FINAL REPORT

Phase Two Environmental Site Assessment

170 Slater Street, Ottawa, Ontario

Submitted to:

The Canada Life Assurance Company c/o GWL Realty Advisors Inc.
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1.0 EXECUTIVE SUMMARY

WSP Canada (WSP) was retained by The Canada Life Assurance Company c/o GWL Realty Advisors Inc.(GWL) to conduct a Phase Two Environmental Site Assessment (Phase Two ESA) of the property located at 170 Slater Street in Ottawa, Ontario, (the "Site" or "Phase Two Property") as shown on Figure 1 (Site Plan). It is WSP's understanding that GWL intends to redevelop the Phase Two Property into a mixed-use commercial-residential development with two stories of underground parking. The site is currently developed with a three and a half story above ground parking garage.

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, 170 Slater Street, Ottawa, Ontario*", dated May 2023. Based on the findings of the Phase One ESA, WSP recommended a Phase Two ESA investigation to investigate the six identified areas of potential environmental concern (APECs).

The six APECs were investigated as part of the Phase Two ESA. Concentrations of electrical conductivity (EC), sodium adsorption ratio (SAR), Petroleum hydrocarbon (PHC) fractions 1 and 2 (F1 and F2), boron (Hot Water Soluble), barium, cobalt, lead, selenium, mercury, thallium and vanadium in soil, and chloroform in groundwater were identified at the Phase Two Property exceeding the applicable Ministry of Environment, Conservation and Parks (MECP) Table 3 Site Condition Standards, for residential land use and coarse textured soil(Table 3 SCS). The following parameters identified at concentrations above the Table 3 SCS are not attributed to past contaminating activities on the Phase Two Property or in the surrounding area and are therefore not considered exceedances of the Table 3 SCS as per section 49(1) of O.Reg. 153/04:

- Concentrations of barium, cobalt, thallium, and vanadium above the Table 3 SCS that were detected in native soil samples from the site are considered representative of background concentrations in marine clay deposits that are common throughout the Ottawa region (Geofirma, 2018).
- Concentrations of EC and SAR in soil above the Table 3 SCS in soil are attributed to the extensive use of road salt both on and off the site to maintain safe driving/walking conditions. In addition, elevated concentrations of these parameters are relatively common in the Champlain Sea deposits (Geofirma, 2018).
- Chloroform detected in groundwater collected from both monitoring wells installed in APEC 5 is attributed to the use of treated municipal water during drilling. No other parameters at concentrations above the Table 3 SCS were identified in groundwater samples analysed as part of the Phase Two investigation.

Some additional assessment of soil and groundwater conditions at the site is recommended to refine impacted areas and determine the influence of seasonal groundwater variations on groundwater contamination (if any).

Remediation of the Site to address the identified exceedances of the Table 3 SCS would be required in order to obtain a Record of Site Condition.

2.0 INTRODUCTION

2.1 Site Description

WSP was retained by The Canada Life Assurance Company c/o GWL Realty Advisors Inc. (GWL) to conduct a Phase Two Environmental Site Assessment ("Phase Two ESA") of the following property:

Municipal Address	170 Slater Street
Size of the Phase Two Property	0.42 hectares

The location of the Phase Two Property is provided in the appended Figure 1. A plan of survey for the Site is provided in Appendix A. The boundaries of the Phase Two Property are provided in Figure 2.

2.2 Property Ownership

The Phase Two Property is owned by The Canada Life Assurance Company as represented by Andrew Hanna. The contact information for Andrew Hanna is provided in the following table.

Project Contact:	Andrew Hanna
Address:	33 Yonge Street, Suite 1000, Toronto, ON, M5G 1G4
Phone Number:	416-507-2809

2.3 Current and Proposed Future Uses

The Site is currently occupied by a three and a half or seven staggered storey commercial aboveground parking garage with the lower level set one half storey below grade. The parking garage was reportedly constructed in 1985.

WSP understands that the Site will be undergoing future redevelopment to a multi-use high-rise commercial and residential building with two levels of underground parking.

2.4 Applicable Site Condition Standard

The analytical results of the samples collected for this Phase Two ESA were compared to the Table 3 generic site condition standards in a non-potable groundwater condition (residential/parkland use, coarse soil texture) presented in the MECP document "*Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*", dated April 15, 2011, herein referred to as the Table 3 SCS. The Table 3 SCS were selected based on the following rationale:

- The closest water body is The Ottawa River, located approximately 0.5 km north of the Site.
- No Areas of Natural or Scientifical Interest (ANSI) are known to be present within the Phase Two Property.
- There are no water supply wells present on the Phase Two Property and potable water for the surrounding area is supplied by the piped municipal (City of Ottawa) water distribution system.
- No features have been identified at the Phase Two Property that would meet the conditions of an environmentally sensitive site, as described in Section 41 of O.Reg 153/04.
- The pH of surface soil is between 5 and 9 and the pH of sub-surface soil meets the requirement of being between 5 and 11 (Section 6.4).
- The intended use for the Phase Two Property is commercial and residential.
- The overburden thickness is greater than 2 metres across the Phase Two Property.

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. The objectives of this Phase Two ESA were achieved by:

- Developing an understanding of the geological and hydrogeological conditions at the Phase Two Property.
- Conducting field sampling for all contaminants of concern ("COCs") associated with each APEC identified in the Phase One ESA.

3.1 Physical Setting

The nearest surface water body the Ottawa River, located approximately 0.5 km north of the Phase Two Property. There are no areas of natural significance within the 250 m of the Phase Two Property. Land uses surrounding the Phase Two Property include mostly commercial and residential, as shown in Figure 2.

Bedrock in the area consists of shale of the Billings Formation, and a significant fault extends in a northwest-southeast direction across the middle of the Phase Two Property. Overburden at the Site and in the surrounding area is described as offshore marine deposits consisting of clay, silty clay and Groundwater flow direction is inferred to be towards the north toward the Ottawa River.

The topography of the Site and surrounding areas is generally flat. The Site grade is at the same level relative to adjoining properties. Site specific geologic and hydrogeologic information is presented in Section 6.

3.2 Past Investigations

WSP completed a Phase One ESA for the Site in May 2023. The Phase One ESA was conducted and reported in accordance with O.Reg 153/04. As part of the Phase One ESA, past reports completed by Golder Associates (now WSP) were consulted to develop an understanding of the environmental condition at the Site and surrounding properties. All of the past investigations/reports completed for the Site by WSP/Golder were conducted under the supervision of a Qualified Person (QP) employed by WSP/Golder who meets the requirements to oversee Phase One and Two ESAs in Ontario as specified by O.Reg. 153/04. The reports can therefore be relied upon by WSP for the purposes of this Phase Two ESA.

3.2.1 Phase One ESA, May 2023

WSP conducted a Phase One ESA entitled, "*Phase One Environmental Site Assessment, 170 Slater Street, Ottawa, Ontario*", dated May 2023, to assess the likelihood of soil and/or groundwater contamination resulting from historical or present activities at the Site and/or in the surrounding area. This included a review of available historical information for the Site and the surrounding area within 250 m, and a Site reconnaissance.

As part of the historical information review, WSP referenced the following two reports which were completed by Golder (now WSP):

- Phase I Environmental Site Assessment 269 Laurier Avenue West & 170 Slater Street, Ottawa, Ontario*",* project number 12-1185-0092 (6900), prepared by Golder for Great-West Life Assurance Company and London Life Insurance Company c/o GWL Realty Advisors Inc, dated December 2013 (2013 Phase I ESA).
- Phase II Environmental Site Assessment 269 Laurier Avenue West & 170 Slater Street, Ottawa, Ontario*",* project number 12-1185-0092 (6900), prepared by Golder for Great-West Life Assurance Company and London Life Insurance Company c/o GWL Realty Advisors Inc, dated August 2015 (2015 Phase II ESA).

More detailed information from the 2015 Phase II ESA, which is relevant to the current Phase Two ESA is provided in Section 3.2.2.

Based on the information obtained through the completion of the Phase One ESA, multiple on and off-Site (within the phase one study area) potentially contaminating activities (PCAs) with the potential to generate contaminants of potential concern (COPC) including petroleum hydrocarbons (PHC), benzene, toluene, ethylbenzene, and xylenes (BTEX), volatile organic compounds (VOC), polycyclic aromatic hydrocarbons (PAH), and metals were identified. Given the location of PCAs and known/inferred geologic and hydrogeologic conditions at the Site, WSP identified six areas of potential environmental concern (APECs) on the Site as summarized in the following table. As APECs were identified on the Phase One Property, a Phase Two ESA was recommended.

Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity	Location of PCA (on-Site or off-Site)	Contaminants of Potential Concern	Media Potentially Impacted (groundwater, soil and/or sediment)
APEC 1 – Fill of unknown quality.	Entire Site	#30. Importation of Fill Material of Unknown Quality (on-Site).	On-Site	Metals, PAHs, PHCs/BTEX	Soil
APEC 2 – Location of former Mid-City Ribbon and Carbon Manufacturing Ltd Eclipse Plating Service c. 1920-1940, and unnamed printer c. 1901 Offsite PCAs to the west and south.	NW Corner of Site	#31. Ink Manufacturing, Processing and Bulk Storage #33. Metal treatment, coating plating and finishing #8. Chemical Manufacturing, Processing and Bulk Storage	On-Site/ Off-Site	Metals, PAHs, PHCs/BTEX, VOCs	Soil and Groundwater
APEC 3 – Previous location of auto repair garage. Historical PHC impacts to the north.	West side of property, laneway	#10. Commercial Autobody Shops (on-site)	On-Site	Metals, PAHs, PHCs/BTEX, VOCs	Soil and Groundwater
APEC 4 – Previous location of USTs. Former dry-cleaning facilities up-gradient (SE) of Site.	NE Corner of Site	#28. Gasoline and Associated Products Storage in Fixed Tanks (on-site) #37. Operation of Dry-Cleaning Equipment (where chemicals are used) (off-site)	On-Site/ Off-Site	Metals, PAHs, PHCs/BTEX, VOCs	Soil and Groundwater

Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity	Location of PCA (on-Site or off-Site)	Contaminants of Potential Concern	Media Potentially Impacted (groundwater, soil and/or sediment)
APEC 5 – Previous on-Site machine shop, manufacturing, and auto repair garage.	Centre of Site	#10. Commercial Autobody Shops (on-site) #34. Metal Fabrication	On-Site	Metals, PAHs, PHCs/BTEX, VOCs	Soil and Groundwater
APEC 6 – Previously documented VOC impacts in groundwater. Three former USTs south of the Site.	South central part of Site	#28. Gasoline and Associated Products Storage in Fixed Tanks (off-site)	On-Site/ Off-Site	Metals, PAHs, PHCs/BTEX, VOCs	Soil and Groundwater

3.2.2 2015 Phase II ESA

A Phase II ESA was completed for 170 Slater Street (Phase Two Property), and the adjacent property at 269 Laurier Avenue West with field work being completed in 2014-2015. The purpose of the Phase II ESA was to determine the presence/albescence of contaminants of potential concern (COPC) in soil and groundwater in accordance with the recommendations of a Phase I ESA that was completed by Golder in 2013.

Field investigations supporting the Phase II ESA were carried out between October 2014 and May 2015. The following salient points were noted from the review of the 2015 Phase II ESA:

- A total of five boreholes were drilled in fall 2014, three of which were completed as monitoring wells. One borehole was located in the laneway between the two properties, while the four other boreholes were located inside of the parking structure at 170 Slater Street.
- Soil samples were collected at regular intervals from each of the boreholes, and one or two worst case (based on screen results) soil samples from each borehole were submitted for laboratory analysis of the following parameters: petroleum hydrocarbon (PHC) fractions 1 to 4 (F1-F4), polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), and select metals.
- Groundwater sampling was conducted in November 2014 and May 2015. All three monitoring wells were found to be dry in 2014. In 2015, only MW14-02 contained enough groundwater to collect a sample. The sample collected from MW14-02 was analysed for PHCs F1 to F4, VOCs, PAHs, and dissolved metals,

Based on the results of the 2015 Phase II ESA Golder offered the following conclusions:

- Based on the 2014 soil sample results, no soil impacts above the MOE Table 3 Standards were identified in fill and native soil below the parking garage at 170 Slater Street which was historically occupied by industrial works and an automobile repair garage, and potentially adjacent to USTs.

- Shallow soil samples recovered from the fill below the laneway between 269 Laurier and 170 Slater, from BH14-01, did not contain concentrations of PHCs F1 to F4, VOCs, PAHs or metals above the Ministry of Environment (MOE) Table 3 Standards. However, native soil recovered at BH14-01 between 3.81 – 4.24 meters below ground surface (mbgs) did contain concentrations of PHC fractions F1 and F2 above the MOE Table 3 Standards.
- Groundwater quality at 170 Slater Street was not assessed in 2014, as all installed monitoring wells were dry, or blocked. In 2015, MW14-01 and MW14-03 were dry, but a groundwater sample was collected from MW14-02 (located near the south Site boundary) and contained measurable concentrations of VOCs (cis-1,2-dichloroethylene, tetrachloroethylene and trichloroethylene) above the MOE Table 3 Standards.

3.2.3 2013 Phase I ESA

A Phase I ESA was completed for 170 Slater Street and the adjacent property to the west at 269 Laurier Avenue West. Based on the review of the 2013 ESA the 170 Slater Street property, or the Site, was occupied by a three and a half storey, or seven staggered level aboveground parking garage.

The following previous environmental site assessment and remediation reports were provided to, and reviewed by Golder as part of the 2013 Phase I ESA:

- Phase II Environmental Site Assessment, Parking Garage and Adjacent Parking Lot, 170 and 190 Slater Street, Ottawa, Ontario (E2434-1), dated June 24, 2002, completed by John D. Paterson and Associates Limited (Paterson) and prepared for Arnon Corporation (Arnon) (2002 Paterson Phase One-II ESA Report).
- *Supplemental Phase II ESA, 269 Laurier Avenue West (E2434-2)*, dated February 17, 2003, completed by Paterson and prepared for GWLRA (2003 Paterson Phase II ESA Report).
- *Environmental Site Remediation, 269 Laurier Avenue West, Ottawa, Ontario (E2434-3)*, dated November 6, 2003, completed by Paterson and prepared for GWLRA (2003 Paterson Site Remediation Report).
- *Phase I Environmental Site Assessment, 269 Laurier Avenue West, Ottawa, Ontario*, March 4, 2008, completed by RiskCheck Environmental Ltd. (“RiskCheck”) and prepared for GWLRA (2008 RiskCheck Phase One ESA Report).
- *Phase I Environmental Site Assessment Update, 269 Laurier Avenue West, Ottawa, Ontario*, January 7, 2011, completed by RiskCheck and prepared for GWLRA (2011 RiskCheck Phase One ESA Update Report).

Based on the information obtained as described in the 2013 Phase I ESA, Golder identified the following issues of potential environmental concern:

- Historical Site Summary: The presence of a former repairs garage, a former machine shop, a former gasoline service station (identified in the 2002 Paterson Phase II ESA Report but this finding could not be corroborated by Golder during the historical review), and the former generation of oil skimmings and sludges as waste.
- Historical Summary (Surrounding Properties): The former/current presence of multiple dry cleaners, retail fuel outlets, auto repair garages, industrial facilities, USTs, and generators of many types of registered wastes, as well as spills of various types of contaminants, including diesel fuel, furnace oil, and hydraulic oil.

Golder recommended that a Phase II ESA be conducted at the Site to further assess the above-noted issues of concern related to the historical uses of the site and surrounding properties, and to confirm current site conditions that were previously assessed over 10 years previous as documented in the 2002 Paterson Phase II ESA Report, 2003 Paterson Supplemental Phase I Report and 2003 Paterson Site Remediation Report. Additionally, the issues of concern related to then current and historical records of underground storage tanks, generation of various types of registered wastes and spills of various contaminants on surrounding properties (in particular those to the south or west of the Site, inferred as up- and cross- to up-gradient of the Site, respectively, and to the east of the site, where USTs may have been very close to the Site boundary).

4.0 SCOPE OF THE INVESTIGATION

4.1 Overview of Site Investigation

The Phase Two ESA investigation activities were completed between March 9, 2023, and April 4, 2023. The investigation included the following tasks:

- **Health and Safety Plan**: Preparation of a Health and Safety Plan for internal and subcontractor use prior to initiating any field work at the Site.
- **Utility Clearances**: Coordination of utility clearances with local utility companies along with retaining the services of a private locator to assess for possible services in the areas of the proposed test locations.
- **Borehole Advancement and Monitoring Well Installation**: The borehole drilling and monitoring well installation program included drilling of six boreholes, each completed as groundwater monitoring wells, all of which were used for groundwater sampling at the Site. The locations of the boreholes and monitoring wells are provided in Figure 4. The monitoring well construction details are presented in the appended Table 1.
- **Soil Sampling**: Soil samples were collected during the advancement of the boreholes. Selected soil samples were submitted for chemical analysis of one or more of the following: petroleum hydrocarbons (“PHCs”), volatile organic compounds (“VOCs”), polycyclic aromatic hydrocarbons (“PAHs”) and metals.
- **Groundwater Monitoring and Sampling**: Groundwater samples were collected on March 22, March 29, April 3, and April 4, 2023. Groundwater samples were submitted for analysis of one or more of the following: PHCs, PAHs, VOCs, and metals.
- **Surveying**: An elevation survey of the monitoring wells ground surface and top of pipe was completed on March 22, 2023.
- **Reporting**: WSP compiled and assessed the field and laboratory results from the above noted activities into this report.

The Phase Two 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 the 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 required by O. Reg. 153/04.

There were no impediments or access limitations that in the opinion of the Qualified Person (“QP”) would affect the conclusions of this 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 and of groundwater from boreholes and monitoring wells completed within the overburden at the Site. No sediment was present at the Site and therefore no sediment sampling was completed. Summaries of media investigated, and the applicable contaminants of potential concern are provided in the appended Tables 3 and 4.

4.3 Phase One Conceptual Site Model

The following describes the Phase One ESA Conception Site Model (CSM) for the Site based on the information obtained and reviewed as part of this Phase One ESA:

- The Phase One Property consisted of a rectangular parcel of land measuring 0.42 hectares in area. An aboveground parking garage was present on the Site.
- A plan of survey was not available for review and would be required to satisfy the requirements of O.Reg. 153/04.
- No areas of natural significance were identified on or within 30 m of the Phase One Property.
- Potable water in the vicinity of the Phase One Property is provided by the city municipal water system.
- At the time of the Phase One ESA, the neighbouring properties within the Phase One Study Area consisted of commercial and residential land uses.
- Overburden at the Site consists of a clayey silty clay over a gravelly sand.
- Bedrock beneath the site consists of shale.
- Groundwater flow is inferred to be to the north, toward the Ottawa River.
- The closest water body is the Ottawa River, located approximately 0.5 km north of the Site.
- At the time of the Phase One ESA, the surrounding properties within the Phase One Study Area included:
  - West: 19 storey BMO building with outdoor and underground parking.
  - North: To the north of the property is Slater Street, followed by a hotel with underground parking, a hair salon, an architectural firm, and a Tim Hortons restaurant.
  - South: Laurier Ave, followed by an indoor shopping mall/market.
  - East: A commercial building with several retail stores.
- Fifty-Eight Potentially Contaminating Activities (PCAs) were identified in the Phase One Study Area, four of which were on the Phase One Property, as shown on Figure 3. Based on site characteristics and the locations of the PCAs, a total of six Areas of Potential Environmental Concern (“APECs”) were identified for the Phase One Property as shown on Figure 4.
- Electrical power is distributed through underground services.
- Soil at the Site consists primarily of offshore marine deposits consisting of clay, silty clay, and silt. Bedrock in the area consists of shale of the Billings Formation, and that a significant fault extends in a northwest-southeast direction across the middle of the Site.

4.4 Deviations from Sampling and Analysis Plan

There were no material deviations to the Phase Two ESA requirements set out in O.Reg. 153/04. All soil and groundwater sampling was conducted in accordance with WSP standard operating procedures. It is noted that PAHs were not included in the initial analysis plan for groundwater samples collected from all monitoring wells. The analytical suit was expanded to include PAHs after additional information was gathered through record review being conducted as part of the concurrent Phase One ESA (WSP, 2023). Monitoring wells MW22-02 and MW22-05, which were initially sampled on March 22, 2023, were therefore re-sampled to facilitate the collection PAH samples on March 29, 2023.

Monitoring well MW14-02, which was installed as part of the 2015 Phase II ESA (Golder, 2015) was sampled twice for VOC parameters as part of the Phase Two ESA. The initial sample was collected on March 22, 2023, and an additional sample was collected on April 4, 2023, to confirm the initial analytical result. The re-sampling was deemed necessary as groundwater from MW14-02 had historically contained concentrations of several VOC parameters exceeding the applicable Table 3 SCS.

4.5 Impediments

Physical impediments to the Phase Two ESA investigation were encountered on February 14, 2023, when locating the groundwater wells. Due to underground utilities the location of MW23-02 that was proposed in the sampling plan had to be moved from the outdoor laneway to the inside of the garage.

5.0 INVESTIGATION METHOD

5.1 General

The following sections describe the field investigation methods employed during the Phase Two ESA. The field work was conducted between March 7, 2023, and April 4, 2023. Some field activities occurred concurrently with the completion of the Phase One ESA.

Prior to initiating the field work, WSP developed and implemented Site-specific protocols to protect the health and safety of its employees and subcontractors through the preparation of a Site-specific Health and Safety Plan. An assessment of potential health and safety hazards at the Phase Two Property and those associated with the proposed work was completed each day of the field program. A health and safety tailgate meeting was held with WSP's subcontractors each day prior to commencement of the field work. The document was reviewed and signed on-Site by field personnel prior to commencing work. Additionally, prior to any intrusive investigations, including drilling, WSP completed public and private utility clearances.

5.2 Drilling

Between March 7 and March 24, 2023, seven boreholes (MW23-01, MW23-02, BH23-02A, MW23-03, MW23-04, MW23-04A, and MW23-05) were advanced to depths of 4.80 to 16.86 metres below ground surface (mbgs). Six of the seven boreholes were completed as monitoring wells. Borehole BH23-02A was advanced to obtain SPT N values; it was backfilled upon completion. Borehole locations are provided on the appended Figure 4 and borehole logs are provided in Appendix B. A description of the quality assurance/quality control (QA/QC) measures taken to minimize the potential for cross-contamination between sampling locations is provided in Section 5.11.

Boreholes were advanced under the supervision of WSP personnel by Strata Drilling Group (Strata). Exterior boreholes were advanced using a track mounted Massenza MI3 drill rig, interior boreholes were advanced using either a Massenza MSPT portable drill rig or a Geoprobe 420m portable drill rig. At each drilling location, continuous soil cores were collected using a dual tube sampler for field screening (including visual inspection and field measurement of headspace concentration), soil sample collection and stratigraphic logging by WSP field personnel. Bedrock drilling was accomplished using a combination of coring and hammering techniques.

5.3 Soil: Sampling

Soil samples were collected from the dual tube samplers and split in the field into two components. One component was placed into laboratory-prepared containers with minimal headspace and stored in a cooler for potential laboratory analysis. The second component was placed inside a plastic bag for field screening including noting the soil description, and the presence of any staining, odour and/or debris. A photoionization detector (RKI Eagle 2) calibrated to 100 parts per million (ppm) isobutylene was used to measure the total organic vapour concentration in the headspace in the sealed plastic bag. Samples were collected approximately once for every 0.61 m of borehole advancement in addition to whenever there was an observed change in soil stratigraphy and/or evidence of potential contamination (e.g. staining, debris).

At least three soil samples were submitted from each test location. Where the results of field screening indicated the presence of potentially impacted soil, an additional soil sample at greater depth was submitted for laboratory analysis in effort to vertically delineate impacts.

Soil samples representing potential "worst-case" conditions based on the field headspace screening measurements, visual observations (e.g., staining, discoloration and/or free product, if any), and olfactory observations (if any) and fill material collected from each borehole location were selected for laboratory analysis. Three to four samples were selected from each borehole for laboratory analysis. Soil samples were submitted to the analytical laboratory under chain-of-custody procedures. A summary of the soil samples submitted for analysis is provided in the appended Table 3.

5.4 Field Screening Measurements

Field measurements of sample headspace concentrations were made using the equipment specified in the table below:

Equipment	Parameters Detected	Detection Limit	Precision	Accuracy	Calibration Standard
RKI Eagle 2	Combustible gas (CG)	0-50,000 ppm	NA	±5%	Hexane (100 ppm)
RKI Eagle 2	Total organic vapour (TOV)	0-2,000 ppm	NA	±5%	Isobutylene (100 ppm)

Instruments were calibrated daily, with daily calibration checks completed by WSP.

One soil sample representing "worst-case" conditions at each sampling location was selected for laboratory analysis based on the soil headspace screening measurements, visual observations (e.g., staining, discoloration and/or free product, if any), and olfactory observations (if any). Soil screening results are provided in the following table.

Location	Sample ID	Depth	TOV (ppm)	CG (ppm)	Observations
MW23-01	SA01	0.15-0.46	0	0	
	SA02	0.76 – 1.37	0	0	
	SA03	1.52 – 2.13	0	0	
	SA04	2.29 – 2.91	0	0	
	SA05	3.05 – 3.66	0	0	
	SA06	3.81 – 4.22	0	0	
MW23-02	SA01	0.05 – 0.46	0	1	
	SA02	0.61 – 1.22	0	1	
	SA03	1.22 – 1.83	0	1	
	SA04	1.83 – 2.08	0	0	
	SA05	2.44 – 3.66	0	0	

Location	Sample ID	Depth	TOV (ppm)	CG (ppm)	Observations
MW23-03	SA01	0.05 – 0.36	0	0	
	SA02	0.61 – 1.22	0	0	
	SA03	1.22 – 1.83	10	0	
	SA04	1.83 – 2.44	5	0	
	SA05	2.44 – 3.05	5	0	
	SA06	3.05 – 3.66	5	0	
	SA07	3.66 – 3.86	10	0	
MW23-04A	SA01	0.05 – 0.38	0	0	
	SA02	0.61 –1.07	0	0	
	SA03	1.07 – 1.22	0	1	
	SA04	1.22 – 1.83	0	2	
	SA05	1.83 – 2.44	10	0	
	SA06	2.59 – 3.05	15	0	
	SA07	3.05 – 3.66	35	0	
	SA08	3.66 – 4.27	10	0	
	SA09	4.27 – 4.88	20	0	
	SA10	4.88 – 5.18	20	1	
MW23-05	SA01	0.05 – 0.46	0	0	
	SA02	0.61 – 1.07	0	0	
	SA03	1.07 – 1.83	0	0	
	SA04	2.44 – 3.66	135	1	
	SA05	3.66 – 4.27	0	0	
	SA06	4.27 – 4.50	0	0	

5.5 Groundwater: Monitoring Well Installation

Groundwater monitoring wells were installed by Strata using threaded, schedule 40, polyvinyl chloride (“PVC”) well screens and riser pipe, which were brought to the Site in sealed plastic bags. The annular space was filled with silica filter sand to at least 0.3 m above the well screen. The monitoring well was sealed with bentonite from the top of the sand pack to ground level and completed with a flush mount protective well casing. The riser pipes were sealed with a J-plug. A description of the QA/QC measures taken to minimize the potential for cross-contamination between sampling locations is provided in Section 5.11.

Following drilling, the monitoring wells were developed by removing ten well volumes using dedicated Waterra® pumps (tubing with foot valves). During monitoring well development, qualitative observations were made of water colour, clarity, and the presence or absence of any hydrocarbon sheen or odours. Water purged from all of the well locations was observed to have a high amount of suspended sediment; however, no evidence of potential contamination was noted.

5.6 Groundwater: Sampling

The six newly installed monitoring wells and previously installed monitoring well MW14-02 were included in the groundwater sampling program. MW14-02 was installed as part of the 2015 Phase II ESA (Golder, 2015) and was found to be in good condition in 2023. Concentrations of several VOC parameters exceeding the applicable regulatory limits were identified in this well during the previous Phase II ESA.

Each monitoring well was purged prior to sample collection. During purging, qualitative observations were made of water colour, clarity, and the presence of hydrocarbon sheen or odour. Purging was completed by pumping at least three well volumes or, where the well was considered a “low-yield” monitoring well, by

purging at least one half of the well volume. Groundwater sampling was carried out on March 22, March 29, April 3, and April 4, 2023. Multiple sampling deployments were required due to low yields of wells, additional information obtained through the concurrent Phase One ESA process which identified the need to analyse additional parameters, and/or to resample wells to confirm initial analytical results. Sampling deployments are summarised in the table below:

Date	Wells Sampled	Parameters
March 22, 2023	MW23-02, MW23-05	VOC, metals, PHC, BTEX
	MW14-02	VOC
March 29, 2023	MW23-03, MW23-04, MW23-04A	VOC, metals, PHC, BTEX, PAH
	MW23-02, MW23-05	PAH
April 3, 2023	MW23-01	VOC, metals, PHC, BTEX, PAH
April 4, 2023	MW14-02	VOC

Groundwater samples were placed in laboratory-prepared containers and stored in a cooler until delivery to the analytical laboratory under chain-of-custody procedures. A summary of the groundwater samples submitted for analysis is presented in the appended Table 4.

5.7 Sediment: Sampling

No sediment samples were collected as part of this investigation.

5.8 Analytical Testing

The contact information for the analytical laboratory: AGAT Laboratories, 5835 Coopers Avenue, Mississauga, Ontario, L4Z 1Y2 (905-712-5100).

The analytical laboratory is accredited in accordance with the International Standard ISO/IEC 17025 (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 (CALA) or another accreditation body accepted by the MECP.

5.9 Residue Management Procedures

All residues produced during the investigation (e.g., soil cuttings from drilling, groundwater from well development purging, wash water from equipment decontamination) were placed in sealed drums and stored at the Phase Two Property for eventual disposal by the owner.

5.10 Elevation Surveying

Elevations were determined relative to a Temporary Benchmark. The Temporary Benchmark was set as the top of the catch basin located outside the main garage entrance.

5.11 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 fluids 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.
- Initial calibration of field equipment was performed at the start of each field day, with a daily check 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 MECP "*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 foot valves) and clean disposable Nitrile™ gloves were used at each sampling location to prevent potential 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, or groundwater was: cleaned by mechanical means; washed with a phosphate-free, laboratory-grade detergent (e.g., Alconox) 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.

A summary of the primary and duplicate samples is found below in the following table:

Date	Media	Sample ID	Duplicate ID	Trip Blanks
March 10, 2023	Soil	MW23-02 SA06	DUP-01	NA
March 15, 2023	Soil	MW23-04 SA06	DUP-01	NA
March 22, 2023	Groundwater	MW23-05 (Metals, PHCs, VOCs)	DUP-01	NA
March 22, 2023	Groundwater	MW23-03 (PAHs only)	DUP-01	NA

6.0 REVIEW AND EVALUATION

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

6.1 Geology

The soil conditions encountered during the borehole drilling program are presented in the borehole logs (Appendix B). The following presents a summary of the subsurface soil conditions encountered during the investigation.

The ground surface at all the borehole locations was asphalt covered with asphalt thickness ranging from 0.05 to 0.10 m. Asphalt was underlain by sandy gravel fill material and sand fill material that extended to

depths ranging from 0.46 mbgs at MW23-02 to 1.98 mbgs at MW23-04. Fill material was underlain by native clayey silt and silty clay at all locations except MW23-03 and MW23-05; where encountered, the clayey silt and silty clay extended to depths ranging from 1.83 mbgs at MW23-02/02A to 2.90 mbgs at MW23-01. The native clayey silt/silty clay was underlain by glacial till with varying content of sand, gravel, and silt at all locations except MW23-01. At MW23-03 and MW23-05, the glacial till was encountered directly beneath the sand and gravel fill material. Where encountered, the glacial till material extended to the bedrock surface at depths ranging from 2.90 mbgs at MW23-01 to 5.18 mbgs at MW23-04. Bedrock consisted of weathered shale of the Billings formation. The bedrock surface elevation is highest at MW23-01 (69.07 masl) which is located near the northwest corner of the Site in the laneway west of the parking garage, and lowest at MW23-05 (66.12) which is located near the south Site boundary on lower level of the parking garage.

No groundwater was encountered in the overburden at the Site and the permanent water table was present in the weathered/fractured shale bedrock. Given the onsite PCAs identified through the Phase One ESA (WSP, 2023), and known subsurface conditions as described in the 2015 Phase II ESA, assessment of the upper shale aquifer was considered appropriate for most monitoring well locations. At locations MW23-04 and MW23-05, well screens were placed deeper (i.e., below the water table) into the shale aquifer to assess the potential presence of VOC contamination from off-site sources. Shallow wells at these locations (MW23-04A an MW14-02) were also included in the investigation to evaluate the potential presence of light non-aqueous phase liquids (LNAPL) that may have been generated from on or off-Site sources.

6.2 Groundwater: Elevations and Flow Direction

All shallow monitoring wells were used in the interpretation of shallow groundwater contours and shallow groundwater flow direction. Any temporary/seasonal fluctuation in water levels on the Phase Two Property is not anticipated to affect the conclusions of the Phase Two ESA.

The base of the newly installed groundwater monitoring well screens were installed at elevations ranging from approximately 53.93 to 59.02 masl (16.46 to 12.95 mbgs). The location and depth of the screens for the six new monitoring wells were selected based on the issues being investigated and shallow wells were installed based on the perceived location of the water table during drilling. The potentiometric surface at shallow monitoring well MW23-04A was above the top of the well screen on March 29, 2023. A summary of the monitoring well construction details are presented in the appended Table 1. No evidence of petroleum hydrocarbon free product or sheen in groundwater was observed during development, purging, or sampling activities.

The elevations of the potentiometric surface at each monitoring well are summarized in the appended Table 2. Groundwater elevations ranged from 59.63 masl at MW23-01 to 62.59 masl at MW23-04A (12.19 to 9.32 mbgs) on March 29, 2023. The measured groundwater elevations suggest a west-north-west flow beneath the site. Groundwater flow direction beneath the Site has not been previously determined as elevation data collected as part of the 2015 Phase II ESA was not considered suitable to determine a flow direction (Golder, 2015), Based on local topography and the position of the Ottawa River relative to the Site, the flow direction was previously assumed to be toward the north. Inferred groundwater elevation contours and groundwater flow direction are shown on the appended Figure 5.

Seasonal fluctuation in water levels and flow direction on the Site should be expected. Given the limited number of monitoring events, seasonal trends could not be identified; however shallow groundwater water levels are typically highest following the spring recharge and decline throughout the summer and fall months into the winter.

The presence of subsurface utilities such as electrical conduits at the Site are not expected to act as preferential pathways promoting the migration of contaminants as the water table is not inferred to intercept buried utilities and subsurface structures at the Phase Two Property.

6.3 Groundwater: Hydraulic Gradients

Based on the groundwater elevations measured on March 29, 2023, the approximate horizontal gradient to the west-northwest across the site is 0.05 m/m.

Vertical gradients at the site are downward based on elevations measured at nested pair MW23-04A/04 which indicate a vertical gradient of 0.38 m/m.

6.4 Soil: Field Screening

The results of headspace vapour measurements are presented in Section 5.4.

6.5 Soil: Quality

The analytical results for soil samples are summarized in the appended Tables 5a to 5d. Certificates of analysis are provided in Appendix C.

All soil samples were analysed for VOCs, PHCs F1-F4, BTEX, PAHs, metals, electrical conductivity (EC) and sodium absorption ratio (SAR). Results for EC exceeded the Table 3 SCS value (0.7 mS/cm) for all of the analysed samples except MW23-01 SA02 (0.15-0.45 mbgs). Results for SAR exceeded the Table 3 SCS value (5) in 11 of the 20 soil samples submitted for analysis. Elevated EC ad SAR in soil are attributed to long term winter road salting activities both at the Site and in the surrounding area but may also be, in part, naturally occurring.

Exceedances of PHC F1 and F2, and various metals parameters were also identified in the on-Site soil as summarized in the table below.

Date	Borehole ID	Sample ID	Sample Depth (mbgs)	Stratigraphy	COC Exceeding SCS	Table 3 SCS (µg/g)	Sample Concentration (µg/g)
March 23, 2023	MW23-01	SA06	3.81 - 4.22	Weathered shale	Molybdenum	**6.9**	21.8
					PHC F1	**55**	113
					PHC F2	**98**	189
March 10, 2023	MW23-02	SA02	0.61 - 1.22	Silt to clayey silt	Boron (Hot Water Soluble)	**1.5**	2.19
		SA03	1.22 - 1.83	Clayey silt	Barium	**390**	504
					Vanadium	**86**	102
		SA06	3.66 - 4.70	Glacial till	Molybdenum	**6.9**	12.2
		Dup-01					10.3
March 16, 2023	MW23-03	SA06	3.05 - 3.66	Glacial till	Cobalt	**22**	22.3
					Molybdenum	**6.9**	18.1
					Thallium	**1**	1.2
March 14, 2023	MW23-04	SA03	1.22 - 1.83	Sand fill	Barium	**390**	420
					Lead	**120**	1290
					Selenium	**2.4**	2.8
					Mercury	**0.27**	1.53
March 15, 2023	MW23-04	SA04	1.83 - 2.44	Clayey silt to silty clay	Barium	**390**	853
					Vanadium	**86**	88.1

Based on the groundwater quality results (Section 6.6), the soil does not serve as a contaminant mass contributing to groundwater. The soil quality results are not indicative of the presence of light or dense non-aqueous phase liquids at the site.

6.6 Groundwater: Quality

Monitoring well construction details are summarized in the appended Table 1 and a list of groundwater samples submitted for laboratory analysis is provided in the appended Table 4. The analytical results for groundwater samples are summarized in the appended Tables 6a to 6d. Laboratory certificates of analysis are provided in Appendix C.

The reported concentrations of all contaminants of potential concern in groundwater met the applicable Table 3 SCS except for chloroform in MW22-04A and MW22-04 as shown on the following table.

Date	Borehole ID	Sample ID	Screen Interval (mbgs)	Stratigraphy	COC Exceeding SCS	Table 3 SCS (µg/l)	Sample Concentration (µg/l)
March 29, 2023	MW23-04A	22-04 Shallow	10.06 - 13.10	Weathered/ Fractured Shale	Chloroform	**2.4**	3.8
March 29, 2023	MW23-04	22-04 Deep	15.34 - 16.86	Weathered/ Fractured Shale	Chloroform	**2.4**	7.17

Chloroform concentrations measured at these locations are attributed to the breakdown of disinfection agents (chlorine) in municipal water used during drilling. A low concentration of bromodichloromethane, another by-product of water disinfection, was detected in the groundwater sample collected from MW23-04. No other VOCs were detected in groundwater samples collected from the site including samples from previously installed monitoring well MW14-02 where concentrations exceeding the Table 3 SCS were previously detected.

The groundwater results do not indicate that soil serves as a contaminant mass contributing to groundwater. No evidence of free product or sheen in groundwater was observed.

6.7 Sediment: Quality

No sediment samples were collected as part of this investigation.

6.8 Data Quality Review

The quality assurance assessment of the field duplicate sample results was conducted according to the document entitled Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act, March 9, 2004 (Ontario Ministry of the Environment, Conservation, and Parks) amended in July 2009 and effective as of July 1, 2011) (Analytical Protocol).

Field duplicate samples were collected as part of the sampling program (soil, groundwater). Analytical results for the field duplicate samples are provided in the appended tables 7a (soil) and 7b (groundwater) , where the duplicate information is presented along with the primary sample data for comparison. The purpose was to assess the integrity of the samples. The relative percent difference (RPD) between the sample and its duplicate is expressed as an absolute value and is calculated using the following formula:

$$RPD\ (\%) = \frac{|C_o - C_{dup}|}{\frac{(C_o + C_{dup})}{2}}\ x\ 100$$

Where:

C_o = Detected concentration in the original sample

C_{dup} = Detected concentration in the field duplicate sample

RPDs are calculated only if the concentrations of a parameter are greater than the laboratory reported detection limit (RDL) in both the duplicate and original samples. In addition, lower precision in the RPD calculation is expected when concentrations of the analytes are less than five (5) times the RDL. Therefore, RPDs were calculated for the original and duplicate groundwater and soil samples only in cases where the measured concentrations of analytes in both samples were five (5) times greater than the RDL.

The following RPD limits were considered reasonable and are based on Analytical Protocol: RPDs in soil, 50% for metals, 30% for PHCs and PAHs, and in groundwater, 20% for metals, 30% for VOCs and 30% for PHCs and PAHs. Calculated RPDs are provided in Tables 7a and 7b, appended to this report. A summary of RPDs for samples and their corresponding duplicate samples are provided in the table below:

Field Duplicate Sample ID	Original Sample ID	Relative percent difference (RPD)			
		PHC	VOC	PAH	Metals
	Soil				
DUP-01	MW23-02 SA06	Not calculated due to parameters being less than 5X RDL	Not calculated due to parameters being less than RDL	Not calculated due to parameters being less than RDL	0 – 77.9 %
DUP-01	MW23-04 SA06	Not calculated due to parameters being less than 5X RDL	Not calculated due to parameters being less than RDL	Not calculated due to parameters being less than RDL	0 – 40.00 %
	Groundwater				
DUP-01	MW23-05	Not calculated due to parameters being less than RDL	Not calculated due to parameters being less than RDL	Not calculated due to parameters being less than RDL	5.93 – 12.2 %

One exceedance of the relevant RPD threshold was reported for copper concentrations in the soil duplicate pair MW23-02 SA06/DUP-01. All other calculated RPDs met the applicable thresholds and/or RPDs were not calculated because parameter concentrations we below 5x the RDL.

Given the RPDs for all other metals parameters in the sample duplicate pair MW23-02 SA06/DUP-01 met the applicable threshold and that the copper concentration did not exceed the Table 3 SCS in either sample from the pair, the elevated RPD result does not materially impact the results of this Phase Two ESA or the conclusions and recommendations predicated on said results.

All certificates of analysis or analytical reports received pursuant to clause 47 (2) (b) of O.Reg 153/04 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 C. The laboratory did not qualify any of the sample results.

6.9 Phase Two Conceptual Site Model

The Phase Two conceptual site model is presented in the following sections.

POTENTIAL SOURCES OF CONTAMINATION

Potentially Contaminating Activities

Based on the information obtained as part of the Phase One ESA, several on-site potentially contaminating activities (PCAs) were identified as summarised in the table below. A detailed table of PCAs within the Phase One Study Area is provided in Appendix D. PCA locations are shown on Figure 3. PCAs identified on the Phase Two property are summarized in the table below:

Location	ID Number	PCA Description	PCA# (O.Reg, 153/04 Table 2)	Information Source	Rationale for Potential Contribution of the PCA to an APEC
Phase Two Property	1	Campbell Motors (Ottawa) Ltd., 1948-1963 Frederick Campbell Electric Manufacturing Company, 1920 Automobile Repair Garage, c. 1925-1956	#10. Commercial autobody shop #28. Gasoline and associated products storage in fixed tanks #34.Metal fabrication.	HLUI, FIPs	Automobile repair shop, and Machine shop (earlier). Two USTs present for gasoline c. 1948. 1 UST present for gasoline c. 1963. Automobile Repair Shop onsite 1925 to 1956 (FIPs). PCA is on-Site and therefore considered as an APEC.
	2	Mid-City Ribbon and Carbon Manufacturing Limited, 1960. Eclipse Plating Service c. 1920-1940	#31. Ink Manufacturing, Processing and Bulk Storage #33. Metal Treatment, Coating, Plating and finishing #8. Chemical Manufacturing, Processing and Bulk Storage	HLUI	Former manufacturing use on Phase One Property considered as a higher risk activity and is therefore considered as an APEC.
	3	Automobile Repair Garage, c. 1925-1956	#10. Commercial autobody shop #28. Gasoline and associated products storage in fixed tanks.	Fire Insurance Plans	PCA is on-Site and therefore considered as an APEC.
	4	Fill material identified during 2015 Phase II ESA.	#30. Importation of fill of unknown quality	Previous Reports (2015 Phase II ESA)	Fill was likely placed during the development of the Site and is on-Site and therefore considered as an APEC.

Areas of Potential Environmental Concern

A summary of the APECs identified at the Phase One Property is provided in the table below. The location of each APEC is presented in Figure 4.

Area of Potential Environmental Concern (APEC)	Location of APEC on Phase One Property	PCA (O.Reg, 153/04 Table 2)	Location of PCA (on-Site or off-Site)	Contaminants of Potential Concern (COPC)	Media Potentially Impacted
APEC 1 - Fill of unknown quality.	Entire Site	#30. Importation of Fill Material of Unknown Quality (on-site)	On-Site	Metals, PAHs, PHCs/BTEX	Soil
APEC 2 - Location of former Mid-City Ribbon and Carbon Manufacturing Ltd.(1960), Eclipse Plating Service c. 1920-1940, and unnamed printer c. 1901	NW Corner of Site	#31. Ink Manufacturing, Processing and Bulk Storage #33. Metal treatment, coating plating and finishing #8. Chemical Manufacturing, Processing and Bulk Storage	On-Site	Metals, PAHs, PHCs/BTEX, VOCs	Soil and Groundwater
APEC 3 - Previous location of auto repair garage. Historical PHC impacts to the north.	West side of property, laneway	#10. Commercial Autobody Shops (on-site)	On-Site / Off-site	Metals, PAHs, PHCs/BTEX, VOCs	Soil and Groundwater
APEC 4 - Previous location of USTs. Former dry-cleaning facilities up-gradient (SE) of Site.	NE Corner of Site	#28. Gasoline and Associated Products Storage in Fixed Tanks (on-site) #37. Operation of Dry Cleaning Equipment (where chemicals are used) (off-site)	On-Site/ Off-Site	Metals, PAHs, PHCs/BTEX, VOCs	Soil and Groundwater
APEC 5 - Previous On-Site machine shop, manufacturing, and auto repair garage.	Centre of Site	#10. Commercial Autobody Shops (on-site) #34. Metal Fabrication	On-Site	Metals, PAHs, PHCs/BTEX, VOCs	Soil and Groundwater
APEC 6 - Previously documented VOC impacts in groundwater. Three former USTs south of the Site.	South central part of Site	#28. Gasoline and Associated Products Storage in Fixed Tanks (off-site)	On-Site/ Off-Site	Metals, PAHs, PHCs/BTEX, VOCs	Soil and Groundwater

A summary of the investigation for each APEC conducted as part of the Phase Two ESA is as follows:

APEC 1 – The investigation included the collection of five fill samples from APEC 1 (MW23-01 SA02, MW23-03 SA03, MW23-04 SA03, M23-05 SA01, and MW23-05 SA03). The reported concentrations of all COCs for fill samples were below the applicable site condition standards with the exception of the reported concentrations of barium, selenium, lead and mercury from MW23-04 SA03 (1.22-1.83 mbgs).

APEC 2 – The investigation included installation of one monitoring well (MW23-01), collection of three soil samples and one groundwater sample from APEC 2. The reported concentrations of all COCs in soil met the applicable Table 3 SCS with the exception of the reported concentration of PHC F1 and F2, and molybdenum in the soil sample collected from a depth of 3.81 – 4.22 mbgs (MW23-01 SA06). The impacted soil sample was collected from the weathered shale horizon. Concentrations of all COCs met the applicable Table 3 SCS in the groundwater sample collected from MW23-01.

APEC 3 – The investigation included the installation of one monitoring well (MW23-02), collection of three soil samples and one groundwater sample from APEC 3. The reported concentrations of all COCs were below the applicable Table 3 SCS with the exception of boron (hot water soluble) in the soil sample collected from a depth of 0.61 - 1.22 mbgs (MW23-02 SA02), barium and vanadium from a depth of 1.22 – 1.83 mbgs (MW23-02 SA03), and Molybdenum from a depth of 3.66 – 4.70 mbgs (MW23-02 SA06). All the impacted samples were collected from the native silty clay/clayey silt, or glacial till horizons. Concentrations of all COCs met the applicable Table 3 SCS in the groundwater sample collected from MW23-02.

