pêche (Québec) J0X 2W0

P.-S.: Pricing may vary without notice.

Véhicule : PA14740/S2704S

Transporteur : Demolition Plus

Chauffeur : Chris Thompson

Sommaire des taxes :

831684519 RT0001 (13%) : 0,00 $

Transport :

Sous-Total :

Taxes :

Total :

Signature : _____

07/09/2023

Propulsé par OTO Nom-i

Centre
FilloGreen
VALORISATION DE MATÉRIAUX SECS/RECOVERY OF DRY MATERIALS
PARC INDUSTRIEL RÉGIONAL INDUSTRIAL PARK

Réception

 # Livr. : 0016777
Date : 2023-09-06
 # Réf. : Job# 23-197

9231-6082 Québec Inc./Centre

Site
152 chemin de l'Industrie Nord
Litchfield (Québec)
J0X 1K0

Facturation : Amor Construction (ON) [BC0000130]
134 St-Paul, Unit 1
Ottawa (Ontario)
K1L 6A3

Livraison : Demolition Plus
1047 Richmond Road
Ottawa (Ontario)

# Produit	Description	Qté	Prix/Unité	Prix Fixe	Rabais	Taxation	Montant
081	Sol A&B	27.81 t GROSS : 49010 kg TARE : 21200 kg NET : 27810 kg				FO	

Commentaires :

WO# 197-002 Job# 23-197 PO# 23240-02
Ticket# 49428

Terms: Invoices are payable in 30 days. 2% per month (24% per year) are charged on unpaid bills.
Please pay to: 9231-6082 Québec Inc./FilloGreen, 14 ch Richard, La Pêche (Québec) J0X 2W0

P.-S.: Pricing may vary without notice.

Véhicule : PA66364/S4471P
Transporteur : Demolition Plus
Chauffeur : Marcel St-Denis

Sommaire des taxes :

831684519 RT0001 (13%) : 0,00 $

Transport :
Sous-Total :
Taxes :
Total :

Signature : _____

07/09/2023

Propulsé par OTO Nom-i

Centre
FilloGreen
VALORISATION DE MATÉRIAUX SECS/RECOVERY OF DRY MATERIALS
PARC INDUSTRIEL RÉGIONAL INDUSTRIAL PARK

Réception

 # Livr. : 0016783
Date : 2023-09-06
 # Réf. : Job# 23-197

9231-6082 Québec Inc./Centre

Site
152 chemin de l'Industrie Nord
Litchfield (Québec)
J0X 1K0

Facturation : Amor Construction (ON) [BC0000130]
134 St-Paul, Unit 1
Ottawa (Ontario)
K1L 6A3

Livraison : Demolition Plus
1047 Richmond Road
Ottawa (Ontario)

# Produit	Description	Qté	Prix/Unité	Prix Fixe	Rabais	Taxation	Montant
081	Sol A&B	19.7 t GROSS : 32420 kg TARE : 12720 kg NET : 19700 kg				FO	

Commentaires :

WO# 197-003 Job# 23-197 PO# 23240-02
Ticket# 49429

Terms: Invoices are payable in 30 days. 2% per month (24% per year) are charged on unpaid bills.
Please pay to: 9231-6082 Québec Inc./FilloGreen, 14 ch Richard, La Pêche (Québec) J0X 2W0

P.-S.: Pricing may vary without notice.

Véhicule : PA27041
Transporteur : Demolition Plus
Chauffeur : Zachary Roy

Sommaire des taxes :

831684519 RT0001 (13%) : 0,00 $

Transport :
Sous-Total :
Taxes :
Total :

Signature : _____

Centre
FilloGreen
VALORISATION DE MATÉRIAUX SECS/RECOVERY OF DRY MATERIALS
PARC INDUSTRIEL RÉGIONAL INDUSTRIAL PARK

Réception

 # Livr. : 0016806
Date : 2023-09-06
 # Réf. : Job# 23-197

9231-6082 Québec Inc./Centre

Site
152 chemin de l'Industrie Nord
Litchfield (Québec)
J0X 1K0

Facturation : Amor Construction (ON) [BC0000130]
134 St-Paul, Unit 1
Ottawa (Ontario)
K1L 6A3