APEC 4 – The investigation included the installation of one monitoring well (MW23-03), collection of four soil samples and one groundwater sample from APEC 4. The reported concentrations of all COCs were below the applicable Table 3 SCS with the exception of cobalt, molybdenum and thallium in the soil sample collected from a depth of 3.05 - 3.66 mbgs (MW23-03 SA06). The impacted soil sample was collected from the native glacial till horizon. Concentrations of all COCs met the applicable Table 3 SCS in the groundwater sample collected from MW23-03.

APEC 5 – The investigation included the installation of two monitoring wells (MW23-04A and MW23-04), collection of four soil samples and two groundwater samples from APEC 5. The reported concentrations of all COCs were below the applicable Table 3 SCS in the soil samples with the exception of barium, selenium, lead and mercury in the soil sample collected from a depth of 1.22 – 1.83 mbgs (MW23-04 SA03), and barium and vanadium from a depth of 3.05 – 3.66 (MW23-04 SA04). The impacted soil samples were respectively collected from the sand fill, and native clayey silt to silty clay horizons. The concentration of chloroform in the groundwater samples collected from MW23-04A and MW23-04 exceeded the Table 3 SCS.

APEC 6 – The investigation included the installation of one monitoring well (MW23-05), the collection of four soil samples and two groundwater samples (one from pre-existing monitoring well MW14-02) from APEC 6. The reported concentrations of all COCs in soil and groundwater were below the applicable site condition standards.

Subsurface Structures and Utilities

There are no significant subsurface utilities at the Site. The south half of the parking garage building is half a story below ground. Subsurface structures and utilities are not expected to affect contaminant distribution and transport at the Phase Two Property. All COCs at concentrations exceeding the Table 3 SCS were identified in soil, no COCs were identified in groundwater and as such any subsurface utilities/structures are not expected to create preferential pathways for contaminant migration.

PHYSICAL SETTING

Stratigraphy

The ground surface at all the borehole locations was asphalt covered with asphalt thickness ranging from 0.05 to 0.10 m. Asphalt was underlain by sandy gravel fill material and sand fill material that extended to depths ranging from 0.46 mbgs at MW23-02 to 1.98 mbgs at MW23-04. Fill material was underlain by native clayey silt and silty clay at all locations except MW23-03 and MW23-05. Where encountered, the clayey silt and silty clay extended to depths ranging from 1.83 mbgs at MW23-02/02A to 2.90 mbgs at MW23-01. The native clayey silt/silty clay was underlain by glacial till with varying content of sand, gravel, and silt at all locations except MW23-01. At MW23-03 and MW23-05, the glacial till was encountered directly beneath the sand and gravel fill material. Where encountered, the glacial till material extended to the bedrock surface at depths ranging from 2.90 mbgs at MW23-01 to 5.18 mbgs at MW23-04. Bedrock consisted of weathered shale of the Billings formation. The bedrock surface elevation is highest at MW23-01 (69.07 masl) which is located near the northwest corner of the Site in the laneway west of the parking garage, and lowest at MW23-05 (66.12) which is located near the south Site boundary on lower level of the parking garage.

The depth to bedrock at the site ranged from 2.9 to 5.18 mbgs. The bedrock surface generally slopes downward from northwest to south-southeast.

Given that the average thickness of overburden is greater than 2 m, the Phase Two Property is not considered to be a shallow soil property as defined by O.Reg. 153/04 (as amended).

Hydrogeological Characteristics

No groundwater was encountered in the overburden at the Site, groundwater is present in the weathered shale bedrock, Groundwater flow beneath the Site is inferred to be to the west based on groundwater elevation measured on March 29, 2023. The regional groundwater flow direction is inferred to be towards the Ottawa River.

Depth to Groundwater

Depth to groundwater ranged from 9.32 to 12.19 mbgs (59.63 to 62.59 masl) on March 29, 2023).

SITE CONDITION STANDARDS

Environmentally Sensitive Areas

No areas of natural significance are located within the Phase Two Property. Accordingly, Section 43.1 of the Regulation does not apply to the Phase Two Property.

Shallow Soil Property or Water Body

The depth to beneath the Site ranges from 2.9 to 5.18 mbgs. The Site does not include all or part of a water body and is not adjacent to a water body or include land that is within 30 metres of a water body. Accordingly, Section 43.1 of the Regulation does not apply to the Phase Two Property.

Imported Soil

As identified in previous reports, fill is present across the Site beneath the garage building and the laneway. No other soil has been brought from another property and placed on, in or under the Phase Two Property as part of the Phase Two ESA. Fill samples analysed as part of the Phase Two ESA indicate that fill materials along the east site of the site contain barium, lead, selenium, and mercury at concentrations exceeding the Table 3 SCS.

Proposed Buildings and Other Structures

WSP understands that the Site will be undergoing future redevelopment to a multi-use high-rise commercial and residential building with two levels of underground parking.

DELINEATION OF CONTAMINANT IMPACTS

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

Soil with concentrations of one or more metals COCs exceeding the applicable Table 3 SCS was identified in APECs, 1, 2,3, and 4. Soil with PHCs exceeding the Table 3 SCS was identified in APEC 2. Soil with EC and/or SAR exceeding the Table 3 SCS was identified in all six APECs.

Groundwater collected from APEC 4 contained chloroform above the applicable Table 3 SCS.

Contaminant Distribution

Metals in Soil

Metals COCs at concentrations above the Table 3 SCS including barium, boron (hot water soluble), cobalt, mercury, molybdenum, lead, selenium, thallium, and/or vanadium were identified in soil samples MW23-01 SA06, MW23-02 SA02, MW23-02 SA03, MW23-02 SA06, MW23-03 SA06, MW23-04 SA03 and MW23-04 SA04. Elevated concentrations were detected in soils from all areas of the Site with the exception of the area near the south Site boundary (APEC 6).

Barium, cobalt, and vanadium in the on-Site soil are inferred to originate from the natural deposition of the marine clay (Champlain Sea Deposits) common to the Ottawa region. The maximum concentrations of these parameters detected on-Site fall within the expected range of natural concentrations found in the Champlain Sea deposits as determined through the assessment background samples collected across the Ottawa region (Geofirma, 2018). As such, the concentrations of barium, cobalt, and vanadium are not considered to represent exceedances of the Table 3 SCS at the site as per section 49(1).3 of O. Reg.153/04.

Elevated concentrations of lead, selenium, and mercury in soil are attributed to the placement of poor quality fill materials. Lead, selenium, and mercury concentrations exceeding the Table 3 SCS were only detected in a sample collected from the sand fill on the east side of the Site at MW23-04 (1.22-1.83 mbgs). Boron exceeding the Table 3 SCS at MW23-02 (0.61-1.22 mbgs), may also be associated with fill placement.

Thallium above the Table 3 SCS was detected in one soil sample collected from MW23-03 at a depth 3.05-3.66 mbgs in the native soil; thallium was not detected in soil above this depth indicating that it may be attributed to a natural source; however additional investigation into the source of Thallium at the site is required.

Molybdenum concentrations exceeding the Table 3 SCS were detected in the native soil horizons at depths below 3 mbgs at MW23-01, MW23-02 and MW23-03. Molybdenum concentrations increased with depth at all of the sampling locations included in the Phase Two ESA indicating that molybdenum may be naturally occurring and not the result of former on-Site or off-Site activities; however additional investigation into the source of molybdenum in on-Site soil is required.

The lateral extent of all metals at concentrations exceeding the Table 3 SCS in soil has been coarsely delineated to the south as no exceedances were identified at MW23-05. Concentrations of lead, selenium, and mercury at concentrations above the Table 3 SCS in fill material have been coarsely delineated to the north, south, and west around MW23-04 and have also been vertically delineated at this location as no concentrations of these parameters exceeding the Table 3 SCS were detected in soil samples collected below 1.83 mbgs. The distribution of elevated metals concentrations in soil at the site is shown on the appended Figure 6.

PHCs in Soil

Concentrations of PHC F1 and F2 were identified in a soil sample collected from the weathered shale unit at MW23-01 (MW23-01 SA06) at a depth of 3.81-4.22 mbgs. MW23-01 is located at the northwest corner of the Site, adjacent to where PHC F1 and F2 impacts were previously identified in soil during the 2015 Phase II ESA. Elevated PHC F1 and F2 concentrations are attributed to past on and/or off-Site activities that occurred before the construction of the current parking garage in 1985.

No PHC concentrations were identified in soil above 2.90 mbgs at MW23-01. PHC F1 and F2 impacts in soil have been coarsely delineated to the south and west of MW23-01. The distribution of elevated PHC concentrations in soil is shown on the appended Figure 7.

EC & SAR in Soil

Concentrations of EC and SAR in soil above the Table 3 SCS in soil are attributed to the extensive use of road salt both on and off the site to maintain safe driving/walking conditions. In addition, elevated concentrations of these parameters are relatively common in the Champlain Sea deposits (Geofirma, 2018). As such, the elevated EC and SAR in soil are therefore not considered to represent exceedances of the Table 3 SCS as per section 49(1).1 of O. Reg. 153/04.

Chloroform in Groundwater

Chloroform at concentrations above the Table 3 SCS in groundwater collected from APEC 4 (east side of site), is interpreted to be the result of municipal water used during the drilling process and not the result of any on or off Site PCAs. Chloroform is therefore not considered to represent an exceedance of the Table 3 SCS as per section 49(1).2 of O. Reg. 153/04.

The distribution of VOCs in groundwater is shown on the appended Figure 8.

O. Reg 153/04, Section 49(1)

It is the opinion of the QP based on available data that the following parameters identified in soil or groundwater at the site solely exceeded the Table 3 SCS for one of the reasons specified under section 49(1) of O.Reg 153/04:

- EC and SAR in soil
- Cobalt, barium, and vanadium in soil
- Chloroform in groundwater

The Table 3 SCS is therefore deemed to not have been exceeded for the above noted parameters in the specified media.

Potential Reason for Discharge into the Environment at the Site

Concentrations of lead, selenium, mercury and PHC F1 and F2 exceeding the Table 3 SCS are likely associated with past on-Site activities as described in the APEC table.

Concentrations of molybdenum and thallium exceeding the Table 3 SCS in soil may be attributed to naturally occurring sources given their distribution, however further investigation is required.

Contaminant Migration

None of the COCs were detected in groundwater samples at concentrations exceeding the Table 3 SCS and therefore contaminant migration to groundwater from soil, and in groundwater to off-Site locations is not considered to be an issue at the Site.

Meteorological and Climatic Considerations

Seasonal fluctuation in groundwater levels and flow direction on the Site should be expected. Given the limited number of monitoring events seasonal trends could not be identified; however shallow groundwater water levels are typically highest following the spring recharge and decline throughout the summer and fall months into the winter. VOCs at concentrations exceeding the Table 3 SCS were historically identified in monitoring well MW14-02 near the southern site boundary. Elevated concentrations at this location were attributed to off-site sources in the upgradient area (Golder, 2015). Minor seasonal changes in groundwater flow direction over time could alter the concentrations of COCs detected in wells. It is therefore possible that VOCs could be detected at MW14-02 and/or the deeper nested well MW23-05 in the future. Additional groundwater sampling at the site to assess for VOCs is recommended to evaluate potential seasonal impacts on contaminant distributions.

Soil Vapour Intrusion Pathways

The concentration of PHC F2 detected in soil at MW3-01 exceeds the component value for vapour intrusion into residential indoor air and human exposure via inhalation (98 µg/g) as specified by the MECP (MECP, 2011). The concentration of PHC F1 detected in soil does not exceed the component value for vapour intrusion and indoor air inhalation.

As all soil is to be removed from the site as part of the future site redevelopment, vapour intrusion and subsequent inhalation resulting from the limited area of PHC F2 impacts at the northwest corner of the Site is not considered a potential issue for the future mixed residential-commercial development.

Given that the above ground parking structure is open-air, and the current site use is commercial, the potential for vapour intrusion and subsequent inhalation is not considered relevant at the Site if the property use remains the same.

POTENTIAL EXPOSURE PATHWAYS AND RECEPTORS

The Site is currently developed with three and a half story above ground parking garage. The ground surface at the site is entirely asphalt covered and the current Site use is commercial. As the entire surface of the site is covered with an impermeable surface and the parking garage is an open-air structure, there are currently no complete potential exposure pathways at the Site by which human or ecological receptors could be exposed to the identified soil contaminants. As no COCs were detected in groundwater at the Site, the soil to groundwater pathway (S-GW3) is considered to be incomplete in relation to COCs above the Table 3 SCS in soil.

The proposed development of the Site will include a mixed commercial-residential development with two stories of underground parking. All of the soil on the Site will be removed as part of the redevelopment. As the impacted soil material will be removed, potential exposure pathways for human and ecological receptors after the Site is redeveloped (including inhalation of indoor air) are considered incomplete.

There is potential for human and/or ecological receptors to be exposed to contaminated soil during the Site redevelopment/remediation. The following receptors and exposure pathways are considered operable during the site redevelopment/remediation:

Human Health

- Inhalation of dust sourced from soil and exposure by a subsurface worker, outdoor worker, and site visitor.
- Dermal exposure to contaminated soil by a subsurface worker, outdoor worker, and site visitor.

Ecological Health

- Dermal exposure to contaminated soil by mammals & birds.

7.0 CONCLUSIONS

The Phase Two ESA investigated the six APECs identified in the 2023 Phase One ESA. Soil with concentrations of EC, SAR, multiple metals parameters, and PHC F1 and F2 concentrations exceeding the Table 3 SCS were identified by the Phase Two investigation:

- Concentrations of barium, cobalt, and vanadium above the Table 3 SCS that were detected in native soil samples from the site are considered representative of background concentrations in marine clay deposits that are common throughout the Ottawa region (Geofirma, 2018). As such, concentrations of barium, cobalt, and vanadium on site are not considered exceedances of the Table 3 SCS as per section 49(1).3 of O.Reg. 153/04.
- Concentrations of molybdenum and thallium above the Table 3 SCS were detected in native soil samples at depths greater than 3 mbgs. Detected concentrations of these parameters increased with depth and they were not detected in surficial fill materials. Elevated molybdenum and thallium concentration detected in soil at the site may be attributed to natural sources; however further investigation is required.
- Concentrations of EC and SAR in soil above the Table 3 SCS in soil are attributed to the extensive use of road salt both on and off the site to maintain safe driving/walking conditions. In addition, elevated concentrations of these parameters are relatively common in the Champlain Sea deposits (Geofirma, 2018). As such, the elevated EC and SAR in soil are not considered to represent exceedances of the Table 3 SCS as per section 49(1).1 of O.Reg. 153/04.
- Chloroform detected in groundwater collected from both monitoring wells installed in APEC 5 is attributed to the use of treated municipal water during drilling. As such, concentrations of chloroform detected in groundwater are not considered exceedances of the Table 3 SCS as per section 49(1).2 of O.Reg 153/04. No other parameters at concentrations above the Table 3 SCS were identified in groundwater samples analysed as part of the Phase Two investigation.

Based on the results of the soil and groundwater samples submitted as part of this Phase Two ESA, the reported soil results were above the applicable Table 3 SCS at the following locations and depths:

- **APEC 1/APEC 5 – West side of site (fill material):**
  - Selenium, lead, and mercury in the soil sample collected from a depth of 1.22 – 1.83 mbgs (MW23-04 SA03)
- **APEC 2 – Northwest corner of Site:**
  - PHC F1 and F2, and molybdenum in the soil sample collected from a depth of 3.81 – 4.22 mbgs (MW23-01 SA06).
- **APEC 3 – West side of Site:**
  - Boron (hot water soluble) in the soil sample collected from a depth of 0.61 – 1.22 mbgs (MW23-02 SA02).
  - Molybdenum from a depth of 3.66 – 4.70 mbgs (MW23-02 SA06).
- **APEC 4 – Northeast corner of site:**
  - Molybdenum and thallium in the soil sample collected from a depth of 3.05 - 3.66 mbgs (MW23-03 SA06).

Additional investigation to better delineate the extent of fill materials along the west side of the site impacted with lead, selenium, and mercury, and to evaluate the source of molybdenum and thallium exceeding the Table 3 SCS would refine the results of this Phase Two ESA and assist in remedial/redevelopment planning.

It is recommended that additional groundwater sampling be conducted at the Site to assess the potential for VOC concentrations in groundwater to be seasonably variable.

Remediation of the Site to address the identified exceedances of the Table 3 SCS would be required to obtain a Record of Site Condition.

Although no COCs at concentrations above the Table 3 SCS were identified in groundwater by the Phase Two ESA, it is recommended that any groundwater encountered during the Site remediation be tested for the appropriate COCs prior to being discharge to the environment and/or the municipal sewer system (if permitted). Any water with concentrations exceeding the Table 3 SCS and/or applicable sewer discharge limits must be appropriately treated prior to discharge or taken offsite for disposal at an appropriate facility.

The data presented in this report follows the O. Reg. 153/04 Phase Two ESA report format.

8.0 REFERENCES

Geofirma Engineering Ltd. (Geofirma), 2018. Elevated Background Metals Concentrations in Fine-Grained Champlain Sea Deposits, Eastern Ontario - Ottawa Region, project number 15-201-10, ,prepared for the City of Ottawa.

Golder Associates (Golder), 2013. Phase I Environmental Site Assessment 269 Laurier Avenue West & 170 Slater Street, Ottawa, Ontario, project number 12-1185-0092 (6900)), prepared by Golder for Great-West Life Assurance Company and London Life Insurance Company c/o GWL Realty Advisors Inc.

Golder, 2015. Phase II Environmental Site Assessment 269 Laurier Avenue West & 170 Slater Street, Ottawa, Ontario", project number 12-1185-0092 (6900)), prepared by Golder for Great-West Life Assurance Company and London Life Insurance Company c/o GWL Realty Advisors Inc.

WSP Canada (WSP), 2023. Phase One Environmental Site Assessment 170 Slater Street, Ottawa, Ontario, project number 21493887, prepared by WSP for The Canada Life Assurance Company c/o GWL Realty Advisors Inc.

9.0 LIMITATIONS AND USE OF REPORT

This report was prepared pursuant to and in accordance with the master services agreement (the "MSA") dated May 2, 2019 between WSP Canada Inc. ("Consultant") and the other parties listed thereto, and the project specific agreement dated February 15, 2023 between Consultant and The Canada Life Assurance Company c/o GWL Realty Advisors Inc. The report was prepared by Consultant for the use of Owner and Manager (as those terms are defined under the MSA). In addition to the use of and reliance on this report by Owner and Manager, any person who has received a reliance letter for this report may use and rely on this report as if was prepared for such persons. Any use of or reliance on this report by any other person (i.e., a person other than any Owner Manager or otherwise permitted person) is the sole and exclusive responsibility of such other person. Consultant accepts no responsibility for damages, if any, suffered by such other person as a result of the use of or reliance on this report.

This report is based on the best information available to Consultant at the time of preparing this report after Consultant has used best industry practices, in the circumstances, to obtain information. To the extent that Consultant was required to rely on information from other persons, Consultant has verified such information to the extent reasonably possible in the circumstances. The material provided in this report reflects best industry judgement in light of the information available at the time of preparation of this report.

10.0 SIGNATURES

The undersigned Qualified Person confirms that he/she was responsible for conducting and/or supervising this Phase Two ESA and the associated findings and conclusions.

We trust that you will find the contents of this report satisfactory for your current needs. Should you require clarification of the information provided, please do not hesitate to contact the undersigned.

WSP Canada Inc.

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https://golderassociates.sharepoint.com/sites/170393/project files/6 deliverables/phase two esa - 170 slater street/23592402-170 slater st phase two_july2023_final.docx

Tables

Monitoring Well ID	Ground Surface Elevation (mASL)	Top of Pipe Elevation (mASL)	Borehole Depth (mbgs)	Screen Interval (mbgs)	Screened Media	Date of well Completion
MW23-01	71.97	71.82	12.95	12.04 - 12.95	Gravelly Sand	24-Mar-23
MW23-02	71.06	70.96	12.42	9.37 - 12.42	Gravelly Sand	15-Mar-23
MW23-03	71.54	71.47	13.59	10.24 - 13.59	Gravelly Sand	21-Mar-23
MW23-04A	72.04	71.91	13.10	10.06 - 13.10	Sand with silt and gravel	22-Mar-23
MW23-04	72.09	72.01	16.86	15.34 - 16.86	Sand to silty sand	17-Mar-23
MW23-05	70.39	70.27	16.46	14.94 - 16.46	Sand to silty sand	10-Mar-23

Notes:

mASL- metres above sea level

mbgs-metres below ground surface

No evidence of free product was observed during well development or sampling events.

Monitoring Well	Ground Surface Elevation (mASL)	Top of Pipe Elevation (mASL)	Screen Interval (mbgs)	Depth to Groundwater (mbTOP)	Groundwater Elevation (mASL)	Date of Measurement
MW23-01	71.97	71.82	12.04 - 12.95	12.19	59.63	29-Mar-23
MW23-02	71.06	70.96	9.37 - 12.42	10.38	60.58	29-Mar-23
MW23-03	71.54	71.47	10.24 - 13.59	11.15	60.32	29-Mar-23
MW23-04A	72.04	71.91	10.06 - 13.10	9.32	62.59	29-Mar-23
MW23-04	72.09	72.01	15.34 - 16.86	11.10	60.91	29-Mar-23
MW23-05	70.39	70.27	14.94 - 16.46	9.52	60.75	29-Mar-23

Notes:
mbgs- metres below ground surface
mASL- metres above sea level
n/a - Not surveyed, elevation unavailable
No evidence of free product was observed during any elevation or sampling events.

Location	Soil Samples Analyzed	Sample Depth (mbgs)	Parameters Analyzed	MECP Table 3 Exceedances (1)
MW23-01	MW23-01 SA02	0.15 - 0.45	PHCs, BTEX, PAHs, Metals, VOCs	-
	MW23-01 SA04	2.29 - 2.90	PHCs, BTEX, PAHs, Metals, VOCs	-
	MW23-01 SA06	3.81 - 4.22	PHCs, BTEX, PAHs, Metals, VOCs	Molybdenum, F1 and F2 Hydrocarbons
MW23-02	MW23-02 SA02	0.61 - 1.22	PHCs, BTEX, PAHs, Metals, VOCs	Boron (Hot water soluble)
	MW23-02 SA03	1.22 -1.83	PHCs, BTEX, PAHs, Metals, VOCs	Barium, Vanadium
	MW23-02 SA06	3.66 - 4.70	PHCs, BTEX, PAHs, Metals, VOCs	Molybdenum
	DUP-01	3.66 - 4.70	PHCs, BTEX, PAHs, Metals, VOCs	Molybdenum
MW23-03	MW23-03 SA03	1.22 - 1.83	PHCs, BTEX, PAHs, Metals, VOCs	-
	MW23-03 SA04	1.83 -2.44	PHCs, BTEX, PAHs, Metals, VOCs	-
	MW23-03 SA05	2.44 - 3.05	PHCs, BTEX, PAHs, Metals, VOCs	-
	MW23-03 SA06	3.05 - 3.66	PHCs, BTEX, PAHs, Metals, VOCs	Cobalt, Molybdenum, Thallium
MW23-04A	MW23-04 SA03	1.22 - 1.83	PHCs, BTEX, PAHs, Metals, VOCs	Barium, Lead, Selenium, Mercury
	MW23-04 SA04	1.83 -2.44	PHCs, BTEX, PAHs, Metals, VOCs	Barium, Vanadium
	MW23-04 SA06	3.05 - 3.66	PHCs, BTEX, PAHs, Metals, VOCs	-
	Dup-01	3.05 - 3.66	PHCs, BTEX, PAHs, Metals, VOCs	-
	MW23-04 SA09	4.88 - 5.18	PHCs, BTEX, PAHs, Metals, VOCs	-
MW23-05	MW23-05 SA01	0.05 - 0.46	PHCs, BTEX, PAHs, Metals, VOCs	-
	MW23-05 SA03	1.07 - 1.83	PHCs, BTEX, PAHs, Metals, VOCs	-
	MW23-05 SA04	2.44 - 3.66	PHCs, BTEX, PAHs, Metals, VOCs	-
	MW23-05 SA05	3.66 - 4.27	PHCs, BTEX, PAHs, Metals, VOCs	-

Notes:

(1) MECP Table 3 Standards: Table 3- Full Depth Generic Site Condition Standards for Soils in a None-Potable Ground Water Condition, Residential/Parkland Property Use, Coarse Grained Soils; as per Ontario Regulation 153/04 (2011) under the Environmental Protection Act of the Ministry of the Environment, Conservation and Parks (MECP)

PHCs: Petroleum Hydrocarbons (F1-F4)

PAHs: Polycyclic Aromatic Hydrocarbons

VOC: Volatile Organic Compounds

BTEX: Benzene, Toluene, Ethylbenzene, and Xylene

Monitoring Well ID	Water Levels (mbtop)	Screen Interval (mbgs)	Groundwater Samples Submitted for Analysis	Analytical Parameters	MECP Table 2 Exceedances (1)
MW23-01	12.19	12.04 - 12.95	MW23-01	PHCs, BTEX, PAHs, Metals, VOCs	None
MW23-02	10.38	9.37 - 12.42	MW23-02/ Duplicate analysis (DUP-01)	PHCs, BTEX, PAHs, Metals, VOCs (Dup-01 PAHs only)	None
MW23-03	11.15	10.24 - 13.59	MW23-03	PHCs, BTEX, PAHs, Metals, VOCs	None
MW23-04A	9.32	10.06 - 13.10	MW23-04 Shallow	PHCs, BTEX, PAHs, Metals, VOCs	Chloroform
MW23-04	11.10	15.34 - 16.86	MW23-04 Deep	PHCs, BTEX, PAHs, Metals, VOCs	Chloroform
MW23-05	9.52	14.94 - 16.46	MW23-05/ Duplicate analysis (DUP-01)	PHCs, BTEX, PAHs, Metals, VOCs (Dup-01 PHCs, BTEX, VOCs, Metals)	None
MW14-02	9.42	7.95 - 12.59	MW14-02, MW14-02 Dup (not a duplicate sample)	VOCs	None

Notes:

(1) MECP Table 3 Standards: Table 3- Full Depth Generic Site Condition Standards for Soils in a None-Potable Ground Water Condition, Residential/Parkland Property Use, Coarse Grained Soils; as per Ontario Regulation 153/04 (2011) under the Environmental Protection Act of the Ministry of the Environment, Conservation and Parks (MECP)

VOCs: Volatile Organic Compounds

PHCs: Petroleum Hydrocarbons (F1-F4)

BTEX: Benzene, Toluene, Ethylbenzene, and Xylene

PAHs: Polycyclic Aromatic Hydrocarbons

Created by: PJ
Checked by: CJK

Sample Location			MW23-01			MW23-02				MW23-03			
WSP Sample ID			MW23-01 SA02	MW23-01 SA04	MW23-01 SA06	MW23-02 SA02	MW23-02 SA03	MW23-02 SA06	Dup-01	MW23-03 SA03	MW23-03 SA04	MW23-03 SA05	MW23-03 SA06
Lab Sample ID			4888965	4888965	4888969	4858521	4858522	4858523	4858524	4876885	4876887	4876888	4876889
Certificate of Analysis Number			23Z010329	23Z010329	23Z010329	23Z006407	23Z006407	23Z006407	23Z006407	23Z008517	23Z008517	23Z008517	23Z008517
Date			23-Mar-23	23-Mar-23	23-Mar-23	10-Mar-23	10-Mar-23	10-Mar-23	10-Mar-23	16-Mar-23	16-Mar-23	10-Mar-23	16-Mar-23
Sample Depth (m)			0.15 - 0.45	2.29 - 2.90	3.81 - 4.22	0.61 - 1.22	1.22 -1.83	3.66 - 4.70	3.66 - 4.70	1.22 - 1.83	1.83 -2.44	2.44 - 3.05	3.05 - 3.66
Parameter	**Unit**	**MOE Table 3 Standard (Residential) (1) (2)**											
Metals and Inorganics													
Antimony	µg/g	7.5	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	<1	<1	9	1.0	1.0	9.0	7.0	1	1	5	13
Barium	µg/g	390	34.9	294	282	315.0	**504**	284.0	255.0	35.6	117	217.00	176
Beryllium	µg/g	4	<0.4	0.4	0.6	0.6	0.8	0.5	0.5	<0.4	<0.4	0.4	0.8
Boron	µg/g	120	<5	6.0	16.0	22.0	13.0	9.0	7.0	<5	<5	6.0	9.0
Boron (Hot Water Soluble)	µg/g	1.5	<0.10	0.11	0.47	**2.19**	1.35	0.23	0.24	<0.10	0.20	0.27	0.29
Cadmium	µg/g	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	160	9.0	27	23	68	75	15	13	8.0	17	12	18
Cobalt	µg/g	22	4.1	8.2	19.0	12.9	18.8	12.7	10.7	4.6	5.1	9.0	**22.3**
Copper	µg/g	140	8.0	16.8	60.2	31.9	36.6	70.3	30.9	10.8	12.7	21.1	68.8
Lead	µg/g	120	2.0	5.0	21.0	5.0	8.0	15.0	15.0	3.0	9.0	9.0	26.0
Molybdenum	µg/g	6.9	<0.5	<0.5	**21.8**	<0.5	<0.5	**12.2**	**10.3**	0.6	<0.5	5.7	**18.1**
Nickel	µg/g	100	7.0	16	84.0	33	39	46.0	38.0	7.0	10	31.0	85.0
Selenium	µg/g	2.4	<0.8	<0.8	1.7	<0.8	<0.8	1.1	0.8	<0.8	<0.8	<0.8	2.0
Silver	µg/g	20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Thallium	µg/g	1	<0.5	<0.5	0.9	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	**1.2**
Uranium	µg/g	23	0.58	0.63	6.20	0.58	0.59	3.66	2.77	0.60	0.52	2.24	6.73
Vanadium	µg/g	86	16.7	42.3	33.3	79.2	**102**	28.2	22.5	17.3	25.3	22.8	34.2
Zinc	µg/g	340	16.0	42.0	110.0	95.0	116.00	55.0	46.0	15.0	31.0	22	51.0
Chromium, Hexavalent	µg/g	8	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Cyanide, WAD	µg/g	0.051	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Mercury	µg/g	0.27	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	0.7	0.531	**8.27**	**1.21**	**8.27**	**6.20**	**1.23**	**0.986**	**2.81**	**1.81**	**2.57**	**4.64**
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	**7.16**	**68.1**	**28.7**	**28.1**	**6.20**	2.05	1.64	**32.3**	**20.1**	**8.08**	4.93
pH, 2:1 CaCl2 Extraction	pH Units	5.0-9.0	7.00	7.46	7.55	7.62	7.20	7.50	7.53	8.31	8.23	7.94	7.72

Footnotes:

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-- Chemical not analyzed or criteria not defined.

Grey background indicates exceedances. In this case no exceedances are observed.

(1) Ontario Regulation 153/04 (2011) Table 3: Full Depth Generic Site Conditions in a None-Potable Groundwater Condition, Residential/Parkland Property Use, Coarse Grained Soils

(2) Bolded and Grayed = Parameter concentration greater than MOE Table 3 Standard

Sample Location			MW23-04					MW23-05			
WSP Sample ID			MW23-04 SA03	MW23-04 SA04	MW23-04 SA06	Dup-01	MW23-04 SA09	MW23-05 SA01	MW23-05 SA03	MW23-05 SA04	MW23-05 SA05
Lab Sample ID			4858525	4858526	4858527	4858529	4858528	4858516	4858518	4858519	4858520
Certificate of Analysis Number			23Z006407	23Z006407	23Z006407	23Z006407	23Z006407	23Z006407	23Z006407	23Z006407	23Z006407
Date			14-Mar-23	15-Mar-23	15-Mar-23	15-Mar-23	15-Mar-23	7-Mar-23	7-Mar-23	8-Mar-23	8-Mar-23
Sample Depth (m)			1.22 - 1.83	1.83 -2.44	3.05 - 3.66	3.05 - 3.66	4.88 - 5.18	0.05 - 0.46	1.07 - 1.83	2.44 - 3.66	3.66 - 4.27
Parameter	**Unit**	**MOE Table 3 Standard (Residential) (1) (2)**									
Metals and Inorganics											
Antimony	µg/g	7.5	1.9	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	18.0	2	2	3	7	<1	2	2	3
Barium	µg/g	390	**424.0**	**853.0**	129	105	200	118	104	41.5	123.00
Beryllium	µg/g	4	0.6	0.8	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Boron	µg/g	120	8.0	7.0	<5	5	5	6	<5	<5	<5
Boron (Hot Water Soluble)	µg/g	1.5	0.58	0.43	0.18	0.19	0.30	0.28	0.19	<0.10	<0.10
Cadmium	µg/g	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	160	30	64	10	13	10	7.0	23	7.0	8.0
Cobalt	µg/g	22	11.4	16.8	6.2	7.5	9.5	4.4	7.3	4.6	4.8
Copper	µg/g	140	48.1	36.1	12.2	13.4	28.2	9.2	23.7	7.7	10.7
Lead	µg/g	120	**1290.0**	14.0	7.0	7.0	14.0	3.0	24.0	3.0	16.0
Molybdenum	µg/g	6.9	2.2	1.0	2.6	3.1	6.5	<0.5	0.5	1.2	2.6
Nickel	µg/g	100	25.0	37.0	14.0	17.0	31.0	6	15.0	9.0	11.0
Selenium	µg/g	2.4	**2.8**	<0.8	<0.8	0.9	0.8	<0.8	<0.8	<0.8	<0.8
Silver	µg/g	20	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Thallium	µg/g	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Uranium	µg/g	23	0.57	0.55	0.93	0.83	2.54	<0.50	0.51	0.53	0.83
Vanadium	µg/g	86	41.6	**88.1**	16.2	18.2	17.4	11.3	32.5	12.5	13.6
Zinc	µg/g	340	255.0	105	18	22.0	32.0	10	46	10	17
Chromium, Hexavalent	µg/g	8	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Cyanide, WAD	µg/g	0.051	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Mercury	µg/g	0.27	**1.53**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	0.7	**10.5**	**5.09**	**8.57**	**6.65**	**4.96**	**3.34**	**3.12**	**0.983**	**2.19**
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	**21.3**	**5.08**	0.414	0.518	0.522	2.60	**40.0**	1.70	2.47
pH, 2:1 CaCl2 Extraction	pH Units	5.0-9.0	7.37	7.27	7.38	7.51	7.47	7.61	7.64	7.39	7.46

Footnotes:

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Grey background indicates exceedances. In this case no exceedances are obse

(1) Ontario Regulation 153/04 (2011) Table 3: Full Depth Generic Site Condition

(2) Bolded and Grayed = Parameter concentration greater than MOE Table

Created by: PJ
Checked by: CJK

Sample Location			MW23-01			MW23-02				MW23-03			
Sample ID			MW23-01 SA02	MW23-01 SA04	MW23-01 SA06	MW23-02 SA02	MW23-02 SA03	MW23-02 SA06	Dup-01	MW23-03 SA03	MW23-03 SA04	MW23-03 SA05	MW23-03 SA06
Lab Sample ID			4888965	4888965	4888969	4858521	4858522	4858523	4858524	4876885	4876887	4876888	4876889
Certificate of Analysis Number			23Z010329	23Z010329	23Z010329	23Z006407	23Z006407	23Z006407	23Z006407	23Z008517	23Z008517	23Z008517	23Z008517
Date			23-Mar-23	23-Mar-23	23-Mar-23	10-Mar-23	10-Mar-23	10-Mar-23	10-Mar-23	16-Mar-23	16-Mar-23	10-Mar-23	16-Mar-23
Sample Depth (m)			0.15 - 0.45	2.29 - 2.90	3.81 - 4.22	0.61 - 1.22	1.22 -1.83	3.66 - 4.70	3.66 - 4.70	1.22 - 1.83	1.83 -2.44	2.44 - 3.05	3.05 - 3.66
Parameter	**unit**	**MOE Table 3 Standard (Residential) (1) (2)**											
PAHs													
Naphthalene	µg/g	0.6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	µg/g	0.15	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene	µg/g	7.9	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	µg/g	62	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	µg/g	6.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	µg/g	0.67	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	µg/g	0.69	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	µg/g	78	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benz(a)anthracene	µg/g	0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	µg/g	7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.78	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/g	0.78	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g	0.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.38	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	6.6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1 and 2 Methlynaphthalene	µg/g	0.99	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Footnotes:

Tables should be read in conjunction with the accompanying document.

< value = Indicates parameter not detected above laboratory method detection limit.

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-- Chemical not analyzed or criteria not defined.

Grey background indicates exceedances. In this case no exceedances are observed.

(1) Ontario Regulation 153/04 (2011) Table 3: Full Depth Generic Site Conditions in a None-Potable Groundwater Condition, Residential/Parkland Property Use, Coarse Grained Soils

(2) Bolded and Grayed = Parameter concentration greater than MOE Table 3 Standard

Sample Location			MW23-04					MW23-05			
Sample ID			MW23-04 SA03	MW23-04 SA04	MW23-04 SA06	Dup-01	MW23-04 SA09	MW23-05 SA01	MW23-05 SA03	MW23-05 SA04	MW23-05 SA05
Lab Sample ID			4858525	4858526	4858527	4858529	4858528	4858516	4858518	4858519	4858520
Certificate of Analysis Number			23Z006407	23Z006407	23Z006407	23Z006407	23Z006407	23Z006407	23Z006407	23Z006407	23Z006407
Date			14-Mar-23	15-Mar-23	15-Mar-23	15-Mar-23	15-Mar-23	7-Mar-23	7-Mar-23	8-Mar-23	8-Mar-23
Sample Depth (m)			1.22 - 1.83	1.83 -2.44	3.05 - 3.66	3.05 - 3.66	4.88 - 5.18	0.05 - 0.46	1.07 - 1.83	2.44 - 3.66	3.66 - 4.27
Parameter	**unit**	**MOE Table 3 Standard (Residential) (1) (2)**									
PAHs											
Naphthalene	µg/g	0.6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	µg/g	0.15	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene	µg/g	7.9	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	µg/g	62	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	µg/g	6.2	0.27	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	µg/g	0.67	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	µg/g	0.69	0.29	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	µg/g	78	0.24	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benz(a)anthracene	µg/g	0.5	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	µg/g	7	0.13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.78	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/g	0.78	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g	0.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.38	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	6.6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1 and 2 Methlynaphthalene	µg/g	0.99	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Footnotes:

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Grey background indicates exceedances. In this case no exceedances are observ

(1) Ontario Regulation 153/04 (2011) Table 3: Full Depth Generic Site Conditions

(2) Bolded and Grayed = Parameter concentration greater than MOE Table 3

Sample Location			MW23-01			MW23-02				MW23-03			
Sample ID			MW23-01 SA02	MW23-01 SA04	MW23-01 SA06	MW23-02 SA02	MW23-02 SA03	MW23-02 SA06	Dup-01	MW23-03 SA03	MW23-03 SA04	MW23-03 SA05	MW23-03 SA06
Lab Sample ID			4888965	4888965	4888969	4858521	4858522	4858523	4858524	4876885	4876887	4876888	4876889
Certificate of Analysis Number			23Z010329	23Z010329	23Z010329	23Z006407	23Z006407	23Z006407	23Z006407	23Z008517	23Z008517	23Z008517	23Z008517
Date			23-Mar-23	23-Mar-23	23-Mar-23	10-Mar-23	10-Mar-23	10-Mar-23	10-Mar-23	16-Mar-23	16-Mar-23	10-Mar-23	16-Mar-23
Sample Depth (m)			0.15 - 0.45	2.29 - 2.90	3.81 - 4.22	0.61 - 1.22	1.22 -1.83	3.66 - 4.70	3.66 - 4.70	1.22 - 1.83	1.83 -2.44	2.44 - 3.05	3.05 - 3.66
Parameter	Unit	MOE Table 3 Standard (Residential) (1) (2)											
BTEX													
Benzene	µg/g	0.21	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	µg/g	2.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	µg/g	2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	µg/g	3.1	<0.05	<0.05	0.64	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Petroleum Hydrocarbons													
F1 (C6 - C10)	µg/g	55	<5	<5	**113**	<5	<5	7	6	<5	<5	5	<5
F2 (C10 to C16)	µg/g	98	<10	<10	**189**	<10	<10	36	41	<10	<10	45	97
F3 (C16 to C34)	µg/g	300	<50	<50	224	<50	<50	72	80	<50	<50	<50	173
F4 (C34 to C50)	µg/g	2800	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	2800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Moisture Content	%		14.7	19.3	9.2	24.4	27.7	8.1	9.0	3.3	9.0	8.6	10.8

Footnotes:
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(1) Ontario Regulation 153/04 (2011) Table 3: Full Depth Generic Site Conditions in a None-Potable Groundwater Condition, Residential/Parkland Property Use, Coarse Grained Soils
(2) Bolded and Grayed = Parameter concentration greater than MOE Table 3 Standard

Sample Location			MW23-04					MW23-05			
Sample ID			MW23-04 SA03	MW23-04 SA04	MW23-04 SA06	Dup-01	MW23-04 SA09	MW23-05 SA01	MW23-05 SA03	MW23-05 SA04	MW23-05 SA05
Lab Sample ID			4858525	4858526	4858527	4858529	4858528	4858516	4858518	4858519	4858520
Certificate of Analysis Number			23Z006407	23Z006407	23Z006407	23Z006407	23Z006407	23Z006407	23Z006407	23Z006407	23Z006407
Date			14-Mar-23	15-Mar-23	15-Mar-23	15-Mar-23	15-Mar-23	7-Mar-23	7-Mar-23	8-Mar-23	8-Mar-23
Sample Depth (m)			1.22 - 1.83	1.83 -2.44	3.05 - 3.66	3.05 - 3.66	4.88 - 5.18	0.05 - 0.46	1.07 - 1.83	2.44 - 3.66	3.66 - 4.27
Parameter	Unit	MOE Table 3 Standard (Residential) (1) (2)									
BTEX											
Benzene	µg/g	0.21	<0.02	<0.02	<0.02	<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	<0.05	<0.05	<0.05
Ethylbenzene	µg/g	2	<0.05	<0.05	<0.05	<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	<0.05	<0.05	<0.05
Petroleum Hydrocarbons											
F1 (C6 - C10)	µg/g	55	<5	<5	<5	<5	<5	<5	<5	<5	5
F2 (C10 to C16)	µg/g	98	<10	22	20	75	20	<10	<10	<10	28
F3 (C16 to C34)	µg/g	300	<50	<50	<50	<50	67	<50	<50	<50	<50
F4 (C34 to C50)	µg/g	2800	<50	<50	<50	<50	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	2800	NA	NA	NA	NA	NA	NA	NA	NA	NA
Moisture Content	%		12.2	27.9	6.7	8.3	5.2	3.4	6.6	8.4	8.4

Footnotes:
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(1) Ontario Regulation 153/04 (2011) Table 3: Full Depth Generic Site Conditi
(2) Bolded and Grayed = Parameter concentration greater than MOE Tab

Table 5D: Soil Analytical Results - Volatile Organic Compounds (VOC)

Sample Location			MW23-01			MW23-02				MW23-03			
Sample ID			MW23-01 SA02	MW23-01 SA04	MW23-01 SA06	MW23-02 SA02	MW23-02 SA03	MW23-02 SA06	Dup-01	MW23-03 SA03	MW23-03 SA04	MW23-03 SA05	MW23-03 SA06
Lab Sample ID			4888965	4888965	4888969	4858521	4858522	4858523	4858524	4876885	4876887	4876888	4876889
Certificate of Analysis Number			23Z010329	23Z010329	23Z010329	23Z006407	23Z006407	23Z006407	23Z006407	23Z008517	23Z008517	23Z008517	23Z008517
Date			23-Mar-23	23-Mar-23	23-Mar-23	10-Mar-23	10-Mar-23	10-Mar-23	10-Mar-23	16-Mar-23	16-Mar-23	10-Mar-23	16-Mar-23
Sample Depth (m)			0.15 - 0.45	2.29 - 2.90	3.81 - 4.22	0.61 - 1.22	1.22 -1.83	3.66 - 4.70	3.66 - 4.70	1.22 - 1.83	1.83 -2.44	2.44 - 3.05	3.05 - 3.66
Parameter	**Unit**	**MOE Table 3 Standard (Residential) (1) (2)**											
VOCs (with PHC)													
Dichlorodifluoromethane	µg/g	16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	µg/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
Bromomethane	µg/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
Trichlorofluoromethane	µg/g	4	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acetone	µg/g	16	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	µg/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
Methylene Chloride	µg/g	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trans- 1,2-Dichloroethylene	µg/g	0.084	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl tert-butyl Ether	µg/g	0.75	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1-Dichloroethane	µg/g	3.5	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Methyl Ethyl Ketone	µg/g	16	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cis- 1,2-Dichloroethylene	µg/g	3.4	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	µg/g	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,2-Dichloroethane	µg/g	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
1,1,1-Trichloroethane	µg/g	0.38	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	µg/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
Benzene	µg/g	0.21	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-Dichloropropane	µg/g	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Trichloroethylene	µg/g	0.061	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Bromodichloromethane	µg/g	13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl Isobutyl Ketone	µg/g	1.7	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	µg/g	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Toluene	µg/g	2.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromochloromethane	µg/g	9.4	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylene Dibromide	µg/g	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Tetrachloroethylene	µg/g	0.28	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,1,2-Tetrachloroethane	µg/g	0.058	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Chlorobenzene	µg/g	2.4	<0.05	<0.05	<0.05	<0.05	<0.05	<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	<0.05	<0.05	<0.05	<0.05	<0.05
m & p-Xylene	µg/g		<0.05	<0.05	0.48	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bromoform	µg/g	0.27	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Styrene	µg/g	0.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,2,2-Tetrachloroethane	µg/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
o-Xylene	µg/g		<0.05	<0.05	0.16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,3-Dichlorobenzene	µg/g	4.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,4-Dichlorobenzene	µg/g	0.083	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,2-Dichlorobenzene	µg/g	3.4	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	µg/g	3.1	<0.05	<0.05	0.64	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,3-Dichloropropene (Cis + Trans)	µg/g	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
n-Hexane	µg/g	2.8	<0.05	<0.05	0.60	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Footnotes:

Tables should be read in conjunction with the accompanying document.

< value = Indicates parameter not detected above laboratory method detection limit.

> value = Indicates parameter detected above equipment analytical range.

-- Chemical not analyzed or criteria not defined.

Grey background indicates exceedances. In this case no exceedances are observed.