Livraison : Demolition Plus
1047 Richmond Road
Ottawa (Ontario)

# Produit	Description	Qté	Prix/Unité	Prix Fixe	Rabais	Taxation	Montant
081	Sol A&B	28.52 t GROSS : 48730 kg TARE : 20210 kg NET : 28520 kg				FO	

Commentaires :

WO# 197-006 Job# 23-197 PO# 23240-02
Ticket# 49430

Terms: Invoices are payable in 30 days. 2% per month (24% per year) are charged on unpaid bills.
Please pay to: 9231-6082 Québec Inc./FilloGreen, 14 ch Richard, La Pêche (Québec) J0X 2W0

P.-S.: Pricing may vary without notice.

Véhicule : PA14740/S2704S
Transporteur : Demolition Plus
Chauffeur : Chris Thompson

Sommaire des taxes :

831684519 RT0001 (13%) : 0,00 $

Transport :
Sous-Total :
Taxes :
Total :

Signature : _____

Centre
FilloGreen
VALORISATION DE MATÉRIAUX SECS/RECOVERY OF DRY MATERIALS
PARC INDUSTRIEL REGIONAL INDUSTRIAL PARK

Réception

 # Livr. : 0016794
Date : 2023-09-06
 # Réf. : Job# 23-197

9231-6082 Québec Inc./Centre

Site
152 chemin de l'Industrie Nord
Litchfield (Québec)
J0X 1K0

Facturation : Amor Construction (ON) [BC0000130]
134 St-Paul, Unit 1
Ottawa (Ontario)
K1L 6A3

Livraison : Demolition Plus
1047 Richmond Road
Ottawa (Ontario)

# Produit	Description	Qté	Prix/Unité	Prix Fixe	Rabais	Taxation	Montant
081	Sol A&B	27.73 t GROSS : 48930 kg TARE : 21200 kg NET : 27730 kg				FO	

Commentaires :

WO# 197-004 Job# 23-197 PO# 23240-02
Ticket # 49431

Terms: Invoices are payable in 30 days. 2% per month (24% per year) are charged on unpaid bills.
Please pay to: 9231-6082 Québec Inc./FilloGreen, 14 ch Richard, La Pêche (Québec) J0X 2W0

P.-S.: Pricing may vary without notice.

Véhicule : PA66364/S4471P
Transporteur : Demolition Plus
Chauffeur : Marcel St-Denis

Sommaire des taxes :

831684519 RT0001 (13%) : 0,00 $

Transport :
Sous-Total :
Taxes :
Total :

Signature : _____

07/09/2023

Propulsé par OTO Nom-i

Centre
FilloGreen
VALORISATION DE MATÉRIAUX SECS/RECOVERY OF DRY MATERIALS
PARC INDUSTRIEL REGIONAL INDUSTRIAL PARK

Réception

 # Livr. : 0016798
Date : 2023-09-06
 # Réf. : Job# 23-197

9231-6082 Québec Inc./Centre

Site
152 chemin de l'Industrie Nord
Litchfield (Québec)
J0X 1K0

Facturation : Amor Construction (ON) [BC0000130]
134 St-Paul, Unit 1
Ottawa (Ontario)
K1L 6A3

Livraison : Demolition Plus
1047 Richmond Road
Ottawa (Ontario)

# Produit	Description	Qté	Prix/Unité	Prix Fixe	Rabais	Taxation	Montant
081	Sol A&B	21.81 t GROSS : 34530 kg TARE : 12720 kg NET : 21810 kg				FO	

Commentaires :

WO# 197-005 Job# 23-197 PO# 23240-02
Ticket# 49432

Terms: Invoices are payable in 30 days. 2% per month (24% per year) are charged on unpaid bills.
Please pay to: 9231-6082 Québec Inc./FilloGreen, 14 ch Richard, La Pêche (Québec) J0X 2W0

P.-S.: Pricing may vary without notice.

Véhicule : PA27041
Transporteur : Demolition Plus
Chauffeur : Zachary Roy

Sommaire des taxes :

831684519 RT0001 (13%) : 0,00 $

Transport :
Sous-Total :
Taxes :
Total :

Signature : _____

07/09/2023

Propulsé par OTO Nom-i

Centre FilloGreen
VALORISATION DE MATÉRIAUX SECS/RECOVERY OF DRY MATERIALS
PARC INDUSTRIEL REGIONAL INDUSTRIAL PARK

Réception

 # Livr. : 0016810
Date : 2023-09-07
 # Réf. : Job# 23-197

9231-6082 Québec Inc./Centre

Site
152 chemin de l'Industrie Nord
Litchfield (Québec)
J0X 1K0

Facturation : Amor Construction (ON) [BC0000130]
134 St-Paul, Unit 1
Ottawa (Ontario)
K1L 6A3

Livraison : Demolition Plus
1047 Richmond Road
Ottawa (Ontario)

# Produit	Description	Qté	Prix/Unité	Prix Fixe	Rabais	Taxation	Montant
081	Sol A&B	29.79 t GROSS : 50990 kg TARE : 21200 kg NET : 29790 kg				FO	

Commentaires :

WO# 197-007 Job# 23-197 PO# 23240-02
Ticket# 35359

Terms: Invoices are payable in 30 days. 2% per month (24% per year) are charged on unpaid bills.
Please pay to: 9231-6082 Québec Inc./FilloGreen, 14 ch Richard, La Pêche (Québec) J0X 2W0

P.-S.: Pricing may vary without notice.

Véhicule : PA66364/S4471P
Transporteur : Demolition Plus
Chauffeur : Marcel St-Denis

Sommaire des taxes :

831684519 RT0001 (13%) : 0,00 $

Transport :
Sous-Total :
Taxes :
Total :

Signature : _____

Centre FilloGreen
VALORISATION DE MATÉRIAUX SECS/RECOVERY OF DRY MATERIALS
PARC INDUSTRIEL REGIONAL INDUSTRIAL PARK

Réception

 # Livr. : 0016811
Date : 2023-09-07
 # Réf. : Job# 23-197

9231-6082 Québec Inc./Centre

Site
152 chemin de l'Industrie Nord
Litchfield (Québec)
J0X 1K0

Facturation : Amor Construction (ON) [BC0000130]
134 St-Paul, Unit 1
Ottawa (Ontario)
K1L 6A3

Livraison : Demolition Plus
1047 Richmond Road
Ottawa (Ontario)

# Produit	Description	Qté	Prix/Unité	Prix Fixe	Rabais	Taxation	Montant
081	Sol A&B	24.77 t GROSS : 37490 kg TARE : 12720 kg NET : 24770 kg				FO	

Commentaires :

WO# 197-008 Job# 23-197 PO# 23240-02
Ticket# 35358

Terms: Invoices are payable in 30 days. 2% per month (24% per year) are charged on unpaid bills.
Please pay to: 9231-6082 Québec Inc./FilloGreen, 14 ch Richard, La Pêche (Québec) J0X 2W0

P.-S.: Pricing may vary without notice.

Véhicule : PA27041
Transporteur : Demolition Plus
Chauffeur : Zachary Roy

Sommaire des taxes :

831684519 RT0001 (13%) : 0,00 $

Transport :
Sous-Total :
Taxes :
Total :

Signature : _____

Centre FilloGreen
VALORISATION DE MATÉRIAUX SECS/RECOVERY OF DRY MATERIALS
PARC INDUSTRIEL REGIONAL INDUSTRIAL PARK

Réception

 # Livr. : 0016831
Date : 2023-09-07
 # Réf. : Job# 23-197

9231-6082 Québec Inc./Centre

Site
152 chemin de l'Industrie Nord
Litchfield (Québec)
J0X 1K0

Facturation : Amor Construction (ON) [BC0000130]
134 St-Paul, Unit 1
Ottawa (Ontario)
K1L 6A3

Livraison : Demolition Plus
1047 Richmond Road
Ottawa (Ontario)

# Produit	Description	Qté	Prix/Unité	Prix Fixe	Rabais	Taxation	Montant
081	Sol A&B	34.45 t GROSS : 55650 kg TARE : 21200 kg NET : 34450 kg				FO	

Commentaires :

WO# 197-009 Job# 23-197 PO# 23240-02
Ticket# 35360

Terms: Invoices are payable in 30 days. 2% per month (24% per year) are charged on unpaid bills.
Please pay to: 9231-6082 Québec Inc./FilloGreen, 14 ch Richard, La Pêche (Québec) J0X 2W0

P.-S.: Pricing may vary without notice.