(1) Ontario Regulation 153/04 (2011) Table 3: Full Depth Generic Site Conditions in a None-Potable Groundwater Condition, Residential/Parkland Property Use, Coarse Grained Soils

(2) Bolded and Grayed = Parameter concentration greater than MOE Table 3 Standard

Created by: PJ
Checked by: CJK

Sample Location			MW23-04					MW23-05			
Sample ID			MW23-04 SA03	MW23-04 SA04	MW23-04 SA06	Dup-01	MW23-04 SA09	MW23-03 SA01	MW23-03 SA03	MW23-03 SA04	MW23-03 SA05
Lab Sample ID			4858525	4858526	4858527	4858529	4858528	4858516	4858518	4858519	4858520
Certificate of Analysis Number			23Z006407	23Z006407	23Z006407	23Z006407	23Z006407	23Z006407	23Z006407	23Z006407	23Z006407
Date			14-Mar-23	15-Mar-23	15-Mar-23	15-Mar-23	15-Mar-23	7-Mar-23	7-Mar-23	8-Mar-23	8-Mar-23
Sample Depth (m)			1.22 - 1.83	1.83 -2.44	3.05 - 3.66	3.05 - 3.66	4.88 - 5.18	0.05 - 0.46	1.07 - 1.83	2.44 - 3.66	3.66 - 4.27
Parameter	**Unit**	**MOE Table 3 Standard (Residential) [1] [2]**									
VOCs (with PHC)											
Dichlorodifluoromethane	µg/g	16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	µg/g	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Bromomethane	µg/g	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	µg/g	4	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acetone	µg/g	16	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	µg/g	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	µg/g	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trans- 1,2-Dichloroethylene	µg/g	0.084	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl tert-butyl Ether	µg/g	0.75	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1-Dichloroethane	µg/g	3.5	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Methyl Ethyl Ketone	µg/g	16	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cis- 1,2-Dichloroethylene	µg/g	3.4	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	µg/g	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,2-Dichloroethane	µg/g	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
1,1,1-Trichloroethane	µg/g	0.38	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	µg/g	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzene	µg/g	0.21	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-Dichloropropane	µg/g	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Trichloroethylene	µg/g	0.061	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Bromodichloromethane	µg/g	13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl Isobutyl Ketone	µg/g	1.7	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	µg/g	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Toluene	µg/g	2.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromochloromethane	µg/g	9.4	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylene Dibromide	µg/g	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Tetrachloroethylene	µg/g	0.28	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,1,2-Tetrachloroethane	µg/g	0.058	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Chlorobenzene	µg/g	2.4	<0.05	<0.05	<0.05	<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	<0.05	<0.05	<0.05
m & p-Xylene	µg/g		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bromoform	µg/g	0.27	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Styrene	µg/g	0.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,2,2-Tetrachloroethane	µg/g	0.05	<0.05	<0.05	<0.05	<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	<0.05	<0.05	<0.05
1,3-Dichlorobenzene	µg/g	4.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,4-Dichlorobenzene	µg/g	0.083	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,2-Dichlorobenzene	µg/g	3.4	<0.05	<0.05	<0.05	<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	<0.05	<0.05	<0.05
1,3-Dichloropropene (Cis + Trans)	µg/g	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
n-Hexane	µg/g	2.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Footnotes:

Tables should be read in conjunction with the accompanying document.
< value = Indicates parameter not detected above laboratory method detectior
> value = Indicates parameter detected above equipment analytical range.
-- Chemical not analyzed or criteria not defined.
Grey background indicates exceedances. In this case no exceedances are ob
(1) Ontario Regulation 153/04 (2011) Table 3: Full Depth Generic Site Conditic
(2) Bolded and Grayed = Parameter concentration greater than MOE Tab

		Sample Location	MW23-01	MW23-02	MW23-03		MW23-04A	MW23-04	MW23-05
		WSP Sample ID	23-01	23-02-GW01	23-03-GW01	Dup-01	22-04 Shallow	22-04 Deep	23-05
		Lab Sample ID	4896256	4889161	4889145	4889162	488915	4889151	4889158
		Certificate of Analysis Number	23Z011205	23Z010333	23Z010333	23Z010333	23Z010333	23Z010333	23Z010333
		Sample Date and Time	3-Apr-23	29-Mar-23	29-Mar-23	29-Mar-23	29-Mar-23	29-Mar-23	29-Mar-23
Parameter	**Unit**	**MOE Table 3 Standard (Residential) (1) (2)**							
PAHs									
Naphthalene	µg/L	1400	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Acenaphthylene	µg/L	1.8	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Acenaphthene	µg/L	600	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Fluorene	µg/L	400	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Phenanthrene	µg/L	580	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Anthracene	µg/L	2.4	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Fluoranthene	µg/L	130	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Pyrene	µg/L	68	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Benzo(a)anthracene	µg/L	4.7	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chrysene	µg/L	1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(b)fluoranthene	µg/L	0.75	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(k)fluoranthene	µg/L	0.4	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(a)pyrene	µg/L	0.81	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	µg/L	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dibenz(a,h)anthracene	µg/L	0.52	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Benzo(g,h,i)perylene	µg/L	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
2-and 1-methyl Naphthalene	µg/L	1800	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Naphthalene-d8	%		92	92	108	98	97	117	108
Acridine-d9	%		83	110	113	113	112	116	114
Terphenyl-d14	%		75	87	101	83	89	75	107

Footnotes:

Tables should be read in conjunction with the accompanying document.

< value = Indicates parameter not detected above laboratory method detection limit.

> value = Indicates parameter detected above equipment analytical range.

-- Chemical not analyzed or criteria not defined.

Grey background indicates exceedances. In this case no exceedances are observed.

(1) Ontario Regulation 153/04 (2011) Table 3: Full Depth Generic Site Conditions in a None-Potable Groundwater Condition, Residential/Parkland Property Use

(2) Bolded and Grayed = Parameter concentration greater than MOE Table 3 Standard

		Sample Location	MW23-01	MW23-02	MW23-03	MW23-04A	MW23-04	MW23-05		FB-01
		WSP Sample ID	23-01	23-02-GW01	23-03-GW01	22-04 Shallow	22-04 Deep	23-05-GW01	Dup-01	-
		Lab Sample ID	4896256	4876966	4889145	488915	4889151	4876962	4876963	4876951
		Certificate of Analysis Number	23Z011205	23Z008519	23Z010333	23Z010333	23Z010333	23Z008519	23Z008519	23Z008519
		Sample Date and Time	3-Apr-23	22-Mar-23	29-Mar-23	29-Mar-23	29-Mar-23	22-Mar-23	22-Mar-23	22-Mar-23
Parameter	**Unit**	**MOE Table 3 Standard (Residential) (1) (2)**								
BTEX										
Benzene	µg/L	44	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	µg/L	18000	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Ethylbenzene	µg/L	2300	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Xylenes (Total)	µg/L	4200	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Petroleum Hydrocarbons										
F1 (C6-C10)	µg/L	750	<25	<25	<25	<25	<25	<25	<25	<25
F2 (C10 to C16)	µg/L	150	<100	<100	<100	<100	<100	<100	<100	<100
F3 (C16 to C34)	µg/L	500	<100	<100	<100	<100	<100	<100	<100	<100
F4 (C34 to C50)	µg/L	500	<100	<100	<100	<100	<100	<100	<100	<100
Gravimetric Heavy Hydrocarbons	µg/L		NA	NA	NA	NA	NA	NA	NA	NA

Footnotes:
Tables should be read in conjunction with the accompanying document.
< value = Indicates parameter not detected above laboratory method detection limit.
> value = Indicates parameter detected above equipment analytical range.
-- Chemical not analyzed or criteria not defined.
Grey background indicates exceedances. In this case no exceedances are observed.
(1) Ontario Regulation 153/04 (2011) Table 3: Full Depth Generic Site Conditions in a None-Potable Groundwater Condition, Residential/Parkland Property Use
(2) Bolded and Grayed = Parameter concentration greater than MOE Table 3 Standard

		Sample Location	**MW23-01**	**MW23-02**	**MW23-03**	**MW23-04A**	**MW23-04**	**MW23-05**		**MW14-02**		**FB-01**
		WSP Sample ID	**23-01**	**23-02-GW01**	**23-03-GW01**	**22-04 Shallow**	**22-04 Deep**	**23-05-GW01**	**Dup-01**	**MW14-02-GW**	**MW14-02 Dup**	**-**
		Lab Sample ID	**4896256**	**4876966**	**4889145**	**488915**	**4889151**	**4876962**	**4876963**	**4876964**	**4903901**	**4876951**
		Certificate of Analysis Number	**23Z011205**	**23Z008519**	**23Z010333**	**23Z010333**	**23Z010333**	**23Z008519**	**23Z008519**	**23Z008519**	**23T012619**	**23Z008519**
		Sample Date and Time	**3-Apr-23**	**22-Mar-23**	**29-Mar-23**	**29-Mar-23**	**29-Mar-23**	**22-Mar-23**	**22-Mar-23**	**22-Mar-23**	**4-Apr-23**	**22-Mar-23**
Parameter	**Unit**	**MOE Table 3 Standard (Residential) (1) (2)**										
VOCs												
Dichlorodifluoromethane	µg/L	4400	<0.40	<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	<0.17
Bromomethane	µg/L	5.6	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L	2500	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Acetone	µg/L	130000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene	µg/L	1.6	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Methylene Chloride	µg/L	610	<0.30	<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	<0.20
Methyl tert-butyl ether	µg/L	190	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1-Dichloroethane	µg/L	320	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Methyl Ethyl Ketone	µg/L	470000	<1.0	<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	<0.20
Chloroform	µg/L	2.4	<0.20	<0.20	<0.20	**3.08**	**7.17**	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloroethane	µg/L	1.6	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1,1-Trichloroethane	µg/L	640	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Carbon Tetrachloride	µg/L	0.79	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Benzene	µg/L	44	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloropropane	µg/L	16	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichloroethylene	µg/L	1.6	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Bromodichloromethane	µg/L	85000	<0.20	<0.20	<0.20	<0.20	0.54	<0.20	<0.20	<0.20	<0.20	<0.20
Methyl Isobutyl Ketone	µg/L	140000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	µg/L	4.7	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	µg/L	18000	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dibromochloromethane	µg/L	82000	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ethylene Dibromide	µg/L	0.25	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Tetrachloroethylene	µg/L	1.6	<0.20	<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	3.3	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chlorobenzene	µg/L	630	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ethylbenzene	µg/L	2300	<0.10	<0.10	<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	<0.20	<0.20
Bromoform	µg/L	380	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Styrene	µg/L	1300	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	3.2	<0.10	<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	<0.10
1,3-Dichlorobenzene	µg/L	9600	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,4-Dichlorobenzene	µg/L	8	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,2-Dichlorobenzene	µg/L	4600	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,3-Dichloropropene	µg/L	5.2	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Xylenes (Total)	µg/L	4200	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
n-Hexane	µg/L	51	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

Footnotes:

Tables should be read in conjunction with the accompanying document.

< value = Indicates parameter not detected above laboratory method detection limit.

> value = Indicates parameter detected above equipment analytical range.

-- Chemical not analyzed or criteria not defined.

Grey background indicates exceedances. In this case no exceedances are observed.

(1) Ontario Regulation 153/04 (2011) Table 3: Full Depth Generic Site Conditions in a None-Potable Groundwater Condition, Residential/Parkland Property Use

(2) Bolded and Grayed = Parameter concentration greater than MOE Table 3 Standard

Sample Location			MW23-01	MW23-02	MW23-03	MW23-04A	MW23-04	MW23-05		FB-01
WSP Sample ID			23-01	23-02-GW01	22-03	22-04 Shallow	22-04 Deep	23-05-GW01	Dup-01	-
Lab Sample ID			4896256	4876966	4889145	488915	4889151	4876962	4876963	4876951
Certificate of Analysis Number			23Z011205	23Z008519	23Z010333	23Z010333	23Z010333	23Z008519	23Z008519	23Z008519
Sample Date and Time			3-Apr-23	22-Mar-23	29-Mar-23	29-Mar-23	29-Mar-23	22-Mar-23	22-Mar-23	22-Mar-23
Parameter	**Unit**	**MOE Table 3 Standard (Residential) (1) (2)**								
Metals (Including Hydrides)										
Dissolved Antimony	µg/L	20000	2.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Arsenic	µg/L	1900	2.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Barium	µg/L	29000	108.0	25.8	31.0	88.8	39.9	19.1	18.0	<2.0
Dissolved Beryllium	µg/L	67	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Boron	µg/L	45000	146	51.9	98.3	29.3	45.4	68.8	62.5	<10.0
Dissolved Cadmium	µg/L	2.7	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dissolved Chromium	µg/L	810	27.6	<2.0	<2.0	<2.0	<2.0	2.6	<2.0	<2.0
Dissolved Cobalt	µg/L	66	1.44	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Copper	µg/L	87	1.0	<1.0	<1.0	1.9	<1.0	<1.0	<1.0	<1.0
Dissolved Lead	µg/L	25	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Molybdenum	µg/L	9200	139	5.02	6.66	8.24	7.31	11.7	10.4	<0.50
Dissolved Nickel	µg/L	490	16.3	2.4	1.3	2.3	2.0	1.9	1.6	<1.0
Dissolved Selenium	µg/L	63	26.2	<1.0	1.9	<1.0	<1.0	<1.0	<1.0	9.8
Dissolved Silver	µg/L	1.5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dissolved Thallium	µg/L	510	0.54	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Dissolved Uranium	µg/L	420	16.7	5.76	3.78	4.75	3.75	5.31	4.70	<0.50
Dissolved Vanadium	µg/L	250	1.73	<0.40	0.40	<0.40	0.46	<0.40	<0.40	<0.40
Dissolved Zinc	µg/L	1100	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0

Footnotes:

Tables should be read in conjunction with the accompanying document.

< value = Indicates parameter not detected above laboratory method detection limit.

> value = Indicates parameter detected above equipment analytical range.

-- Chemical not analyzed or criteria not defined.

Grey background indicates exceedances. In this case no exceedances are observed.

(1) Ontario Regulation 153/04 (2011) Table 3: Full Depth Generic Site Conditions in a None-Potable Groundwater Condition, Residential/Parkland Property Use

(2) Bolded and Grayed = Parameter concentration greater than MOE Table 3 Standard

Table 7A: Relative Percent Differences (RPDs) - Metals in Soil

Sample ID	Units	MW23-02			MW23-04		
		MW23-02 SA06	DUP-1	RPD (%)	MW23-04 SA06	DUP-1	RPD (%)
Date Collected		03/10/2023	03/10/2023		03/15/2023	03/15/2023	
Sample Depth (mbgs)		3.66 - 4.70	3.66 - 4.70		3.05 - 3.66	3.05 - 3.66	
Antimony	µg/g	<0.8	<0.8	-	<0.8	<0.8	-
Arsenic	µg/g	9	7	25.0	2	3	NA
Barium	µg/g	284	255	10.8	129	105	20.5
Beryllium	µg/g	0.5	0.5	NA	<0.4	<0.4	-
Boron	µg/g	9	7	NA	<5	5	NA
Boron (Hot Water Soluble)	µg/g	0.23	0.24	NA	0.18	0.19	NA
Cadmium	µg/g	<0.5	<0.5	-	<0.5	<0.5	-
Chromium	µg/g	15	13	NA	10	13	NA
Cobalt	µg/g	12.7	10.7	17.1	6.2	7.5	19.0
Copper	µg/g	70.3	30.9	**77.9**	12.2	13.4	9.4
Lead	µg/g	15	15	0.0	7	7	0.0
Molybdenum	µg/g	12.2	10.3	16.9	2.6	3.1	17.5
Nickel	µg/g	46	38	19.0	14	17	19.4
Selenium	µg/g	1.1	0.8	NA	<0.8	0.9	NA
Silver	µg/g	<0.5	<0.5	-	<0.5	<0.5	-
Thallium	µg/g	0.6	<0.5	NA	<0.5	<0.5	-
Uranium	µg/g	3.66	2.77	27.7	0.93	0.83	NA
Vanadium	µg/g	28.2	22.5	22.5	16.2	18.2	11.6
Zinc	µg/g	55	46	17.8	18	22	NA
Chromium, Hexavalent	µg/g	<0.2	<0.2	-	<0.2	<0.2	-
Cyanide, WAD	µg/g	<0.040	<0.040	-	<0.040	<0.040	-
Mercury	µg/g	<0.10	<0.10	-	<0.10	<0.10	-

Notes:
" - " = RPD not calculated due to parameters being equal or less than 5 times RDL
mbgs = metres below ground surface
< = concentration is below Reportable Detection Limit (RDL)
RPD over 50% limit

Created by: PAC
Checked By: JTD

Table 7B: Relative Percent Differences (RPDs) - Metals in Groundwater

Sample ID	Units	MW23-05		
		MW23-05	DUP-1	RPD (%)
Date Collected		03/22/2023	03/22/2023	
Dissolved Antimony	µg/L	<1.0	<1.0	-
Dissolved Arsenic	µg/L	<1.0	<1.0	-
Dissolved Barium	µg/L	19.1	18	5.9
Dissolved Beryllium	µg/L	<0.50	<0.50	-
Dissolved Boron	µg/L	68.8	62.5	9.6
Dissolved Cadmium	µg/L	<0.20	<0.20	-
Dissolved Chromium	µg/L	2.6	<2.0	NA
Dissolved Cobalt	µg/L	<0.50	<0.50	-
Dissolved Copper	µg/L	<1.0	<1.0	-
Dissolved Lead	µg/L	<0.50	<0.50	-
Dissolved Molybdenum	µg/L	11.7	10.4	11.8
Dissolved Nickel	µg/L	1.9	1.6	NA
Dissolved Selenium	µg/L	<1.0	<1.0	-
Dissolved Silver	µg/L	<0.20	<0.20	-
Dissolved Thallium	µg/L	<0.30	<0.30	-
Dissolved Uranium	µg/L	5.31	4.7	12.2
Dissolved Vanadium	µg/L	<0.40	<0.40	-
Dissolved Zinc	µg/L	<5.0	<5.0	-

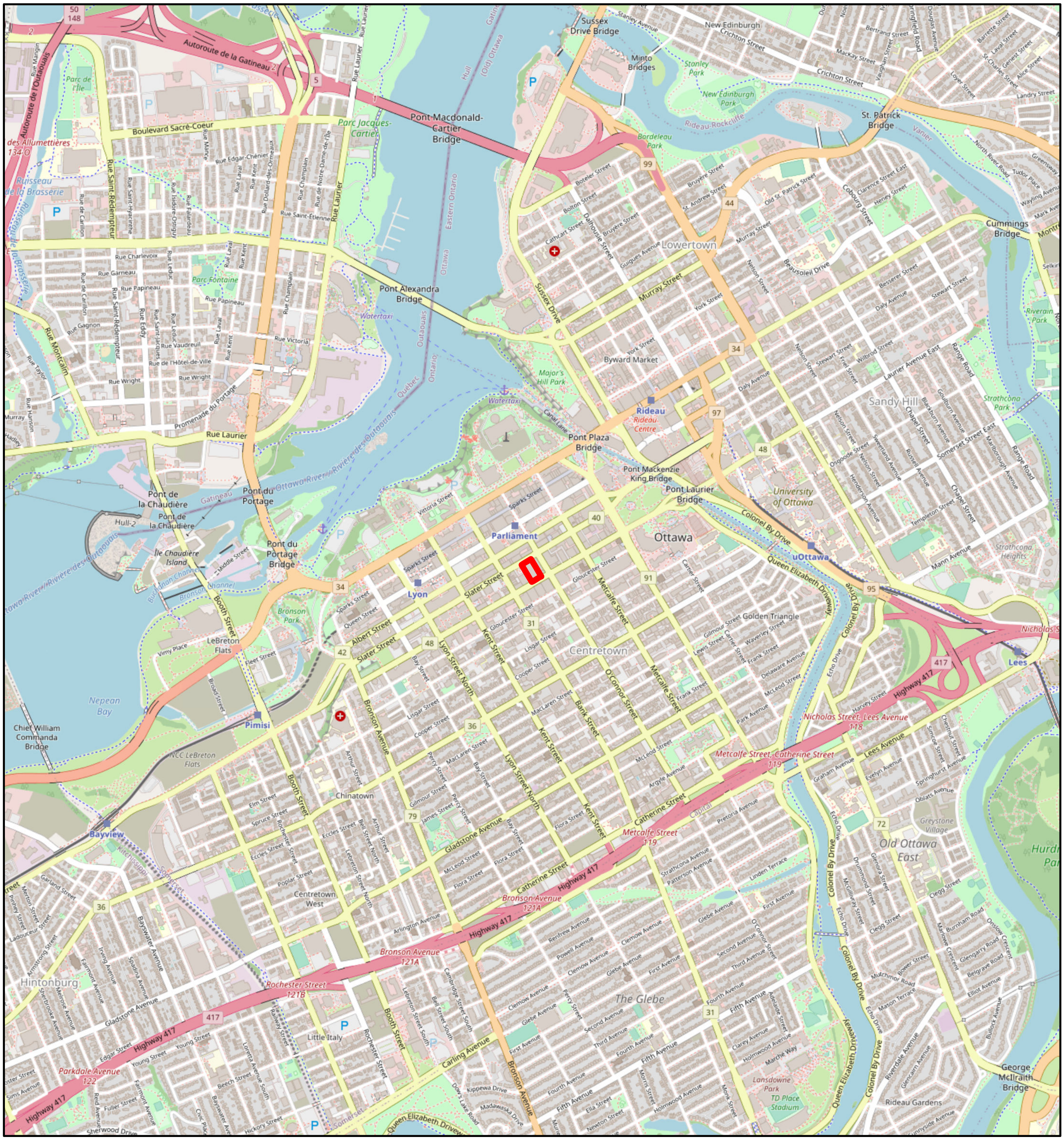
Notes:

" - " = RPD not calculated due to parameters being equal or less than 5 times RDL

< = concentration is below Reportable Detection Limit (RDL)

Created By: PAC
Checked By: JTD

Figures



LEGEND

PHASE TWO SITE

0 250 500 1,000

1:25,000 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. BASE MAP: © OPENSTREETMAP (AND) CONTRIBUTORS, CC-BY-SA
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 18N

CLIENT

THE CANADA LIFE ASSURANCE COMPANY c/o GWL REALTY ADVISORS INC.

PROJECT

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT, 170 SLATER STREET, OTTAWA ONTARIO

TITLE

KEY PLAN

CONSULTANT

wsp

YYYY-MM-DD	2023-07-01
DESIGNED	----
PREPARED	JEM
REVIEWED	KS
APPROVED	KS

PROJECT NO.	CONTROL	REV.	FIGURE
23592402	0002	0	1

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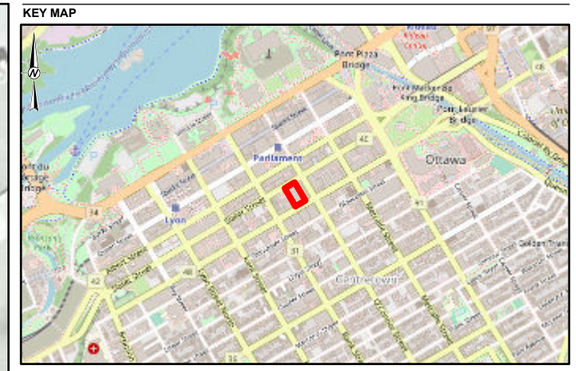
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

25mm

0

KEY MAP



SCALE: 1:25,000

LEGEND

- ROADWAY
- BUILDING FOOTPRINT
- PHASE TWO SITE

0 5 10 20

1:500 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. BASE MAP: © OPENSTREETMAP (AND) CONTRIBUTORS, CC-BY-SA
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 18N

CLIENT

THE CANADA LIFE ASSURANCE COMPANY c/o GWL REALTY ADVISORS INC.

PROJECT

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT,
170 SLATER STREET, OTTAWA ONTARIO

TITLE

PHASE TWO PROPERTY SITE PLAN

CONSULTANT

wsp

YYYY-MM-DD	2023-07-01
DESIGNED	----
PREPARED	JEM
REVIEWED	KS
APPROVED	KS

PROJECT NO.	CONTROL	REV.	FIGURE
23592402	0002	0	2

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25mm

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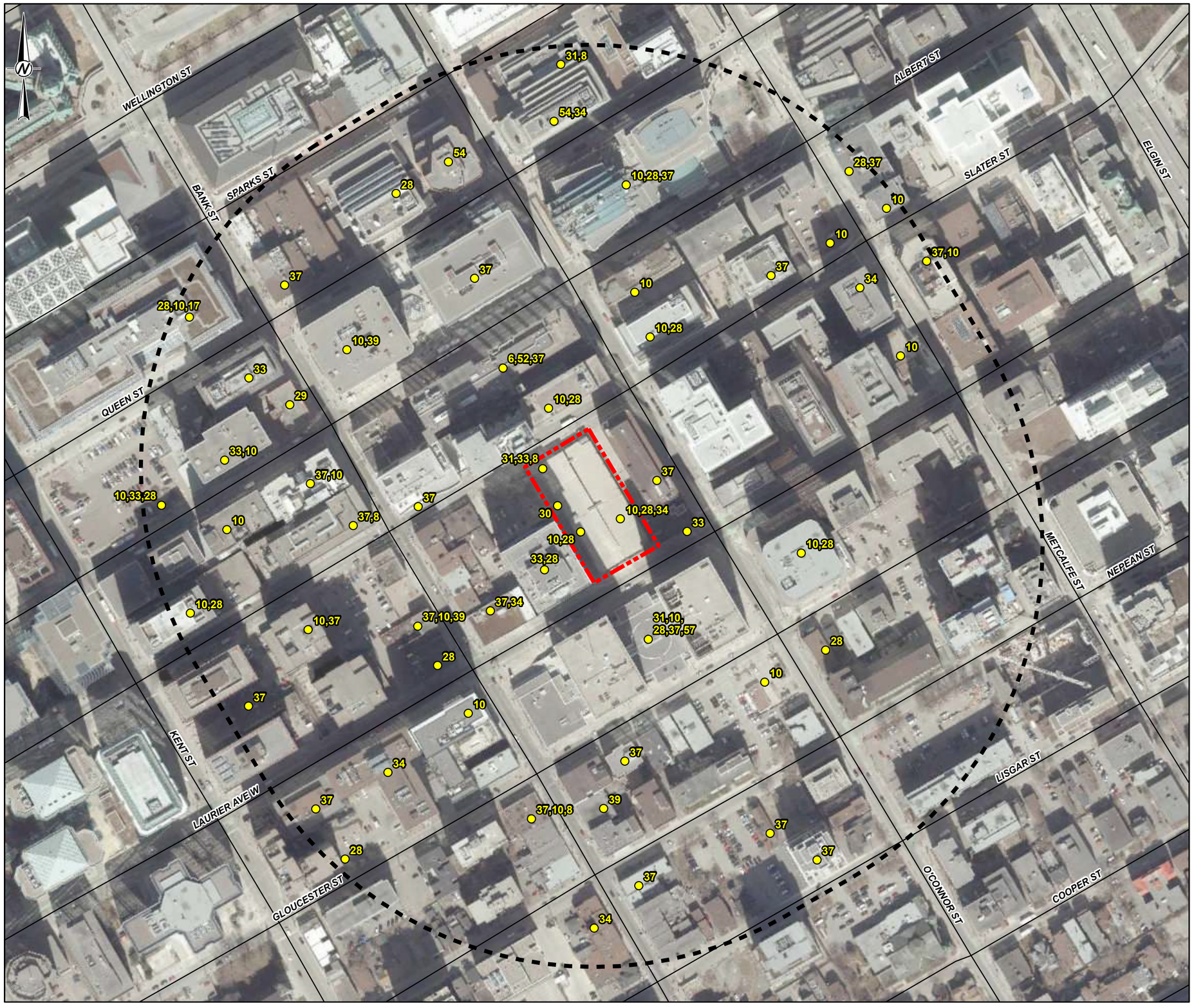

LEGEND

- POTENTIALLY CONTAMINATING ACTIVITY (PCA) LOCATION
- ROADWAY
- PHASE TWO SITE
- PHASE ONE STUDY AREA

Identification Number	Potentially Contaminating Activity
6	PCA #6. Battery Manufacturing, Recycling and Bulk Storage
8	PCA #8. Chemical Manufacturing, Processing and Bulk Storage
10	PCA #10. Commercial Autobody Shops
17	PCA #17. Dye Manufacturing, Processing and Bulk Storage
28	PCA #28. Gasoline and Associated Products Storage in Fixed Tanks
29	PCA #29. Glass Manufacturing
30	PCA #30. Importation of Fill Material of Unknown Quality
31	PCA #31. Ink Manufacturing, Processing and Bulk Storage
32	PCA #32. Iron and Steel Manufacturing and Processing
33	PCA #33. Metal Treatment, Coating, Plating and Finishing
34	PCA #34. Metal Fabrication
37	PCA #37. Operation of Dry Cleaning Equipment (where chemicals are used)
39	PCA #39. Paints Manufacturing, Processing and Bulk Storage
52	PCA #52. Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems
54	PCA #54. Textile Manufacturing and Processing
57	PCA #57. Vehicles and Associated Parts Manufacturing

0 25 50 100

1:2,500 METRES

NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)
1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. COORDINATE SYSTEM: NAD 1983 UTM ZONE 18N

CLIENT
THE CANADA LIFE ASSURANCE COMPANY c/o GWL REALTY ADVISORS INC.

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT,
170 SLATER STREET, OTTAWA ONTARIO

TITLE
POTENTIALLY CONTAMINATING ACTIVITIES

CONSULTANT

YYYY-MM-DD	2023-07-01
DESIGNED	----
PREPARED	JEM
REVIEWED	KS
APPROVED	KS

PROJECT NO.	CONTROL	REV.	FIGURE
23592402	0002	0	3

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

0 25mm

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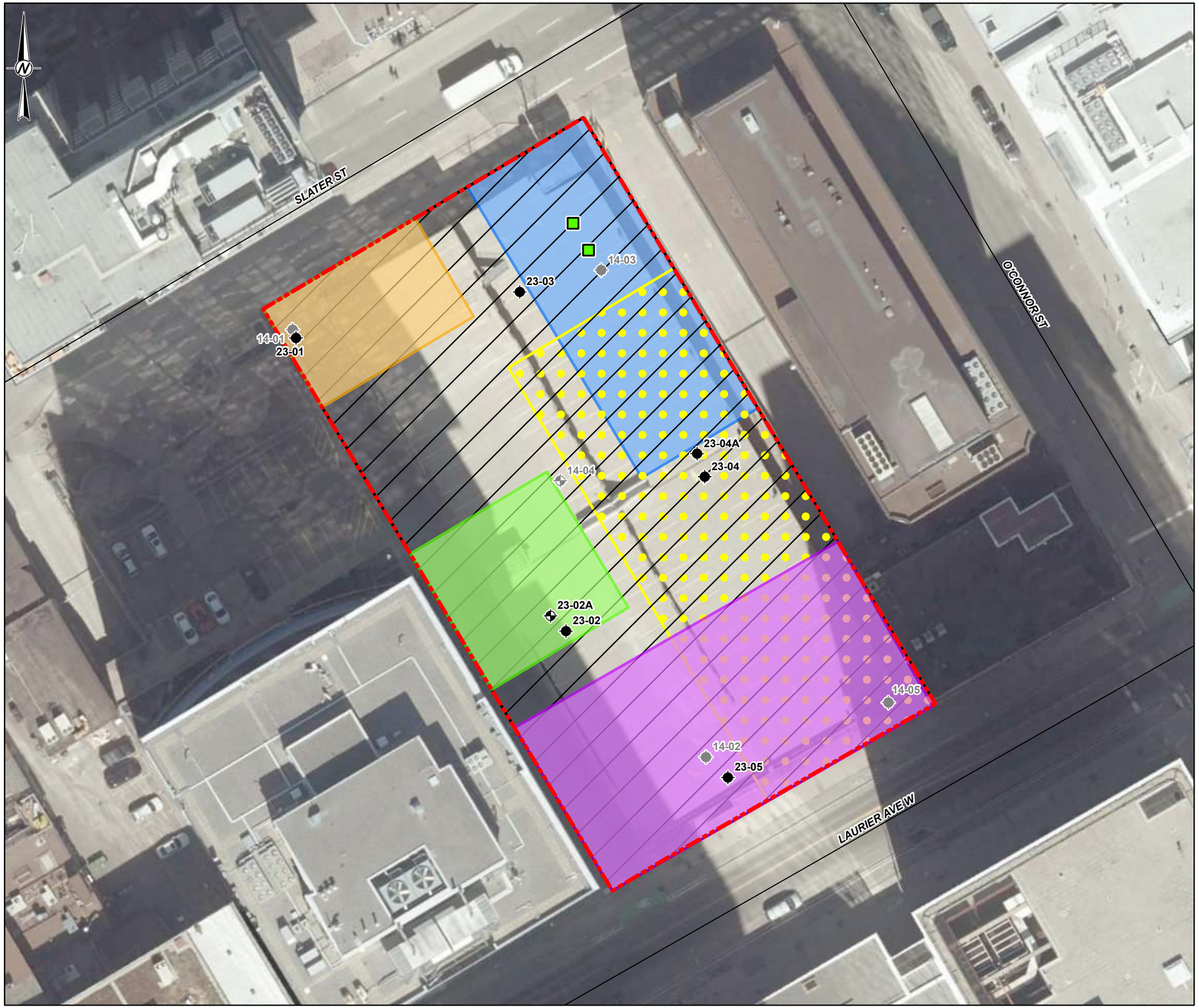

LEGEND

- BOREHOLE LOCATION
- MONITORING WELL LOCATION
- BOREHOLE LOCATION, PREVIOUS INVESTIGATION
- MONITORING WELL LOCATION, PREVIOUS INVESTIGATION
- ROADWAY
- PHASE TWO SITE
- APPROXIMATE LOCATION OF FORMER UST

AREA OF POTENTIAL ENVIRONMENTAL CONCERN

- APEC 1
- APEC 2
- APEC 3
- APEC 4
- APEC 5
- APEC 6

Area of Potential Environmental Concern	Potentially Contaminating Activity
APEC 1 – Fill of unknown quality.	#30. Importation of Fill Material of Unknown Quality (on-site)
APEC 2 - Location of former Mid-City Ribbon and Carbon Manufacturing Ltd., Eclipse Plating Service c. 1920-1940, and unnamed printer c. 1901. Off-site PCAs to the west.	#31 - Ink Manufacturing, Processing and Bulk Storage, #33 Metal treatment, coating plating and finishing, #8 - Chemical Manufacturing, Processing and Bulk Storage
APEC 3 - Previous location of auto repair garage. Historical PHC impacts to the north.	#10. Commercial Autobody Shops (on-site)
APEC 4 – Previous location of USTs. Former dry-cleaning facilities up-gradient (SE) of Site.	#28.Gasoline and Associated Products Storage in Fixed Tanks (on-site), #37. Operation of Dry Cleaning Equipment (where chemicals are used) (off-site)
APEC 5 – Previous on-Site machine shop, manufacturing, and auto repair garage.	#10. Commercial Autobody Shops (on-site) #34. Metal Fabrication
APEC 6 –Previously documented VOC impacts in groundwater. Three former USTs south of the Site.	#28.Gasoline and Associated Products Storage in Fixed Tanks (on-site)

0 5 10 20

1:500 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. COORDINATE SYSTEM: NAD 1983 UTM ZONE 18N

CLIENT
THE CANADA LIFE ASSURANCE COMPANY c/o GWL REALTY ADVISORS INC.

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT,
170 SLATER STREET, OTTAWA ONTARIO

TITLE
INVESTIGATION LOCATIONS AND AREAS OF POTENTIAL ENVIRONMENTAL CONCERN

CONSULTANT

wsp

YYYY-MM-DD	2023-07-01
DESIGNED	----
PREPARED	JEM
REVIEWED	KS
APPROVED	KS

PROJECT NO.	CONTROL	REV.	FIGURE
23592402	0002	0	4

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

25mm

0

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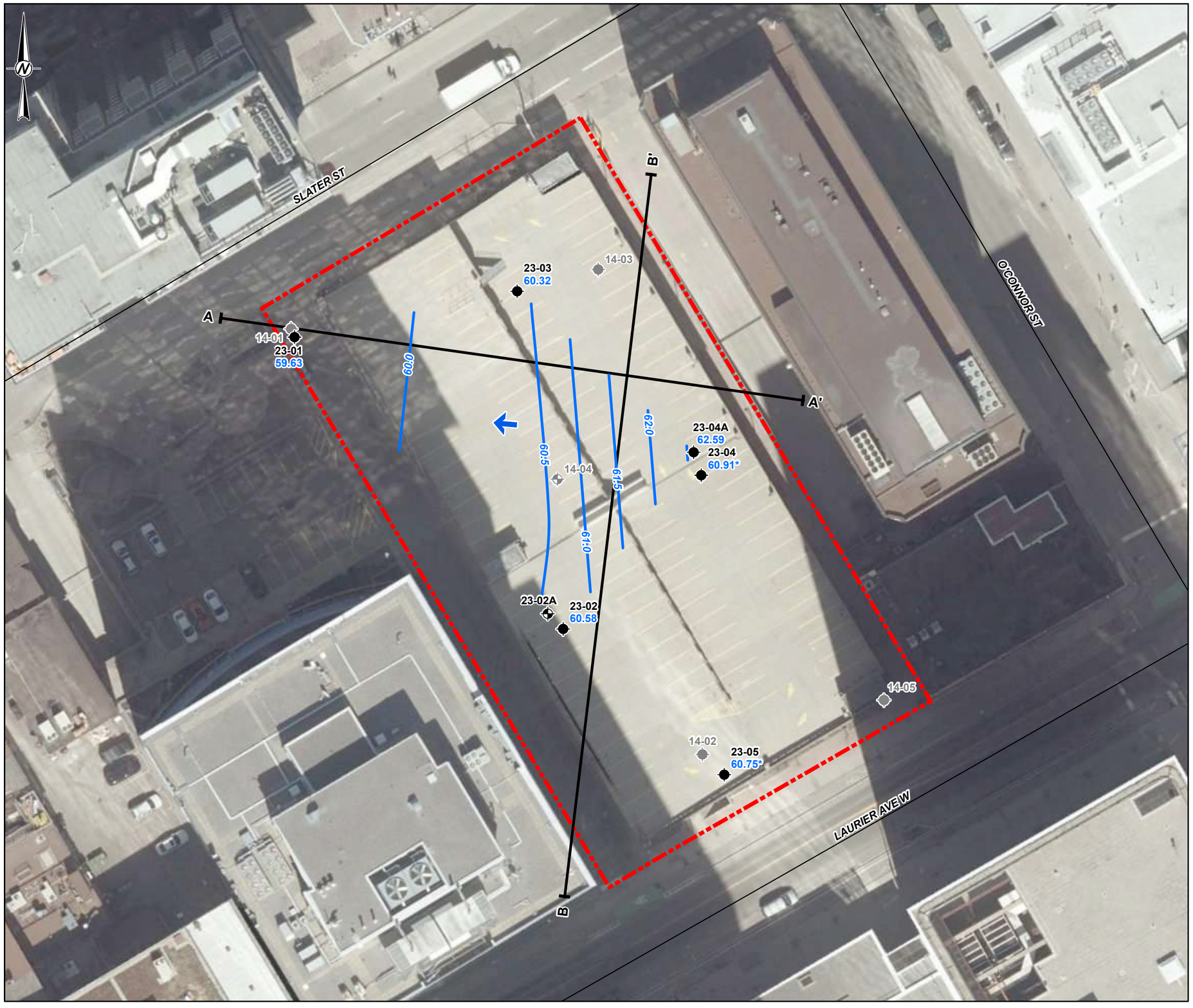

LEGEND

- BOREHOLE LOCATION
- MONITORING WELL LOCATION
- BOREHOLE LOCATION, PREVIOUS INVESTIGATION
- MONITORING WELL LOCATION, PREVIOUS INVESTIGATION
- ROADWAY
- CROSS-SECTION LOCATION
- PHASE TWO SITE
- 9999 GROUNDWATER ELEVATION, mASL (MARCH 29, 2023)
- GROUNDWATER ELEVATION CONTOUR, mASL
- INTERPRETED GROUNDWATER FLOW DIRECTION

0 5 10 20

1:500 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE
2. * INDICATES DEEP GROUNDWATER ELEVATION NOT INCLUDED IN GROUNDWATER INTERPOLATION CONTOURS

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. COORDINATE SYSTEM: NAD 1983 UTM ZONE 18N

CLIENT

THE CANADA LIFE ASSURANCE COMPANY c/o GWL REALTY ADVISORS INC.

PROJECT

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT,
170 SLATER STREET, OTTAWA ONTARIO

TITLE

SHALLOW GROUNDWATER ELEVATIONS AND INTERPRETED GROUNDWATER FLOW DIRECTION

CONSULTANT

wsp

YYYY-MM-DD	2023-07-01
DESIGNED	----
PREPARED	JEM
REVIEWED	KS
APPROVED	KS

PROJECT NO.	CONTROL	REV.	FIGURE
23592402	0002	0	5

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

0 25mm

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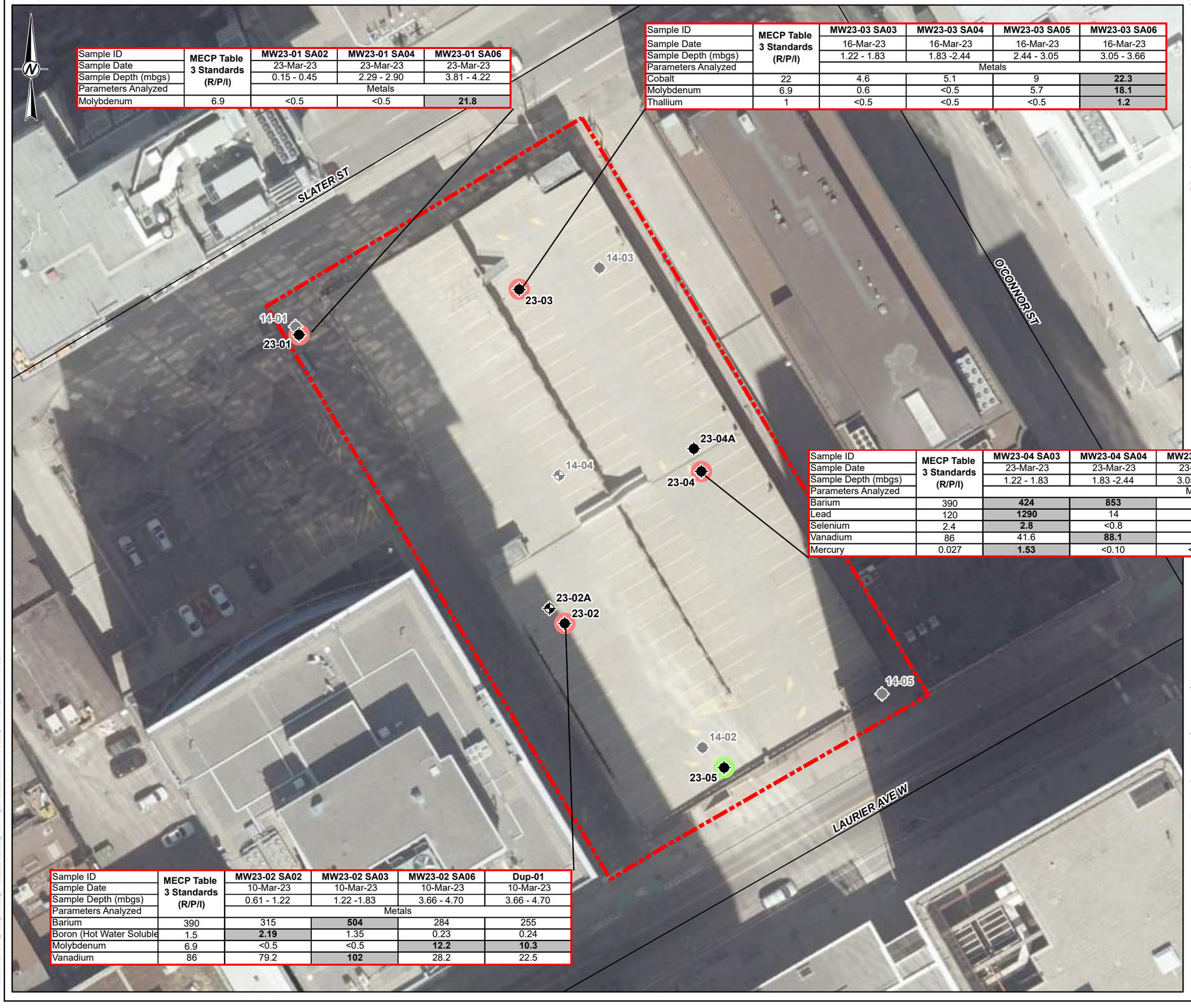

Sample ID	MECP Table 3 Standards (R/P/I)	MW23-01 SA02	MW23-01 SA04	MW23-01 SA06
Sample Date		23-Mar-23	23-Mar-23	23-Mar-23
Sample Depth (mbgs)		0.15 - 0.45	2.29 - 2.90	3.81 - 4.22
Parameters Analyzed		Metals		
Molybdenum	6.9	<0.5	<0.5	**21.8**

Sample ID	MECP Table 3 Standards (R/P/I)	MW23-03 SA03	MW23-03 SA04	MW23-03 SA05	MW23-03 SA06
Sample Date		16-Mar-23	16-Mar-23	16-Mar-23	16-Mar-23
Sample Depth (mbgs)		1.22 - 1.83	1.83 -2.44	2.44 - 3.05	3.05 - 3.66
Parameters Analyzed		Metals			
Cobalt	22	4.6	5.1	9	**22.3**
Molybdenum	6.9	0.6	<0.5	5.7	**18.1**
Thallium	1	<0.5	<0.5	<0.5	**1.2**

Sample ID	MECP Table 3 Standards (R/P/I)	MW23-04 SA03	MW23-04 SA04	MW23-04 SA06	Dup-01	MW23-04 SA09
Sample Date		23-Mar-23	23-Mar-23	23-Mar-23	23-Mar-23	23-Mar-23
Sample Depth (mbgs)		1.22 - 1.83	1.83 -2.44	3.05 - 3.66	3.05 - 3.66	4.88 - 5.18
Parameters Analyzed		Metals				
Barium	390	**424**	**853**	129	105	200
Lead	120	**1290**	14	7	7	14
Selenium	2.4	**2.8**	<0.8	<0.8	0.9	0.8
Vanadium	86	41.6	**88.1**	16.2	18.2	17.4
Mercury	0.027	**1.53**	<0.10	<0.10	<0.10	<0.10

Sample ID	MECP Table 3 Standards (R/P/I)	MW23-02 SA02	MW23-02 SA03	MW23-02 SA06	Dup-01
Sample Date		10-Mar-23	10-Mar-23	10-Mar-23	10-Mar-23
Sample Depth (mbgs)		0.61 - 1.22	1.22 -1.83	3.66 - 4.70	3.66 - 4.70
Parameters Analyzed		Metals			
Barium	390	315	**504**	284	255
Boron (Hot Water Soluble	1.5	**2.19**	1.35	0.23	0.24
Molybdenum	6.9	<0.5	<0.5	**12.2**	**10.3**
Vanadium	86	79.2	**102**	28.2	22.5

LEGEND

- BOREHOLE LOCATION
- MONITORING WELL LOCATION
- BOREHOLE LOCATION, PREVIOUS INVESTIGATION
- MONITORING WELL LOCATION, PREVIOUS INVESTIGATION
- ALL SAMPLES MEET MECP TABLE 3 STANDARDS
- ONE OR MORE SAMPLES EXCEEDS MECP TABLE 3 STANDARDS
- ROADWAY
- PHASE TWO SITE

0 5 10 20

1:500 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. COORDINATE SYSTEM: NAD 1983 UTM ZONE 18N

CLIENT

THE CANADA LIFE ASSURANCE COMPANY c/o GWL REALTY ADVISORS INC.