Véhicule : PA66364/S4471P
Transporteur : Demolition Plus
Chauffeur : Marcel St-Denis

Sommaire des taxes :

831684519 RT0001 (13%) : 0,00 $

Transport :
Sous-Total :
Taxes :
Total :

Signature : _____

Centre FilloGreen
VALORISATION DE MATÉRIAUX SECS/RECOVERY OF DRY MATERIALS
PARC INDUSTRIEL REGIONAL INDUSTRIAL PARK

Réception

 # Livr. : 0016832
Date : 2023-09-07
 # Réf. : Job# 23-197

9231-6082 Québec Inc./Centre

Site
152 chemin de l'Industrie Nord
Litchfield (Québec)
J0X 1K0

Facturation : Amor Construction (ON) [BC0000130]
134 St-Paul, Unit 1
Ottawa (Ontario)
K1L 6A3

Livraison : Demolition Plus
1047 Richmond Road
Ottawa (Ontario)

# Produit	Description	Qté	Prix/Unité	Prix Fixe	Rabais	Taxation	Montant
081	Sol A&B	23.15 t GROSS : 35870 kg TARE : 12720 kg NET : 23150 kg				FO	

Commentaires :

WO# 197-010 Job# 23-197 PO# 23240-02
Ticket# 35361

Terms: Invoices are payable in 30 days. 2% per month (24% per year) are charged on unpaid bills.
Please pay to: 9231-6082 Québec Inc./FilloGreen, 14 ch Richard, La Pêche (Québec) J0X 2W0

P.-S.: Pricing may vary without notice.

Véhicule : PA27041
Transporteur : Demolition Plus
Chauffeur : Zachary Roy

Sommaire des taxes :

831684519 RT0001 (13%) : 0,00 $

Transport :
Sous-Total :
Taxes :
Total :

Signature : _____

Centre FilloGreen
VALORISATION DE MATÉRIAUX SECS/RECOVERY OF DRY MATERIALS
PARC INDUSTRIEL REGIONAL INDUSTRIAL PARK

Réception

 # Livr. : 0016842
Date : 2023-09-07
 # Réf. : Job# 23-197

9231-6082 Québec Inc./Centre

Site
152 chemin de l'Industrie Nord
Litchfield (Québec)
J0X 1K0

Facturation : Amor Construction (ON) [BC0000130]
134 St-Paul, Unit 1
Ottawa (Ontario)
K1L 6A3

Livraison : Demolition Plus
1047 Richmond Road
Ottawa (Ontario)

# Produit	Description	Qté	Prix/Unité	Prix Fixe	Rabais	Taxation	Montant
081	Sol A&B	31.51 t GROSS : 52710 kg TARE : 21200 kg NET : 31510 kg				FO	

Commentaires :

WO# 197-011 Job# 23-197 PO# 23240-02
Ticket# 35362

Terms: Invoices are payable in 30 days. 2% per month (24% per year) are charged on unpaid bills.
Please pay to: 9231-6082 Québec Inc./FilloGreen, 14 ch Richard, La Pêche (Québec) J0X 2W0

P.-S.: Pricing may vary without notice.