PROJECT

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT,
170 SLATER STREET, OTTAWA ONTARIO

TITLE

METALS ANALYSIS AND EXCEEDANCES IN SOIL

CONSULTANT

wsp

YYYY-MM-DD	2023-07-01
DESIGNED	----
PREPARED	JEM
REVIEWED	KS
APPROVED	KS

PROJECT NO.	CONTROL	REV.	FIGURE
23592402	0002	0	6

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

0 25mm

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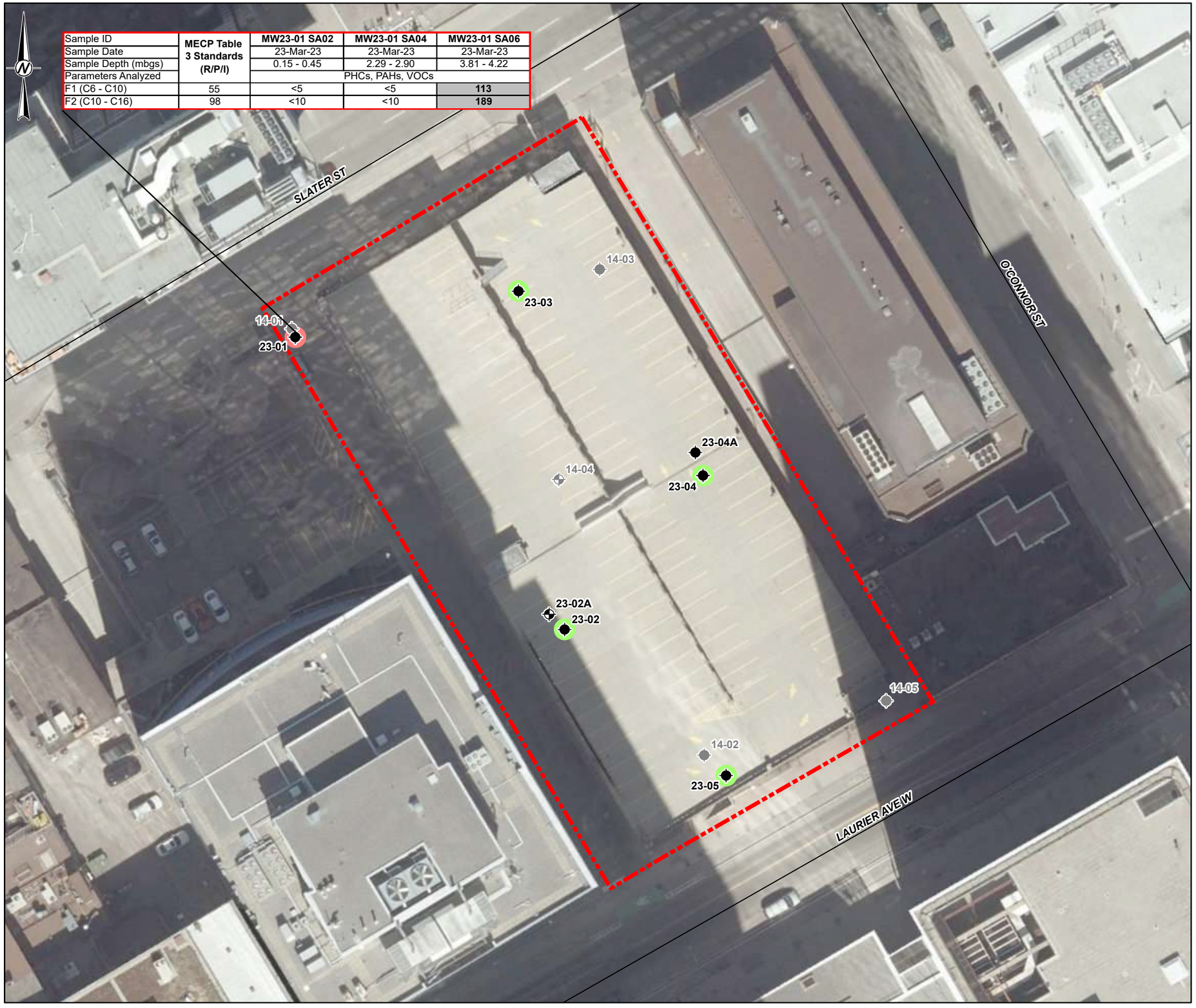
Sample ID	MECP Table 3 Standards (R/P/I)	MW23-01 SA02	MW23-01 SA04	MW23-01 SA06
Sample Date		23-Mar-23	23-Mar-23	23-Mar-23
Sample Depth (mbgs)		0.15 - 0.45	2.29 - 2.90	3.81 - 4.22
Parameters Analyzed		PHCs, PAHs, VOCs		
F1 (C6 - C10)	55	<5	<5	**113**
F2 (C10 - C16)	98	<10	<10	**189**



LEGEND

- BOREHOLE LOCATION
- MONITORING WELL LOCATION
- BOREHOLE LOCATION, PREVIOUS INVESTIGATION
- MONITORING WELL LOCATION, PREVIOUS INVESTIGATION
- ALL SAMPLES MEET MECP TABLE 3 STANDARDS
- ONE OR MORE SAMPLES EXCEEDS MECP TABLE 3 STANDARDS
- ROADWAY
- PHASE TWO SITE

0 5 10 20

1:500 METRES

NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)
1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. COORDINATE SYSTEM: NAD 1983 UTM ZONE 18N

CLIENT
THE CANADA LIFE ASSURANCE COMPANY c/o GWL REALTY ADVISORS INC.

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT,
170 SLATER STREET, OTTAWA ONTARIO

TITLE
PETROLEUM HYDROCARBONS, POLYCYCLIC AROMATIC HYDROCARBONS, VOLATILE ORGANIC COMPOUNDS ANALYSIS AND EXCEEDANCES IN SOIL

CONSULTANT

wsp

YYYY-MM-DD	2023-07-01
DESIGNED	----
PREPARED	JEM
REVIEWED	KS
APPROVED	KS

PROJECT NO.	CONTROL	REV.	FIGURE
23592402	0002	0	7

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

0 25mm

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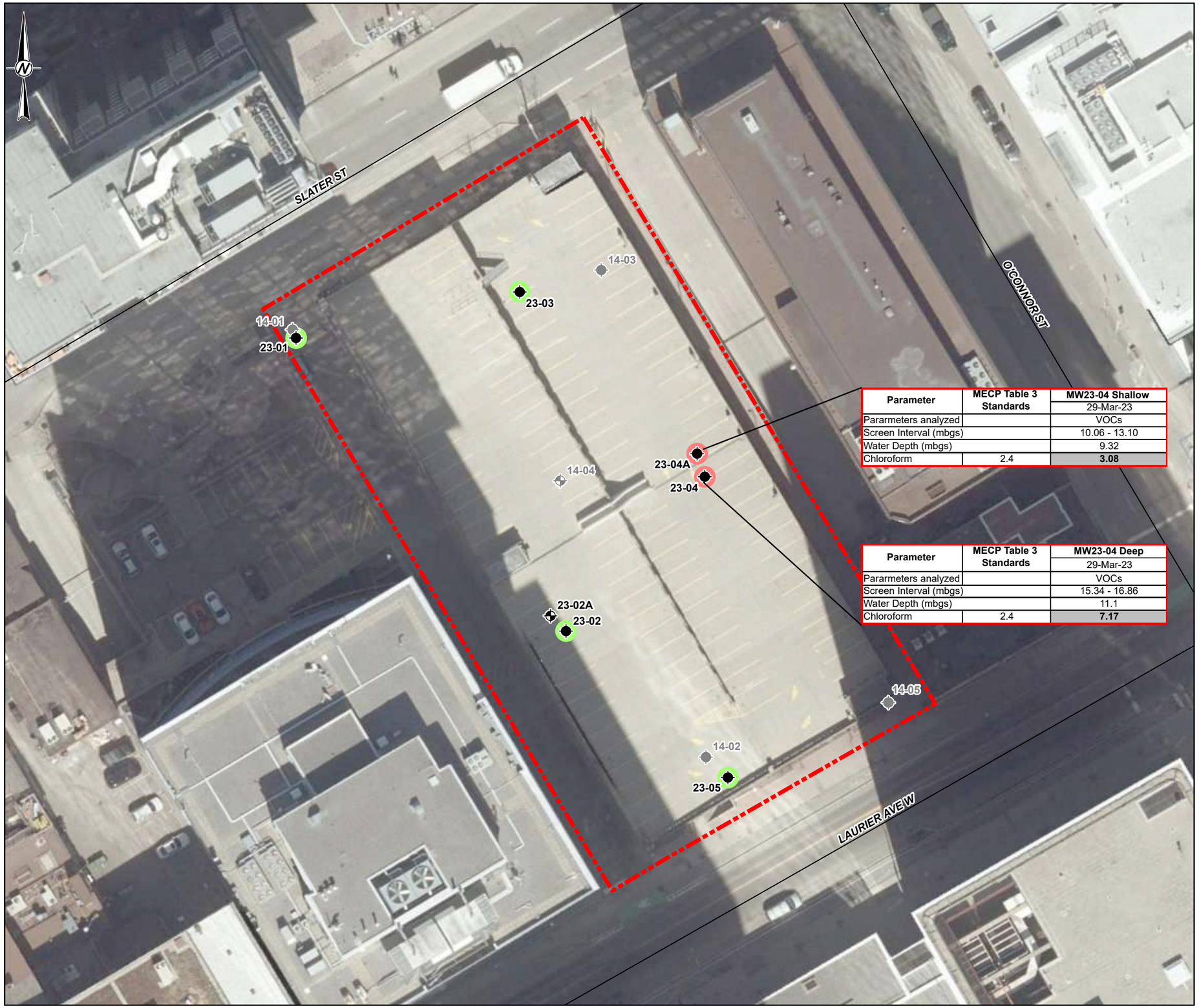


Parameter	MECP Table 3 Standards	MW23-04 Shallow
		29-Mar-23
Pararmeters analyzed		VOCs
Screen Interval (mbgs)		10.06 - 13.10
Water Depth (mbgs)		9.32
Chloroform	2.4	**3.08**

Parameter	MECP Table 3 Standards	MW23-04 Deep
		29-Mar-23
Pararmeters analyzed		VOCs
Screen Interval (mbgs)		15.34 - 16.86
Water Depth (mbgs)		11.1
Chloroform	2.4	**7.17**

LEGEND

- BOREHOLE LOCATION
- MONITORING WELL LOCATION
- BOREHOLE LOCATION, PREVIOUS INVESTIGATION
- MONITORING WELL LOCATION, PREVIOUS INVESTIGATION
- ALL SAMPLES MEET MECP TABLE 3 STANDARDS
- ONE OR MORE SAMPLES EXCEEDS MECP TABLE 3 STANDARDS
- ROADWAY
- PHASE TWO SITE

0 5 10 20

1:500 METRES

NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)
1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. COORDINATE SYSTEM: NAD 1983 UTM ZONE 18N

CLIENT
THE CANADA LIFE ASSURANCE COMPANY c/o GWL REALTY ADVISORS INC.

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT,
170 SLATER STREET, OTTAWA ONTARIO

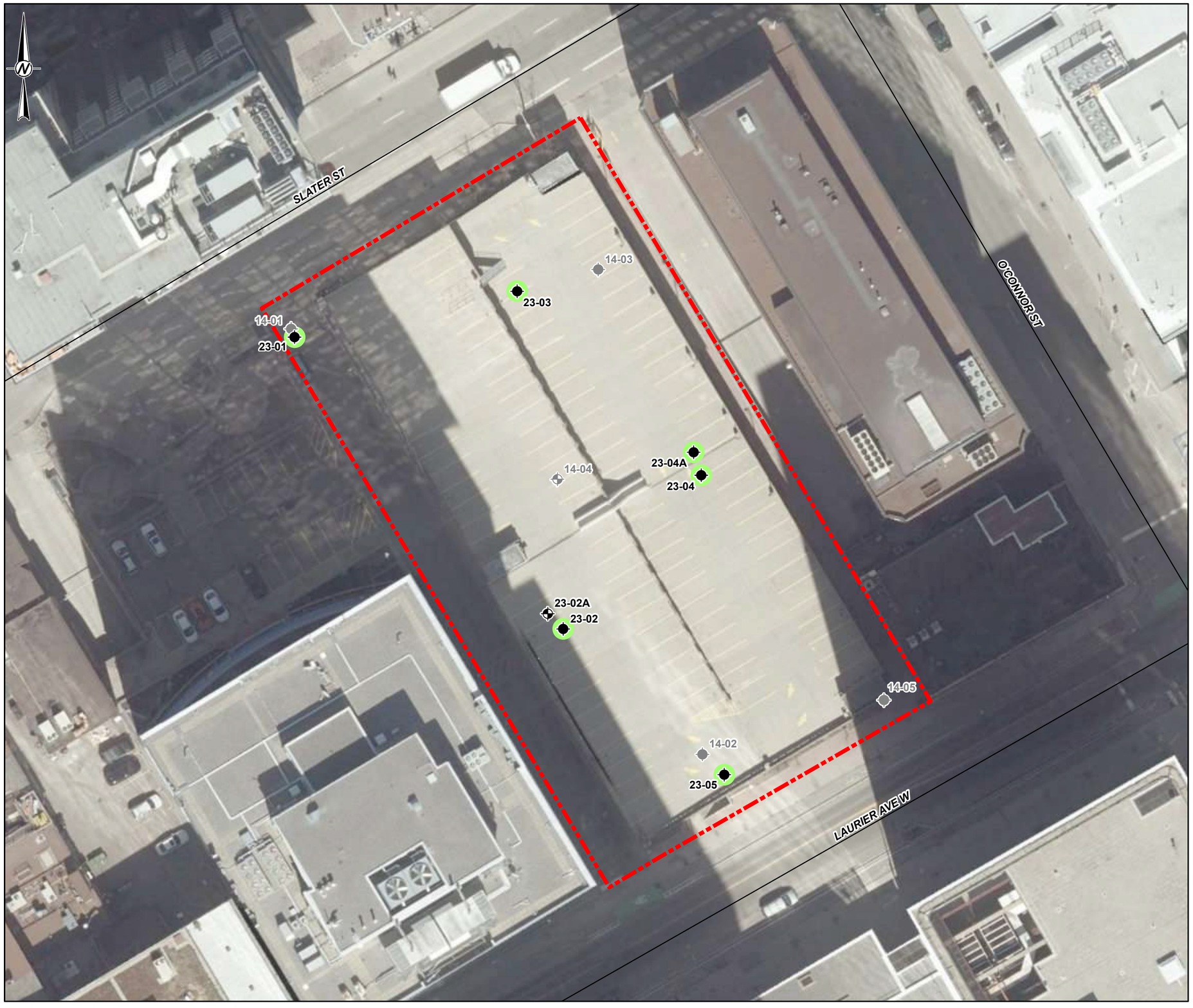
TITLE
VOLATILE ORGANIC COMPOUNDS ANALYSIS AND EXCEEDANCES IN GROUNDWATER

CONSULTANT

wsp

YYYY-MM-DD	2023-07-01
DESIGNED	----
PREPARED	JEM
REVIEWED	KS
APPROVED	KS

PROJECT NO.	CONTROL	REV.	FIGURE
23592402	0002	0	8



LEGEND

- BOREHOLE LOCATION
- MONITORING WELL LOCATION
- BOREHOLE LOCATION, PREVIOUS INVESTIGATION
- MONITORING WELL LOCATION, PREVIOUS INVESTIGATION
- ALL SAMPLES MEET MECP TABLE 3 STANDARDS
- ROADWAY
- PHASE TWO SITE

0 5 10 20

1:500 METRES

NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)
1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. COORDINATE SYSTEM: NAD 1983 UTM ZONE 18N

CLIENT
THE CANADA LIFE ASSURANCE COMPANY c/o GWL REALTY ADVISORS INC.

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT,
170 SLATER STREET, OTTAWA ONTARIO

TITLE
METALS, PETROLEUM HYDROCARBONS, AND POLYCYCLIC AROMATIC HYDROCARBONS ANALYSIS AND EXCEEDANCES IN GROUNDWATER

CONSULTANT

wsp

YYYY-MM-DD	2023-07-01
DESIGNED	----
PREPARED	JEM
REVIEWED	KS
APPROVED	KS

PROJECT NO.	CONTROL	REV.	FIGURE
23592402	0002	0	9

Sample ID	MECP Table 3 Standards (R/P/I)	MW23-01 SA02	MW23-01 SA04	MW23-01 SA06
Sample Date		23/Mar/23	23/Mar/23	23/Mar/23
Sample Depth (mbgs)		0.15 - 0.45	2.29 - 2.90	3.81 - 4.22
Parameters Analyzed		PHCs, PAHs, VOCs, Metals		
F1 (C6 - C10)	55	<5	<5	**113**
F2 (C10 - C16)	98	<10	<10	**189**
Molybdenum	6.9	<0.5	<0.5	**21.8**

Sample ID	MECP Table 3 Standards (R/P/I)	MW23-04 SA03	MW23-04 SA04	MW23-04 SA06	Dup-01	MW23-04 SA09
Sample Date		23/Mar/23	23/Mar/23	23/Mar/23	23/Mar/23	23/Mar/23
Sample Depth (mbgs)		1.22 - 1.83	1.83 -2.44	3.05 - 3.66	3.05 - 3.66	4.88 - 5.18
Parameters Analyzed		PHCs, PAHs, VOCs, Metals				
Barium	390	**424**	**853**	129	105	200
Lead	120	**1290**	14	7	7	14
Selenium	2.4	**2.8**	<0.8	<0.8	0.9	0.8
Vanadium	86	41.6	**88.1**	16.2	18.2	17.4
Mercury	0.027	**1.53**	<0.10	<0.10	<0.10	<0.10

Sample ID	MECP Table 3 Standards (R/P/I)	MW23-03 SA03	MW23-03 SA04	MW23-03 SA05	MW23-03 SA06
Sample Date		16/Mar/23	16/Mar/23	16/Mar/23	16/Mar/23
Sample Depth (mbgs)		1.22 - 1.83	1.83 -2.44	2.44 - 3.05	3.05 - 3.66
Parameters Analyzed		PHCs, PAHs, VOCs, Metals			
Cobalt	22	4.6	5.1	9	**22.3**
Molybdenum	6.9	0.6	<0.5	5.7	**18.1**
Thallium	1	<0.5	<0.5	<0.5	**1.2**

A

A'

BH23-01
O/S -1.1 m

BH23-03
O/S 8.9 m

BH23-04A
O/S -8.7 m

BH23-04
O/S -11.5 m

APPROXIMATE GROUND SURFACE

N Value

BH23-01: 5, 3, 15, 58, 89/0.25, 6%; 3/24/2023

BH23-03: 25, 17, 14, 17, 16, 6, 50/0.05, 42%, 80%, 30%, 81%, 93%, 42%, 61%, 28%, 18%, 53%; 3/22/2023

BH23-04A: 3/22/2023

BH23-04: 20, 15, 2, 7, 14, 37, 21, 25, 27, 50/0.13, 0%, 21%, 40%, 89%, 93%, 88%, 63%, 98%, 81%, 93%, 95%; 3/22/2023

ELEVATION (m)

76
72
68
64
60
56
52

0
10
20
30
40
50
60
70
80
90

HORIZONTAL DISTANCE (m)

SOIL STRATIGRAPHY

- ASPHALT
- FILL
- CLAYEY SILT
- GLACIAL TILL
- SHALE
- VOID
- SOIL TESTED AND DID NOT EXCEED STANDARDS
- SOIL TESTED AND EXCEEDS STANDARDS

LEGEND

BH — BOREHOLE LABEL
OFFSET FROM PROFILE LINE
+ NORTH OF PROFILE LINE
- SOUTH OF PROFILE LINE
O/S 8.5 m
GROUT
BENTONITE
MONITORING WELL
SCREEN
WATER LEVEL
SAND
BOREHOLE STRATA SYMBOL

1:125 VERTICAL SCALE METRES (0, 2.5, 5)

1:250 HORIZONTAL SCALE METRES (0, 5, 10)

CLIENT
THE CANADA LIFE ASSURANCE COMPANY
c/o GWL REALTY ADVISORS INC.

SULTANT
WSP

YYYY-MM-DD	2023-06-09
DESIGNED	
PREPARED	DM
REVIEWED	KS
APPROVED	KS

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT,
170 SLATER STREET, OTTAWA ONTARIO

TITLE
CROSS SECTION A-A' - PARAMETERS IN SOIL

PROJECT NO.	CONTROL	REV.	FIGURE
23592402	0002	0	10

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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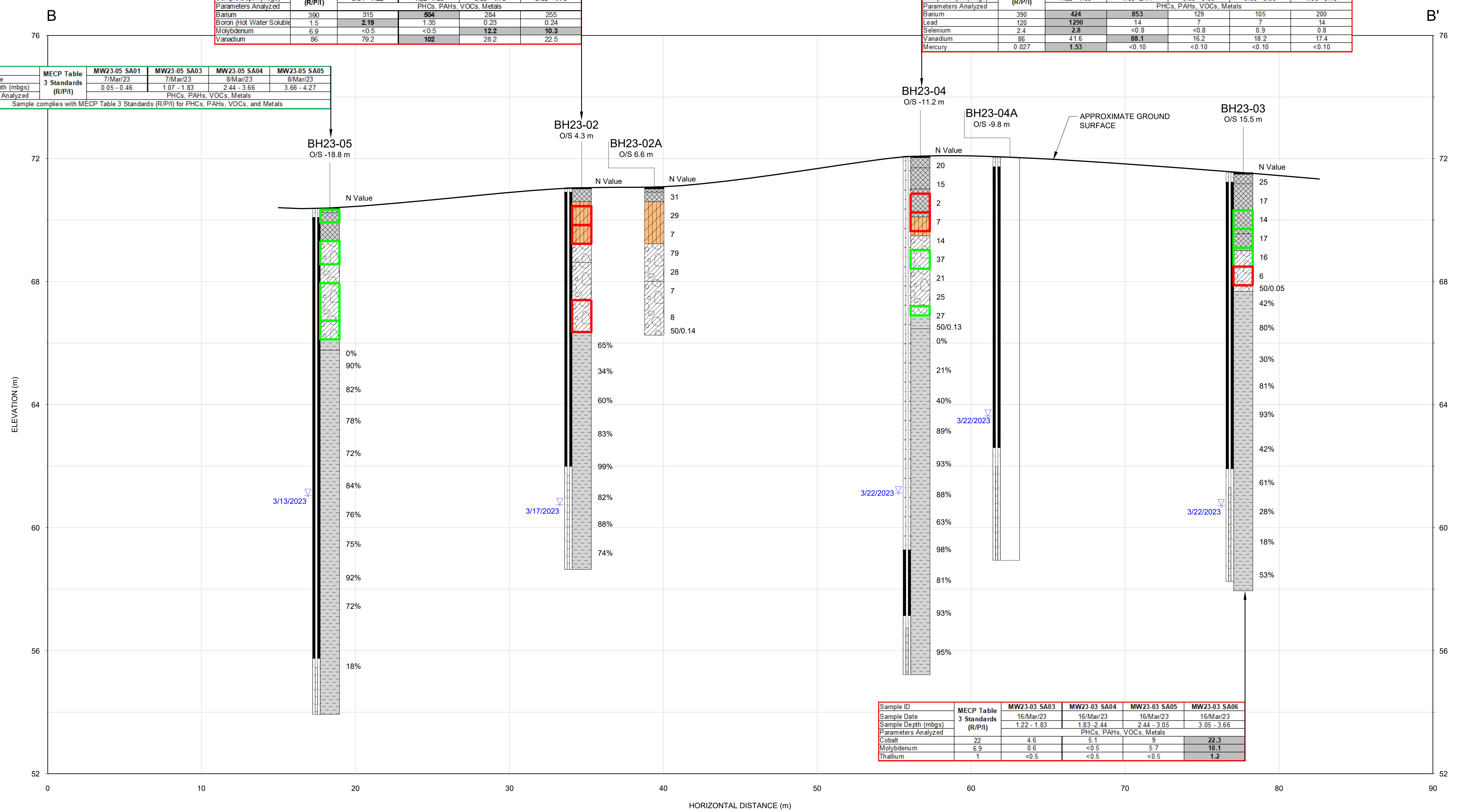
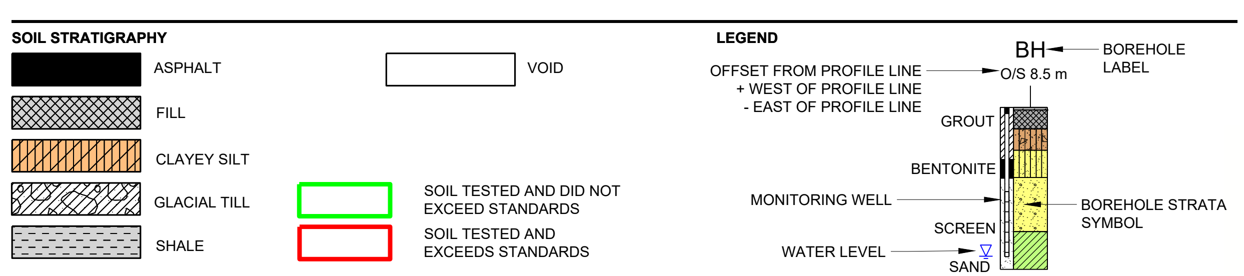


Sample ID	MECP Table 3 Standards (R/P/I)	MW23-05 SA01	MW23-05 SA03	MW23-05 SA04	MW23-05 SA05
Sample Date		7/Mar/23	7/Mar/23	8/Mar/23	8/Mar/23
Sample Depth (mbgs)		0.05 - 0.46	1.07 - 1.83	2.44 - 3.66	3.66 - 4.27
Parameters Analyzed		PHCs, PAHs, VOCs, Metals			
Sample complies with MECP Table 3 Standards (R/P/I) for PHCs, PAHs, VOCs, and Metals					

Sample ID	MECP Table 3 Standards (R/P/I)	MW23-02 SA02	MW23-02 SA03	MW23-02 SA06	Dup-01
Sample Date		10/Mar/23	10/Mar/23	10/Mar/23	10/Mar/23
Sample Depth (mbgs)		0.61 - 1.22	1.22 -1.83	3.66 - 4.70	3.66 - 4.70
Parameters Analyzed		PHCs, PAHs, VOCs, Metals			
Barium	390	315	**504**	284	255
Boron (Hot Water Soluble	1.5	**2.19**	1.35	0.23	0.24
Molybdenum	6.9	<0.5	<0.5	**12.2**	**10.3**
Vanadium	86	79.2	**102**	28.2	22.5

Sample ID	MECP Table 3 Standards (R/P/I)	MW23-04 SA03	MW23-04 SA04	MW23-04 SA06	Dup-01	MW23-04 SA09
Sample Date		23/Mar/23	23/Mar/23	23/Mar/23	23/Mar/23	23/Mar/23
Sample Depth (mbgs)		1.22 - 1.83	1.83 -2.44	3.05 - 3.66	3.05 - 3.66	4.88 - 5.18
Parameters Analyzed		PHCs, PAHs, VOCs, Metals				
Barium	390	**424**	**853**	129	105	200
Lead	120	**1290**	14	7	7	14
Selenium	2.4	**2.8**	<0.8	<0.8	0.9	0.8
Vanadium	86	41.6	**88.1**	16.2	18.2	17.4
Mercury	0.027	**1.53**	<0.10	<0.10	<0.10	<0.10

Sample ID	MECP Table 3 Standards (R/P/I)	MW23-03 SA03	MW23-03 SA04	MW23-03 SA05	MW23-03 SA06
Sample Date		16/Mar/23	16/Mar/23	16/Mar/23	16/Mar/23
Sample Depth (mbgs)		1.22 - 1.83	1.83 -2.44	2.44 - 3.05	3.05 - 3.66
Parameters Analyzed		PHCs, PAHs, VOCs, Metals			
Cobalt	22	4.6	5.1	9	**22.3**
Molybdenum	6.9	0.6	<0.5	5.7	**18.1**
Thallium	1	<0.5	<0.5	<0.5	**1.2**



CLIENT
THE CANADA LIFE ASSURANCE COMPANY
c/o GWL REALTY ADVISORS INC.

SULTANT

wsp

YYYY-MM-DD	2023-06-09
DESIGNED	
PREPARED	DM
REVIEWED	KS
APPROVED	KS

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT,
170 SLATER STREET, OTTAWA ONTARIO

TITLE
CROSS SECTION B-B' - PARAMETERS IN SOIL

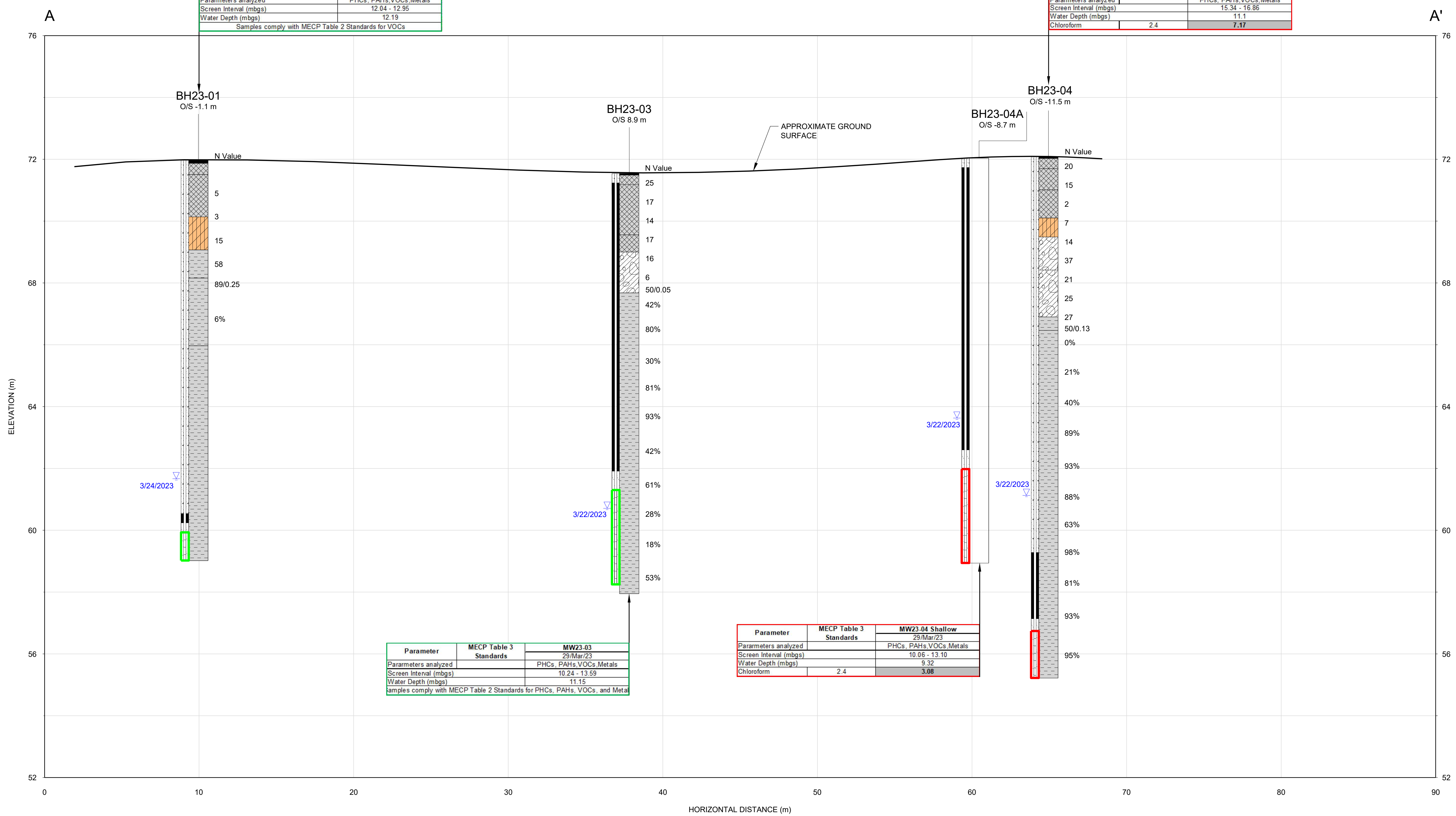
PROJECT NO.	CONTROL	REV.	FIGURE
23592402	0002	0	11

25 mm

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

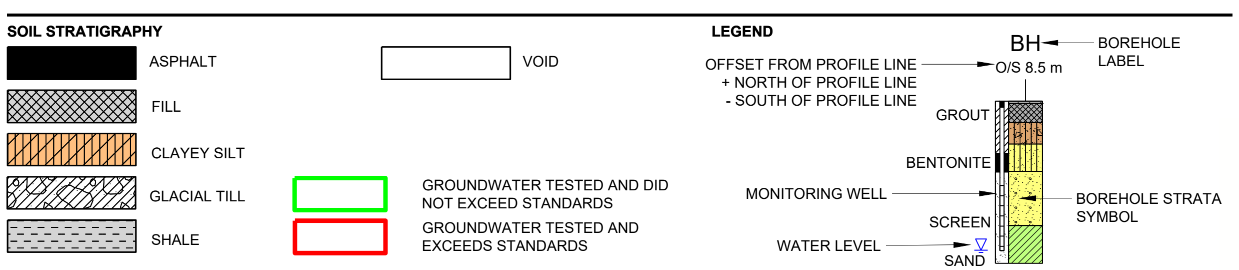
Parameter	MECP Table 3 Standards	MW23-01
		3/Apr/23
Pararmeters analyzed		PHCs, PAHs,VOCs,Metals
Screen Interval (mbgs)		12.04 - 12.95
Water Depth (mbgs)		12.19
Samples comply with MECP Table 2 Standards for VOCs		

Parameter	MECP Table 3 Standards	MW23-04 Deep
		29/Mar/23
Pararmeters analyzed		PHCs, PAHs,VOCs,Metals
Screen Interval (mbgs)		15.34 - 16.86
Water Depth (mbgs)		11.1
Chloroform	2.4	**7.17**



Parameter	MECP Table 3 Standards	MW23-03
		29/Mar/23
Pararmeters analyzed		PHCs, PAHs,VOCs,Metals
Screen Interval (mbgs)		10.24 - 13.59
Water Depth (mbgs)		11.15
Samples comply with MECP Table 2 Standards for PHCs, PAHs, VOCs, and Metal		

Parameter	MECP Table 3 Standards	MW23-04 Shallow
		29/Mar/23
Pararmeters analyzed		PHCs, PAHs,VOCs,Metals
Screen Interval (mbgs)		10.06 - 13.10
Water Depth (mbgs)		9.32
Chloroform	2.4	**3.08**



0 2.5 5
1:125 VERTICAL SCALE METRES

0 5 10
1:250 HORIZONTAL SCALE METRES

CLIENT
THE CANADA LIFE ASSURANCE COMPANY
c/o GWL REALTY ADVISORS INC.

SULTANT

YYYY-MM-DD	2023-06-09
DESIGNED	
PREPARED	DM
REVIEWED	KS
APPROVED	KS

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT,
170 SLATER STREET, OTTAWA ONTARIO

TITLE
CROSS SECTION A-A' - PARAMETERS IN GROUNDWATER

PROJECT NO.	CONTROL	REV.	FIGURE
23592402	0002	0	12

Parameter	MECP Table 3 Standards	MW23-02	Dup-01
		22/Mar/23	22/Mar/23
Parameters analyzed		PHCs, PAHs,VOCs,Metals	PAHS
Screen Interval (mbgs)		9.37 - 12.42	Field duplicate of 23-02
Water Depth (mbgs)		10.38	
Samples comply with MECP Table 2 Standards for PHCs, PAHS, Metals			

Parameter	MECP Table 3 Standards	MW23-04 Deep
		29/Mar/23
Parameters analyzed		PHCs, PAHs,VOCs,Metals
Screen Interval (mbgs)		15.34 - 16.66
Water Depth (mbgs)		11.1
Chloroform	2.4	**7.17**

Parameter	MECP Table 3 Standards	MW23-04 Shallow
		29/Mar/23
Parameters analyzed		PHCs, PAHs,VOCs,Metals
Screen Interval (mbgs)		10.06 - 13.10
Water Depth (mbgs)		9.32
Chloroform	2.4	**3.08**

Parameter	MECP Table 3 Standards	MW23-05	DUP-01
		22/Mar/23	22/Mar/23
Parameters analyzed		PHCs, PAHs,VOCs,Metals	PHCs, VOCs,Metals
Screen Interval (mbgs)		14.94 - 16.46	Field duplicate of 23-05
Water Depth (mbgs)		9.52	
Samples comply with MECP Table 2 Standards for PHCs, PAHs, VOCs, and Metals.			

Parameter	MECP Table 3 Standards	MW23-03
		29/Mar/23
Parameters analyzed		PHCs, PAHs,VOCs,Metals
Screen Interval (mbgs)		10.24 - 13.59
Water Depth (mbgs)		11.15
amples comply with MECP Table 2 Standards for PHCs, PAHs, VOCs, and Meta		

B

B'

BH23-05
O/S -18.8 m

BH23-02
O/S 4.3 m

BH23-02A
O/S 6.6 m

BH23-04
O/S -11.2 m

BH23-04A
O/S -9.8 m

BH23-03
O/S 15.5 m

APPROXIMATE GROUND SURFACE

N Value

BH23-05	BH23-02	BH23-02A	BH23-04	BH23-03
			20	25
			15	17
			2	14
			7	17
			14	16
			37	6
			21	50/0.05
			25	42%
			27	80%
			50/0.13	30%
0%	65%	31	0%	81%
90%	34%	29	21%	93%
82%	60%	7	40%	42%
78%	83%	79	89%	61%
72%	99%	28	93%	28%
84%	82%	7	88%	18%
76%	88%	8	63%	53%
75%	74%	50/0.14	98%	
92%			81%	
72%			93%	
18%			95%	

3/13/2023 — 3/17/2023 — 3/22/2023 — 3/22/2023 — 3/22/2023

ELEVATION (m)

76, 72, 68, 64, 60, 56, 52

HORIZONTAL DISTANCE (m)

0, 10, 20, 30, 40, 50, 60, 70, 80, 90

SOIL STRATIGRAPHY

- ASPHALT
- FILL
- CLAYEY SILT
- GLACIAL TILL
- SHALE
- VOID
- GROUNDWATER TESTED AND DID NOT EXCEED STANDARDS
- GROUNDWATER TESTED AND EXCEEDS STANDARDS

LEGEND

BH — BOREHOLE LABEL
OFFSET FROM PROFILE LINE
+ WEST OF PROFILE LINE
- EAST OF PROFILE LINE
O/S 8.5 m
GROUT
BENTONITE
MONITORING WELL
SCREEN
WATER LEVEL
SAND
BOREHOLE STRATA SYMBOL

1:125 VERTICAL SCALE METRES (0, 2.5, 5)

1:250 HORIZONTAL SCALE METRES (0, 5, 10)

CLIENT
THE CANADA LIFE ASSURANCE COMPANY
c/o GWL REALTY ADVISORS INC.

SULTANT
WSP

YYYY-MM-DD	2023-06-09
DESIGNED	
PREPARED	DM
REVIEWED	KS
APPROVED	KS

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT,
170 SLATER STREET, OTTAWA ONTARIO

TITLE
CROSS SECTION B-B' - PARAMETERS IN GROUNDWATER

PROJECT NO.	CONTROL	REV.	FIGURE
23592402	0002	0	13

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

25 mm

Path: \\golder.gds\corp\lexdata\office\Ontario\SIM\Clients\GWL\170_Slater_Street\99_PROJ\23592402\0002_PhaseTwo_ESA\ | File Name: 23592402-0002-HS-0013.dwg | Last Edited By: dmayo Date: 2023-06-09 Time:5:44:42 PM | Printed By: JMckenzie Date: 2023-07-01 Time:10:38:56 AM

APPENDIX A

Plan of Survey

Topographic data was collected under Winter Conditions. Snow cover and ice preclude determining location and elevation of some topographical data that is otherwise visible.

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 D-12-29C.
4. Sanitary and storm sewer grades and inverts were derived from

5. A field location of underground plant by the pertinent utility authority is mandatory before any work involving breaking ground, probing, excavating etc.

TOPOGRAPHIC PLAN OF SURVEY OF

LOTS 39, 40 AND 41
PART OF LOTS 38 AND 42
(SOUTH SLATER STREET)
LOTS 39, 40 AND 41
PART OF LOTS 38 AND 42
(NORTH LAURIER AVENUE)
REGISTERED PLAN 3922
CITY OF OTTAWA

Surveyed by Annis, O'Sullivan, Vollebekk Ltd.

Scale 1 : 250

10 7.5 5.0 2.5 0 5 10 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, the Surveyors Act and the regulations made under them.
2. The survey was completed on the 24th day of February, 2023.

FEB 24, 2023
Date

T. Hartwick
Ontario Land Surveyor

Notes & Legend

	Denotes	
—□—	"	Survey Monument Planted
—■—	"	Survey Monument Found
CC	"	Cut Cross
NW	"	Nail and Washer
(WIT)	"	Witness
Meas.	"	Measured
(AOG)	"	Annis, O'Sullivan, Vollebekk Ltd.
(P1)	"	Plan 4R-401
(P2)	"	Plan 4R-19750
(P3)	"	Plan 4R-19229
(P4)	"	(AOG) Plan Dated May 27, 2019
(P5)	"	(857) Plan Dated February 13, 2004
(P6)	"	(857) Plan Dated March 14, 2006
(P7)	"	(AOG) Plan Dated September 5, 2019
○ MH-ST	"	Maintenance Hole (Storm Sewer)
○ MH-S	"	Maintenance Hole (Sanitary)
○ MH-B	"	Maintenance Hole (Bell)
○ 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 Power
— G —	"	Underground Gas
— B —	"	Bell/Telus
— OHW —	"	Overhead Wires
○ LS	"	Light Standard
□ CB	"	Catch Basin
□ CBI	"	Catch Basin Inlet
FH	"	Fire Hydrant
FH-V	"	Fire Hydrant Valve
WV	"	Water Valve
VC	"	Valve Chamber
Inv.	"	Invert
T/G	"	Top of Grate
⊗ GV	"	Gas Valve
▭ HH	"	Handhole
(tree symbol)	"	Deciduous Tree
○ B	"	Bollard
▭ GM	"	Gas Meter
△ S	"	Sign
CLF	"	Chain Link Fence
MF	"	Metal Fence
RWC	"	Concrete Retaining Wall
AC	"	Air Conditioner
+ 65.00	"	Location of Elevations
+ 65.00	"	Top of Concrete Curb and Retaining Wall Elevation
Elev.	"	Elevation
Ø	"	Diameter
——	"	Property Line

For bearing comparisons, a rotation of 0°00'50" clockwise was applied to bearings on plan P2, P3 and P6.

Bearings are grid derived from the northerly limit of Laurier Avenue West shown to be N59° 00'10"E on a Plan by (AOG) Dated May 24, 2019, and are referred to the Central Meridian of MTM Zone 9 (76°30' West Longitude) NAD-83 (original).

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
V-44975
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 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.

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. 22881-23 RWL RealtyAdvisor Lts38,41 PtLt42 Pl3922 T D3 | FL

Y:\2023\22881-23_RWL Realty Adivsors_170 Slater-269 Laurier_Topo_KJ\Drawings\22881-23 RWL RealtyAdvisor Lts38,41 PtLt42 Pl3922 T D3.dwg

APPENDIX B

Borehole Logs

BOREHOLE DRILLING RECORD : **BH23-01**

Prepared by: **James Sullivan** Date (Start): **2023-03-23**
Reviewed by: **Prosper Ahimbe Kitandala** Date (End): **2023-03-24**

Project Name: **Geotechnical Investigation - 170 Slater Street, Ottawa, ON**
Site: **170 Slater Street, Ottawa, ON**
Sector: **Northwest, outside the parking garage.**
Client: **The Canada Life Assurance Company c/o GWL Realty Advisors Inc.**

Project Number: **23592402**
Geographic Coordinates: X = 445341 mE, Y = 5029810 mN
Surface Elevation: 71.97 m *(Geodetic)*
Plunge / Azimuth:

Drilling Company: Strata Drilling Group
Drilling Equipment: Massenza MI3
Drilling Method: Wash bore / HW + air hammer
Borehole Diameter: 114 mm
Drilling Fluid: Water

WELL DETAILS
COPING Elevation : 71.97 m
SCREEN Bottom Depth : 12.95 m
Length : 0.91 m
Opening : 51 mm
WATER Elevation: 61.67 m
WATER Date: 2023-03-24
Water Level / Free Phase

SAMPLE TYPE
DC - Diamond Core
SS - Split Spoon
PS - Piston Sample
TC - Hollow Tube
MA - Manual Auger
TR - Trowel
ST - Shelby Tube
TT - DT-32 Liner

ANALYSIS
AL - Atterberg Limits
GSA - Grain Size Analysis
PENTEST - Blow Counts/300mm
PL - Point Load Test
Sg - Specific Gravity
SPT - N Value (Blow Counts/300mm)
UCS - Uniaxial Compressive Strength
w - Moisture Content
wL - Liquidity Limit
wP - Plasticity Limit

SAMPLE STATE
Undisturbed
Remoulded
Lost
Cored

DEPTH ELEVATION (m)	STRATIGRAPHY	DESCRIPTION	NUMBER	LABORATORY TESTING	DUPLICATE	TYPE & NO.	STATE	% RECOVERY (RQD)	Blows Counts/6" (N Value = SPT)	GEOTECHNICAL (R □ Shear (kPa) I; SPT=N Value ▲; PENTEST △; RQD (%) ⊙; PLASTIC LIMIT w (%) LIQUID)	WELL DIAGRAM
		Ground surface.									
0.10 / 71,87		**ASPHALTIC CONCRETE.**									
0.46 / 71,51		**FILL (PAVEMENT STRUCTURE): GRAVELLY SAND,** grey to brown, non-cohesive, moist.				GR-1					
		FILL: SAND, fine to medium, brown, non-cohesive, moist, loose.				SS-2		42	6 3 3 2 5 (5)	▲	
1.83 / 70,14		**CLAYEY SILT,** some sand, brown-grey, mottled, cohesive, w ~ PL, firm to stiff.				SS-3		0	1 1 2 3 (3)	▲	
						SS-4		50	14 8 7 7 (15)	▲	
2.90 / 69,07		**WEATHERED SHALE.**				SS-5		8	24 27 27 31 34 (58)	▲	
3.81 / 68,16		**WEATHERED and FRACTURED SHALE BEDROCK.**				SS-6		13	29 39 50/4" (R)	>>	
						RC-1		64 (6)		⊙ 6	
6.00 / 65,97		**INFERRED SHALE.** Air hammer from 6.0 mbgs to 12.95 mbgs, no sampling.									

Project : 23592402 - BOREHOLE LOGS.GPJ Type of report : WSP_EN_WELL-GEOTECHNICAL ONLY Data Template : WSP_TEMPLATE_GEOTECH.GDT 2023-4-27

BOREHOLE DRILLING RECORD : **BH23-01**

Prepared by: **James Sullivan** Date (Start): **2023-03-23**
Reviewed by: **Prosper Ahimbe Kitandala** Date (End): **2023-03-24**

Project Name: **Geotechnical Investigation - 170 Slater Street, Ottawa, ON**
Site: **170 Slater Street, Ottawa, ON**
Sector: **Northwest, outside the parking garage.**
Client: **The Canada Life Assurance Company c/o GWL Realty Advisors Inc.**

Project Number: **23592402**
Geographic Coordinates: X = 445341 mE, Y = 5029810 mN
Surface Elevation: 71.97 m *(Geodetic)*
Plunge / Azimuth:

Drilling Company: Strata Drilling Group
Drilling Equipment: Massenza MI3
Drilling Method: Wash bore / HW + air hammer
Borehole Diameter: 114 mm
Drilling Fluid: Water

WELL DETAILS
COPING Elevation : 71.97 m
SCREEN Bottom Depth : 12.95 m
Length : 0.91 m
Opening : 51 mm
WATER Elevation: 61.67 m
WATER Date: 2023-03-24
Water Level / Free Phase

SAMPLE TYPE
DC - Diamond Core
SS - Split Spoon
PS - Piston Sample
TC - Hollow Tube
MA - Manual Auger
TR - Trowel
ST - Shelby Tube
TT - DT-32 Liner

ANALYSIS
AL - Atterberg Limits
GSA - Grain Size Analysis
PENTEST - Blow Counts/300mm
PL - Point Load Test
Sg - Specific Gravity
SPT - N Value (Blow Counts/300mm)
UCS - Uniaxial Compressive Strength
w - Moisture Content
wL - Liquidity Limit
wP - Plasticity Limit

SAMPLE STATE
Undisturbed
Remoulded
Lost
Cored

DEPTH ELEVATION (m)	GEOLOGY / LITHOLOGY: STRATIGRAPHY	GEOLOGY / LITHOLOGY: DESCRIPTION	ANALYSIS: NUMBER	ANALYSIS: LABORATORY TESTING	ANALYSIS: DUPLICATE	GEOTECHNICAL: TYPE & NO.	GEOTECHNICAL: STATE	GEOTECHNICAL: % RECOVERY (RQD)	GEOTECHNICAL: Blows Counts/6" (N Value = SPT)	GEOTECHNICAL: R □ Shear (kPa) I ■ 30 60 90 120; SPT=N Value ▲ PENTEST △ RQD (%) ⊙; PLASTIC LIMIT w (%) LIQUID 20 40 60 80	WELL: DIAGRAM
12,95 / *59,02*		**INFERRED SHALE.** Air hammer from 6.0 mbgs to 12.95 mbgs, no sampling.									
12,95 / *59,02*		End of borehole at 12,95 m.									

BOREHOLE DRILLING RECORD : **BH23-02**

Prepared by: **James Sullivan** Date (Start): **2023-03-10**
Reviewed by: **Prosper Ahimbe Kitandala** Date (End): **2023-03-14**

Project Name: **Geotechnical Investigation - 170 Slater Street, Ottawa, ON**
Site: **170 Slater Street, Ottawa, ON**
Sector: **West, inside the parking garage.**
Client: **The Canada Life Assurance Company c/o GWL Realty Advisors Inc.**

Project Number: **23592402**
Geographic Coordinates: X = 445376 mE, Y = 5029772 mN
Surface Elevation: 71.06 m *(Geodetic)*
Plunge / Azimuth:

Drilling Company: Strata Drilling Group
Drilling Equipment: Geoprobe 420M / Husky
Drilling Method: Direct push + wash bore / B + W
Borehole Diameter: 56.5 mm
Drilling Fluid: Water

WELL DETAILS
COPING Elevation : 70.96 m
SCREEN Bottom Depth : 12.42 m
Length : 3.05 m
Opening : 30 mm
WATER Elevation: 60.65 m
WATER Date: 2023-03-17
Water Level / Free Phase

SAMPLE TYPE
DC - Diamond Core
SS - Split Spoon
PS - Piston Sample
TC - Hollow Tube
MA - Manual Auger
TR - Trowel
ST - Shelby Tube
TT - DT-32 Liner

ANALYSIS
AL - Atterberg Limits
GSA - Grain Size Analysis
PENTEST - Blow Counts/300mm
PL - Point Load Test
Sg - Specific Gravity
SPT - N Value (Blow Counts/300mm)
UCS - Uniaxial Compressive Strength
w - Moisture Content
wL - Liquidity Limit
wP - Plasticity Limit

SAMPLE STATE
Undisturbed / Remoulded / Lost / Cored

DEPTH ELEVATION (m)	STRATIGRAPHY	DESCRIPTION	NUMBER	LABORATORY TESTING	DUPLICATE	TYPE & NO.	STATE	% RECOVERY (RQD)	Blows Counts/6" (N Value = SPT)	GEOTECHNICAL	WELL DIAGRAM
		Ground surface.								R □ Shear (kPa) I 30 60 90 120; SPT=N Value ▲ PENTEST △; RQD (%) ⊙; PLASTIC LIMIT w (%) LIQUID 20 40 60 80	
0,05 *71,01*		**ASPHALTIC CONCRETE.**	SA-01			DO-1		58			
0,46 *70,60*		**FILL (PAVEMENT STRUCTURE): SAND and GRAVEL to GRAVELLY SAND,** brown, non-cohesive, moist.				DO-2		100			
1,22 *69,84*		**SILT to CLAYEY SILT,** mostly non-plastic silt, some to trace sand, brown, slightly mottled, non-cohesive, moist.				DO-3		100			
1,83 *69,23*		**CLAYEY SILT,** mostly silt with plastic fines, trace sand, brown, cohesive, w ~ PL, stiff.				DO-4		50			
2,44 *68,62*		**GLACIAL TILL: CLAYEY SILT,** some sand, some gravel, contains cobbles and boulders, brown, cohesive, w ~ PL.				DO-5		50			
		GLACIAL TILL: GRAVELLY SILTY SAND to GRAVELLY SAND, some silt, some clay, contains cobbles and boulders, dark-brown, non-cohesive, moist to wet.				DO-6		73			
4,70 *66,36*		**WEATHERED TO FRESH SHALE,** bedded, black, fine-grained, slightly to non-porous, brittle, Billings Shale, sulfide rich.				RC-1		97 (65)		65	
						RC-2		99 (34)		34	
		0.03 m void at approximately 6.9 m.				RC-3		95 (60)		60	
						RC-4		100 (83)		83	
						RC-5		99 (99)			

Project : 23592402 - BOREHOLE LOGS.GPJ Type of report : WSP_EN_WELL-GEOTECHNICAL ONLY Data Template : WSP_TEMPLATE_GEOTECH.GDT 2023-4-27

BOREHOLE DRILLING RECORD : **BH23-02**

Prepared by: **James Sullivan** Date (Start): **2023-03-10**
Reviewed by: **Prosper Ahimbe Kitandala** Date (End): **2023-03-14**

Project Name: **Geotechnical Investigation - 170 Slater Street, Ottawa, ON**
Site: **170 Slater Street, Ottawa, ON**
Sector: **West, inside the parking garage.**
Client: **The Canada Life Assurance Company c/o GWL Realty Advisors Inc.**

Project Number: **23592402**
Geographic Coordinates: X = 445376 mE, Y = 5029772 mN
Surface Elevation: 71.06 m *(Geodetic)*
Plunge / Azimuth:

Drilling Company: Strata Drilling Group
Drilling Equipment: Geoprobe 420M / Husky
Drilling Method: Direct push + wash bore / B + W
Borehole Diameter: 56.5 mm
Drilling Fluid: Water

WELL DETAILS
COPING Elevation : 70.96 m
SCREEN Bottom Depth : 12.42 m
Length : 3.05 m
Opening : 30 mm
WATER Elevation: 60.65 m
WATER Date: 2023-03-17
Water Level / Free Phase

SAMPLE TYPE
DC - Diamond Core
SS - Split Spoon
PS - Piston Sample
TC - Hollow Tube
MA - Manual Auger
TR - Trowel
ST - Shelby Tube
TT - DT-32 Liner

ANALYSIS
AL - Atterberg Limits
GSA - Grain Size Analysis
PENTEST - Blow Counts/300mm
PL - Point Load Test
Sg - Specific Gravity
SPT - N Value (Blow Counts/300mm)
UCS - Uniaxial Compressive Strength
w - Moisture Content
wL - Liquidity Limit
wP - Plasticity Limit

SAMPLE STATE
Undisturbed
Remoulded
Lost
Cored

DEPTH ELEVATION (m)	STRATIGRAPHY	DESCRIPTION	NUMBER	LABORATORY TESTING	DUPLICATE	TYPE & NO.	STATE	% RECOVERY (RQD)	Blows Counts/6" (N Value = SPT)	GEOTECHNICAL: R □ Shear (kPa) I (30 60 90 120); SPT=N Value ▲ PENTEST △ RQD (%) ⊙; PLASTIC LIMIT w (%) LIQUID (20 40 60 80)	WELL DIAGRAM
9,5		**WEATHERED TO FRESH SHALE,** bedded, black, fine-grained, slightly to non-porous, brittle, Billings Shale, sulfide rich.								99	
10,0						RC-6		100 (82)		82	
10,5											
11,0						RC-7		99 (88)		88	
11,5											
12,0						RC-8		100 (74)		74	
12,42 *58,64*		End of borehole at 12,42 m.									
12,5											
13,0											
13,5											
14,0											
14,5											
15,0											
15,5											
16,0											
16,5											
17,0											
17,5											
18,0											

BOREHOLE DRILLING RECORD : **BH23-02A**

Prepared by: **James Sullivan** Date (Start): **2023-03-13**
Reviewed by: **Prosper Ahimbe Kitandala** Date (End): **2023-03-13**

Project Name: **Geotechnical Investigation - 170 Slater Street, Ottawa, ON**
Site: **170 Slater Street, Ottawa, ON**
Sector: **1m south of BH23-02.**
Client: **The Canada Life Assurance Company c/o GWL Realty Advisors Inc.**

Project Number: **23592402**
Geographic Coordinates: X = 445374 mE, Y = 5029774 mN
Surface Elevation: Not measured
Plunge / Azimuth:

Drilling Company: Strata Drilling Group
Drilling Equipment: Massenza SPT
Drilling Method: SPT / DO casing / B + W
Borehole Diameter: 72 mm
Drilling Fluid: N/A

WELL DETAILS
COPING Elevation :
SCREEN Bottom Depth :
Length :
Opening :
WATER Elevation:
WATER Date:
Water Level Free Phase

SAMPLE TYPE
DC - Diamond Core
SS - Split Spoon
PS - Piston Sample
TC - Hollow Tube
MA - Manual Auger
TR - Trowel
ST - Shelby Tube
TT - DT-32 Liner

ANALYSIS
AL - Atterberg Limits
GSA - Grain Size Analysis
PENTEST - Blow Counts/300mm
PL - Point Load Test
Sg - Specific Gravity
SPT - N Value (Blow Counts/300mm)
UCS - Uniaxial Compressive Strength
w - Moisture Content
wL - Liquidity Limit
wP - Plasticity Limit

SAMPLE STATE
Undisturbed
Remoulded
Lost
Cored

DEPTH ELEVATION (m)	STRATIGRAPHY	DESCRIPTION	NUMBER	LABORATORY TESTING	DUPLICATE	TYPE & NO.	STATE	% RECOVERY (RQD)	Blows Counts/6" (N Value = SPT)	GEOTECHNICAL	DIAGRAM
		Ground surface.									
0,00											
0,15		**ASPHALTIC CONCRETE.**	SA-01A			SS-1		67	13 15 16 7 (31)		
0,46		**FILL (PAVEMENT STRUCTURE): SAND,** some gravel, grey, non-cohesive, moist.	SA-01B			SS-2		42	7 14 15 11 (29)		
		FILL (PAVEMENT STRUCTURE): GRAVELLY SAND, trace silt, brown, non-cohesive, moist.				SS-3		92	3 3 4 4 (7)		
1,83		**CLAYEY SILT to SILTY CLAY,** some to trace sand, trace gravel, brown, slightly mottled, cohesive, w < PL to ~ PL.				SS-4		83	4 25 54 65 (79)		
		GLACIAL TILL: SILTY SAND, some gravel to GRAVELLY SAND, some silt, some to trace clay, contains cobbles, brown, non-cohesive, moist, dense to compact.				SS-5		83	20 14 14 11 (28)		
3,05		**GLACIAL TILL: SILTY SAND to GRAVELLY SAND,** some silt, trace clay, contains cobbles, dark-brown to black, non-cohesive, moist.				SS-6		50	5 4 3 2 (7)		
		Contains shale fragments.				SS-7		42	3 3 5 8 (8)		
4,80		**BH23-02A was drilled next to BH23-02 for SPT "N" values purposes.** End of borehole at 4,80 m.				SS-8		78	5 50/5"		

BOREHOLE DRILLING RECORD : **BH23-03**

Prepared by: **James Sullivan** Date (Start): **2023-03-20**
Reviewed by: **Prosper Ahimbe Kitandala** Date (End): **2023-03-21**

Project Name: **Geotechnical Investigation - 170 Slater Street, Ottawa, ON**
Site: **170 Slater Street, Ottawa, ON**
Sector: **Northeast, inside the parking garage.**
Client: **The Canada Life Assurance Company c/o GWL Realty Advisors Inc.**

Project Number: **23592402**
Geographic Coordinates: X = 445370 mE, Y = 5029816 mN
Surface Elevation: 71.54 m *(Geodetic)*
Plunge / Azimuth:

Drilling Company: Strata Drilling Group
Drilling Equipment: Massenza SPT
Drilling Method: SPT / direct push / B + W
Borehole Diameter: 82.5 mm
Drilling Fluid: Water

WELL DETAILS
COPING Elevation : 71.471 m
SCREEN Bottom Depth : 13.29 m
Length : 3.05 m
Opening : 25.4 mm
WATER Elevation: 60.641 m
WATER Date: 2023-03-22
Water Level / Free Phase

SAMPLE TYPE
DC - Diamond Core
SS - Split Spoon
PS - Piston Sample
TC - Hollow Tube
MA - Manual Auger
TR - Trowel
ST - Shelby Tube
TT - DT-32 Liner

ANALYSIS
AL - Atterberg Limits
GSA - Grain Size Analysis
PENTEST - Blow Counts/300mm
PL - Point Load Test
Sg - Specific Gravity
SPT - N Value (Blow Counts/300mm)
UCS - Uniaxial Compressive Strength
w - Moisture Content
wL - Liquidity Limit
wP - Plasticity Limit

SAMPLE STATE
Undisturbed
Remoulded
Lost
Cored

DEPTH ELEVATION (m)	STRATIGRAPHY	DESCRIPTION	NUMBER	LABORATORY TESTING	DUPLICATE	TYPE & NO.	STATE	% RECOVERY (RQD)	Blows Counts/6" (N Value = SPT)
		Ground surface.							
0,05 / 71,49		**ASPHALTIC CONCRETE.**	SA-01			SS-1		67	16 14 11 10 (25)
0,36 / 71,18		**FILL (PAVEMENT STRUCTURE): SAND and GRAVEL,** grey, non-cohesive, moist, compact.				SS-2		75	8 8 9 11 (17)
		FILL: SAND, fine to medium, brown, non-cohesive, moist, compact.				SS-3		83	10 8 6 4 (14)
1,98 / 69,56		**FILL: SANDY SILT to SILT,** some clay, gravel, brown-grey, mottled, non-cohesive, moist, compact.				SS-4		75	4 7 10 8 (17)
2,54 / 69,00		**GLACIAL TILL: GRAVELLY SAND to GRAVELLY SILTY SAND,** some clay, contains cobbles, contains shale, brown to dark-brown to black, non-cohesive, moist, loose to compact.				SS-5		100	9 8 8 5 (16)
						SS-6		63	3 2 4 8 10 (6)
3,86 / 67,68		**WEATHERED to FRESH SHALE,** bedded, black, fine grained, brittle, non-porous to slightly porous, Billings Shale, sulfide rich.				SS-7		100	50/2"
						RC-1		82 (42)	
						RC-2		98 (80)	
						RC-3		85 (30)	
						RC-4		100 (81)	
						RC-5		96 (93)	
						RC-6		92 (42)	

GEOTECHNICAL: R □ Shear (kPa) I ■ (30, 60, 90, 120); SPT=N Value ▲ PENTEST △ RQD (%) ⊙; PLASTIC LIMIT w (%) LIQUID (20, 40, 60, 80)

WELL DIAGRAM

Project : 23592402 - BOREHOLE LOGS.GPJ Type of report : WSP_EN_WELL-GEOTECHNICAL ONLY Data Template : WSP_TEMPLATE_GEOTECH.GDT 2023-4-27

BOREHOLE DRILLING RECORD : **BH23-03**

Prepared by: **James Sullivan** Date (Start): **2023-03-20**
Reviewed by: **Prosper Ahimbe Kitandala** Date (End): **2023-03-21**

Project Name: **Geotechnical Investigation - 170 Slater Street, Ottawa, ON**
Site: **170 Slater Street, Ottawa, ON**
Sector: **Northeast, inside the parking garage.**
Client: **The Canada Life Assurance Company c/o GWL Realty Advisors Inc.**

Project Number: **23592402**
Geographic Coordinates: X = 445370 mE, Y = 5029816 mN
Surface Elevation: 71.54 m *(Geodetic)*
Plunge / Azimuth:

Drilling Company: Strata Drilling Group
Drilling Equipment: Massenza SPT
Drilling Method: SPT / direct push / B + W
Borehole Diameter: 82.5 mm
Drilling Fluid: Water

WELL DETAILS
COPING Elevation : 71.471 m
SCREEN Bottom Depth : 13.29 m
Length : 3.05 m
Opening : 25.4 mm
WATER Elevation: 60.641 m
WATER Date: 2023-03-22
Water Level / Free Phase

SAMPLE TYPE
DC - Diamond Core
SS - Split Spoon
PS - Piston Sample
TC - Hollow Tube
MA - Manual Auger
TR - Trowel
ST - Shelby Tube
TT - DT-32 Liner

ANALYSIS
AL - Atterberg Limits
GSA - Grain Size Analysis
PENTEST - Blow Counts/300mm
PL - Point Load Test
Sg - Specific Gravity
SPT - N Value (Blow Counts/300mm)
UCS - Uniaxial Compressive Strength
w - Moisture Content
wL - Liquidity Limit
wP - Plasticity Limit

SAMPLE STATE
Undisturbed
Remoulded
Lost
Cored

DEPTH ELEVATION (m)	STRATIGRAPHY	DESCRIPTION	NUMBER	LABORATORY TESTING	DUPLICATE	TYPE & NO.	STATE	% RECOVERY (RQD)	Blows Counts/6" (N Value = SPT)	GEOTECHNICAL	WELL DIAGRAM
										R □ Shear (kPa) I ■ 30 60 90 120; SPT=N Value ▲ PENTEST △; RQD (%) ⊙; PLASTIC LIMIT w (%) LIQUID; 20 40 60 80	
9,5		**WEATHERED to FRESH SHALE,** bedded, black, fine grained, brittle, non-porous to slightly porous, Billings Shale, sulfide rich.									
10,0						RC-7		100 (61)		61	
10,5											
11,0						RC-8		99 (28)		28	
11,5											
12,0						RC-9		85 (18)		18	
12,5		*More weathered.*									
13,0						RC-10		96 (53)		53	
13,5											
	13,59 / *57,95*	End of borehole at 13,59 m.									
14,0											
14,5											
15,0											
15,5											
16,0											
16,5											
17,0											
17,5											
18,0											

BOREHOLE DRILLING RECORD : **BH23-04**

Prepared by: **James Sullivan** Date (Start): **2023-03-14**
Reviewed by: **Prosper Ahimbe Kitandala** Date (End): **2023-03-17**

Project Name: **Geotechnical Investigation - 170 Slater Street, Ottawa, ON**
Site: **170 Slater Street, Ottawa, ON**
Sector: **East, inside the parking garage.**
Client: **The Canada Life Assurance Company c/o GWL Realty Advisors Inc.**

Project Number: **23592402**
Geographic Coordinates: X = 445394 mE, Y = 5029792 mN
Surface Elevation: 72.08 m *(Geodetic)*
Plunge / Azimuth:

Drilling Company: Strata Drilling Group
Drilling Equipment: Massenza SPT
Drilling Method: SPT / direct push / B + W
Borehole Diameter: 82.5 mm
Drilling Fluid: Water

WELL DETAILS
COPING Elevation : 72.008 m
SCREEN Bottom Depth : 16.86 m
Length : 1.52 m
Opening : 25.4 mm
WATER Elevation: 61.058 m
WATER Date: 2023-03-22
Water Level / Free Phase

SAMPLE TYPE
DC - Diamond Core
SS - Split Spoon
PS - Piston Sample
TC - Hollow Tube
MA - Manual Auger
TR - Trowel
ST - Shelby Tube
TT - DT-32 Liner

ANALYSIS
AL - Atterberg Limits
GSA - Grain Size Analysis
PENTEST - Blow Counts/300mm
PL - Point Load Test
Sg - Specific Gravity
SPT - N Value (Blow Counts/300mm)
UCS - Uniaxial Compressive Strength
w - Moisture Content
wL - Liquidity Limit
wP - Plasticity Limit

SAMPLE STATE
Undisturbed
Remoulded
Lost
Cored

DEPTH ELEVATION (m)	STRATIGRAPHY	DESCRIPTION	NUMBER	LABORATORY TESTING	DUPLICATE	TYPE & NO.	STATE	% RECOVERY (RQD)	Blows Counts/6" (N Value = SPT)	GEOTECHNICAL (R □ Shear (kPa) I 30 60 90 120; SPT=N Value ▲ PENTEST △; RQD (%) ⊙; PLASTIC LIMIT w (%) LIQUID 20 40 60 80)	WELL DIAGRAM
		Ground surface.									
0,05 72,03		**ASPHALTIC CONCRETE.**	SA-01			SS-1		63	11 9 11 9 (20)		
0,38 71,70		**FILL (PAVEMENT STRUCTURE): GRAVELLY SAND,** grey-brown, non-cohesive, moist, compact.	SA-02A			SS-2		75	11 7 8 5 (15)		
1,07 71,01		**FILL: SAND,** fine to medium, trace gravel, brown, non-cohesive, moist, compact.	SA-02B			SS-3		50	3 1 1 2 (2)		
1,98 70,10		**FILL: SAND,** some silt, some gravel, trace clay, contains debris, contains glass, brown, mottled, non-cohesive, moist, compact to loose.				SS-4		58	2 3 4 5 (7)		
2,59 69,49		**WEATHERED CRUST: CLAYEY SILT to SILTY CLAY,** trace sand, brown-grey, mottled, non-cohesive, w < PL, stiff.	SA-05A SA-05B			SS-5		83	1 3 11 18 (14)		
3,66 68,42		**GLACIAL TILL: SAND,** some silt, some gravel, trace to some clay, contains cobbles, brown, non-cohesive, moist, compact to dense.				SS-6		83	14 16 21 21 (37)		
		GLACIAL TILL: SAND to SILTY SAND, some gravel, some clay, contains cobbles, contains shale, dark-brown to black, non-cohesive, moist, compact.				SS-7		92	13 10 11 11 (21)		
						SS-8		63	9 11 14 18 (25)		
5,18 66,90						SS-9		83	7 7 20 22 50/5" (27)		
5,61 66,47		**WEATHERED SHALE,** with sand, gravel, black, bedded.				SS-10		100	72 (0)	0	
		WEATHERED to FRESH SHALE bedded, black, fine grained, brittle, non-porous to slightly porous, Billings Shale.				RC-1		95 (21)		21	
						RC-2		90 (40)		40	
						RC-3		100 (89)		89	
						RC-4					

Project : 23592402 - BOREHOLE LOGS.GPJ Type of report : WSP_EN_WELL-GEOTECHNICAL ONLY Data Template : WSP_TEMPLATE_GEOTECH.GDT 2023-4-27

BOREHOLE DRILLING RECORD : **BH23-04**

Prepared by: **James Sullivan** Date (Start): **2023-03-14**
Reviewed by: **Prosper Ahimbe Kitandala** Date (End): **2023-03-17**

Project Name: **Geotechnical Investigation - 170 Slater Street, Ottawa, ON**
Site: **170 Slater Street, Ottawa, ON**
Sector: **East, inside the parking garage.**
Client: **The Canada Life Assurance Company c/o GWL Realty Advisors Inc.**

Project Number: **23592402**
Geographic Coordinates: X = 445394 mE, Y = 5029792 mN
Surface Elevation: 72.08 m *(Geodetic)*
Plunge / Azimuth:

Drilling Company: Strata Drilling Group
Drilling Equipment: Massenza SPT
Drilling Method: SPT / direct push / B + W
Borehole Diameter: 82.5 mm
Drilling Fluid: Water

WELL DETAILS
COPING Elevation : 72.008 m
SCREEN Bottom Depth : 16.86 m
Length : 1.52 m
Opening : 25.4 mm
WATER Elevation: 61.058 m
WATER Date: 2023-03-22
Water Level / Free Phase

SAMPLE TYPE
DC - Diamond Core
SS - Split Spoon
PS - Piston Sample
TC - Hollow Tube
MA - Manual Auger
TR - Trowel
ST - Shelby Tube
TT - DT-32 Liner

ANALYSIS
AL - Atterberg Limits
GSA - Grain Size Analysis
PENTEST - Blow Counts/300mm
PL - Point Load Test
Sg - Specific Gravity
SPT - N Value (Blow Counts/300mm)
UCS - Uniaxial Compressive Strength
w - Moisture Content
wL - Liquidity Limit
wP - Plasticity Limit

SAMPLE STATE
Undisturbed
Remoulded
Lost
Cored

DEPTH ELEVATION (m)	STRATIGRAPHY	DESCRIPTION	NUMBER	LABORATORY TESTING	DUPLICATE	TYPE & NO.	STATE	% RECOVERY (RQD)	Blows Counts/6" (N Value = SPT)	GEOTECHNICAL	WELL DIAGRAM
										R □ Shear (kPa) I ■ 30 60 90 120; SPT=N Value ▲ PENTEST △; RQD (%) ⊙; PLASTIC LIMIT w (%) LIQUID 20 40 60 80	
9,5		**WEATHERED to FRESH SHALE** bedded, black, fine grained, brittle, non-porous to slightly porous, Billings Shale.				RC-5		100 (93)		93	
10,0											
10,5						RC-6		94 (88)		88	
11,0											
11,5						RC-7		90 (63)		63	
12,0											
12,5						RC-8		100 (98)		98	
13,0											
13,5						RC-9		93 (81)		81	
14,0											
14,5						RC-10		100 (93)		93	
15,0											
15,5		*With limestone beds.*				RC-11		100 (95)		95	
16,0											
16,5											
16,86 *55,22*											
17,0		End of borehole at 16,86 m.									
17,5											
18,0											

BOREHOLE DRILLING RECORD : **BH23-04A**

Prepared by: **James Sullivan** Date (Start): **2023-03-15**
Reviewed by: **Prosper Ahimbe Kitandala** Date (End): **2023-03-15**

Project Name: **Geotechnical Investigation - 170 Slater Street, Ottawa, ON**
Site: **170 Slater Street, Ottawa, ON**
Sector: **2m north of BH23-04.**
Client: **The Canada Life Assurance Company c/o GWL Realty Advisors Inc.**

Project Number: **23592402**
Geographic Coordinates: X = 445393 mE, Y = 5029795 mN
Surface Elevation: 72.04 m *(Geodetic)*
Plunge / Azimuth:

Drilling Company: Strata Drilling Group
Drilling Equipment: Massenza SPT
Drilling Method: - / -
Borehole Diameter: 82.5 mm
Drilling Fluid: Water

WELL DETAILS
COPING Elevation : 71.906 m
SCREEN Bottom Depth : 13.1 m
Length : 3.04 m
Opening : 30 mm
WATER Elevation: 63.496 m
WATER Date: 2023-03-22
Water Level Free Phase

SAMPLE TYPE
DC - Diamond Core
SS - Split Spoon
PS - Piston Sample
TC - Hollow Tube
MA - Manual Auger
TR - Trowel
ST - Shelby Tube
TT - DT-32 Liner

ANALYSIS
AL - Atterberg Limits
GSA - Grain Size Analysis
PENTEST - Blow Counts/300mm
PL - Point Load Test
Sg - Specific Gravity
SPT - N Value (Blow Counts/300mm)
UCS - Uniaxial Compressive Strength
w - Moisture Content
wL - Liquidity Limit
wP - Plasticity Limit

SAMPLE STATE
Undisturbed
Remoulded
Lost
Cored

DEPTH ELEVATION (m)	GEOLOGY / LITHOLOGY: STRATIGRAPHY	GEOLOGY / LITHOLOGY: DESCRIPTION	ANALYSIS: NUMBER	ANALYSIS: LABORATORY TESTING	ANALYSIS: DUPLICATE	GEOTECHNICAL: TYPE & NO.	GEOTECHNICAL: STATE	GEOTECHNICAL: % RECOVERY (RQD)	GEOTECHNICAL: Blows Counts/6" (N Value = SPT)	GEOTECHNICAL: R □ Shear (kPa) I ■ 30 60 90 120; SPT=N Value ▲ PENTEST △ RQD (%) ⊙; PLASTIC LIMIT w (%) LIQUID 20 40 60 80	WELL: DIAGRAM
		Ground surface.									
72,04		**BH23-04A was drilled for monitoring well installation purposes only.**									

0,5 1,0 1,5 2,0 2,5 3,0 3,5 4,0 4,5 5,0 5,5 6,0 6,5 7,0 7,5 8,0 8,5 9,0

BOREHOLE DRILLING RECORD : **BH23-04A**

Prepared by: **James Sullivan** Date (Start): **2023-03-15**
Reviewed by: **Prosper Ahimbe Kitandala** Date (End): **2023-03-15**

Project Name: **Geotechnical Investigation - 170 Slater Street, Ottawa, ON**
Site: **170 Slater Street, Ottawa, ON**
Sector: **2m north of BH23-04.**
Client: **The Canada Life Assurance Company c/o GWL Realty Advisors Inc.**

Project Number: **23592402**
Geographic Coordinates: X = 445393 mE, Y = 5029795 mN
Surface Elevation: 72.04 m *(Geodetic)*
Plunge / Azimuth:

Drilling Company: Strata Drilling Group
Drilling Equipment: Massenza SPT
Drilling Method: - / -
Borehole Diameter: 82.5 mm
Drilling Fluid: Water

WELL DETAILS
COPING Elevation : 71.906 m
SCREEN Bottom Depth : 13.1 m
Length : 3.04 m
Opening : 30 mm
WATER Elevation: 63.496 m
WATER Date: 2023-03-22
Water Level / Free Phase

SAMPLE TYPE
DC - Diamond Core
SS - Split Spoon
PS - Piston Sample
TC - Hollow Tube
MA - Manual Auger
TR - Trowel
ST - Shelby Tube
TT - DT-32 Liner

ANALYSIS
AL - Atterberg Limits
GSA - Grain Size Analysis
PENTEST - Blow Counts/300mm
PL - Point Load Test
Sg - Specific Gravity
SPT - N Value (Blow Counts/300mm)
UCS - Uniaxial Compressive Strength
w - Moisture Content
wL - Liquidity Limit
wP - Plasticity Limit

SAMPLE STATE
Undisturbed
Remoulded
Lost
Cored

DEPTH ELEVATION (m)	STRATIGRAPHY	DESCRIPTION	NUMBER	LABORATORY TESTING	DUPLICATE	TYPE & NO.	STATE	% RECOVERY (RQD)	Blows Counts/6" (N Value = SPT)	GEOTECHNICAL	WELL DIAGRAM
		BH23-04A was drilled for monitoring well installation purposes only.									
13,10 *58,94*		End of borehole at 13,10 m.									

BOREHOLE DRILLING RECORD : **BH23-05**

Prepared by: **James Sullivan** Date (Start): **2023-03-07**
Reviewed by: **Prosper Ahimbe Kitandala** Date (End): **2023-03-09**

Project Name: **Geotechnical Investigation - 170 Slater Street, Ottawa, ON**
Site: **170 Slater Street, Ottawa, ON**
Sector: **South, inside the parking garage.**
Client: **The Canada Life Assurance Company c/o GWL Realty Advisors Inc.**

Project Number: **23592402**
Geographic Coordinates: X = 445397 mE, Y = 5029753 mN
Surface Elevation: 70.39 m *(Geodetic)*
Plunge / Azimuth:

Drilling Company: Strata Drilling Group
Drilling Equipment: Geoprobe 420M
Drilling Method: Drive open - direct push - wash / B + W
Borehole Diameter: 82.5 mm
Drilling Fluid: Water

WELL DETAILS
COPING Elevation : 70.267 m
SCREEN Bottom Depth : 16.46 m
Length : 1.52 m
Opening : 25.4 mm
WATER Elevation: 60.927 m
WATER Date: 2023-03-13
Water Level / Free Phase

SAMPLE TYPE
DC - Diamond Core
SS - Split Spoon
PS - Piston Sample
TC - Hollow Tube
MA - Manual Auger
TR - Trowel
ST - Shelby Tube
TT - DT-32 Liner

ANALYSIS
AL - Atterberg Limits
GSA - Grain Size Analysis
PENTEST - Blow Counts/300mm
PL - Point Load Test
Sg - Specific Gravity
SPT - N Value (Blow Counts/300mm)
UCS - Uniaxial Compressive Strength
w - Moisture Content
wL - Liquidity Limit
wP - Plasticity Limit

SAMPLE STATE
Undisturbed
Remoulded
Lost
Cored

DEPTH ELEVATION (m)	STRATIGRAPHY	DESCRIPTION	NUMBER	LABORATORY TESTING	DUPLICATE	TYPE & NO.	STATE	% RECOVERY (RQD)	Blows Counts/6" (N Value = SPT)	GEOTECHNICAL	WELL DIAGRAM
		Ground surface.								R □ Shear (kPa) I ■ 30 60 90 120; SPT=N Value ▲ PENTEST △ RQD (%) ⊙; PLASTIC LIMIT w (%) LIQUID 20 40 60 80	
0,00 / 0,15 / 70,24		**ASPHALTIC CONCRETE.**	SA-01			DO-1		75			
		FILL (PAVEMENT STRUCTURE): GRAVELLY SAND, granular B, brown, non-cohesive, moist.				DO-2		100			
1,07 / 69,32		**FILL: SAND,** fine to medium, trace gravel, light-brown, non-cohesive, moist.				DO-3		80			
		GLACIAL TILL: SAND to SILTY SAND, some silt, some gravel, trace clay, brown, non-cohesive, moist.									
		Dark brown, moist to wet.				DO-4		50			
						DO-5		100			
4,27 / 66,12		**WEATHERED SHALE** wet.				DO-6		34			
4,62 / 65,77		**WEATHERED to FRESH SHALE** bedded, black, fine grained, brittle, non-porous to slightly porous, Billings Shale.				RC-1		40 (0)		0	
						RC-2		100 (90)		90	
						RC-3		92 (82)		82	
						RC-4		100 (78)		78	
						RC-5		100 (72)		72	
						RC-6		98 (84)			

Project : 23592402 - BOREHOLE LOGS.GPJ Type of report : WSP_EN_WELL-GEOTECHNICAL ONLY Data Template : WSP_TEMPLATE_GEOTECH.GDT 2023-4-27

BOREHOLE DRILLING RECORD : **BH23-05**

Prepared by: **James Sullivan** Date (Start): **2023-03-07**
Reviewed by: **Prosper Ahimbe Kitandala** Date (End): **2023-03-09**

Project Name: **Geotechnical Investigation - 170 Slater Street, Ottawa, ON**
Site: **170 Slater Street, Ottawa, ON**
Sector: **South, inside the parking garage.**
Client: **The Canada Life Assurance Company c/o GWL Realty Advisors Inc.**

Project Number: **23592402**
Geographic Coordinates: X = 445397 mE, Y = 5029753 mN
Surface Elevation: 70.39 m *(Geodetic)*
Plunge / Azimuth:

Drilling Company: Strata Drilling Group
Drilling Equipment: Geoprobe 420M
Drilling Method: Drive open - direct push - wash / B + W
Borehole Diameter: 82.5 mm
Drilling Fluid: Water

WELL DETAILS
COPING Elevation : 70.267 m
SCREEN Bottom Depth : 16.46 m
Length : 1.52 m
Opening : 25.4 mm
WATER Elevation: 60.927 m
WATER Date: 2023-03-13
Water Level / Free Phase

SAMPLE TYPE
DC - Diamond Core
SS - Split Spoon
PS - Piston Sample
TC - Hollow Tube
MA - Manual Auger
TR - Trowel
ST - Shelby Tube
TT - DT-32 Liner

ANALYSIS
AL - Atterberg Limits
GSA - Grain Size Analysis
PENTEST - Blow Counts/300mm
PL - Point Load Test
Sg - Specific Gravity
SPT - N Value (Blow Counts/300mm)
UCS - Uniaxial Compressive Strength
w - Moisture Content
wL - Liquidity Limit
wP - Plasticity Limit

SAMPLE STATE
Undisturbed
Remoulded
Lost
Cored

DEPTH ELEVATION (m)	STRATIGRAPHY	DESCRIPTION	NUMBER	LABORATORY TESTING	DUPLICATE	TYPE & NO.	STATE	% RECOVERY (RQD)	Blows Counts/6" (N Value = SPT)	GEOTECHNICAL: R □ Shear (kPa) I 30 60 90 120; SPT=N Value ▲ PENTEST △ RQD (%) ⊙; PLASTIC LIMIT w (%) LIQUID 20 40 60 80	WELL DIAGRAM
9,5		**WEATHERED to FRESH SHALE** bedded, black, fine grained, brittle, non-porous to slightly porous, Billings Shale.								84	
10,0						RC-7		95 (76)		76	
10,5						RC-8		92 (75)		75	
11,0											
11,5						RC-9		97 (92)		92	
12,0											
12,5						RC-10		89 (72)		72	
13,0											
13,5		*Drilling issues, shale recovery and RQD not representative below 13.36 m.*				RC-11		51 (18)			
14,0											
14,5											
15,0										18	
15,5											
16,0											
16,46 / *53,93*		End of borehole at 16,46 m.									
17,0											
17,5											
18,0											

Project : 23592402 - BOREHOLE LOGS.GPJ Type of report : WSP_EN_WELL-GEOTECHNICAL ONLY Data Template : WSP_TEMPLATE_GEOTECH.GDT 2023-4-27

APPENDIX C

Certificates of Analysis

AGAT Laboratories

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

CLIENT NAME: **WSP CANADA INC.**
1931 ROBERTSON ROAD
OTTAWA, ON K2H5B7
(613) 592-9600
ATTENTION TO: **Keith Holmes**
PROJECT: **170 Slater St. Phase Two 23592402**
AGAT WORK ORDER: **23T012616**
SOIL ANALYSIS REVIEWED BY: **Nivine Basily, Inorganics Report Writer**
TRACE ORGANICS REVIEWED BY: **Neli Popnikolova, Senior Chemist**
DATE REPORTED: **Apr 12, 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: 23T012616

PROJECT: 170 Slater St. Phase Two 23592402

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St., Ottawa ON

SAMPLED BY:Paul Jackson

Ignitability in Soil

DATE RECEIVED: 2023-04-04 **DATE REPORTED: 2023-04-12**

				SAMPLE DESCRIPTION:	Soil Cuttings
				SAMPLE TYPE:	Soil
				DATE SAMPLED:	2023-04-04
Parameter	Unit	G / S	RDL	4903902	
Ignitability				N	

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

4903902 N = Non-Flammable Solid
Non-ignitable-Wet soil sample with pebbles

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

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AGAT WORK ORDER: 23T012616

PROJECT: 170 Slater St. Phase Two 23592402

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St., Ottawa ON

SAMPLED BY:Paul Jackson

O. Reg. 558 Metals and Inorganics

DATE RECEIVED: 2023-04-04

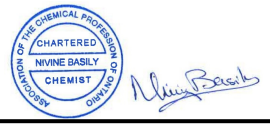
DATE REPORTED: 2023-04-12

		SAMPLE DESCRIPTION:		Soil Cuttings
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2023-04-04
Parameter	Unit	G / S	RDL	4903902
Arsenic Leachate	mg/L	2.5	0.010	<0.010
Barium Leachate	mg/L	100	0.010	2.03
Boron Leachate	mg/L	500	0.050	0.057
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	0.021
Mercury Leachate	mg/L	0.1	0.01	<0.01
Selenium Leachate	mg/L	1	0.010	<0.010
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	0.29
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:



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Certificate of Analysis

AGAT WORK ORDER: 23T012616

PROJECT: 170 Slater St. Phase Two 23592402

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St., Ottawa ON

SAMPLED BY:Paul Jackson

O. Reg. 558 - Benzene

DATE RECEIVED: 2023-04-04 **DATE REPORTED: 2023-04-12**

		SAMPLE DESCRIPTION:		**Soil Cuttings**
		SAMPLE TYPE:		**Soil**
		DATE SAMPLED:		**2023-04-04**
Parameter	**Unit**	**G / S**	**RDL**	**4903902**
Benzene Leachate	mg/L	0.5	0.020	<0.020
Surrogate	**Unit**	**Acceptable Limits**		
Toluene-d8	% Recovery	50-140		102

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.

4903902 Sample was prepared using Regulation 558 protocol and a zero headspace extractor.
Results relate only to the items tested.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popnikolof

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Certificate of Analysis

AGAT WORK ORDER: 23T012616

PROJECT: 170 Slater St. Phase Two 23592402

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St., Ottawa ON

SAMPLED BY:Paul Jackson

O. Reg. 558 - Benzo(a) pyrene

DATE RECEIVED: 2023-04-04 **DATE REPORTED: 2023-04-12**

		SAMPLE DESCRIPTION:		Soil Cuttings
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2023-04-04
Parameter	**Unit**	**G / S**	**RDL**	**4903902**
Benzo(a)pyrene Leachate	mg/L	0.001	0.001	<0.001
Surrogate	**Unit**	**Acceptable Limits**		
Acridine-d9	%	50-140		67
Naphthalene-d8	%	50-140		89
Terphenyl-d14	%	50-140		115

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.

4903902 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: N Popnikolof

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Quality Assurance

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23T012616

PROJECT: 170 Slater St. Phase Two 23592402

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St., Ottawa ON

SAMPLED BY:Paul Jackson

Soil Analysis

RPT Date: Apr 12, 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
Ignitability in Soil															
Ignitability	4839401		N	N	NA										
Comments: N = Non-Flammable Solid NA = Not Applicable															
O. Reg. 558 Metals and Inorganics															
Arsenic Leachate	4887793		<0.010	<0.010	NA	< 0.010	100%	70%	130%	110%	80%	120%	101%	70%	130%
Barium Leachate	4887793		0.456	0.414	9.6%	< 0.010	101%	70%	130%	112%	80%	120%	109%	70%	130%
Boron Leachate	4887793		<0.050	<0.050	NA	< 0.050	95%	70%	130%	93%	80%	120%	77%	70%	130%
Cadmium Leachate	4887793		<0.010	<0.010	NA	< 0.010	96%	70%	130%	98%	80%	120%	95%	70%	130%
Chromium Leachate	4887793		<0.050	<0.050	NA	< 0.050	95%	70%	130%	98%	80%	120%	77%	70%	130%
Lead Leachate	4887793		<0.010	<0.010	NA	< 0.010	99%	70%	130%	104%	80%	120%	93%	70%	130%
Mercury Leachate	4887793		<0.01	<0.01	NA	< 0.01	92%	70%	130%	92%	80%	120%	85%	70%	130%
Selenium Leachate	4887793		<0.010	<0.010	NA	< 0.010	103%	70%	130%	105%	80%	120%	97%	70%	130%
Silver Leachate	4887793		<0.010	<0.010	NA	< 0.010	92%	70%	130%	94%	80%	120%	80%	70%	130%
Uranium Leachate	4887793		<0.050	<0.050	NA	< 0.050	94%	70%	130%	97%	80%	120%	89%	70%	130%
Fluoride Leachate	4887793		0.14	0.14	NA	< 0.10	97%	90%	110%	95%	90%	110%	98%	70%	130%
Cyanide Leachate	4887793		<0.05	<0.05	NA	< 0.05	96%	70%	130%	99%	80%	120%	99%	70%	130%
(Nitrate + Nitrite) as N Leachate	4887793		<0.70	<0.70	NA	< 0.70	102%	80%	120%	94%	80%	120%	98%	70%	130%

Comments: NA signifies Not Applicable.
Duplicate NA: results are under 5X the RDL and will not be calculated.

Certified By:

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Quality Assurance

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23T012616

PROJECT: 170 Slater St. Phase Two 23592402

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St., Ottawa ON

SAMPLED BY:Paul Jackson

Trace Organics Analysis

RPT Date: Apr 12, 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 - Benzene															
Benzene Leachate	4903902		<0.020	<0.020	NA	< 0.020	98%	50%	140%	97%	60%	130%	88%	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: 23T012616

PROJECT: 170 Slater St. Phase Two 23592402

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St., Ottawa ON

SAMPLED BY:Paul Jackson

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Ignitability	INOR-93-6063	EPA SW-846 1030	BURN MOLD
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	TECHNICON AUTO ANALYZER
(Nitrate + Nitrite) as N Leachate	INOR-93-6053	EPA SW 846-1311 & modified from SM 4500 - NO3- I	LACHAT FIA
Trace Organics Analysis			
Benzene Leachate	VOL-91-5001	EPA 1311, EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91- 5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
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

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

Work Order #: 23T012616

Cooler Quantity: One - loose ice

Arrival Temperatures: 8.1 | 8.1 | 8.0
2.3 | 2.5 | 2.6

Custody Seal Intact: ☐Yes ☐No ☐N/A

Notes:

Report Information:

Company: WSP CANADA

Contact: KEITH HOLMES

Address: 1931 ROBERTSON RD
NEPEAN, ON K2H 5B7

Phone: 613-592-9600 Fax:

Reports to be sent to:

1. Email: KEITH.P.HOLMES@wsp.com
2. Email: Paul.Jackson@wsp.com

Regulatory Requirements:
(Please check all applicable boxes)

☐ Regulation 153/04
Table ___ Indicate One
☐Ind/Com
☐Res/Park
☐Agriculture
Soil Texture (Check One)
☐Coarse
☐Fine

☐ Excess Soils R406
Table ___ Indicate One
☑ Regulation 558
☐ CCME

☐ Sewer Use
☐Sanitary ☐Storm
Region
☐ Prov. Water Quality Objectives (PWQO)
☐ Other
Indicate One

Turnaround Time (TAT) Required:

Regular TAT (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: 170 Slater St. Phase Two, 23592402

Site Location: 170 Slater St., OTTAWA ONTARIO

Sampled By: Paul Jackson

AGAT ID #: PO:

Please note: If quotation number is not provided, client will be billed full price for analysis.