Véhicule : PA66364/S4471P
Transporteur : Demolition Plus
Chauffeur : Marcel St-Denis

Sommaire des taxes :

831684519 RT0001 (13%) : 0,00 $

Transport :
Sous-Total :
Taxes :
Total :

Signature : _____

Centre FilloGreen
VALORISATION DE MATÉRIAUX SECS/RECOVERY OF DRY MATERIALS
PARC INDUSTRIEL REGIONAL INDUSTRIAL PARK

Réception

 # Livr. : 0016855
Date : 2023-09-07
 # Réf. : Job# 23-197

9231-6082 Québec Inc./Centre

Site
152 chemin de l'Industrie Nord
Litchfield (Québec)
J0X 1K0

Facturation : Amor Construction (ON) [BC0000130]
134 St-Paul, Unit 1
Ottawa (Ontario)
K1L 6A3

Livraison : Demolition Plus
1047 Richmond Road
Ottawa (Ontario)

# Produit	Description	Qté	Prix/Unité	Prix Fixe	Rabais	Taxation	Montant
081	Sol A&B	24.03 t GROSS : 36750 kg TARE : 12720 kg NET : 24030 kg				FO	

Commentaires :

WO# 197-012 Job# 23-197 PO# 23240-02
Ticket# 35363

Terms: Invoices are payable in 30 days. 2% per month (24% per year) are charged on unpaid bills.
Please pay to: 9231-6082 Québec Inc./FilloGreen, 14 ch Richard, La Pêche (Québec) J0X 2W0

P.-S.: Pricing may vary without notice.

Véhicule : PA27041
Transporteur : Demolition Plus
Chauffeur : Zachary Roy

Sommaire des taxes :

831684519 RT0001 (13%) : 0,00 $

Transport :
Sous-Total :
Taxes :
Total :

Signature : _____

														25.00	1,170,080.00	461,058.00	21,200.00	734,560.00	977.02
Demo Ticket	Date	Job No.	Job name	From	To	Carrier / Truck #	Demo Driver Name	Waste / Salvage / Material	Waste / Scrap Scale Ticket #	Run #	Destination Name	Type	Weight out	# of Loads	Gross LB	Tare LB	Wgt Adj SMR	Net LB	Converted to MT
Demo Ticket	Date	Job No.	Job name	From	To	Carrier / Truck #	Demo Driver Name	Waste / Salvage / Material	Waste / Scrap Scale Ticket #	Run #	Destination Name	Type	Weight out	# of Loads	Gross LB	Tare LB	Wgt Adj SMR	Net LB	Converted to MT
49427	September 6, 2023	23240	1047 Richmond Rd.	Ottawa	Ottawa	Demo / 726		W	0016806		Fillo Green	Contaminated Soil		1	48,730.00	20,210.00		28,520.00	28.52
49429	September 6, 2023	23240	1047 Richmond Rd.	Ottawa	Ottawa	Demo / 746	Zach	W	0016798		Fillo Green	Contaminated Soil		1	34,530.00	12,720.00		21,810.00	21.81
49431	September 6, 2023	23240	1047 Richmond Rd.	Ottawa	Ottawa	Demo / 842	Marcel	W	0016794		Fillo Green	Contaminated Soil		1	48,930.00	21,200.00		27,730.00	27.73
49432	September 6, 2023	23240	1047 Richmond Rd.	Ottawa	Ottawa	Demo / 746	Zach	W	0016783		Fillo Green	Contaminated Soil		1	32,420.00	12,720.00		19,700.00	19.70
49428	September 6, 2023	23240	1047 Richmond Rd.	Ottawa	Ottawa	Demo / 842	Marcel	W	0016777		Fillo Green	Contaminated Soil		1	49,010.00	21,200.00		27,810.00	27.81
49430	September 6, 2023	23240	1047 Richmond Rd.	Ottawa	Ottawa	Demo / 726		W	0016776		Fillo Green	Contaminated Soil		1	49,240.00	20,210.00		29,030.00	29.03
35358	September 7, 2023	23240	1047 Richmond Rd.	Ottawa	Ottawa	Demo / 746	Zach	W	0016855		Fillo Green	Contaminated Soil		1	36,750.00	12,720.00		24,030.00	24.03
35362	September 7, 2023	23240	1047 Richmond Rd.	Ottawa	Ottawa	Demo / 842	Marcel	W	0016842		Fillo Green	Contaminated Soil		1	52,710.00	21,200.00		31,510.00	31.51
35361	September 7, 2023	23240	1047 Richmond Rd.	Ottawa	Ottawa	Demo / 746	Zach	W	0016832		Fillo Green	Contaminated Soil		1	35,870.00	12,720.00		23,150.00	23.15
35360	September 7, 2023	23240	1047 Richmond Rd.	Ottawa	Ottawa	Demo / 842	Marcel	W	0016831		Fillo Green	Contaminated Soil		1	55,650.00	21,200.00		34,450.00	34.45
35363	September 7, 2023	23240	1047 Richmond Rd.	Ottawa	Ottawa	Demo / 746	Zach	W	0016811		Fillo Green	Contaminated Soil		1	37,490.00	12,720.00		24,770.00	24.77
35359	September 7, 2023	23240	1047 Richmond Rd.	Ottawa	Ottawa	Demo / 842	Marcel	W	0016810		Fillo Green	Contaminated Soil		1	50,990.00	21,200.00		29,790.00	29.79
49435	September 8, 2023	23240	1047 Richmond Rd.	Ottawa	Ottawa	Demo / 746	Zack	W	0016924		Fillo Green	Contaminated Soil		1	36,670.00	12,720.00		23,950.00	23.95
No Ticket	September 8, 2023	23240	1050 Richmond Rd.	Ottawa	Ottawa	Ray A. Thompson		W	0016923		Fillo Green	Contaminated Soil		1	51,180.00	20,210.00		30,970.00	30.97
49439	September 8, 2023	23240	1047 Richmond Rd.	Ottawa	Ottawa	Demo / 842	Marcel	W	0016922		Fillo Green	Contaminated Soil		1	52,200.00	21,200.00		31,000.00	14.06
49438	September 8, 2023	23240	1047 Richmond Rd.	Ottawa	Ottawa	Ray A. Thompson		W	0016917		Fillo Green	Contaminated Soil		1	66,870.00	20,510.00		46,360.00	46.36
49437	September 8, 2023	23240	1047 Richmond Rd.	Ottawa	Ottawa	Ray A. Thompson		W	0016916		Fillo Green	Contaminated Soil		1	52,780.00	19,030.00		33,750.00	33.75
49436	September 8, 2023	23240	1047 Richmond Rd.	Ottawa	Ottawa	Demo / 746	Zack	W	0016915		Fillo Green	Contaminated Soil		1	35,700.00	12,720.00		22,980.00	22.98
49434	September 8, 2023	23240	1047 Richmond Rd.	Ottawa	Ottawa	Demo / 726	Chris	W	0016908		Fillo Green	Contaminated Soil		1	50,570.00	20,210.00		30,360.00	30.36
49433	September 8, 2023	23240	1047 Richmond Rd.	Ottawa	Ottawa	Demo / 842	Marcel	W	0016905		Fillo Green	Contaminated Soil		1	51,740.00	46,738.00	21,200.00	30,540.00	30.54
49440	September 9, 2023	23240	1048 Richmond Rd.	Ottawa	Ottawa	Demo / 726	Chris	W			Fillo Green	Contaminated Soil		1					259.40
49441	September 10, 2023	23240	1047 Richmond Rd.	Ottawa	Ottawa	Ray A. Thompson		W	0016919		Fillo Green	Contaminated Soil		1	60,160.00	19,310.00		40,850.00	40.85
49442	September 11, 2023	23240	1047 Richmond Rd.	Ottawa	Ottawa	Ray A. Thompson		W	0016925		Fillo Green	Contaminated Soil		1	66,580.00	20,050.00		46,530.00	46.53
49443	September 12, 2023	23240	1047 Richmond Rd.	Ottawa	Ottawa	Ray A. Thompson		W	0016927		Fillo Green	Contaminated Soil		1	55,700.00	19,030.00		36,670.00	36.67
49444	September 13, 2023	23240	1047 Richmond Rd.	Ottawa	Ottawa	Ray A. Thompson		W	0016929		Fillo Green	Contaminated Soil		1	57,610.00	19,310.00		38,300.00	38.30

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