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

Report Guideline on *Certificate of Analysis* ☐ Yes ☐ No

Invoice Information: Bill To Same: Yes ☑ No ☐

Company:

Contact:

Address:

Email:

Sample Matrix Legend

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

Analysis columns: 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: 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; B(a)P; Benzene; Ignitability; Potentially Hazardous or High Concentration (Y/N)

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered (Y/N)	Metals & Inorganics	Metals - CrVI, Hg, HWSB	BTEX, F1-F4 PHCs	Analyze F4G	PAHs	Total PCBs	VOC	Landfill Disposal Characterization TCLP	Excess Soils SPLP	Excess Soils Characterization Package	Salt - EC/SAR	B(a)P	Benzene	Ignitability	Potentially Hazardous (Y/N)
Soil Cuttings	4/4/23	AM PM	2	S			✓											✓	✓	✓	
		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
[signature]	4/5/23	1200h	C. Griffiths	APR 04 2023	12h05
Chris Duro	2023/04/06	16h00 / 13h30	Aniga Tahir	APR 8 2023	10:19am

Page ___ of ___

Nº: T 122873

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CLIENT NAME: WSP CANADA INC.
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(613) 592-9600
ATTENTION TO: Keith Holmes
PROJECT: 170 Slater St. Phase Two, 23592402
AGAT WORK ORDER: 23T012619
TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist
DATE REPORTED: Apr 12, 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

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- 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: 23T012619

PROJECT: 170 Slater St. Phase Two, 23592402

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St., Ottawa, Ontario

SAMPLED BY:Paul Jackson

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

DATE RECEIVED: 2023-04-04

DATE REPORTED: 2023-04-12

		SAMPLE DESCRIPTION:		MW14-02 DUP
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2023-04-04
Parameter	Unit	G / S	RDL	4903901
Dichlorodifluoromethane	µg/L		0.40	<0.40
Vinyl Chloride	µg/L		0.17	<0.17
Bromomethane	µg/L		0.20	<0.20
Trichlorofluoromethane	µg/L		0.40	<0.40
Acetone	µg/L		1.0	<1.0
1,1-Dichloroethylene	µg/L		0.30	<0.30
Methylene Chloride	µg/L		0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L		0.20	<0.20
Methyl tert-butyl ether	µg/L		0.20	<0.20
1,1-Dichloroethane	µg/L		0.30	<0.30
Methyl Ethyl Ketone	µg/L		1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L		0.20	<0.20
Chloroform	µg/L		0.20	<0.20
1,2-Dichloroethane	µg/L		0.20	<0.20
1,1,1-Trichloroethane	µg/L		0.30	<0.30
Carbon Tetrachloride	µg/L		0.20	<0.20
Benzene	µg/L		0.20	<0.20
1,2-Dichloropropane	µg/L		0.20	<0.20
Trichloroethylene	µg/L		0.20	<0.20
Bromodichloromethane	µg/L		0.20	<0.20
Methyl Isobutyl Ketone	µg/L		1.0	<1.0
1,1,2-Trichloroethane	µg/L		0.20	<0.20
Toluene	µg/L		0.20	<0.20
Dibromochloromethane	µg/L		0.10	<0.10
Ethylene Dibromide	µg/L		0.10	<0.10
Tetrachloroethylene	µg/L		0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L		0.10	<0.10
Chlorobenzene	µg/L		0.10	<0.10
Ethylbenzene	µg/L		0.10	<0.10
m & p-Xylene	µg/L		0.20	<0.20

Certified By: NPopowkolof

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 23T012619

PROJECT: 170 Slater St. Phase Two, 23592402

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St., Ottawa, Ontario

SAMPLED BY:Paul Jackson

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

DATE RECEIVED: 2023-04-04

DATE REPORTED: 2023-04-12

		SAMPLE DESCRIPTION:		MW14-02 DUP
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2023-04-04
Parameter	Unit	G / S	RDL	4903901
Bromoform	µg/L		0.10	<0.10
Styrene	µg/L		0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L		0.10	<0.10
o-Xylene	µg/L		0.10	<0.10
1,3-Dichlorobenzene	µg/L		0.10	<0.10
1,4-Dichlorobenzene	µg/L		0.10	<0.10
1,2-Dichlorobenzene	µg/L		0.10	<0.10
1,3-Dichloropropene	µg/L		0.30	<0.30
Xylenes (Total)	µg/L		0.20	<0.20
n-Hexane	µg/L		0.20	<0.20
Surrogate	Unit	Acceptable Limits		
Toluene-d8	% Recovery	50-140		97
4-Bromofluorobenzene	% Recovery	50-140		80

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

4903901 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 Popnikolof

AGAT Laboratories

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FAX (905)712-5122
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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 170 Slater St. Phase Two, 23592402
SAMPLING SITE:170 Slater St., Ottawa, Ontario

AGAT WORK ORDER: 23T012619
ATTENTION TO: Keith Holmes
SAMPLED BY:Paul Jackson

Trace Organics Analysis

RPT Date: Apr 12, 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	4896383		<0.40	<0.40	NA	< 0.40	106%	50%	140%	101%	50%	140%	103%	50%	140%
Vinyl Chloride	4896383		<0.17	<0.17	NA	< 0.17	108%	50%	140%	104%	50%	140%	94%	50%	140%
Bromomethane	4896383		<0.20	<0.20	NA	< 0.20	86%	50%	140%	75%	50%	140%	76%	50%	140%
Trichlorofluoromethane	4896383		<0.40	<0.40	NA	< 0.40	106%	50%	140%	107%	50%	140%	101%	50%	140%
Acetone	4896383		<1.0	<1.0	NA	< 1.0	96%	50%	140%	91%	50%	140%	111%	50%	140%
1,1-Dichloroethylene	4896383		<0.30	<0.30	NA	< 0.30	108%	50%	140%	96%	60%	130%	113%	50%	140%
Methylene Chloride	4896383		<0.30	<0.30	NA	< 0.30	119%	50%	140%	105%	60%	130%	95%	50%	140%
trans- 1,2-Dichloroethylene	4896383		<0.20	<0.20	NA	< 0.20	107%	50%	140%	99%	60%	130%	105%	50%	140%
Methyl tert-butyl ether	4896383		<0.20	<0.20	NA	< 0.20	71%	50%	140%	74%	60%	130%	73%	50%	140%
1,1-Dichloroethane	4896383		<0.30	<0.30	NA	< 0.30	110%	50%	140%	104%	60%	130%	98%	50%	140%
Methyl Ethyl Ketone	4896383		<1.0	<1.0	NA	< 1.0	78%	50%	140%	103%	50%	140%	90%	50%	140%
cis- 1,2-Dichloroethylene	4896383		<0.20	<0.20	NA	< 0.20	110%	50%	140%	99%	60%	130%	98%	50%	140%
Chloroform	4896383		<0.20	<0.20	NA	< 0.20	112%	50%	140%	117%	60%	130%	98%	50%	140%
1,2-Dichloroethane	4896383		<0.20	<0.20	NA	< 0.20	103%	50%	140%	100%	60%	130%	95%	50%	140%
1,1,1-Trichloroethane	4896383		<0.30	<0.30	NA	< 0.30	99%	50%	140%	113%	60%	130%	74%	50%	140%
Carbon Tetrachloride	4896383		<0.20	<0.20	NA	< 0.20	75%	50%	140%	88%	60%	130%	75%	50%	140%
Benzene	4896383		<0.20	<0.20	NA	< 0.20	103%	50%	140%	107%	60%	130%	87%	50%	140%
1,2-Dichloropropane	4896383		<0.20	<0.20	NA	< 0.20	85%	50%	140%	94%	60%	130%	79%	50%	140%
Trichloroethylene	4896383		<0.20	<0.20	NA	< 0.20	90%	50%	140%	100%	60%	130%	101%	50%	140%
Bromodichloromethane	4896383		<0.20	<0.20	NA	< 0.20	99%	50%	140%	101%	60%	130%	91%	50%	140%
Methyl Isobutyl Ketone	4896383		<1.0	<1.0	NA	< 1.0	90%	50%	140%	93%	50%	140%	90%	50%	140%
1,1,2-Trichloroethane	4896383		<0.20	<0.20	NA	< 0.20	107%	50%	140%	95%	60%	130%	92%	50%	140%
Toluene	4896383		<0.20	<0.20	NA	< 0.20	99%	50%	140%	100%	60%	130%	77%	50%	140%
Dibromochloromethane	4896383		<0.10	<0.10	NA	< 0.10	108%	50%	140%	102%	60%	130%	98%	50%	140%
Ethylene Dibromide	4896383		<0.10	<0.10	NA	< 0.10	99%	50%	140%	96%	60%	130%	97%	50%	140%
Tetrachloroethylene	4896383		<0.20	<0.20	NA	< 0.20	105%	50%	140%	116%	60%	130%	85%	50%	140%
1,1,1,2-Tetrachloroethane	4896383		<0.10	<0.10	NA	< 0.10	90%	50%	140%	88%	60%	130%	74%	50%	140%
Chlorobenzene	4896383		<0.10	<0.10	NA	< 0.10	105%	50%	140%	96%	60%	130%	79%	50%	140%
Ethylbenzene	4896383		<0.10	<0.10	NA	< 0.10	93%	50%	140%	92%	60%	130%	77%	50%	140%
m & p-Xylene	4896383		<0.20	<0.20	NA	< 0.20	100%	50%	140%	99%	60%	130%	118%	50%	140%
Bromoform	4896383		<0.10	<0.10	NA	< 0.10	118%	50%	140%	103%	60%	130%	104%	50%	140%
Styrene	4896383		<0.10	<0.10	NA	< 0.10	86%	50%	140%	85%	60%	130%	77%	50%	140%
1,1,2,2-Tetrachloroethane	4896383		<0.10	<0.10	NA	< 0.10	115%	50%	140%	101%	60%	130%	80%	50%	140%
o-Xylene	4896383		<0.10	<0.10	NA	< 0.10	114%	50%	140%	107%	60%	130%	84%	50%	140%
1,3-Dichlorobenzene	4896383		<0.10	<0.10	NA	< 0.10	117%	50%	140%	103%	60%	130%	88%	50%	140%
1,4-Dichlorobenzene	4896383		<0.10	<0.10	NA	< 0.10	112%	50%	140%	103%	60%	130%	86%	50%	140%
1,2-Dichlorobenzene	4896383		<0.10	<0.10	NA	< 0.10	109%	50%	140%	92%	60%	130%	82%	50%	140%
n-Hexane	4896383		<0.20	<0.20	NA	< 0.20	85%	50%	140%	99%	60%	130%	86%	50%	140%

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 170 Slater St. Phase Two, 23592402
SAMPLING SITE:170 Slater St., Ottawa, Ontario

AGAT WORK ORDER: 23T012619
ATTENTION TO: Keith Holmes
SAMPLED BY:Paul Jackson

Trace Organics Analysis (Continued)

RPT Date: Apr 12, 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 Popnikolof

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23T012619

PROJECT: 170 Slater St. Phase Two, 23592402

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St., Ottawa, Ontario

SAMPLED BY:Paul Jackson

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: 23T012619

PROJECT: 170 Slater St. Phase Two, 23592402

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St., Ottawa, Ontario

SAMPLED BY:Paul Jackson

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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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 CANADA
Contact: KEITH HOLMES
Address: 1931 ROBERTSON RD
NEPEAN, ON K2H5Z7
Phone: 613-596-9600 Fax:
Reports to be sent to:
1. Email: KEITH.P.HOLMES@wsp.com
2. Email: PAUL.JACKSON@wsp.com

Project Information:

Project: 170 Slater St. Phase Two, 23592402
Site Location: 170 Slater St., OTTAWA, ONTARIO
Sampled By: PAUL JACKSON
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:

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

Sample Matrix Legend

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

Laboratory Use Only

Work Order #: 23T012619
Cooler Quantity: one - loose ice.
Arrival Temperatures: 5.9 16.0 16.1 / 2.3 2.5 2.6
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes:

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

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 ☐ Arocolor	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)
MW14-02 Dup	4/4/23	1915 AM (PM)	3	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
	4/5/23	1200	C. Cwitkin	APR 04 2023	12h05
C. Cwitkin 23/04/06	16/04/00	13h30	Anja a Tahir	APR 8 2023	10:12am

Page ____ of ____
Nº: T 122874

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CLIENT NAME: WSP CANADA INC.
1931 ROBERTSON ROAD
OTTAWA, ON K2H5B7
(613) 592-9600
ATTENTION TO: Keith Holmes
PROJECT: 170 SLATER STREET, PHASE TWO ESA
AGAT WORK ORDER: 23Z006407
SOIL ANALYSIS REVIEWED BY: Chuandi Zhang, Lab Team Lead
TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist
DATE REPORTED: Mar 27, 2023
PAGES (INCLUDING COVER): 22
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: 23Z006407

PROJECT: 170 SLATER STREET, PHASE TWO ESA

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:JAMES SULLIVAN

O. Reg. 153(511) - Metals & Inorganics (Soil)

DATE RECEIVED: 2023-03-16

DATE REPORTED: 2023-03-27

SAMPLE DESCRIPTION:				23-05 - SA01	23-05 - SA03	23-05 - SA04	23-05 - SA05	23-02 - SA02	23-02 - SA03	23-02 - SA06	23-02 - Dup01
SAMPLE TYPE:				Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
DATE SAMPLED:				2023-03-07 11:40	2023-03-07 12:10	2023-03-08 11:00	2023-03-08 11:20	2023-03-10 11:10	2023-03-10 11:15	2023-03-10 14:45	2023-03-10 14:45
Parameter	Unit	G / S	RDL	4858516	4858518	4858519	4858520	4858521	4858522	4858523	4858524
Antimony	µg/g	7.5	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	1	<1	2	2	3	1	1	9	7
Barium	µg/g	390	2.0	118	104	41.5	123	315	504	284	255
Beryllium	µg/g	4	0.4	<0.4	<0.4	<0.4	<0.4	0.6	0.8	0.5	0.5
Boron	µg/g	120	5	6	<5	<5	<5	22	13	9	7
Boron (Hot Water Soluble)	µg/g	1.5	0.10	0.28	0.19	<0.10	<0.10	2.19	1.35	0.23	0.24
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	160	5	7	23	7	8	68	75	15	13
Cobalt	µg/g	22	0.5	4.4	7.3	4.6	4.8	12.9	18.8	12.7	10.7
Copper	µg/g	140	1.0	9.2	23.7	7.7	10.7	31.9	36.6	70.3	30.9
Lead	µg/g	120	1	3	24	3	16	5	8	15	15
Molybdenum	µg/g	6.9	0.5	<0.5	0.5	1.2	2.6	<0.5	<0.5	12.2	10.3
Nickel	µg/g	100	1	6	15	9	11	33	39	46	38
Selenium	µg/g	2.4	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	1.1	0.8
Silver	µg/g	20	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Thallium	µg/g	1	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5
Uranium	µg/g	23	0.50	<0.50	0.51	0.53	0.83	0.58	0.59	3.66	2.77
Vanadium	µg/g	86	0.4	11.3	32.5	12.5	13.6	79.2	102	28.2	22.5
Zinc	µg/g	340	5	10	46	10	17	95	116	55	46
Chromium, Hexavalent	µg/g	8	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Cyanide, WAD	µg/g	0.051	0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Mercury	µg/g	0.27	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	0.7	0.005	3.34	3.12	0.983	2.19	8.27	6.20	1.23	0.986
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	N/A	2.60	40.0	1.70	2.47	28.1	6.20	2.05	1.64
pH, 2:1 CaCl2 Extraction	pH Units	5.0-9.0	NA	7.61	7.64	7.39	7.46	7.62	7.20	7.50	7.53

Certified By:

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AGAT WORK ORDER: 23Z006407

PROJECT: 170 SLATER STREET, PHASE TWO ESA

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:JAMES SULLIVAN

O. Reg. 153(511) - Metals & Inorganics (Soil)

DATE RECEIVED: 2023-03-16

DATE REPORTED: 2023-03-27

SAMPLE DESCRIPTION:				23-04 - SA03	23-04 - SA04	23-04 - SA06	23-04 - SA09	23-04 - Dup01
SAMPLE TYPE:				Soil	Soil	Soil	Soil	Soil
DATE SAMPLED:				2023-03-14 11:05	2023-03-15 14:10	2023-03-15 15:10	2023-03-15 17:00	2023-03-15 15:10
Parameter	Unit	G / S	RDL	4858525	4858526	4858527	4858528	4858529
Antimony	µg/g	7.5	0.8	1.9	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	1	18	2	2	7	3
Barium	µg/g	390	2.0	424	853	129	200	105
Beryllium	µg/g	4	0.4	0.6	0.8	<0.4	<0.4	<0.4
Boron	µg/g	120	5	8	7	<5	5	5
Boron (Hot Water Soluble)	µg/g	1.5	0.10	0.58	0.43	0.18	0.30	0.19
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	160	5	30	64	10	10	13
Cobalt	µg/g	22	0.5	11.4	16.8	6.2	9.5	7.5
Copper	µg/g	140	1.0	48.1	36.1	12.2	28.2	13.4
Lead	µg/g	120	1	1290	14	7	14	7
Molybdenum	µg/g	6.9	0.5	2.2	1.0	2.6	6.5	3.1
Nickel	µg/g	100	1	25	37	14	31	17
Selenium	µg/g	2.4	0.8	2.8	<0.8	<0.8	0.8	0.9
Silver	µg/g	20	0.5	0.5	<0.5	<0.5	<0.5	<0.5
Thallium	µg/g	1	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Uranium	µg/g	23	0.50	0.57	0.55	0.93	2.54	0.83
Vanadium	µg/g	86	0.4	41.6	88.1	16.2	17.4	18.2
Zinc	µg/g	340	5	255	105	18	32	22
Chromium, Hexavalent	µg/g	8	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Cyanide, WAD	µg/g	0.051	0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Mercury	µg/g	0.27	0.10	1.53	<0.10	<0.10	<0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	0.7	0.005	10.5	5.09	8.57	4.96	6.65
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	N/A	21.3	5.08	0.414	0.522	0.518
pH, 2:1 CaCl2 Extraction	pH Units	5.0-9.0	NA	7.37	7.27	7.38	7.47	7.51

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Certificate of Analysis

AGAT WORK ORDER: 23Z006407

PROJECT: 170 SLATER STREET, PHASE TWO ESA

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:JAMES SULLIVAN

O. Reg. 153(511) - Metals & Inorganics (Soil)

DATE RECEIVED: 2023-03-16

DATE REPORTED: 2023-03-27

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards 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.

4858516-4858529 EC was determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil). pH was determined on the 0.01M CaCl2 extract prepared at 2:1 ratio. SAR is a calculated parameter.

Analysis performed at AGAT Toronto (unless marked by *)

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AGAT WORK ORDER: 23Z006407

PROJECT: 170 SLATER STREET, PHASE TWO ESA

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:JAMES SULLIVAN

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

DATE RECEIVED: 2023-03-16

DATE REPORTED: 2023-03-27

SAMPLE DESCRIPTION:				23-05 - SA01	23-05 - SA03	23-05 - SA04	23-05 - SA05	23-02 - SA02	23-02 - SA03	23-02 - SA06	23-02 - Dup01
SAMPLE TYPE:				Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
DATE SAMPLED:				2023-03-07 11:40	2023-03-07 12:10	2023-03-08 11:00	2023-03-08 11:20	2023-03-10 11:10	2023-03-10 11:15	2023-03-10 14:45	2023-03-10 14:45
Parameter	Unit	G / S	RDL	4858516	4858518	4858519	4858520	4858521	4858522	4858523	4858524
Naphthalene	µg/g	0.6	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	µg/g	0.15	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene	µg/g	7.9	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	µg/g	62	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	µg/g	6.2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	µg/g	0.67	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	µg/g	0.69	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	µg/g	78	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benz(a)anthracene	µg/g	0.5	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	µg/g	7	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.78	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/g	0.78	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g	0.3	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.38	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g	0.1	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	6.6	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1 and 2 Methlynaphthalene	µg/g	0.99	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	3.4	6.6	8.4	8.4	24.4	27.7	8.1	9.0
Surrogate	Unit	Acceptable Limits									
Naphthalene-d8	%	50-140		80	85	95	75	95	90	110	90
Acridine-d9	%	50-140		105	100	80	90	95	100	95	80
Terphenyl-d14	%	50-140		105	70	95	85	75	90	120	100

Certified By: NPopowkolof

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Certificate of Analysis

AGAT WORK ORDER: 23Z006407

PROJECT: 170 SLATER STREET, PHASE TWO ESA

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:JAMES SULLIVAN

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

DATE RECEIVED: 2023-03-16

DATE REPORTED: 2023-03-27

SAMPLE DESCRIPTION:				23-04 - SA03	23-04 - SA04	23-04 - SA06	23-04 - SA09	23-04 - Dup01
SAMPLE TYPE:				Soil	Soil	Soil	Soil	Soil
DATE SAMPLED:				2023-03-14 11:05	2023-03-15 14:10	2023-03-15 15:10	2023-03-15 17:00	2023-03-15 15:10
Parameter	Unit	G / S	RDL	4858525	4858526	4858527	4858528	4858529
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	0.27	<0.05	<0.05	<0.05	<0.05
Anthracene	µg/g	0.67	0.05	0.07	<0.05	<0.05	<0.05	<0.05
Fluoranthene	µg/g	0.69	0.05	0.29	<0.05	<0.05	<0.05	<0.05
Pyrene	µg/g	78	0.05	0.24	<0.05	<0.05	<0.05	<0.05
Benz(a)anthracene	µg/g	0.5	0.05	0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	µg/g	7	0.05	0.13	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.78	0.05	0.08	<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	12.2	27.9	6.7	5.2	8.3
Surrogate	Unit	Acceptable Limits						
Naphthalene-d8	%	50-140		90	90	115	90	80
Acridine-d9	%	50-140		100	85	100	75	90
Terphenyl-d14	%	50-140		100	95	95	115	115

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards 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.

4858516-4858529 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: NPopnikolof

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AGAT WORK ORDER: 23Z006407

PROJECT: 170 SLATER STREET, PHASE TWO ESA

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:JAMES SULLIVAN

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

DATE RECEIVED: 2023-03-16

DATE REPORTED: 2023-03-27

SAMPLE DESCRIPTION:				23-05 - SA01	23-05 - SA03	23-05 - SA04	23-05 - SA05	23-02 - SA02	23-02 - SA03	23-02 - SA06	23-02 - Dup01
SAMPLE TYPE:				Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
DATE SAMPLED:				2023-03-07 11:40	2023-03-07 12:10	2023-03-08 11:00	2023-03-08 11:20	2023-03-10 11:10	2023-03-10 11:15	2023-03-10 14:45	2023-03-10 14:45
Parameter	Unit	G / S	RDL	4858516	4858518	4858519	4858520	4858521	4858522	4858523	4858524
F1 (C6 - C10)	µg/g	55	5	<5	<5	<5	5	<5	<5	7	6
F1 (C6 to C10) minus BTEX	µg/g	55	5	<5	<5	<5	5	<5	<5	7	6
F2 (C10 to C16)	µg/g	98	10	<10	<10	<10	28	<10	<10	36	41
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10	<10	<10	28	<10	<10	36	41
F3 (C16 to C34)	µg/g	300	50	<50	<50	<50	<50	<50	<50	72	80
F3 (C16 to C34) minus PAHs	µg/g		50	<50	<50	<50	<50	<50	<50	72	80
F4 (C34 to C50)	µg/g	2800	50	<50	<50	<50	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	2800	50	NA	NA	NA	NA	NA	NA	NA	NA
Moisture Content	%		0.1	3.4	6.6	8.4	8.4	24.4	27.7	8.1	9.0
Surrogate	Unit	Acceptable Limits									
Toluene-d8	%	50-140		106	104	109	105	101	101	97	100
Terphenyl	%	60-140		81	75	88	89	81	81	83	71

Certified By: NPopowich

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Certificate of Analysis

AGAT WORK ORDER: 23Z006407

PROJECT: 170 SLATER STREET, PHASE TWO ESA

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:JAMES SULLIVAN

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

DATE RECEIVED: 2023-03-16

DATE REPORTED: 2023-03-27

SAMPLE DESCRIPTION:				23-04 - SA03	23-04 - SA04	23-04 - SA06	23-04 - SA09	23-04 - Dup01
SAMPLE TYPE:				Soil	Soil	Soil	Soil	Soil
DATE SAMPLED:				2023-03-14 11:05	2023-03-15 14:10	2023-03-15 15:10	2023-03-15 17:00	2023-03-15 15:10
Parameter	Unit	G / S	RDL	4858525	4858526	4858527	4858528	4858529
F1 (C6 - C10)	µg/g	55	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	22	75	20
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10	<10	22	75	20
F3 (C16 to C34)	µg/g	300	50	<50	<50	<50	67	<50
F3 (C16 to C34) minus PAHs	µg/g		50	<50	<50	<50	67	<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	12.2	27.9	6.7	5.2	8.3
Surrogate	Unit	Acceptable Limits						
Toluene-d8	%	50-140		105	98	104	98	101
Terphenyl	%	60-140		81	86	94	83	79

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards 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.

4858516-4858529 Results are based on sample dry weight.
The C6-C10 fraction is calculated using toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX and PAH contributions.
C>10 – C16 (F2- Naphthalene) is a calculated parameter. The calculated value is F2 - Naphthalene.
C>16 - C34 (F3-PAH) is a calculated parameter. The calculated value is F3-PAH (PAH: sum of Phenanthrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Fluoranthene, Dibenzo(a,h)anthracene, Indeno(1,2,3-c,d)pyrene and Pyrene).
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popnikolof

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 23Z006407

PROJECT: 170 SLATER STREET, PHASE TWO ESA

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:JAMES SULLIVAN

O. Reg. 153(511) - VOCs (with PHC) (Soil)

DATE RECEIVED: 2023-03-16

DATE REPORTED: 2023-03-27

SAMPLE DESCRIPTION:				23-05 - SA01	23-05 - SA03	23-05 - SA04	23-05 - SA05	23-02 - SA02	23-02 - SA03	23-02 - SA06	23-02 - Dup01
SAMPLE TYPE:				Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
DATE SAMPLED:				2023-03-07 11:40	2023-03-07 12:10	2023-03-08 11:00	2023-03-08 11:20	2023-03-10 11:10	2023-03-10 11:15	2023-03-10 14:45	2023-03-10 14:45
Parameter	Unit	G / S	RDL	4858516	4858518	4858519	4858520	4858521	4858522	4858523	4858524
Dichlorodifluoromethane	µg/g	16	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	ug/g	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Bromomethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	ug/g	4	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acetone	ug/g	16	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	ug/g	0.1	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trans- 1,2-Dichloroethylene	ug/g	0.084	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl tert-butyl Ether	ug/g	0.75	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1-Dichloroethane	ug/g	3.5	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Methyl Ethyl Ketone	ug/g	16	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cis- 1,2-Dichloroethylene	ug/g	3.4	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,2-Dichloroethane	ug/g	0.05	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
1,1,1-Trichloroethane	ug/g	0.38	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzene	ug/g	0.21	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-Dichloropropane	ug/g	0.05	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Trichloroethylene	ug/g	0.061	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Bromodichloromethane	ug/g	13	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl Isobutyl Ketone	ug/g	1.7	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Toluene	ug/g	2.3	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromochloromethane	ug/g	9.4	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylene Dibromide	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Tetrachloroethylene	ug/g	0.28	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,1,2-Tetrachloroethane	ug/g	0.058	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Chlorobenzene	ug/g	2.4	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	ug/g	2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Certified By: N Popnikolof

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Certificate of Analysis

AGAT WORK ORDER: 23Z006407

PROJECT: 170 SLATER STREET, PHASE TWO ESA

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:JAMES SULLIVAN

O. Reg. 153(511) - VOCs (with PHC) (Soil)

DATE RECEIVED: 2023-03-16

DATE REPORTED: 2023-03-27

SAMPLE DESCRIPTION:				23-05 - SA01	23-05 - SA03	23-05 - SA04	23-05 - SA05	23-02 - SA02	23-02 - SA03	23-02 - SA06	23-02 - Dup01
SAMPLE TYPE:				Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
DATE SAMPLED:				2023-03-07 11:40	2023-03-07 12:10	2023-03-08 11:00	2023-03-08 11:20	2023-03-10 11:10	2023-03-10 11:15	2023-03-10 14:45	2023-03-10 14:45
Parameter	Unit	G / S	RDL	4858516	4858518	4858519	4858520	4858521	4858522	4858523	4858524
m & p-Xylene	ug/g		0.05	<0.05	<0.05	<0.05	<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	<0.05	<0.05	<0.05	<0.05
Styrene	ug/g	0.7	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
o-Xylene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,3-Dichlorobenzene	ug/g	4.8	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,4-Dichlorobenzene	ug/g	0.083	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,2-Dichlorobenzene	ug/g	3.4	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	ug/g	3.1	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,3-Dichloropropene (Cis + Trans)	µg/g	0.05	0.05	<0.05	<0.05	<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	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	3.4	6.6	8.4	8.4	24.4	27.7	8.1	9.0
Surrogate	Unit	Acceptable Limits									
Toluene-d8	% Recovery	50-140		106	104	109	105	101	101	97	100
4-Bromofluorobenzene	% Recovery	50-140		91	92	96	97	86	88	79	76

Certified By: N Popnikolof

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Certificate of Analysis

AGAT WORK ORDER: 23Z006407

PROJECT: 170 SLATER STREET, PHASE TWO ESA

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:JAMES SULLIVAN

O. Reg. 153(511) - VOCs (with PHC) (Soil)

DATE RECEIVED: 2023-03-16

DATE REPORTED: 2023-03-27

SAMPLE DESCRIPTION:				23-04 - SA03	23-04 - SA04	23-04 - SA06	23-04 - SA09	23-04 - Dup01
SAMPLE TYPE:				Soil	Soil	Soil	Soil	Soil
DATE SAMPLED:				2023-03-14 11:05	2023-03-15 14:10	2023-03-15 15:10	2023-03-15 17:00	2023-03-15 15:10
Parameter	Unit	G / S	RDL	4858525	4858526	4858527	4858528	4858529
Dichlorodifluoromethane	µg/g	16	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	ug/g	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Bromomethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	ug/g	4	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acetone	ug/g	16	0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	ug/g	0.1	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trans- 1,2-Dichloroethylene	ug/g	0.084	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl tert-butyl Ether	ug/g	0.75	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1-Dichloroethane	ug/g	3.5	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Methyl Ethyl Ketone	ug/g	16	0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cis- 1,2-Dichloroethylene	ug/g	3.4	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,2-Dichloroethane	ug/g	0.05	0.03	<0.03	<0.03	<0.03	<0.03	<0.03
1,1,1-Trichloroethane	ug/g	0.38	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzene	ug/g	0.21	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-Dichloropropane	ug/g	0.05	0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Trichloroethylene	ug/g	0.061	0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Bromodichloromethane	ug/g	13	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl Isobutyl Ketone	ug/g	1.7	0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Toluene	ug/g	2.3	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromochloromethane	ug/g	9.4	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylene Dibromide	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Tetrachloroethylene	ug/g	0.28	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,1,2-Tetrachloroethane	ug/g	0.058	0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Chlorobenzene	ug/g	2.4	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	ug/g	2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Certified By: N Popnikolof

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Certificate of Analysis

AGAT WORK ORDER: 23Z006407

PROJECT: 170 SLATER STREET, PHASE TWO ESA

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:JAMES SULLIVAN

O. Reg. 153(511) - VOCs (with PHC) (Soil)

DATE RECEIVED: 2023-03-16

DATE REPORTED: 2023-03-27

				SAMPLE DESCRIPTION:	23-04 - SA03	23-04 - SA04	23-04 - SA06	23-04 - SA09	23-04 - Dup01
				SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil
				DATE SAMPLED:	2023-03-14 11:05	2023-03-15 14:10	2023-03-15 15:10	2023-03-15 17:00	2023-03-15 15:10
Parameter	Unit	G / S	RDL		4858525	4858526	4858527	4858528	4858529
m & p-Xylene	ug/g		0.05		<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	<0.05
Styrene	ug/g	0.7	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
o-Xylene	ug/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05
1,3-Dichlorobenzene	ug/g	4.8	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
1,4-Dichlorobenzene	ug/g	0.083	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
1,2-Dichlorobenzene	ug/g	3.4	0.05		<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	<0.05
1,3-Dichloropropene (Cis + Trans)	µg/g	0.05	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
n-Hexane	µg/g	2.8	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1		12.2	27.9	6.7	5.2	8.3
Surrogate	Unit	Acceptable Limits							
Toluene-d8	% Recovery	50-140			105	98	104	98	101
4-Bromofluorobenzene	% Recovery	50-140			91	88	91	100	94

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards 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.

4858516-4858529 The sample was analyzed using the high level technique. The sample was extracted using methanol, a small amount of the methanol extract was diluted in water and the purge & trap GC/MS analysis was performed. Results are based on the dry weight of the soil.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene + o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popnikolof

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Exceedance Summary

AGAT WORK ORDER: 23Z006407

PROJECT: 170 SLATER STREET, PHASE TWO ESA

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
4858516	23-05 - SA01	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.7	3.34
4858518	23-05 - SA03	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.7	3.12
4858518	23-05 - SA03	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	40.0
4858519	23-05 - SA04	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.7	0.983
4858520	23-05 - SA05	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.7	2.19
4858521	23-02 - SA02	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Boron (Hot Water Soluble)	µg/g	1.5	2.19
4858521	23-02 - SA02	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.7	8.27
4858521	23-02 - SA02	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	28.1
4858522	23-02 - SA03	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Barium	µg/g	390	504
4858522	23-02 - SA03	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.7	6.20
4858522	23-02 - SA03	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	6.20
4858522	23-02 - SA03	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Vanadium	µg/g	86	102
4858523	23-02 - SA06	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.7	1.23
4858523	23-02 - SA06	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Molybdenum	µg/g	6.9	12.2
4858524	23-02 - Dup01	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.7	0.986
4858524	23-02 - Dup01	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Molybdenum	µg/g	6.9	10.3
4858525	23-04 - SA03	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Barium	µg/g	390	424
4858525	23-04 - SA03	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.7	10.5
4858525	23-04 - SA03	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Lead	µg/g	120	1290
4858525	23-04 - SA03	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Mercury	µg/g	0.27	1.53
4858525	23-04 - SA03	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Selenium	µg/g	2.4	2.8
4858525	23-04 - SA03	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	21.3
4858526	23-04 - SA04	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Barium	µg/g	390	853
4858526	23-04 - SA04	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.7	5.09
4858526	23-04 - SA04	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	5.08
4858526	23-04 - SA04	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Vanadium	µg/g	86	88.1
4858527	23-04 - SA06	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.7	8.57
4858528	23-04 - SA09	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.7	4.96
4858529	23-04 - Dup01	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.7	6.65

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 170 SLATER STREET, PHASE TWO ESA
SAMPLING SITE:170 Slater Street, Ottawa, Ontario

AGAT WORK ORDER: 23Z006407
ATTENTION TO: Keith Holmes
SAMPLED BY:JAMES SULLIVAN

Soil Analysis

RPT Date: Mar 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) - Metals & Inorganics (Soil)															
Antimony	4858516	4858516	<0.8	<0.8	NA	< 0.8	99%	70%	130%	83%	80%	120%	77%	70%	130%
Arsenic	4858516	4858516	<1	1	NA	< 1	127%	70%	130%	108%	80%	120%	115%	70%	130%
Barium	4858516	4858516	118	113	3.8%	< 2.0	102%	70%	130%	100%	80%	120%	98%	70%	130%
Beryllium	4858516	4858516	<0.4	<0.4	NA	< 0.4	96%	70%	130%	97%	80%	120%	109%	70%	130%
Boron	4858516	4858516	6	7	NA	< 5	87%	70%	130%	99%	80%	120%	105%	70%	130%
Boron (Hot Water Soluble)	4858516	4858516	0.28	0.27	NA	< 0.10	94%	60%	140%	97%	70%	130%	97%	60%	140%
Cadmium	4858516	4858516	<0.5	<0.5	NA	< 0.5	86%	70%	130%	105%	80%	120%	97%	70%	130%
Chromium	4858516	4858516	7	9	NA	< 5	101%	70%	130%	93%	80%	120%	104%	70%	130%
Cobalt	4858516	4858516	4.4	5.2	16.9%	< 0.5	109%	70%	130%	108%	80%	120%	113%	70%	130%
Copper	4858516	4858516	9.2	9.8	6.5%	< 1.0	100%	70%	130%	101%	80%	120%	95%	70%	130%
Lead	4858516	4858516	3	4	NA	< 1	109%	70%	130%	101%	80%	120%	97%	70%	130%
Molybdenum	4858516	4858516	<0.5	<0.5	NA	< 0.5	113%	70%	130%	100%	80%	120%	109%	70%	130%
Nickel	4858516	4858516	6	8	16.7%	< 1	103%	70%	130%	100%	80%	120%	100%	70%	130%
Selenium	4858516	4858516	<0.8	<0.8	NA	< 0.8	89%	70%	130%	102%	80%	120%	118%	70%	130%
Silver	4858516	4858516	<0.5	<0.5	NA	< 0.5	103%	70%	130%	94%	80%	120%	96%	70%	130%
Thallium	4858516	4858516	<0.5	<0.5	NA	< 0.5	92%	70%	130%	107%	80%	120%	101%	70%	130%
Uranium	4858516	4858516	<0.50	<0.50	NA	< 0.50	97%	70%	130%	104%	80%	120%	100%	70%	130%
Vanadium	4858516	4858516	11.3	12.9	13.4%	< 0.4	103%	70%	130%	106%	80%	120%	114%	70%	130%
Zinc	4858516	4858516	10	13	NA	< 5	109%	70%	130%	97%	80%	120%	106%	70%	130%
Chromium, Hexavalent	4858523	4858523	<0.2	<0.2	NA	< 0.2	95%	70%	130%	89%	80%	120%	94%	70%	130%
Cyanide, WAD	4865251		<0.040	<0.040	NA	< 0.040	92%	70%	130%	105%	80%	120%	101%	70%	130%
Mercury	4858516	4858516	<0.10	<0.10	NA	< 0.10	107%	70%	130%	104%	80%	120%	103%	70%	130%
Electrical Conductivity (2:1)	4850926		0.219	0.216	1.2%	< 0.005	88%	80%	120%						
Sodium Adsorption Ratio (2:1) (Calc.)	4851036		3.41	3.37	1.2%	NA									
pH, 2:1 CaCl2 Extraction	4860197		7.14	7.28	2.0%	NA	101%	80%	120%						

Comments: NA signifies Not Applicable.
pH duplicates QA acceptance criteria was met relative as stated in Table 5-15 of Analytical Protocol document.
Duplicate NA: results are under 5X the RDL and will not be calculated.

O. Reg. 153(511) - Metals & Inorganics (Soil)															
pH, 2:1 CaCl2 Extraction	4858525	4858525	7.37	7.40	0.4%	NA	103%	80%	120%						

Comments: NA signifies Not Applicable.
pH duplicates QA acceptance criteria was met relative as stated in Table 5-15 of Analytical Protocol document.

Certified By:

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 170 SLATER STREET, PHASE TWO ESA
SAMPLING SITE:170 Slater Street, Ottawa, Ontario

AGAT WORK ORDER: 23Z006407
ATTENTION TO: Keith Holmes
SAMPLED BY:JAMES SULLIVAN

Trace Organics Analysis

RPT Date: Mar 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 PAHs and VOC) (Soil)															
F1 (C6 - C10)	4858521	4858521	<5	<5	NA	< 5	95%	60%	140%	124%	60%	140%	85%	60%	140%
F2 (C10 to C16)	4858516	4858516	<10	<10	NA	< 10	100%	60%	140%	112%	60%	140%	101%	60%	140%
F3 (C16 to C34)	4858516	4858516	<50	<50	NA	< 50	100%	60%	140%	106%	60%	140%	113%	60%	140%
F4 (C34 to C50)	4858516	4858516	<50	<50	NA	< 50	85%	60%	140%	89%	60%	140%	87%	60%	140%
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)															
F2 (C10 to C16)	4854121		<10	<10	NA	< 10	94%	60%	140%	99%	60%	140%	90%	60%	140%
F3 (C16 to C34)	4854121		<50	<50	NA	< 50	97%	60%	140%	89%	60%	140%	84%	60%	140%
F4 (C34 to C50)	4854121		<50	<50	NA	< 50	67%	60%	140%	110%	60%	140%	91%	60%	140%
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	4858516	4858516	<0.05	<0.05	NA	< 0.05	96%	50%	140%	75%	50%	140%	105%	50%	140%
Acenaphthylene	4858516	4858516	<0.05	<0.05	NA	< 0.05	82%	50%	140%	98%	50%	140%	73%	50%	140%
Acenaphthene	4858516	4858516	<0.05	<0.05	NA	< 0.05	87%	50%	140%	73%	50%	140%	98%	50%	140%
Fluorene	4858516	4858516	<0.05	<0.05	NA	< 0.05	82%	50%	140%	105%	50%	140%	100%	50%	140%
Phenanthrene	4858516	4858516	<0.05	<0.05	NA	< 0.05	84%	50%	140%	78%	50%	140%	110%	50%	140%
Anthracene	4858516	4858516	<0.05	<0.05	NA	< 0.05	89%	50%	140%	83%	50%	140%	85%	50%	140%
Fluoranthene	4858516	4858516	<0.05	<0.05	NA	< 0.05	77%	50%	140%	73%	50%	140%	75%	50%	140%
Pyrene	4858516	4858516	<0.05	<0.05	NA	< 0.05	70%	50%	140%	88%	50%	140%	85%	50%	140%
Benz(a)anthracene	4858516	4858516	<0.05	<0.05	NA	< 0.05	75%	50%	140%	85%	50%	140%	113%	50%	140%
Chrysene	4858516	4858516	<0.05	<0.05	NA	< 0.05	89%	50%	140%	90%	50%	140%	103%	50%	140%
Benzo(b)fluoranthene	4858516	4858516	<0.05	<0.05	NA	< 0.05	102%	50%	140%	115%	50%	140%	108%	50%	140%
Benzo(k)fluoranthene	4858516	4858516	<0.05	<0.05	NA	< 0.05	116%	50%	140%	90%	50%	140%	78%	50%	140%
Benzo(a)pyrene	4858516	4858516	<0.05	<0.05	NA	< 0.05	98%	50%	140%	95%	50%	140%	93%	50%	140%
Indeno(1,2,3-cd)pyrene	4858516	4858516	<0.05	<0.05	NA	< 0.05	68%	50%	140%	103%	50%	140%	113%	50%	140%
Dibenz(a,h)anthracene	4858516	4858516	<0.05	<0.05	NA	< 0.05	78%	50%	140%	95%	50%	140%	80%	50%	140%
Benzo(g,h,i)perylene	4858516	4858516	<0.05	<0.05	NA	< 0.05	79%	50%	140%	73%	50%	140%	108%	50%	140%
O. Reg. 153(511) - VOCs (with PHC) (Soil)															
Dichlorodifluoromethane	4858521	4858521	<0.05	<0.05	NA	< 0.05	75%	50%	140%	80%	50%	140%	75%	50%	140%
Vinyl Chloride	4858521	4858521	<0.02	<0.02	NA	< 0.02	113%	50%	140%	105%	50%	140%	112%	50%	140%
Bromomethane	4858521	4858521	<0.05	<0.05	NA	< 0.05	84%	50%	140%	78%	50%	140%	77%	50%	140%
Trichlorofluoromethane	4858521	4858521	<0.05	<0.05	NA	< 0.05	109%	50%	140%	85%	50%	140%	90%	50%	140%
Acetone	4858521	4858521	<0.50	<0.50	NA	< 0.50	105%	50%	140%	109%	50%	140%	87%	50%	140%
1,1-Dichloroethylene	4858521	4858521	<0.05	<0.05	NA	< 0.05	85%	50%	140%	75%	60%	130%	95%	50%	140%
Methylene Chloride	4858521	4858521	<0.05	<0.05	NA	< 0.05	115%	50%	140%	103%	60%	130%	103%	50%	140%
Trans- 1,2-Dichloroethylene	4858521	4858521	<0.05	<0.05	NA	< 0.05	100%	50%	140%	92%	60%	130%	83%	50%	140%
Methyl tert-butyl Ether	4858521	4858521	<0.05	<0.05	NA	< 0.05	107%	50%	140%	90%	60%	130%	73%	50%	140%
1,1-Dichloroethane	4858521	4858521	<0.02	<0.02	NA	< 0.02	116%	50%	140%	102%	60%	130%	95%	50%	140%
Methyl Ethyl Ketone	4858521	4858521	<0.50	<0.50	NA	< 0.50	83%	50%	140%	99%	50%	140%	103%	50%	140%
Cis- 1,2-Dichloroethylene	4858521	4858521	<0.02	<0.02	NA	< 0.02	119%	50%	140%	98%	60%	130%	98%	50%	140%

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
AGAT WORK ORDER: 23Z006407
PROJECT: 170 SLATER STREET, PHASE TWO ESA
ATTENTION TO: Keith Holmes
SAMPLING SITE:170 Slater Street, Ottawa, Ontario
SAMPLED BY:JAMES SULLIVAN

Trace Organics Analysis (Continued)

RPT Date: Mar 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
Chloroform	4858521	4858521	<0.04	<0.04	NA	< 0.04	106%	50%	140%	113%	60%	130%	99%	50%	140%
1,2-Dichloroethane	4858521	4858521	<0.03	<0.03	NA	< 0.03	118%	50%	140%	96%	60%	130%	98%	50%	140%
1,1,1-Trichloroethane	4858521	4858521	<0.05	<0.05	NA	< 0.05	108%	50%	140%	91%	60%	130%	86%	50%	140%
Carbon Tetrachloride	4858521	4858521	<0.05	<0.05	NA	< 0.05	109%	50%	140%	103%	60%	130%	76%	50%	140%
Benzene	4858521	4858521	<0.02	<0.02	NA	< 0.02	92%	50%	140%	91%	60%	130%	83%	50%	140%
1,2-Dichloropropane	4858521	4858521	<0.03	<0.03	NA	< 0.03	107%	50%	140%	88%	60%	130%	72%	50%	140%
Trichloroethylene	4858521	4858521	<0.03	<0.03	NA	< 0.03	107%	50%	140%	85%	60%	130%	100%	50%	140%
Bromodichloromethane	4858521	4858521	<0.05	<0.05	NA	< 0.05	109%	50%	140%	99%	60%	130%	88%	50%	140%
Methyl Isobutyl Ketone	4858521	4858521	<0.50	<0.50	NA	< 0.50	86%	50%	140%	102%	50%	140%	86%	50%	140%
1,1,2-Trichloroethane	4858521	4858521	<0.04	<0.04	NA	< 0.04	113%	50%	140%	111%	60%	130%	115%	50%	140%
Toluene	4858521	4858521	<0.05	<0.05	NA	< 0.05	113%	50%	140%	110%	60%	130%	94%	50%	140%
Dibromochloromethane	4858521	4858521	<0.05	<0.05	NA	< 0.05	108%	50%	140%	94%	60%	130%	103%	50%	140%
Ethylene Dibromide	4858521	4858521	<0.04	<0.04	NA	< 0.04	112%	50%	140%	112%	60%	130%	112%	50%	140%
Tetrachloroethylene	4858521	4858521	<0.05	<0.05	NA	< 0.05	106%	50%	140%	99%	60%	130%	86%	50%	140%
1,1,1,2-Tetrachloroethane	4858521	4858521	<0.04	<0.04	NA	< 0.04	96%	50%	140%	91%	60%	130%	85%	50%	140%
Chlorobenzene	4858521	4858521	<0.05	<0.05	NA	< 0.05	119%	50%	140%	109%	60%	130%	94%	50%	140%
Ethylbenzene	4858521	4858521	<0.05	<0.05	NA	< 0.05	116%	50%	140%	107%	60%	130%	82%	50%	140%
m & p-Xylene	4858521	4858521	<0.05	<0.05	NA	< 0.05	116%	50%	140%	109%	60%	130%	86%	50%	140%
Bromoform	4858521	4858521	<0.05	<0.05	NA	< 0.05	106%	50%	140%	87%	60%	130%	103%	50%	140%
Styrene	4858521	4858521	<0.05	<0.05	NA	< 0.05	119%	50%	140%	107%	60%	130%	88%	50%	140%
1,1,2,2-Tetrachloroethane	4858521	4858521	<0.05	<0.05	NA	< 0.05	106%	50%	140%	115%	60%	130%	80%	50%	140%
o-Xylene	4858521	4858521	<0.05	<0.05	NA	< 0.05	105%	50%	140%	115%	60%	130%	96%	50%	140%
1,3-Dichlorobenzene	4858521	4858521	<0.05	<0.05	NA	< 0.05	117%	50%	140%	109%	60%	130%	96%	50%	140%
1,4-Dichlorobenzene	4858521	4858521	<0.05	<0.05	NA	< 0.05	118%	50%	140%	113%	60%	130%	100%	50%	140%
1,2-Dichlorobenzene	4858521	4858521	<0.05	<0.05	NA	< 0.05	120%	50%	140%	109%	60%	130%	96%	50%	140%
n-Hexane	4858521	4858521	<0.05	<0.05	NA	< 0.05	86%	50%	140%	79%	60%	130%	82%	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: 23Z006407

PROJECT: 170 SLATER STREET, PHASE TWO ESA

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:JAMES SULLIVAN

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Antimony	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Arsenic	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Barium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Beryllium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron (Hot Water Soluble)	MET-93-6104	modified from EPA 6010D and MSA PART 3, CH 21	ICP/OES
Cadmium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Cobalt	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Copper	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Lead	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Molybdenum	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Nickel	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Selenium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Silver	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Thallium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Uranium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Vanadium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Zinc	MET 93 -6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium, Hexavalent	INOR-93-6068	modified from EPA 3060 and EPA 7196	SPECTROPHOTOMETER
Cyanide, WAD	INOR-93-6052	modified from ON MOECC E3015, SM 4500-CN- I, G-387	TECHNICON AUTO ANALYZER
Mercury	MET-93-6103	modified from EPA 7471B and SM 3112 B	ICP-MS
Electrical Conductivity (2:1)	INOR-93-6075	modified from MSA PART 3, CH 14 and SM 2510 B	PC TITRATE
Sodium Adsorption Ratio (2:1) (Calc.)	INOR-93-6007	modified from EPA 6010D & Analytical Protocol	ICP/OES
pH, 2:1 CaCl2 Extraction	INOR-93-6075	modified from EPA 9045D, MCKEAGUE 3.11 E3137	PC TITRATE

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z006407

PROJECT: 170 SLATER STREET, PHASE TWO ESA

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:JAMES SULLIVAN

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluorene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benz(a)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Chrysene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
1 and 2 Methlynaphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Moisture Content	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
F1 (C6 - C10)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	P&T GC/FID
Toluene-d8	VOL-91- 5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34) minus PAHs	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F4 (C34 to C50)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Terphenyl	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Dichlorodifluoromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS

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TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z006407

PROJECT: 170 SLATER STREET, PHASE TWO ESA

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:JAMES SULLIVAN

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Vinyl Chloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trans- 1,2-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl tert-butyl Ether	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Cis- 1,2-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Toluene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Chlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS

AGAT Laboratories

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z006407

PROJECT: 170 SLATER STREET, PHASE TWO ESA

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:JAMES SULLIVAN

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
m & p-Xylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene (Cis + Trans)	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5002	modified from EPA 5035A & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5002	modified from EPA 5035A & EPA 8260D	(P&T)GC/MS

AGAT Laboratories
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 CANADA INC.
Contact: KEITH HOLMES
Address: 1931 ROBERTSON ROAD
NEPEAN, ON K2H5B7
Phone: 613-592-9600 Fax:
Reports to be sent to:
1. Email: KEITH.P.HOLMES@WSP.COM
2. Email: PAUL.JACKSON@WSP.COM

Project Information:

Project: 170 SLATER STREET, PHASE TWO ESA
Site Location: 170 SLATER STREET, OTTAWA, ONTARIO
Sampled By: JAMES SULLIVAN
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:

Regulatory Requirements:

(Please check all applicable boxes)

☑ Regulation 153/04
Table 3 *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

Laboratory Use Only

Work Order #: 2320064407

Cooler Quantity: One - loose ice
Arrival Temperatures: 1.8 | 1.9 | 2.0
5.1 | 5.3 | 5.0
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes: Dent cans received

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

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)
2305 - SA01	3/7/23	1140 AM/PM	4	S			✓	✓	✓	✓		✓					
2305 - SA03	3/7/23	1210 AM/PM	4	S			✓	✓	✓	✓		✓					
2305 - SA04	3/8/23	1100 AM/PM	4	S			✓	✓	✓	✓		✓					
2305 - SA05	3/8/23	1120 AM/PM	4	S			✓	✓	✓	✓		✓					
2302 - SA02	3/10/23	1110 AM/PM	4	S			✓	✓	✓	✓		✓					
2302 - SA03	3/10/23	1115 AM/PM	4	S			✓	✓	✓	✓		✓					
2302 - SA06	3/10/23	1445 AM/PM	4	S			✓	✓	✓	✓		✓					
2302 - DUP01	3/10/23	1445 AM/PM	4	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
Paul Jackson	3/16/23	15:15	C. Griffith	MAR 16 2023	15h15
CC to Pwo	MAR 16 2023	16h00	T. Persaud	Mar 17	8:20AM

Page 1 of 2
Nº: T114864

AGAT Laboratories

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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 CANADA INC.
Contact: KEITH HOLMES
Address: 1931 ROBERTSON ROAD
NEPEAN, ON K2H5B7
Phone: 613-592-9600 Fax:
Reports to be sent to:
1. Email: KEITH.P.HOLMES@WSP.COM
2. Email: PAUL.JACKSON@WSP.COM

Project Information:

Project: 170 SLATER STREET, PHASE TWO ESA
Site Location: 170 SLATER STREET, OTTAWA, ONTARIO
Sampled By: JAMES SULLIVAN
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:

Regulatory Requirements:

(Please check all applicable boxes)

☑ Regulation 153/04
Table 3 *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

Laboratory Use Only

Work Order #: 2320006407
Cooler Quantity: ONE - 100SE ICE
Arrival Temperatures: 1.8 | 1.9 | 2.0 | 5.1 | 5.3 | 5.0
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes: Dent on. received.

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

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: 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 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)
2304-SA03	3/14/23	1105 AM/PM	4	S			✓	✓	✓	✓	✓		✓					
2304-SA04	3/15/23	1410 AM/PM	4	S			✓	✓	✓	✓	✓		✓					
2304-SA06	3/15/23	1510 AM/PM	4	S			✓	✓	✓	✓	✓		✓					
2304-SA09	3/15/23	1700 AM/PM	4	S			✓	✓	✓	✓	✓		✓					
23-04-Dup 01	3/15/23	1510 AM/PM	4	S			✓	✓	✓	✓	✓		✓					
		AM/PM																
		AM/PM																
		AM/PM																
		AM/PM																
		AM/PM																
		AM/PM																

	Date	Time		Date	Time
Samples Relinquished By (Print Name and Sign): Paul Jackson	3/16/23	15:15	Samples Received By (Print Name and Sign): C. Griffiths	MAR 16 2023	15h15
Samples Relinquished By (Print Name and Sign): C. Griffiths	MAR 16 2023	16h00	Samples Received By (Print Name and Sign): T. Pleasant	Mar 17	8:20 AM
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time

Page 2 of 2
No: T 114865

Document ID: DIV-78-1511.020

Pink Copy - Client | Yellow Copy - AGAT | White Copy- AGAT Date Issued: December 9, 2020

AGAT Laboratories

5835 COOPERS AVENUE
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FAX (905)712-5122
http://www.agatlabs.com

CLIENT NAME: WSP CANADA INC.
1931 ROBERTSON ROAD
OTTAWA, ON K2H5B7
(613) 592-9600
ATTENTION TO: Keith Holmes
PROJECT: 170 SLATER STREET PHASE TWO ESA
AGAT WORK ORDER: 23Z008517
SOIL ANALYSIS REVIEWED BY: Nivine Basily, Inorganics Report Writer
TRACE ORGANICS REVIEWED BY: Pinkal Patel, Report Reviewer
DATE REPORTED: Mar 31, 2023
PAGES (INCLUDING COVER): 16
VERSION*: 1

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

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.
- For environmental samples in the Province of Quebec: The analysis is performed on and results apply to samples as received. A temperature above 6°C upon receipt, as indicated in the Sample Reception Notification (SRN), could indicate the integrity of the samples has been compromised if the delay between sampling and submission to the laboratory could not be minimized.

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 23Z008517

PROJECT: 170 SLATER STREET PHASE TWO ESA

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:James Sullivan

O. Reg. 153(511) - Metals & Inorganics (Soil)

DATE RECEIVED: 2023-03-23

DATE REPORTED: 2023-03-31

SAMPLE DESCRIPTION:				23-03-SA03	23-03-SA04	23-03-SA05	23-03-SA06
SAMPLE TYPE:				Soil	Soil	Soil	Soil
DATE SAMPLED:				2023-03-16 10:50	2023-03-16 11:00	2023-03-16 11:35	2023-03-16 12:05
Parameter	Unit	G / S	RDL	4876885	4876887	4876888	4876889
Antimony	µg/g	7.5	0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	1	1	1	5	13
Barium	µg/g	390	2.0	35.6	117	217	176
Beryllium	µg/g	4	0.4	<0.4	<0.4	0.4	0.8
Boron	µg/g	120	5	<5	<5	6	9
Boron (Hot Water Soluble)	µg/g	1.5	0.10	<0.10	0.20	0.27	0.29
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	160	5	8	17	12	18
Cobalt	µg/g	22	0.5	4.6	5.1	9.0	22.3
Copper	µg/g	140	1.0	10.8	12.7	21.1	68.8
Lead	µg/g	120	1	3	9	9	26
Molybdenum	µg/g	6.9	0.5	0.6	<0.5	5.7	18.1
Nickel	µg/g	100	1	7	10	31	85
Selenium	µg/g	2.4	0.8	<0.8	<0.8	<0.8	2.0
Silver	µg/g	20	0.5	<0.5	<0.5	<0.5	<0.5
Thallium	µg/g	1	0.5	<0.5	<0.5	<0.5	1.2
Uranium	µg/g	23	0.50	0.60	0.52	2.24	6.73
Vanadium	µg/g	86	0.4	17.3	25.3	22.8	34.2
Zinc	µg/g	340	5	15	31	22	51
Chromium, Hexavalent	µg/g	8	0.2	<0.2	<0.2	<0.2	<0.2
Cyanide, WAD	µg/g	0.051	0.040	<0.040	<0.040	<0.040	<0.040
Mercury	µg/g	0.27	0.10	<0.10	<0.10	<0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	0.7	0.005	2.81	1.81	2.57	4.64
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	N/A	32.3	20.1	8.08	4.93
pH, 2:1 CaCl2 Extraction	pH Units	5.0-9.0	NA	8.31	8.23	7.94	7.72

Certified By:

AGAT Laboratories

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

Certificate of Analysis

AGAT WORK ORDER: 23Z008517

PROJECT: 170 SLATER STREET PHASE TWO ESA

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:James Sullivan

O. Reg. 153(511) - Metals & Inorganics (Soil)

DATE RECEIVED: 2023-03-23

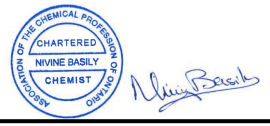
DATE REPORTED: 2023-03-31

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards 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.

4876885-4876889 EC was determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil). pH was determined on the 0.01M CaCl2 extract prepared at 2:1 ratio. SAR is a calculated parameter.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



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AGAT WORK ORDER: 23Z008517

PROJECT: 170 SLATER STREET PHASE TWO ESA

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:James Sullivan

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

DATE RECEIVED: 2023-03-23

DATE REPORTED: 2023-03-31

				SAMPLE DESCRIPTION:	23-03-SA03	23-03-SA04	23-03-SA05	23-03-SA06
				SAMPLE TYPE:	Soil	Soil	Soil	Soil
				DATE SAMPLED:	2023-03-16 10:50	2023-03-16 11:00	2023-03-16 11:35	2023-03-16 12:05
Parameter	Unit	G / S	RDL		4876885	4876887	4876888	4876889
Naphthalene	µg/g	0.6	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
Acenaphthene	µg/g	7.9	0.05		<0.05	<0.05	<0.05	<0.05
Fluorene	µg/g	62	0.05		<0.05	<0.05	<0.05	<0.05
Phenanthrene	µg/g	6.2	0.05		<0.05	<0.05	<0.05	<0.05
Anthracene	µg/g	0.67	0.05		<0.05	<0.05	<0.05	<0.05
Fluoranthene	µg/g	0.69	0.05		<0.05	<0.05	<0.05	<0.05
Pyrene	µg/g	78	0.05		<0.05	<0.05	<0.05	<0.05
Benz(a)anthracene	µg/g	0.5	0.05		<0.05	<0.05	<0.05	<0.05
Chrysene	µg/g	7	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
Benzo(k)fluoranthene	µg/g	0.78	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
Indeno(1,2,3-cd)pyrene	µg/g	0.38	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
Benzo(g,h,i)perylene	µg/g	6.6	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
Moisture Content	%		0.1		3.3	9.0	8.6	10.8
Surrogate	Unit	Acceptable Limits						
Naphthalene-d8	%	50-140			105	85	75	70
Acridine-d9	%	50-140			100	85	95	95
Terphenyl-d14	%	50-140			115	100	100	95

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards 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.

4876885-4876889 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: Pinkal Patel

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 23Z008517

PROJECT: 170 SLATER STREET PHASE TWO ESA

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:James Sullivan

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

DATE RECEIVED: 2023-03-23

DATE REPORTED: 2023-03-31

SAMPLE DESCRIPTION:				23-03-SA03	23-03-SA04	23-03-SA05	23-03-SA06
SAMPLE TYPE:				Soil	Soil	Soil	Soil
DATE SAMPLED:				2023-03-16 10:50	2023-03-16 11:00	2023-03-16 11:35	2023-03-16 12:05
Parameter	Unit	G / S	RDL	4876885	4876887	4876888	4876889
F1 (C6 - C10)	µg/g	55	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	45	97
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10	<10	45	97
F3 (C16 to C34)	µg/g	300	50	<50	<50	<50	173
F3 (C16 to C34) minus PAHs	µg/g		50	<50	<50	<50	173
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	3.3	9.0	8.6	10.8
Surrogate	Unit	Acceptable Limits					
Toluene-d8	%	50-140		101	105	100	102
Terphenyl	%	60-140		70	75	94	80

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards 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.

4876885-4876889 Results are based on sample dry weight.
The C6-C10 fraction is calculated using toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX and PAH contributions.
C>10 – C16 (F2- Naphthalene) is a calculated parameter. The calculated value is F2 - Naphthalene.
C>16 - C34 (F3-PAH) is a calculated parameter. The calculated value is F3-PAH (PAH: sum of Phenanthrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Fluoranthene, Dibenzo(a,h)anthracene, Indeno(1,2,3-c,d)pyrene and Pyrene).
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: Jinkal Patel

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AGAT WORK ORDER: 23Z008517

PROJECT: 170 SLATER STREET PHASE TWO ESA

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:James Sullivan

O. Reg. 153(511) - VOCs (with PHC) (Soil)

DATE RECEIVED: 2023-03-23

DATE REPORTED: 2023-03-31

SAMPLE DESCRIPTION:				23-03-SA03	23-03-SA04	23-03-SA05	23-03-SA06
SAMPLE TYPE:				Soil	Soil	Soil	Soil
DATE SAMPLED:				2023-03-16 10:50	2023-03-16 11:00	2023-03-16 11:35	2023-03-16 12:05
Parameter	Unit	G / S	RDL	4876885	4876887	4876888	4876889
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	0.47	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	1.9	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	1.5	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	2.3	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	1.1	0.05	<0.05	<0.05	<0.05	<0.05

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 23Z008517

PROJECT: 170 SLATER STREET PHASE TWO ESA

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:James Sullivan

O. Reg. 153(511) - VOCs (with PHC) (Soil)

DATE RECEIVED: 2023-03-23

DATE REPORTED: 2023-03-31

				SAMPLE DESCRIPTION:	23-03-SA03	23-03-SA04	23-03-SA05	23-03-SA06
				SAMPLE TYPE:	Soil	Soil	Soil	Soil
				DATE SAMPLED:	2023-03-16 10:50	2023-03-16 11:00	2023-03-16 11:35	2023-03-16 12:05
Parameter	Unit	G / S	RDL		4876885	4876887	4876888	4876889
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	1.2	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		3.3	9.0	8.6	10.8
Surrogate	Unit	Acceptable Limits						
Toluene-d8	% Recovery	50-140			101	105	100	102
4-Bromofluorobenzene	% Recovery	50-140			83	86	90	85

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Coarse Textured Soils **pH range listed applies to surface soil only**
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.

4876885-4876889 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: Jinkal Patel

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Exceedance Summary

AGAT WORK ORDER: 23Z008517

PROJECT: 170 SLATER STREET PHASE TWO ESA

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
4876885	23-03-SA03	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.7	2.81
4876885	23-03-SA03	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	32.3
4876887	23-03-SA04	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.7	1.81
4876887	23-03-SA04	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	20.1
4876888	23-03-SA05	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.7	2.57
4876888	23-03-SA05	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	8.08
4876889	23-03-SA06	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Cobalt	µg/g	22	22.3
4876889	23-03-SA06	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.7	4.64
4876889	23-03-SA06	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Molybdenum	µg/g	6.9	18.1
4876889	23-03-SA06	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Thallium	µg/g	1	1.2

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 170 SLATER STREET PHASE TWO ESA
SAMPLING SITE:170 Slater Street, Ottawa, Ontario

AGAT WORK ORDER: 23Z008517
ATTENTION TO: Keith Holmes
SAMPLED BY:James Sullivan

Soil Analysis

RPT Date: Mar 31, 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) - Metals & Inorganics (Soil)															
Antimony	4881549		<0.8	<0.8	NA	< 0.8	105%	70%	130%	83%	80%	120%	76%	70%	130%
Arsenic	4881549		1	1	NA	< 1	112%	70%	130%	97%	80%	120%	103%	70%	130%
Barium	4881549		17.7	18.2	2.8%	< 2.0	101%	70%	130%	100%	80%	120%	102%	70%	130%
Beryllium	4881549		<0.4	<0.4	NA	< 0.4	81%	70%	130%	97%	80%	120%	97%	70%	130%
Boron	4881549		<5	<5	NA	< 5	79%	70%	130%	98%	80%	120%	91%	70%	130%
Boron (Hot Water Soluble)	4881549		0.13	0.12	NA	< 0.10	100%	60%	140%	99%	70%	130%	99%	60%	140%
Cadmium	4881549		<0.5	<0.5	NA	< 0.5	107%	70%	130%	102%	80%	120%	105%	70%	130%
Chromium	4881549		5	<5	NA	< 5	99%	70%	130%	101%	80%	120%	98%	70%	130%
Cobalt	4881549		1.8	1.8	NA	< 0.5	92%	70%	130%	97%	80%	120%	97%	70%	130%
Copper	4881549		3.3	3.3	NA	< 1.0	91%	70%	130%	104%	80%	120%	95%	70%	130%
Lead	4881549		8	7	13.3%	< 1	106%	70%	130%	105%	80%	120%	103%	70%	130%
Molybdenum	4881549		<0.5	<0.5	NA	< 0.5	102%	70%	130%	105%	80%	120%	108%	70%	130%
Nickel	4881549		4	4	NA	< 1	96%	70%	130%	100%	80%	120%	99%	70%	130%
Selenium	4881549		<0.8	<0.8	NA	< 0.8	122%	70%	130%	102%	80%	120%	107%	70%	130%
Silver	4881549		<0.5	<0.5	NA	< 0.5	96%	70%	130%	99%	80%	120%	95%	70%	130%
Thallium	4881549		<0.5	<0.5	NA	< 0.5	114%	70%	130%	105%	80%	120%	104%	70%	130%
Uranium	4881549		<0.50	<0.50	NA	< 0.50	106%	70%	130%	103%	80%	120%	107%	70%	130%
Vanadium	4881549		10.5	9.4	11.1%	< 0.4	98%	70%	130%	95%	80%	120%	94%	70%	130%
Zinc	4881549		18	19	NA	< 5	99%	70%	130%	106%	80%	120%	113%	70%	130%
Chromium, Hexavalent	4879034		<0.2	<0.2	NA	< 0.2	96%	70%	130%	96%	80%	120%	94%	70%	130%
Cyanide, WAD	4869954		<0.040	<0.040	NA	< 0.040	90%	70%	130%	105%	80%	120%	99%	70%	130%
Mercury	4881549		<0.10	<0.10	NA	< 0.10	110%	70%	130%	99%	80%	120%	100%	70%	130%
Electrical Conductivity (2:1)	4881549		0.147	0.143	2.8%	< 0.005	103%	80%	120%						
Sodium Adsorption Ratio (2:1) (Calc.)	4881549		0.780	0.777	0.4%	NA									
pH, 2:1 CaCl2 Extraction	4875913		7.76	7.59	2.2%	NA	102%	80%	120%						

Comments: NA signifies Not Applicable.
pH duplicates QA acceptance criteria was met relative as stated in Table 5-15 of Analytical Protocol document.
Duplicate NA: results are under 5X the RDL and will not be calculated.

Certified By:

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 170 SLATER STREET PHASE TWO ESA
SAMPLING SITE:170 Slater Street, Ottawa, Ontario

AGAT WORK ORDER: 23Z008517
ATTENTION TO: Keith Holmes
SAMPLED BY:James Sullivan

Trace Organics Analysis

RPT Date: Mar 31, 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 PAHs and VOC) (Soil)															
F1 (C6 - C10)	4881876		<5	<5	NA	< 5	115%	60%	140%	109%	60%	140%	105%	60%	140%
F2 (C10 to C16)	4875895		<10	<10	NA	< 10	100%	60%	140%	131%	60%	140%	129%	60%	140%
F3 (C16 to C34)	4875895		<50	<50	NA	< 50	112%	60%	140%	125%	60%	140%	121%	60%	140%
F4 (C34 to C50)	4875895		<50	<50	NA	< 50	95%	60%	140%	127%	60%	140%	134%	60%	140%
O. Reg. 153(511) - VOCs (with PHC) (Soil)															
Dichlorodifluoromethane	4881876		<0.05	<0.05	NA	< 0.05	117%	50%	140%	72%	50%	140%	85%	50%	140%
Vinyl Chloride	4881876		<0.02	<0.02	NA	< 0.02	85%	50%	140%	94%	50%	140%	102%	50%	140%
Bromomethane	4881876		<0.05	<0.05	NA	< 0.05	106%	50%	140%	107%	50%	140%	83%	50%	140%
Trichlorofluoromethane	4881876		<0.05	<0.05	NA	< 0.05	74%	50%	140%	74%	50%	140%	88%	50%	140%
Acetone	4881876		<0.50	<0.50	NA	< 0.50	105%	50%	140%	89%	50%	140%	84%	50%	140%
1,1-Dichloroethylene	4881876		<0.05	<0.05	NA	< 0.05	73%	50%	140%	95%	60%	130%	109%	50%	140%
Methylene Chloride	4881876		<0.05	<0.05	NA	< 0.05	71%	50%	140%	74%	60%	130%	72%	50%	140%
Trans- 1,2-Dichloroethylene	4881876		<0.05	<0.05	NA	< 0.05	101%	50%	140%	84%	60%	130%	87%	50%	140%
Methyl tert-butyl Ether	4881876		<0.05	<0.05	NA	< 0.05	78%	50%	140%	71%	60%	130%	80%	50%	140%
1,1-Dichloroethane	4881876		<0.02	<0.02	NA	< 0.02	86%	50%	140%	91%	60%	130%	80%	50%	140%
Methyl Ethyl Ketone	4881876		<0.50	<0.50	NA	< 0.50	104%	50%	140%	89%	50%	140%	70%	50%	140%
Cis- 1,2-Dichloroethylene	4881876		<0.02	<0.02	NA	< 0.02	70%	50%	140%	85%	60%	130%	87%	50%	140%
Chloroform	4881876		<0.04	<0.04	NA	< 0.04	90%	50%	140%	101%	60%	130%	92%	50%	140%
1,2-Dichloroethane	4881876		<0.03	<0.03	NA	< 0.03	102%	50%	140%	112%	60%	130%	98%	50%	140%
1,1,1-Trichloroethane	4881876		<0.05	<0.05	NA	< 0.05	76%	50%	140%	88%	60%	130%	116%	50%	140%
Carbon Tetrachloride	4881876		<0.05	<0.05	NA	< 0.05	79%	50%	140%	92%	60%	130%	109%	50%	140%
Benzene	4881876		<0.02	<0.02	NA	< 0.02	73%	50%	140%	87%	60%	130%	89%	50%	140%
1,2-Dichloropropane	4881876		<0.03	<0.03	NA	< 0.03	101%	50%	140%	79%	60%	130%	100%	50%	140%
Trichloroethylene	4881876		<0.03	<0.03	NA	< 0.03	82%	50%	140%	96%	60%	130%	80%	50%	140%
Bromodichloromethane	4881876		<0.05	<0.05	NA	< 0.05	72%	50%	140%	77%	60%	130%	118%	50%	140%
Methyl Isobutyl Ketone	4881876		<0.50	<0.50	NA	< 0.50	106%	50%	140%	101%	50%	140%	98%	50%	140%
1,1,2-Trichloroethane	4881876		<0.04	<0.04	NA	< 0.04	75%	50%	140%	81%	60%	130%	91%	50%	140%
Toluene	4881876		<0.05	<0.05	NA	< 0.05	78%	50%	140%	89%	60%	130%	99%	50%	140%
Dibromochloromethane	4881876		<0.05	<0.05	NA	< 0.05	79%	50%	140%	78%	60%	130%	75%	50%	140%
Ethylene Dibromide	4881876		<0.04	<0.04	NA	< 0.04	82%	50%	140%	71%	60%	130%	83%	50%	140%
Tetrachloroethylene	4881876		<0.05	<0.05	NA	< 0.05	83%	50%	140%	98%	60%	130%	117%	50%	140%
1,1,1,2-Tetrachloroethane	4881876		<0.04	<0.04	NA	< 0.04	74%	50%	140%	87%	60%	130%	90%	50%	140%
Chlorobenzene	4881876		<0.05	<0.05	NA	< 0.05	84%	50%	140%	88%	60%	130%	98%	50%	140%
Ethylbenzene	4881876		<0.05	<0.05	NA	< 0.05	76%	50%	140%	80%	60%	130%	91%	50%	140%
m & p-Xylene	4881876		<0.05	<0.05	NA	< 0.05	115%	50%	140%	88%	60%	130%	94%	50%	140%
Bromoform	4881876		<0.05	<0.05	NA	< 0.05	74%	50%	140%	70%	60%	130%	74%	50%	140%
Styrene	4881876		<0.05	<0.05	NA	< 0.05	74%	50%	140%	73%	60%	130%	73%	50%	140%
1,1,2,2-Tetrachloroethane	4881876		<0.05	<0.05	NA	< 0.05	74%	50%	140%	73%	60%	130%	73%	50%	140%
o-Xylene	4881876		<0.05	<0.05	NA	< 0.05	77%	50%	140%	86%	60%	130%	93%	50%	140%

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 170 SLATER STREET PHASE TWO ESA
SAMPLING SITE:170 Slater Street, Ottawa, Ontario

AGAT WORK ORDER: 23Z008517
ATTENTION TO: Keith Holmes
SAMPLED BY:James Sullivan

Trace Organics Analysis (Continued)

RPT Date: Mar 31, 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	4881876		<0.05	<0.05	NA	< 0.05	88%	50%	140%	91%	60%	130%	97%	50%	140%
1,4-Dichlorobenzene	4881876		<0.05	<0.05	NA	< 0.05	78%	50%	140%	85%	60%	130%	90%	50%	140%
1,2-Dichlorobenzene	4881876		<0.05	<0.05	NA	< 0.05	84%	50%	140%	84%	60%	130%	90%	50%	140%
n-Hexane	4881876		<0.05	<0.05	NA	< 0.05	103%	50%	140%	91%	60%	130%	98%	50%	140%
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	4876315		<0.05	<0.05	NA	< 0.05	89%	50%	140%	95%	50%	140%	105%	50%	140%
Acenaphthylene	4876315		<0.05	<0.05	NA	< 0.05	86%	50%	140%	85%	50%	140%	95%	50%	140%
Acenaphthene	4876315		<0.05	<0.05	NA	< 0.05	88%	50%	140%	98%	50%	140%	113%	50%	140%
Fluorene	4876315		<0.05	<0.05	NA	< 0.05	81%	50%	140%	90%	50%	140%	85%	50%	140%
Phenanthrene	4876315		<0.05	<0.05	NA	< 0.05	83%	50%	140%	90%	50%	140%	73%	50%	140%
Anthracene	4876315		<0.05	<0.05	NA	< 0.05	91%	50%	140%	85%	50%	140%	73%	50%	140%
Fluoranthene	4876315		<0.05	<0.05	NA	< 0.05	78%	50%	140%	80%	50%	140%	73%	50%	140%
Pyrene	4876315		<0.05	<0.05	NA	< 0.05	76%	50%	140%	78%	50%	140%	78%	50%	140%
Benz(a)anthracene	4876315		<0.05	<0.05	NA	< 0.05	84%	50%	140%	85%	50%	140%	95%	50%	140%
Chrysene	4876315		<0.05	<0.05	NA	< 0.05	84%	50%	140%	90%	50%	140%	70%	50%	140%
Benzo(b)fluoranthene	4876315		<0.05	<0.05	NA	< 0.05	68%	50%	140%	90%	50%	140%	110%	50%	140%
Benzo(k)fluoranthene	4876315		<0.05	<0.05	NA	< 0.05	82%	50%	140%	110%	50%	140%	75%	50%	140%
Benzo(a)pyrene	4876315		<0.05	<0.05	NA	< 0.05	72%	50%	140%	83%	50%	140%	78%	50%	140%
Indeno(1,2,3-cd)pyrene	4876315		<0.05	<0.05	NA	< 0.05	84%	50%	140%	83%	50%	140%	100%	50%	140%
Dibenz(a,h)anthracene	4876315		<0.05	<0.05	NA	< 0.05	82%	50%	140%	95%	50%	140%	88%	50%	140%
Benzo(g,h,i)perylene	4876315		<0.05	<0.05	NA	< 0.05	80%	50%	140%	98%	50%	140%	110%	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

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z008517

PROJECT: 170 SLATER STREET PHASE TWO ESA

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:James Sullivan

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Antimony	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Arsenic	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Barium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Beryllium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron (Hot Water Soluble)	MET-93-6104	modified from EPA 6010D and MSA PART 3, CH 21	ICP/OES
Cadmium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Cobalt	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Copper	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Lead	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Molybdenum	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Nickel	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Selenium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Silver	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Thallium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Uranium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Vanadium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Zinc	MET 93 -6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium, Hexavalent	INOR-93-6068	modified from EPA 3060 and EPA 7196	SPECTROPHOTOMETER
Cyanide, WAD	INOR-93-6052	modified from ON MOECC E3015, SM 4500-CN- I, G-387	TECHNICON AUTO ANALYZER
Mercury	MET-93-6103	modified from EPA 7471B and SM 3112 B	ICP-MS
Electrical Conductivity (2:1)	INOR-93-6075	modified from MSA PART 3, CH 14 and SM 2510 B	PC TITRATE
Sodium Adsorption Ratio (2:1) (Calc.)	INOR-93-6007	modified from EPA 6010D & Analytical Protocol	ICP/OES
pH, 2:1 CaCl2 Extraction	INOR-93-6075	modified from EPA 9045D, MCKEAGUE 3.11 E3137	PC TITRATE

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z008517

PROJECT: 170 SLATER STREET PHASE TWO ESA

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:James Sullivan

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluorene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benz(a)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Chrysene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
1 and 2 Methlynaphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Moisture Content	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
F1 (C6 - C10)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	P&T GC/FID
Toluene-d8	VOL-91- 5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34) minus PAHs	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F4 (C34 to C50)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Terphenyl	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Dichlorodifluoromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z008517

PROJECT: 170 SLATER STREET PHASE TWO ESA

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:James Sullivan

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Vinyl Chloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trans- 1,2-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl tert-butyl Ether	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Cis- 1,2-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Toluene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Chlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z008517

PROJECT: 170 SLATER STREET PHASE TWO ESA

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:James Sullivan

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
m & p-Xylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene (Cis + Trans)	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5002	modified from EPA 5035A & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5002	modified from EPA 5035A & EPA 8260D	(P&T)GC/MS

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Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Report Information:

Company: WSP CANADA
Contact: KEITH HOLMES
Address: 1931 ROBERTSON RD
NEPEAN, ON K2H 5B7
Phone: 613-592-9600 Fax:
Reports to be sent to:
1. Email: KEITH.P.HOLMES@WSP.COM
2. Email: PAUL.JACKSON@WSP.COM

Regulatory Requirements:

(Please check all applicable boxes)

- [x] Regulation 153/04
  - Table 3 (Indicate One)
  - [ ] Ind/Com
  - [x] Res/Park
  - [ ] Agriculture
  - Soil Texture (Check One): [x] 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

Project Information:

Project: 170 SLATER STREET PHASE TWO ESA
Site Location: 170 SLATER STREET, OTTAWA, ONTARIO
Sampled By: JAMES SULLIVAN
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 [x] No [ ]

Company:
Contact:
Address:
Email:

Sample Matrix Legend

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

Laboratory Use Only

Work Order #: 2370085517

Cooler Quantity: one - loose ice
Arrival Temperatures: 2.8 | 2.2 | 2.5
2.2 | 4.8 | 5.4
Custody Seal Intact: [ ] Yes [ ] No [x] N/A
Notes: bagged ice

Turnaround Time (TAT) Required:

Regular TAT (Most Analysis) [x] 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 - [x] CrVI, [x] 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)
23-03 - SA03	3/16/23	1050 AM/PM	4	S			✓	✓	✓		✓		✓					
23-03 - SA04	↓	1110 AM/PM	4	S			✓	✓	✓		✓		✓					
23-03 - SA05		1135 AM/PM	4	S			✓	✓	✓		✓		✓					
23-03 - SA06	↓	1205 AM/PM	4	S			✓	✓	✓		✓		✓					
		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
	3/23/23	4:00pm	C. Gauthier	MAR 23 2023	15h50
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
C. Gauthier to Driver	MAR 24 2023	16h00	Andy Tran	23-03-23	10:30AM
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time

Page ____ of ____
N°: T 114839

AGAT Laboratories

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CLIENT NAME: WSP CANADA INC.
1931 ROBERTSON ROAD
OTTAWA, ON K2H5B7
(613) 592-9600
ATTENTION TO: Keith Holmes
PROJECT: 170 SLATER STREET PHASE TWO ESA
AGAT WORK ORDER: 23Z008519
TRACE ORGANICS REVIEWED BY: Pinkal Patel, Report Reviewer
WATER ANALYSIS REVIEWED BY: Nivine Basily, Inorganics Report Writer
DATE REPORTED: Mar 31, 2023
PAGES (INCLUDING COVER): 15
VERSION*: 1

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

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.
- For environmental samples in the Province of Quebec: The analysis is performed on and results apply to samples as received. A temperature above 6°C upon receipt, as indicated in the Sample Reception Notification (SRN), could indicate the integrity of the samples has been compromised if the delay between sampling and submission to the laboratory could not be minimized.

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Certificate of Analysis

AGAT WORK ORDER: 23Z008519

PROJECT: 170 SLATER STREET PHASE TWO ESA

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:James Sullivan

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

DATE RECEIVED: 2023-03-23

DATE REPORTED: 2023-03-31

SAMPLE DESCRIPTION:				FB-01	23-05-GW01	DUP-01	23-02-GW01
SAMPLE TYPE:				Water	Water	Water	Water
DATE SAMPLED:				2023-03-22 11:30	2023-03-22 11:45	2023-03-22 11:45	2023-03-22 14:00
Parameter	Unit	G / S	RDL	4876951	4876962	4876963	4876966
F1 (C6 - C10)	µg/L	750	25	<25	<25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L	750	25	<25	<25	<25	<25
F2 (C10 to C16)	µg/L	150	100	<100	<100	<100	<100
F3 (C16 to C34)	µg/L	500	100	<100	<100	<100	<100
F4 (C34 to C50)	µg/L	500	100	<100	<100	<100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500	NA	NA	NA	NA
Sediment				1	1	1	3
Surrogate	Unit	Acceptable Limits					
Toluene-d8	%	50-140		101	98	102	103
Terphenyl	% Recovery	60-140		70	65	72	66

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards 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.

4876951-4876966 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: Jinkal Patel

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Certificate of Analysis

AGAT WORK ORDER: 23Z008519

PROJECT: 170 SLATER STREET PHASE TWO ESA

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:James Sullivan

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

DATE RECEIVED: 2023-03-23

DATE REPORTED: 2023-03-31

				SAMPLE DESCRIPTION:	MW-14-02-GW
				SAMPLE TYPE:	Water
				DATE SAMPLED:	2023-03-22 12:30
Parameter	Unit	G / S	RDL		4876964
Dichlorodifluoromethane	µg/L	4400	0.40		<0.40
Vinyl Chloride	µg/L	0.5	0.17		<0.17
Bromomethane	µg/L	5.6	0.20		<0.20
Trichlorofluoromethane	µg/L	2500	0.40		<0.40
Acetone	µg/L	130000	1.0		<1.0
1,1-Dichloroethylene	µg/L	1.6	0.30		<0.30
Methylene Chloride	µg/L	610	0.30		<0.30
trans- 1,2-Dichloroethylene	µg/L	1.6	0.20		<0.20
Methyl tert-butyl ether	µg/L	190	0.20		<0.20
1,1-Dichloroethane	µg/L	320	0.30		<0.30
Methyl Ethyl Ketone	µg/L	470000	1.0		<1.0
cis- 1,2-Dichloroethylene	µg/L	1.6	0.20		<0.20
Chloroform	µg/L	2.4	0.20		<0.20
1,2-Dichloroethane	µg/L	1.6	0.20		<0.20
1,1,1-Trichloroethane	µg/L	640	0.30		<0.30
Carbon Tetrachloride	µg/L	0.79	0.20		<0.20
Benzene	µg/L	44	0.20		<0.20
1,2-Dichloropropane	µg/L	16	0.20		<0.20
Trichloroethylene	µg/L	1.6	0.20		<0.20
Bromodichloromethane	µg/L	85000	0.20		<0.20
Methyl Isobutyl Ketone	µg/L	140000	1.0		<1.0
1,1,2-Trichloroethane	µg/L	4.7	0.20		<0.20
Toluene	µg/L	18000	0.20		<0.20
Dibromochloromethane	µg/L	82000	0.10		<0.10
Ethylene Dibromide	µg/L	0.25	0.10		<0.10
Tetrachloroethylene	µg/L	1.6	0.20		<0.20
1,1,1,2-Tetrachloroethane	µg/L	3.3	0.10		<0.10
Chlorobenzene	µg/L	630	0.10		<0.10
Ethylbenzene	µg/L	2300	0.10		<0.10

Certified By: Jinkal Patel

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Certificate of Analysis

AGAT WORK ORDER: 23Z008519

PROJECT: 170 SLATER STREET PHASE TWO ESA

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:James Sullivan

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

DATE RECEIVED: 2023-03-23

DATE REPORTED: 2023-03-31

				SAMPLE DESCRIPTION:	MW-14-02-GW
				SAMPLE TYPE:	Water
				DATE SAMPLED:	2023-03-22 12:30
Parameter	Unit	G / S	RDL		4876964
m & p-Xylene	µg/L		0.20		<0.20
Bromoform	µg/L	380	0.10		<0.10
Styrene	µg/L	1300	0.10		<0.10
1,1,2,2-Tetrachloroethane	µg/L	3.2	0.10		<0.10
o-Xylene	µg/L		0.10		<0.10
1,3-Dichlorobenzene	µg/L	9600	0.10		<0.10
1,4-Dichlorobenzene	µg/L	8	0.10		<0.10
1,2-Dichlorobenzene	µg/L	4600	0.10		<0.10
1,3-Dichloropropene	µg/L	5.2	0.30		<0.30
Xylenes (Total)	µg/L	4200	0.20		<0.20
n-Hexane	µg/L	51	0.20		<0.20
Surrogate	Unit	Acceptable Limits			
Toluene-d8	% Recovery	50-140			102
4-Bromofluorobenzene	% Recovery	50-140			72

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards 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.

4876964 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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AGAT WORK ORDER: 23Z008519

PROJECT: 170 SLATER STREET PHASE TWO ESA

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:James Sullivan

O. Reg. 153(511) - VOCs (with PHC) (Water)

DATE RECEIVED: 2023-03-23

DATE REPORTED: 2023-03-31

SAMPLE DESCRIPTION:				FB-01	23-05-GW01	DUP-01	23-02-GW01
SAMPLE TYPE:				Water	Water	Water	Water
DATE SAMPLED:				2023-03-22 11:30	2023-03-22 11:45	2023-03-22 11:45	2023-03-22 14:00
Parameter	Unit	G / S	RDL	4876951	4876962	4876963	4876966
Dichlorodifluoromethane	µg/L	4400	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
Bromomethane	µg/L	5.6	0.20	<0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L	2500	0.40	<0.40	<0.40	<0.40	<0.40
Acetone	µg/L	130000	1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene	µg/L	1.6	0.30	<0.30	<0.30	<0.30	<0.30
Methylene Chloride	µg/L	610	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
Methyl tert-butyl ether	µg/L	190	0.20	<0.20	<0.20	<0.20	<0.20
1,1-Dichloroethane	µg/L	320	0.30	<0.30	<0.30	<0.30	<0.30
Methyl Ethyl Ketone	µg/L	470000	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
Chloroform	µg/L	2.4	0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloroethane	µg/L	1.6	0.20	<0.20	<0.20	<0.20	<0.20
1,1,1-Trichloroethane	µg/L	640	0.30	<0.30	<0.30	<0.30	<0.30
Carbon Tetrachloride	µg/L	0.79	0.20	<0.20	<0.20	<0.20	<0.20
Benzene	µg/L	44	0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloropropane	µg/L	16	0.20	<0.20	<0.20	<0.20	<0.20
Trichloroethylene	µg/L	1.6	0.20	<0.20	<0.20	<0.20	<0.20
Bromodichloromethane	µg/L	85000	0.20	<0.20	<0.20	<0.20	<0.20
Methyl Isobutyl Ketone	µg/L	140000	1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	µg/L	4.7	0.20	<0.20	<0.20	<0.20	<0.20
Toluene	µg/L	18000	0.20	<0.20	<0.20	<0.20	<0.20
Dibromochloromethane	µg/L	82000	0.10	<0.10	<0.10	<0.10	<0.10
Ethylene Dibromide	µg/L	0.25	0.10	<0.10	<0.10	<0.10	<0.10
Tetrachloroethylene	µg/L	1.6	0.20	<0.20	<0.20	<0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	3.3	0.10	<0.10	<0.10	<0.10	<0.10
Chlorobenzene	µg/L	630	0.10	<0.10	<0.10	<0.10	<0.10
Ethylbenzene	µg/L	2300	0.10	<0.10	<0.10	<0.10	<0.10

Certified By: Pinkal Patel

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Certificate of Analysis

AGAT WORK ORDER: 23Z008519

PROJECT: 170 SLATER STREET PHASE TWO ESA

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:James Sullivan

O. Reg. 153(511) - VOCs (with PHC) (Water)

DATE RECEIVED: 2023-03-23

DATE REPORTED: 2023-03-31

SAMPLE DESCRIPTION:				FB-01	23-05-GW01	DUP-01	23-02-GW01
SAMPLE TYPE:				Water	Water	Water	Water
DATE SAMPLED:				2023-03-22 11:30	2023-03-22 11:45	2023-03-22 11:45	2023-03-22 14:00
Parameter	Unit	G / S	RDL	4876951	4876962	4876963	4876966
m & p-Xylene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20
Bromoform	µg/L	380	0.10	<0.10	<0.10	<0.10	<0.10
Styrene	µg/L	1300	0.10	<0.10	<0.10	<0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	3.2	0.10	<0.10	<0.10	<0.10	<0.10
o-Xylene	µg/L		0.10	<0.10	<0.10	<0.10	<0.10
1,3-Dichlorobenzene	µg/L	9600	0.10	<0.10	<0.10	<0.10	<0.10
1,4-Dichlorobenzene	µg/L	8	0.10	<0.10	<0.10	<0.10	<0.10
1,2-Dichlorobenzene	µg/L	4600	0.10	<0.10	<0.10	<0.10	<0.10
1,3-Dichloropropene	µg/L	5.2	0.30	<0.30	<0.30	<0.30	<0.30
Xylenes (Total)	µg/L	4200	0.20	<0.20	<0.20	<0.20	<0.20
n-Hexane	µg/L	51	0.20	<0.20	<0.20	<0.20	<0.20
Surrogate	Unit	Acceptable Limits					
Toluene-d8	% Recovery	50-140		101	98	102	103
4-Bromofluorobenzene	% Recovery	50-140		70	70	70	72

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards 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.

4876951-4876966 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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Certificate of Analysis

AGAT WORK ORDER: 23Z008519

PROJECT: 170 SLATER STREET PHASE TWO ESA

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:James Sullivan

O. Reg. 153(511) - Metals (Including Hydrides) (Water)

DATE RECEIVED: 2023-03-23

DATE REPORTED: 2023-03-31

SAMPLE DESCRIPTION:				FB-01	23-05-GW01	DUP-01	23-02-GW01
SAMPLE TYPE:				Water	Water	Water	Water
DATE SAMPLED:				2023-03-22 11:30	2023-03-22 11:45	2023-03-22 11:45	2023-03-22 14:00
Parameter	Unit	G / S	RDL	4876951	4876962	4876963	4876966
Dissolved Antimony	µg/L	20000	1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Arsenic	µg/L	1900	1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Barium	µg/L	29000	2.0	<2.0	19.1	18.0	25.8
Dissolved Beryllium	µg/L	67	0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Boron	µg/L	45000	10.0	<10.0	68.8	62.5	51.9
Dissolved Cadmium	µg/L	2.7	0.20	<0.20	<0.20	<0.20	<0.20
Dissolved Chromium	µg/L	810	2.0	<2.0	2.6	<2.0	<2.0
Dissolved Cobalt	µg/L	66	0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Copper	µg/L	87	1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Lead	µg/L	25	0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Molybdenum	µg/L	9200	0.50	<0.50	11.7	10.4	5.02
Dissolved Nickel	µg/L	490	1.0	<1.0	1.9	1.6	2.4
Dissolved Selenium	µg/L	63	1.0	9.8	<1.0	<1.0	<1.0
Dissolved Silver	µg/L	1.5	0.20	<0.20	<0.20	<0.20	<0.20
Dissolved Thallium	µg/L	510	0.30	<0.30	<0.30	<0.30	<0.30
Dissolved Uranium	µg/L	420	0.50	<0.50	5.31	4.70	5.76
Dissolved Vanadium	µg/L	250	0.40	<0.40	<0.40	<0.40	<0.40
Dissolved Zinc	µg/L	1100	5.0	<5.0	<5.0	<5.0	<5.0

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards 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.

4876951-4876966 Metals analysis completed on a filtered sample.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

AGAT Laboratories
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Quality Assurance

CLIENT NAME: WSP CANADA INC.
AGAT WORK ORDER: 23Z008519
PROJECT: 170 SLATER STREET PHASE TWO ESA
ATTENTION TO: Keith Holmes
SAMPLING SITE:170 Slater Street, Ottawa, Ontario
SAMPLED BY:James Sullivan

Trace Organics Analysis

RPT Date: Mar 31, 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)	4876966	4876966	<25	<25	NA	< 25	90%	60%	140%	85%	60%	140%	94%	60%	140%
F2 (C10 to C16)	4875354		206	195	NA	< 100	111%	60%	140%	79%	60%	140%	71%	60%	140%
F3 (C16 to C34)	4875354		<100	<100	NA	< 100	111%	60%	140%	72%	60%	140%	82%	60%	140%
F4 (C34 to C50)	4875354		<100	<100	NA	< 100	75%	60%	140%	86%	60%	140%	83%	60%	140%
O. Reg. 153(511) - VOCs (with PHC) (Water)															
Dichlorodifluoromethane	4876966	4876966	<0.40	<0.40	NA	< 0.40	104%	50%	140%	77%	50%	140%	76%	50%	140%
Vinyl Chloride	4876966	4876966	<0.17	<0.17	NA	< 0.17	93%	50%	140%	108%	50%	140%	107%	50%	140%
Bromomethane	4876966	4876966	<0.20	<0.20	NA	< 0.20	97%	50%	140%	80%	50%	140%	83%	50%	140%
Trichlorofluoromethane	4876966	4876966	<0.40	<0.40	NA	< 0.40	85%	50%	140%	95%	50%	140%	115%	50%	140%
Acetone	4876966	4876966	<1.0	<1.0	NA	< 1.0	88%	50%	140%	117%	50%	140%	112%	50%	140%
1,1-Dichloroethylene	4876966	4876966	<0.30	<0.30	NA	< 0.30	86%	50%	140%	114%	60%	130%	104%	50%	140%
Methylene Chloride	4876966	4876966	<0.30	<0.30	NA	< 0.30	110%	50%	140%	109%	60%	130%	107%	50%	140%
trans- 1,2-Dichloroethylene	4876966	4876966	<0.20	<0.20	NA	< 0.20	97%	50%	140%	100%	60%	130%	100%	50%	140%
Methyl tert-butyl ether	4876966	4876966	<0.20	<0.20	NA	< 0.20	87%	50%	140%	76%	60%	130%	77%	50%	140%
1,1-Dichloroethane	4876966	4876966	<0.30	<0.30	NA	< 0.30	109%	50%	140%	111%	60%	130%	103%	50%	140%
Methyl Ethyl Ketone	4876966	4876966	<1.0	<1.0	NA	< 1.0	89%	50%	140%	112%	50%	140%	95%	50%	140%
cis- 1,2-Dichloroethylene	4876966	4876966	<0.20	<0.20	NA	< 0.20	114%	50%	140%	111%	60%	130%	119%	50%	140%
Chloroform	4876966	4876966	<0.20	<0.20	NA	< 0.20	111%	50%	140%	106%	60%	130%	117%	50%	140%
1,2-Dichloroethane	4876966	4876966	<0.20	<0.20	NA	< 0.20	104%	50%	140%	104%	60%	130%	94%	50%	140%
1,1,1-Trichloroethane	4876966	4876966	<0.30	<0.30	NA	< 0.30	104%	50%	140%	105%	60%	130%	120%	50%	140%
Carbon Tetrachloride	4876966	4876966	<0.20	<0.20	NA	< 0.20	103%	50%	140%	97%	60%	130%	96%	50%	140%
Benzene	4876966	4876966	<0.20	<0.20	NA	< 0.20	79%	50%	140%	86%	60%	130%	88%	50%	140%
1,2-Dichloropropane	4876966	4876966	<0.20	<0.20	NA	< 0.20	80%	50%	140%	73%	60%	130%	78%	50%	140%
Trichloroethylene	4876966	4876966	<0.20	<0.20	NA	< 0.20	84%	50%	140%	76%	60%	130%	95%	50%	140%
Bromodichloromethane	4876966	4876966	<0.20	<0.20	NA	< 0.20	92%	50%	140%	89%	60%	130%	105%	50%	140%
Methyl Isobutyl Ketone	4876966	4876966	<1.0	<1.0	NA	< 1.0	92%	50%	140%	78%	50%	140%	84%	50%	140%
1,1,2-Trichloroethane	4876966	4876966	<0.20	<0.20	NA	< 0.20	108%	50%	140%	115%	60%	130%	103%	50%	140%
Toluene	4876966	4876966	<0.20	<0.20	NA	< 0.20	109%	50%	140%	101%	60%	130%	118%	50%	140%
Dibromochloromethane	4876966	4876966	<0.10	<0.10	NA	< 0.10	104%	50%	140%	110%	60%	130%	116%	50%	140%
Ethylene Dibromide	4876966	4876966	<0.10	<0.10	NA	< 0.10	114%	50%	140%	104%	60%	130%	113%	50%	140%
Tetrachloroethylene	4876966	4876966	<0.20	<0.20	NA	< 0.20	105%	50%	140%	101%	60%	130%	116%	50%	140%
1,1,1,2-Tetrachloroethane	4876966	4876966	<0.10	<0.10	NA	< 0.10	99%	50%	140%	93%	60%	130%	102%	50%	140%
Chlorobenzene	4876966	4876966	<0.10	<0.10	NA	< 0.10	115%	50%	140%	100%	60%	130%	118%	50%	140%
Ethylbenzene	4876966	4876966	<0.10	<0.10	NA	< 0.10	99%	50%	140%	88%	60%	130%	105%	50%	140%
m & p-Xylene	4876966	4876966	<0.20	<0.20	NA	< 0.20	104%	50%	140%	92%	60%	130%	109%	50%	140%
Bromoform	4876966	4876966	<0.10	<0.10	NA	< 0.10	101%	50%	140%	110%	60%	130%	111%	50%	140%
Styrene	4876966	4876966	<0.10	<0.10	NA	< 0.10	104%	50%	140%	89%	60%	130%	107%	50%	140%
1,1,2,2-Tetrachloroethane	4876966	4876966	<0.10	<0.10	NA	< 0.10	97%	50%	140%	101%	60%	130%	108%	50%	140%
o-Xylene	4876966	4876966	<0.10	<0.10	NA	< 0.10	115%	50%	140%	102%	60%	130%	117%	50%	140%

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 170 SLATER STREET PHASE TWO ESA
SAMPLING SITE:170 Slater Street, Ottawa, Ontario

AGAT WORK ORDER: 23Z008519
ATTENTION TO: Keith Holmes
SAMPLED BY:James Sullivan

Trace Organics Analysis (Continued)

RPT Date: Mar 31, 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	4876966	4876966	<0.10	<0.10	NA	< 0.10	115%	50%	140%	102%	60%	130%	113%	50%	140%
1,4-Dichlorobenzene	4876966	4876966	<0.10	<0.10	NA	< 0.10	115%	50%	140%	103%	60%	130%	116%	50%	140%
1,2-Dichlorobenzene	4876966	4876966	<0.10	<0.10	NA	< 0.10	114%	50%	140%	96%	60%	130%	110%	50%	140%
n-Hexane	4876966	4876966	<0.20	<0.20	NA	< 0.20	101%	50%	140%	107%	60%	130%	89%	50%	140%
O. Reg. 153(511) - VOCs (Water)															
Dichlorodifluoromethane	4876966	4876966	<0.40	<0.40	NA	< 0.40	104%	50%	140%	77%	50%	140%	76%	50%	140%
Vinyl Chloride	4876966	4876966	<0.17	<0.17	NA	< 0.17	93%	50%	140%	108%	50%	140%	107%	50%	140%
Bromomethane	4876966	4876966	<0.20	<0.20	NA	< 0.20	97%	50%	140%	80%	50%	140%	83%	50%	140%
Trichlorofluoromethane	4876966	4876966	<0.40	<0.40	NA	< 0.40	85%	50%	140%	95%	50%	140%	115%	50%	140%
Acetone	4876966	4876966	<1.0	<1.0	NA	< 1.0	88%	50%	140%	117%	50%	140%	112%	50%	140%
1,1-Dichloroethylene	4876966	4876966	<0.30	<0.30	NA	< 0.30	86%	50%	140%	114%	60%	130%	104%	50%	140%
Methylene Chloride	4876966	4876966	<0.30	<0.30	NA	< 0.30	110%	50%	140%	109%	60%	130%	107%	50%	140%
trans- 1,2-Dichloroethylene	4876966	4876966	<0.20	<0.20	NA	< 0.20	97%	50%	140%	100%	60%	130%	100%	50%	140%
Methyl tert-butyl ether	4876966	4876966	<0.20	<0.20	NA	< 0.20	87%	50%	140%	76%	60%	130%	77%	50%	140%
1,1-Dichloroethane	4876966	4876966	<0.30	<0.30	NA	< 0.30	109%	50%	140%	111%	60%	130%	103%	50%	140%
Methyl Ethyl Ketone	4876966	4876966	<1.0	<1.0	NA	< 1.0	89%	50%	140%	112%	50%	140%	95%	50%	140%
cis- 1,2-Dichloroethylene	4876966	4876966	<0.20	<0.20	NA	< 0.20	114%	50%	140%	111%	60%	130%	119%	50%	140%
Chloroform	4876966	4876966	<0.20	<0.20	NA	< 0.20	111%	50%	140%	106%	60%	130%	117%	50%	140%
1,2-Dichloroethane	4876966	4876966	<0.20	<0.20	NA	< 0.20	104%	50%	140%	104%	60%	130%	94%	50%	140%
1,1,1-Trichloroethane	4876966	4876966	<0.30	<0.30	NA	< 0.30	104%	50%	140%	105%	60%	130%	120%	50%	140%
Carbon Tetrachloride	4876966	4876966	<0.20	<0.20	NA	< 0.20	103%	50%	140%	97%	60%	130%	96%	50%	140%
Benzene	4876966	4876966	<0.20	<0.20	NA	< 0.20	79%	50%	140%	86%	60%	130%	88%	50%	140%
1,2-Dichloropropane	4876966	4876966	<0.20	<0.20	NA	< 0.20	80%	50%	140%	73%	60%	130%	78%	50%	140%
Trichloroethylene	4876966	4876966	<0.20	<0.20	NA	< 0.20	84%	50%	140%	76%	60%	130%	95%	50%	140%
Bromodichloromethane	4876966	4876966	<0.20	<0.20	NA	< 0.20	92%	50%	140%	89%	60%	130%	105%	50%	140%
Methyl Isobutyl Ketone	4876966	4876966	<1.0	<1.0	NA	< 1.0	92%	50%	140%	78%	50%	140%	84%	50%	140%
1,1,2-Trichloroethane	4876966	4876966	<0.20	<0.20	NA	< 0.20	108%	50%	140%	115%	60%	130%	103%	50%	140%
Toluene	4876966	4876966	<0.20	<0.20	NA	< 0.20	109%	50%	140%	101%	60%	130%	118%	50%	140%
Dibromochloromethane	4876966	4876966	<0.10	<0.10	NA	< 0.10	104%	50%	140%	110%	60%	130%	116%	50%	140%
Ethylene Dibromide	4876966	4876966	<0.10	<0.10	NA	< 0.10	114%	50%	140%	104%	60%	130%	113%	50%	140%
Tetrachloroethylene	4876966	4876966	<0.20	<0.20	NA	< 0.20	105%	50%	140%	101%	60%	130%	116%	50%	140%
1,1,1,2-Tetrachloroethane	4876966	4876966	<0.10	<0.10	NA	< 0.10	99%	50%	140%	93%	60%	130%	102%	50%	140%
Chlorobenzene	4876966	4876966	<0.10	<0.10	NA	< 0.10	115%	50%	140%	100%	60%	130%	118%	50%	140%
Ethylbenzene	4876966	4876966	<0.10	<0.10	NA	< 0.10	99%	50%	140%	88%	60%	130%	105%	50%	140%
m & p-Xylene	4876966	4876966	<0.20	<0.20	NA	< 0.20	104%	50%	140%	92%	60%	130%	109%	50%	140%
Bromoform	4876966	4876966	<0.10	<0.10	NA	< 0.10	101%	50%	140%	110%	60%	130%	111%	50%	140%
Styrene	4876966	4876966	<0.10	<0.10	NA	< 0.10	104%	50%	140%	89%	60%	130%	107%	50%	140%
1,1,2,2-Tetrachloroethane	4876966	4876966	<0.10	<0.10	NA	< 0.10	97%	50%	140%	101%	60%	130%	108%	50%	140%
o-Xylene	4876966	4876966	<0.10	<0.10	NA	< 0.10	115%	50%	140%	102%	60%	130%	117%	50%	140%

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Quality Assurance

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z008519

PROJECT: 170 SLATER STREET PHASE TWO ESA

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:James Sullivan

Trace Organics Analysis (Continued)

RPT Date: Mar 31, 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	4876966	4876966	<0.10	<0.10	NA	< 0.10	115%	50%	140%	102%	60%	130%	113%	50%	140%
1,4-Dichlorobenzene	4876966	4876966	<0.10	<0.10	NA	< 0.10	115%	50%	140%	103%	60%	130%	116%	50%	140%
1,2-Dichlorobenzene	4876966	4876966	<0.10	<0.10	NA	< 0.10	114%	50%	140%	96%	60%	130%	110%	50%	140%
n-Hexane	4876966	4876966	<0.20	<0.20	NA	< 0.20	101%	50%	140%	107%	60%	130%	89%	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:

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
AGAT WORK ORDER: 23Z008519
PROJECT: 170 SLATER STREET PHASE TWO ESA
ATTENTION TO: Keith Holmes
SAMPLING SITE:170 Slater Street, Ottawa, Ontario
SAMPLED BY:James Sullivan

Water Analysis

RPT Date: Mar 31, 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) - Metals (Including Hydrides) (Water)															
Dissolved Antimony	4873610		<1.0	<1.0	NA	< 1.0	101%	70%	130%	104%	80%	120%	104%	70%	130%
Dissolved Arsenic	4873610		3.5	3.9	NA	< 1.0	98%	70%	130%	107%	80%	120%	105%	70%	130%
Dissolved Barium	4873610		93.5	92.2	1.4%	< 2.0	103%	70%	130%	101%	80%	120%	96%	70%	130%
Dissolved Beryllium	4873610		<0.50	<0.50	NA	< 0.50	113%	70%	130%	116%	80%	120%	109%	70%	130%
Dissolved Boron	4873610		142	140	1.4%	< 10.0	105%	70%	130%	117%	80%	120%	114%	70%	130%
Dissolved Cadmium	4873610		<0.20	<0.20	NA	< 0.20	100%	70%	130%	100%	80%	120%	94%	70%	130%
Dissolved Chromium	4873610		<2.0	<2.0	NA	< 2.0	96%	70%	130%	104%	80%	120%	97%	70%	130%
Dissolved Cobalt	4873610		<0.50	0.51	NA	< 0.50	104%	70%	130%	102%	80%	120%	97%	70%	130%
Dissolved Copper	4873610		1.9	1.7	NA	< 1.0	100%	70%	130%	101%	80%	120%	94%	70%	130%
Dissolved Lead	4873610		<0.50	<0.50	NA	< 0.50	100%	70%	130%	106%	80%	120%	95%	70%	130%
Dissolved Molybdenum	4873610		8.41	7.29	14.3%	< 0.50	98%	70%	130%	107%	80%	120%	102%	70%	130%
Dissolved Nickel	4873610		<1.0	1.6	NA	< 1.0	105%	70%	130%	104%	80%	120%	97%	70%	130%
Dissolved Selenium	4873610		<1.0	<1.0	NA	< 1.0	101%	70%	130%	106%	80%	120%	106%	70%	130%
Dissolved Silver	4873610		<0.20	<0.20	NA	< 0.20	97%	70%	130%	97%	80%	120%	84%	70%	130%
Dissolved Thallium	4873610		<0.30	<0.30	NA	< 0.30	104%	70%	130%	110%	80%	120%	99%	70%	130%
Dissolved Uranium	4873610		1.44	1.42	NA	< 0.50	96%	70%	130%	102%	80%	120%	90%	70%	130%
Dissolved Vanadium	4873610		0.47	<0.40	NA	< 0.40	107%	70%	130%	114%	80%	120%	107%	70%	130%
Dissolved Zinc	4873610		<5.0	<5.0	NA	< 5.0	99%	70%	130%	104%	80%	120%	104%	70%	130%

Comments: NA signifies Not Applicable.
Duplicate NA: results are under 5X the RDL and will not be calculated.

Certified By:

AGAT Laboratories

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z008519

PROJECT: 170 SLATER STREET PHASE TWO ESA

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:James Sullivan

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: 23Z008519

PROJECT: 170 SLATER STREET PHASE TWO ESA

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:James Sullivan

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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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z008519

PROJECT: 170 SLATER STREET PHASE TWO ESA

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater Street, Ottawa, Ontario

SAMPLED BY:James Sullivan

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis			
Dissolved Antimony	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Arsenic	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Barium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Beryllium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Boron	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Cadmium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Chromium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Cobalt	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Copper	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Lead	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Molybdenum	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Nickel	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Selenium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Silver	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Thallium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Uranium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Vanadium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Zinc	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS

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Laboratory Use Only

Work Order #: 23T008519

Cooler Quantity: one - loose ice.

Arrival Temperatures: 6.7 | 6.8 | 7.1
2.2 | 4.3 | 5.4

Custody Seal Intact: ☐Yes ☐No ☒N/A

Notes: bagged Ice

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 CANADA
Contact: KEITH HOLMES
Address: 1931 ROBERTSON RD
NEPEAN, ON K2H 5B7
Phone: 613-592-9600 Fax:
Reports to be sent to:
1. Email: KEITH.P.HOLMES@WSP.COM
2. Email: PAUL.JACKSON@WSP.COM

Regulatory Requirements:
(Please check all applicable boxes)

☑ Regulation 153/04
Table 3 *(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: 170 SLATER STREET PHASE TWO ESA
Site Location: 170 SLATER STREET, OTTAWA, ONTARIO
Sampled By: JAMES SULLIVAN
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	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	Total PCBs ☐ Aroclor	VOC	Landfill Disposal Characterization TCLP: TCLP: ☐M&I ☐VOCs ☐ABNs ☐B(a)P ☐PCBs (O. Reg 558)	Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs (O. Reg 406)	Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4 (O. Reg 406)	Salt - EC/SAR								Potentially Hazardous or High Concentration (Y/N)
FB-01	3/22/23	1130 AM	9			N		✓	✓	✓		✓												
23-05-GW01	↓	1145 AM	9	GW		Y		✓	✓	✓		✓												
DUP-01	↓	1145 AM	9	GW		Y		✓	✓	✓		✓												
* MW14-02-GW	↓	1230 PM	3 ~~4~~	GW	* Only VOCs analysis	Y						✓												
23-02-GW01	↓	1400 PM	9	GW		Y		✓	✓	✓		✓												
		AM PM																						
		AM PM																						
~~* Only VOCs~~		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
[signature]	3/23/23	400pm	C. Cantin	MAR 23 2023	15h50
C. Cantin Dunn	MAR 24 2023	10h00	Andy Tran [signature]	25-03-2023	10:30 AM

Page ____ of ____

Nº: T114840

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CLIENT NAME: WSP CANADA INC.
1931 ROBERTSON ROAD
OTTAWA, ON K2H5B7
(613) 592-9600
ATTENTION TO: Keith Holmes
PROJECT: 23592404 - 170 Slater Street Phase Two
AGAT WORK ORDER: 23Z010329
SOIL ANALYSIS REVIEWED BY: Nivine Basily, Inorganics Report Writer
TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist
DATE REPORTED: Apr 10, 2023
PAGES (INCLUDING COVER): 17
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: 23Z010329

PROJECT: 23592404 - 170 Slater Street Phase Two

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:James Sullivan

O. Reg. 153(511) - Metals & Inorganics (Soil)

DATE RECEIVED: 2023-03-30

DATE REPORTED: 2023-04-10

				SAMPLE DESCRIPTION:	23-01-SA02	23-01-SA04	23-01-SA06
				SAMPLE TYPE:	Soil	Soil	Soil
				DATE SAMPLED:	2023-03-23 09:25	2023-03-23 09:55	2023-03-23 10:40
Parameter	Unit	G / S	RDL		4888965	4888968	4888969
Antimony	µg/g	7.5	0.8		<0.8	<0.8	<0.8
Arsenic	µg/g	18	1		<1	<1	9
Barium	µg/g	390	2.0		34.9	294	282
Beryllium	µg/g	4	0.4		<0.4	0.4	0.6
Boron	µg/g	120	5		<5	6	16
Boron (Hot Water Soluble)	µg/g	1.5	0.10		<0.10	0.11	0.47
Cadmium	µg/g	1.2	0.5		<0.5	<0.5	<0.5
Chromium	µg/g	160	5		9	27	23
Cobalt	µg/g	22	0.5		4.1	8.2	19.0
Copper	µg/g	140	1.0		8.0	16.8	60.2
Lead	µg/g	120	1		2	5	21
Molybdenum	µg/g	6.9	0.5		<0.5	<0.5	21.8
Nickel	µg/g	100	1		7	16	84
Selenium	µg/g	2.4	0.8		<0.8	<0.8	1.7
Silver	µg/g	20	0.5		<0.5	<0.5	<0.5
Thallium	µg/g	1	0.5		<0.5	<0.5	0.9
Uranium	µg/g	23	0.50		0.58	0.63	6.20
Vanadium	µg/g	86	0.4		16.7	42.3	33.3
Zinc	µg/g	340	5		16	42	110
Chromium, Hexavalent	µg/g	8	0.2		<0.2	<0.2	<0.2
Cyanide, WAD	µg/g	0.051	0.040		<0.040	<0.040	<0.040
Mercury	µg/g	0.27	0.10		<0.10	<0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	0.7	0.005		0.531	8.27	1.21
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	N/A		7.16	68.1	28.7
pH, 2:1 CaCl2 Extraction	pH Units	5.0-9.0	NA		7.00	7.46	7.55

Certified By:

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 23Z010329

PROJECT: 23592404 - 170 Slater Street Phase Two

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:James Sullivan

O. Reg. 153(511) - Metals & Inorganics (Soil)

DATE RECEIVED: 2023-03-30

DATE REPORTED: 2023-04-10

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards 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.

4888965-4888969 EC was determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil). pH was determined on the 0.01M CaCl2 extract prepared at 2:1 ratio. SAR is a calculated parameter.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

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AGAT WORK ORDER: 23Z010329

PROJECT: 23592404 - 170 Slater Street Phase Two

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:James Sullivan

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

DATE RECEIVED: 2023-03-30

DATE REPORTED: 2023-04-10

				SAMPLE DESCRIPTION:	23-01-SA02	23-01-SA04	23-01-SA06
				SAMPLE TYPE:	Soil	Soil	Soil
				DATE SAMPLED:	2023-03-23 09:25	2023-03-23 09:55	2023-03-23 10:40
Parameter	Unit	G / S	RDL		4888965	4888968	4888969
Naphthalene	µg/g	0.6	0.05		<0.05	<0.05	<0.05
Acenaphthylene	µg/g	0.15	0.05		<0.05	<0.05	<0.05
Acenaphthene	µg/g	7.9	0.05		<0.05	<0.05	<0.05
Fluorene	µg/g	62	0.05		<0.05	<0.05	<0.05
Phenanthrene	µg/g	6.2	0.05		<0.05	<0.05	<0.05
Anthracene	µg/g	0.67	0.05		<0.05	<0.05	<0.05
Fluoranthene	µg/g	0.69	0.05		<0.05	<0.05	<0.05
Pyrene	µg/g	78	0.05		<0.05	<0.05	<0.05
Benz(a)anthracene	µg/g	0.5	0.05		<0.05	<0.05	<0.05
Chrysene	µg/g	7	0.05		<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.78	0.05		<0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/g	0.78	0.05		<0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g	0.3	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
Dibenz(a,h)anthracene	µg/g	0.1	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
1 and 2 Methlynaphthalene	µg/g	0.99	0.05		<0.05	<0.05	<0.05
Moisture Content	%		0.1		14.7	19.3	9.2
Surrogate	Unit	Acceptable Limits					
Naphthalene-d8	%	50-140			80	95	100
Acridine-d9	%	50-140			95	70	105
Terphenyl-d14	%	50-140			95	80	75

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards 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.

4888965-4888969 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: NPopnikolof

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Certificate of Analysis

AGAT WORK ORDER: 23Z010329

PROJECT: 23592404 - 170 Slater Street Phase Two

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:James Sullivan

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

DATE RECEIVED: 2023-03-30

DATE REPORTED: 2023-04-10

				SAMPLE DESCRIPTION:	23-01-SA02	23-01-SA04	23-01-SA06
				SAMPLE TYPE:	Soil	Soil	Soil
				DATE SAMPLED:	2023-03-23 09:25	2023-03-23 09:55	2023-03-23 10:40
Parameter	Unit	G / S	RDL		4888965	4888968	4888969
F1 (C6 - C10)	µg/g	55	5		<5	<5	113
F1 (C6 to C10) minus BTEX	µg/g	55	5		<5	<5	112
F2 (C10 to C16)	µg/g	98	10		<10	<10	189
F2 (C10 to C16) minus Naphthalene	µg/g		10		<10	<10	189
F3 (C16 to C34)	µg/g	300	50		<50	<50	224
F3 (C16 to C34) minus PAHs	µg/g		50		<50	<50	224
F4 (C34 to C50)	µg/g	2800	50		<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	2800	50		NA	NA	NA
Moisture Content	%		0.1		14.7	19.3	9.2
Surrogate	Unit	Acceptable Limits					
Toluene-d8	%	50-140			104	106	103
Terphenyl	%	60-140			98	102	85

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards 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.

4888965-4888969 Results are based on sample dry weight.
The C6-C10 fraction is calculated using toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX and PAH contributions.
C>10 – C16 (F2- Naphthalene) is a calculated parameter. The calculated value is F2 - Naphthalene.
C>16 - C34 (F3-PAH) is a calculated parameter. The calculated value is F3-PAH (PAH: sum of Phenanthrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Fluoranthene, Dibenzo(a,h)anthracene, Indeno(1,2,3-c,d)pyrene and Pyrene).
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: NPopowkolof

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Certificate of Analysis

AGAT WORK ORDER: 23Z010329

PROJECT: 23592404 - 170 Slater Street Phase Two

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:James Sullivan

O. Reg. 153(511) - VOCs (with PHC) (Soil)

DATE RECEIVED: 2023-03-30

DATE REPORTED: 2023-04-10

				SAMPLE DESCRIPTION:	23-01-SA02	23-01-SA04	23-01-SA06
				SAMPLE TYPE:	Soil	Soil	Soil
				DATE SAMPLED:	2023-03-23 09:25	2023-03-23 09:55	2023-03-23 10:40
Parameter	Unit	G / S	RDL		4888965	4888968	4888969
Dichlorodifluoromethane	µg/g	16	0.05		<0.05	<0.05	<0.05
Vinyl Chloride	ug/g	0.02	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	0.05	0.05		<0.05	<0.05	<0.05
Methylene Chloride	ug/g	0.1	0.05		<0.05	<0.05	<0.05
Trans- 1,2-Dichloroethylene	ug/g	0.084	0.05		<0.05	<0.05	<0.05
Methyl tert-butyl Ether	ug/g	0.75	0.05		<0.05	<0.05	<0.05
1,1-Dichloroethane	ug/g	3.5	0.02		<0.02	<0.02	<0.02
Methyl Ethyl Ketone	ug/g	16	0.50		<0.50	<0.50	<0.50
Cis- 1,2-Dichloroethylene	ug/g	3.4	0.02		<0.02	<0.02	<0.02
Chloroform	ug/g	0.05	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	0.38	0.05		<0.05	<0.05	<0.05
Carbon Tetrachloride	ug/g	0.05	0.05		<0.05	<0.05	<0.05
Benzene	ug/g	0.21	0.02		<0.02	<0.02	<0.02
1,2-Dichloropropane	ug/g	0.05	0.03		<0.03	<0.03	<0.03
Trichloroethylene	ug/g	0.061	0.03		<0.03	<0.03	<0.03
Bromodichloromethane	ug/g	13	0.05		<0.05	<0.05	<0.05
Methyl Isobutyl Ketone	ug/g	1.7	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	2.3	0.05		<0.05	<0.05	<0.05
Dibromochloromethane	ug/g	9.4	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	0.28	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
Chlorobenzene	ug/g	2.4	0.05		<0.05	<0.05	<0.05
Ethylbenzene	ug/g	2	0.05		<0.05	<0.05	<0.05

Certified By: N Popnikolof

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Certificate of Analysis

AGAT WORK ORDER: 23Z010329

PROJECT: 23592404 - 170 Slater Street Phase Two

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:James Sullivan

O. Reg. 153(511) - VOCs (with PHC) (Soil)

DATE RECEIVED: 2023-03-30

DATE REPORTED: 2023-04-10

				SAMPLE DESCRIPTION:	23-01-SA02	23-01-SA04	23-01-SA06
				SAMPLE TYPE:	Soil	Soil	Soil
				DATE SAMPLED:	2023-03-23 09:25	2023-03-23 09:55	2023-03-23 10:40
Parameter	Unit	G / S	RDL		4888965	4888968	4888969
m & p-Xylene	ug/g		0.05		<0.05	<0.05	0.48
Bromoform	ug/g	0.27	0.05		<0.05	<0.05	<0.05
Styrene	ug/g	0.7	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	0.16
1,3-Dichlorobenzene	ug/g	4.8	0.05		<0.05	<0.05	<0.05
1,4-Dichlorobenzene	ug/g	0.083	0.05		<0.05	<0.05	<0.05
1,2-Dichlorobenzene	ug/g	3.4	0.05		<0.05	<0.05	<0.05
Xylenes (Total)	ug/g	3.1	0.05		<0.05	<0.05	0.64
1,3-Dichloropropene (Cis + Trans)	µg/g	0.05	0.05		<0.05	<0.05	<0.05
n-Hexane	µg/g	2.8	0.05		<0.05	<0.05	0.60
Moisture Content	%		0.1		14.7	19.3	9.2
Surrogate	Unit	Acceptable Limits					
Toluene-d8	% Recovery	50-140			104	106	103
4-Bromofluorobenzene	% Recovery	50-140			83	80	96

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards 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.

4888965-4888969 The sample was analyzed using the high level technique. The sample was extracted using methanol, a small amount of the methanol extract was diluted in water and the purge & trap GC/MS analysis was performed. Results are based on the dry weight of the soil.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene + o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popnikolof

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Exceedance Summary

AGAT WORK ORDER: 23Z010329

PROJECT: 23592404 - 170 Slater Street Phase Two

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
4888965	23-01-SA02	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	7.16
4888968	23-01-SA04	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.7	8.27
4888968	23-01-SA04	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	68.1
4888969	23-01-SA06	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.7	1.21
4888969	23-01-SA06	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Molybdenum	µg/g	6.9	21.8
4888969	23-01-SA06	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	28.7
4888969	23-01-SA06	ON T3 S RPI CT	O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)	F1 (C6 - C10)	µg/g	55	113
4888969	23-01-SA06	ON T3 S RPI CT	O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)	F1 (C6 to C10) minus BTEX	µg/g	55	112
4888969	23-01-SA06	ON T3 S RPI CT	O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)	F2 (C10 to C16)	µg/g	98	189

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 23592404 - 170 Slater Street Phase Two
SAMPLING SITE:170 Slater St, Ottawa, Ontario

AGAT WORK ORDER: 23Z010329
ATTENTION TO: Keith Holmes
SAMPLED BY:James Sullivan

Soil Analysis

RPT Date: Apr 10, 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) - Metals & Inorganics (Soil)															
Antimony	4887749		<0.8	<0.8	NA	< 0.8	96%	70%	130%	71%	80%	120%	74%	70%	130%
Arsenic	4887749		4	4	NA	< 1	114%	70%	130%	97%	80%	120%	117%	70%	130%
Barium	4887749		51.0	51.9	1.7%	< 2.0	103%	70%	130%	100%	80%	120%	106%	70%	130%
Beryllium	4887749		0.4	0.6	NA	< 0.4	93%	70%	130%	92%	80%	120%	95%	70%	130%
Boron	4887749		9	10	NA	< 5	93%	70%	130%	103%	80%	120%	105%	70%	130%
Boron (Hot Water Soluble)	4887993		0.35	0.36	NA	< 0.10	90%	60%	140%	96%	70%	130%	99%	60%	140%
Cadmium	4887749		<0.5	<0.5	NA	< 0.5	87%	70%	130%	97%	80%	120%	108%	70%	130%
Chromium	4887749		20	20	NA	< 5	102%	70%	130%	100%	80%	120%	103%	70%	130%
Cobalt	4887749		7.7	7.8	1.3%	< 0.5	104%	70%	130%	108%	80%	120%	109%	70%	130%
Copper	4887749		14.1	14.3	1.4%	< 1.0	98%	70%	130%	106%	80%	120%	105%	70%	130%
Lead	4887749		11	11	0.0%	< 1	107%	70%	130%	106%	80%	120%	102%	70%	130%
Molybdenum	4887749		<0.5	<0.5	NA	< 0.5	103%	70%	130%	100%	80%	120%	110%	70%	130%
Nickel	4887749		15	15	0.0%	< 1	104%	70%	130%	108%	80%	120%	108%	70%	130%
Selenium	4887749		<0.8	<0.8	NA	< 0.8	127%	70%	130%	102%	80%	120%	108%	70%	130%
Silver	4887749		<0.5	<0.5	NA	< 0.5	113%	70%	130%	105%	80%	120%	102%	70%	130%
Thallium	4887749		<0.5	<0.5	NA	< 0.5	117%	70%	130%	112%	80%	120%	110%	70%	130%
Uranium	4887749		0.69	0.70	NA	< 0.50	113%	70%	130%	106%	80%	120%	109%	70%	130%
Vanadium	4887749		31.1	31.7	1.9%	< 0.4	105%	70%	130%	104%	80%	120%	104%	70%	130%
Zinc	4887749		47	48	2.1%	< 5	105%	70%	130%	101%	80%	120%	105%	70%	130%
Chromium, Hexavalent	4887592		<0.2	<0.2	NA	< 0.2	95%	70%	130%	92%	80%	120%	97%	70%	130%
Cyanide, WAD	4888965	4888965	<0.040	<0.040	NA	< 0.040	97%	70%	130%	110%	80%	120%	102%	70%	130%
Mercury	4887749		<0.10	<0.10	NA	< 0.10	108%	70%	130%	101%	80%	120%	102%	70%	130%
Electrical Conductivity (2:1)	4887993		1.85	1.92	3.7%	< 0.005	105%	80%	120%						
Sodium Adsorption Ratio (2:1) (Calc.)	4887562		7.21	7.20	0.1%	NA									
pH, 2:1 CaCl2 Extraction	4888965	4888965	7.00	7.11	1.6%	NA	90%	80%	120%						

Comments: NA signifies Not Applicable.
pH duplicates QA acceptance criteria was met relative as stated in Table 5-15 of Analytical Protocol document.
Duplicate NA: results are under 5X the RDL and will not be calculated.

More than 90% of the elements met acceptance limits and overall data quality is acceptable for use. For a multi-element scan up to 10% of analytes may exceed the quoted limits by up to 10% absolute.

Certified By:

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 23592404 - 170 Slater Street Phase Two
SAMPLING SITE:170 Slater St, Ottawa, Ontario

AGAT WORK ORDER: 23Z010329
ATTENTION TO: Keith Holmes
SAMPLED BY:James Sullivan

Trace Organics Analysis

RPT Date: Apr 10, 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 PAHs and VOC) (Soil)															
F1 (C6 - C10)	4891488		<5	<5	NA	< 5	120%	60%	140%	86%	60%	140%	81%	60%	140%
F2 (C10 to C16)	4888965	4888965	<10	<10	NA	< 10	95%	60%	140%	NA	60%	140%	125%	60%	140%
F3 (C16 to C34)	4888965	4888965	<50	<50	NA	< 50	99%	60%	140%	NA	60%	140%	126%	60%	140%
F4 (C34 to C50)	4888965	4888965	<50	<50	NA	< 50	86%	60%	140%	NA	60%	140%	113%	60%	140%
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	4887820		<0.05	<0.05	NA	< 0.05	110%	50%	140%	90%	50%	140%	105%	50%	140%
Acenaphthylene	4887820		<0.05	<0.05	NA	< 0.05	90%	50%	140%	80%	50%	140%	88%	50%	140%
Acenaphthene	4887820		0.10	0.08	NA	< 0.05	104%	50%	140%	100%	50%	140%	77%	50%	140%
Fluorene	4887820		<0.05	<0.05	NA	< 0.05	92%	50%	140%	88%	50%	140%	71%	50%	140%
Phenanthrene	4887820		0.41	0.36	13.1%	< 0.05	92%	50%	140%	80%	50%	140%	94%	50%	140%
Anthracene	4887820		0.12	0.08	NA	< 0.05	111%	50%	140%	98%	50%	140%	82%	50%	140%
Fluoranthene	4887820		0.76	0.61	21.9%	< 0.05	81%	50%	140%	90%	50%	140%	88%	50%	140%
Pyrene	4887820		0.67	0.55	19.9%	< 0.05	79%	50%	140%	80%	50%	140%	97%	50%	140%
Benz(a)anthracene	4887820		0.13	0.10	NA	< 0.05	110%	50%	140%	75%	50%	140%	90%	50%	140%
Chrysene	4887820		0.26	0.24	NA	< 0.05	104%	50%	140%	95%	50%	140%	92%	50%	140%
Benzo(b)fluoranthene	4887820		0.22	0.20	NA	< 0.05	77%	50%	140%	95%	50%	140%	119%	50%	140%
Benzo(k)fluoranthene	4887820		0.06	0.07	NA	< 0.05	76%	50%	140%	98%	50%	140%	84%	50%	140%
Benzo(a)pyrene	4887820		<0.05	<0.05	NA	< 0.05	70%	50%	140%	115%	50%	140%	105%	50%	140%
Indeno(1,2,3-cd)pyrene	4887820		0.09	0.08	NA	< 0.05	67%	50%	140%	88%	50%	140%	89%	50%	140%
Dibenz(a,h)anthracene	4887820		<0.05	<0.05	NA	< 0.05	91%	50%	140%	85%	50%	140%	98%	50%	140%
Benzo(g,h,i)perylene	4887820		0.15	0.14	NA	< 0.05	70%	50%	140%	88%	50%	140%	82%	50%	140%
O. Reg. 153(511) - VOCs (with PHC) (Soil)															
Dichlorodifluoromethane	4891488		<0.05	<0.05	NA	< 0.05	96%	50%	140%	116%	50%	140%	88%	50%	140%
Vinyl Chloride	4891488		<0.02	<0.02	NA	< 0.02	93%	50%	140%	113%	50%	140%	100%	50%	140%
Bromomethane	4891488		<0.05	<0.05	NA	< 0.05	98%	50%	140%	119%	50%	140%	99%	50%	140%
Trichlorofluoromethane	4891488		<0.05	<0.05	NA	< 0.05	81%	50%	140%	94%	50%	140%	110%	50%	140%
Acetone	4891488		<0.50	<0.50	NA	< 0.50	113%	50%	140%	107%	50%	140%	102%	50%	140%
1,1-Dichloroethylene	4891488		<0.05	<0.05	NA	< 0.05	107%	50%	140%	114%	60%	130%	106%	50%	140%
Methylene Chloride	4891488		<0.05	<0.05	NA	< 0.05	95%	50%	140%	74%	60%	130%	81%	50%	140%
Trans- 1,2-Dichloroethylene	4891488		<0.05	<0.05	NA	< 0.05	112%	50%	140%	93%	60%	130%	78%	50%	140%
Methyl tert-butyl Ether	4891488		<0.05	<0.05	NA	< 0.05	92%	50%	140%	84%	60%	130%	75%	50%	140%
1,1-Dichloroethane	4891488		<0.02	<0.02	NA	< 0.02	79%	50%	140%	73%	60%	130%	78%	50%	140%
Methyl Ethyl Ketone	4891488		<0.50	<0.50	NA	< 0.50	110%	50%	140%	75%	50%	140%	101%	50%	140%
Cis- 1,2-Dichloroethylene	4891488		<0.02	<0.02	NA	< 0.02	102%	50%	140%	88%	60%	130%	79%	50%	140%
Chloroform	4891488		<0.04	<0.04	NA	< 0.04	72%	50%	140%	97%	60%	130%	83%	50%	140%
1,2-Dichloroethane	4891488		<0.03	<0.03	NA	< 0.03	74%	50%	140%	87%	60%	130%	83%	50%	140%
1,1,1-Trichloroethane	4891488		<0.05	<0.05	NA	< 0.05	94%	50%	140%	71%	60%	130%	78%	50%	140%
Carbon Tetrachloride	4891488		<0.05	<0.05	NA	< 0.05	72%	50%	140%	86%	60%	130%	85%	50%	140%

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 23592404 - 170 Slater Street Phase Two
SAMPLING SITE:170 Slater St, Ottawa, Ontario

AGAT WORK ORDER: 23Z010329
ATTENTION TO: Keith Holmes
SAMPLED BY:James Sullivan

Trace Organics Analysis (Continued)

RPT Date: Apr 10, 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
Benzene	4891488		<0.02	<0.02	NA	< 0.02	79%	50%	140%	88%	60%	130%	81%	50%	140%
1,2-Dichloropropane	4891488		<0.03	<0.03	NA	< 0.03	77%	50%	140%	75%	60%	130%	95%	50%	140%
Trichloroethylene	4891488		<0.03	<0.03	NA	< 0.03	104%	50%	140%	92%	60%	130%	83%	50%	140%
Bromodichloromethane	4891488		<0.05	<0.05	NA	< 0.05	100%	50%	140%	80%	60%	130%	109%	50%	140%
Methyl Isobutyl Ketone	4891488		<0.50	<0.50	NA	< 0.50	114%	50%	140%	88%	50%	140%	96%	50%	140%
1,1,2-Trichloroethane	4891488		<0.04	<0.04	NA	< 0.04	70%	50%	140%	85%	60%	130%	91%	50%	140%
Toluene	4891488		<0.05	<0.05	NA	< 0.05	75%	50%	140%	98%	60%	130%	91%	50%	140%
Dibromochloromethane	4891488		<0.05	<0.05	NA	< 0.05	72%	50%	140%	90%	60%	130%	79%	50%	140%
Ethylene Dibromide	4891488		<0.04	<0.04	NA	< 0.04	116%	50%	140%	78%	60%	130%	77%	50%	140%
Tetrachloroethylene	4891488		<0.05	<0.05	NA	< 0.05	78%	50%	140%	103%	60%	130%	101%	50%	140%
1,1,1,2-Tetrachloroethane	4891488		<0.04	<0.04	NA	< 0.04	75%	50%	140%	115%	60%	130%	86%	50%	140%
Chlorobenzene	4891488		<0.05	<0.05	NA	< 0.05	71%	50%	140%	97%	60%	130%	91%	50%	140%
Ethylbenzene	4891488		<0.05	<0.05	NA	< 0.05	73%	50%	140%	97%	60%	130%	76%	50%	140%
m & p-Xylene	4891488		<0.05	<0.05	NA	< 0.05	93%	50%	140%	96%	60%	130%	108%	50%	140%
Bromoform	4891488		<0.05	<0.05	NA	< 0.05	72%	50%	140%	75%	60%	130%	74%	50%	140%
Styrene	4891488		<0.05	<0.05	NA	< 0.05	79%	50%	140%	69%	60%	130%	74%	50%	140%
1,1,2,2-Tetrachloroethane	4891488		<0.05	<0.05	NA	< 0.05	97%	50%	140%	77%	60%	130%	82%	50%	140%
o-Xylene	4891488		<0.05	<0.05	NA	< 0.05	77%	50%	140%	93%	60%	130%	81%	50%	140%
1,3-Dichlorobenzene	4891488		<0.05	<0.05	NA	< 0.05	77%	50%	140%	97%	60%	130%	89%	50%	140%
1,4-Dichlorobenzene	4891488		<0.05	<0.05	NA	< 0.05	73%	50%	140%	86%	60%	130%	81%	50%	140%
1,2-Dichlorobenzene	4891488		<0.05	<0.05	NA	< 0.05	75%	50%	140%	86%	60%	130%	83%	50%	140%
n-Hexane	4891488		<0.05	<0.05	NA	< 0.05	88%	50%	140%	74%	60%	130%	98%	50%	140%

Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

Certified By: N Popnikolof

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QC Exceedance

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z010329

PROJECT: 23592404 - 170 Slater Street Phase Two

ATTENTION TO: Keith Holmes

RPT Date: Apr 10, 2023

PARAMETER	Sample Id	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
			Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals & Inorganics (Soil)										
Antimony		96%	70%	130%	71%	80%	120%	74%	70%	130%

Comments: NA signifies Not Applicable.
pH duplicates QA acceptance criteria was met relative as stated in Table 5-15 of Analytical Protocol document.
Duplicate NA: results are under 5X the RDL and will not be calculated.

More than 90% of the elements met acceptance limits and overall data quality is acceptable for use. For a multi-element scan up to 10% of analytes may exceed the quoted limits by up to 10% absolute.

AGAT Laboratories

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CANADA L4Z 1Y2
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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z010329

PROJECT: 23592404 - 170 Slater Street Phase Two

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:James Sullivan

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Antimony	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Arsenic	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Barium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Beryllium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron (Hot Water Soluble)	MET-93-6104	modified from EPA 6010D and MSA PART 3, CH 21	ICP/OES
Cadmium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Cobalt	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Copper	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Lead	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Molybdenum	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Nickel	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Selenium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Silver	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Thallium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Uranium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Vanadium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Zinc	MET 93 -6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium, Hexavalent	INOR-93-6068	modified from EPA 3060 and EPA 7196	SPECTROPHOTOMETER
Cyanide, WAD	INOR-93-6052	modified from ON MOECC E3015, SM 4500-CN- I, G-387	TECHNICON AUTO ANALYZER
Mercury	MET-93-6103	modified from EPA 7471B and SM 3112 B	ICP-MS
Electrical Conductivity (2:1)	INOR-93-6075	modified from MSA PART 3, CH 14 and SM 2510 B	PC TITRATE
Sodium Adsorption Ratio (2:1) (Calc.)	INOR-93-6007	modified from EPA 6010D & Analytical Protocol	ICP/OES
pH, 2:1 CaCl2 Extraction	INOR-93-6075	modified from EPA 9045D, MCKEAGUE 3.11 E3137	PC TITRATE

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z010329

PROJECT: 23592404 - 170 Slater Street Phase Two

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:James Sullivan

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluorene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benz(a)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Chrysene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
1 and 2 Methlynaphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Moisture Content	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
F1 (C6 - C10)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	P&T GC/FID
Toluene-d8	VOL-91- 5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34) minus PAHs	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F4 (C34 to C50)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Terphenyl	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Dichlorodifluoromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z010329

PROJECT: 23592404 - 170 Slater Street Phase Two

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:James Sullivan

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Vinyl Chloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trans- 1,2-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl tert-butyl Ether	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Cis- 1,2-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Toluene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Chlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z010329

PROJECT: 23592404 - 170 Slater Street Phase Two

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:James Sullivan

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
m & p-Xylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene (Cis + Trans)	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5002	modified from EPA 5035A & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5002	modified from EPA 5035A & EPA 8260D	(P&T)GC/MS

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webearth.agatlabs.com

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Report Information:

Company: WSP CANADA
Contact: KEITH HOLMES
Address: 1931 ROBERTSON Rd
NEPEAN, ON K2H 537
Phone: 613-592-9600 Fax:
Reports to be sent to:
1. Email: KEITH.P.HOLMES@WSP.COM
2. Email: PAUL.JACKSON@WSP.COM

Project Information:

Project: 170 Slater Street PHASE TWO # 170 73592404
Site Location: 170 SLATER ST, OTTAWA, ONTARIO
Sampled By: JAMES SULLIVAN
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:

Regulatory Requirements:

(Please check all applicable boxes)

☑ Regulation 153/04
Table 3 *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 #: 23Z010329
Cooler Quantity: one - loose ice
Arrival Temperatures: 3.6 | 3.8 | 3.6
2.1 | 1.9 | 1.8
Custody Seal Intact: ☐ Yes ☐ No ☑ N/A
Notes:

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

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 TCLP	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)
23-01-SA02	3/23/23	925 AM PM	4	S			✓	✓	✓	✓	✓		✓					
23-01-SA04	3/23/23	955 AM PM	4	S			✓	✓	✓	✓	✓		✓					
23-01-SA06	3/23/23	1040 AM PM	4	S			✓	✓	✓	✓	✓		✓					
		AM PM																
		AM PM																
		AM PM																
		AM PM																
		AM PM																
		AM PM																
		AM PM																
		AM PM																
		AM PM																

	Date	Time		Date	Time	
Samples Relinquished By (Print Name and Sign):	3/30/23	1315	Samples Received By (Print Name and Sign): C. Griffith	MAR 30 2023	14h00	
Samples Relinquished By (Print Name and Sign): Cu to Purolator	MAR 30 2023	16h00	Samples Received By (Print Name and Sign): T. Persaud	Mar 31	8:32AM	Page ____ of ____
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time	Nº: T 114841

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CLIENT NAME: WSP CANADA INC.
1931 ROBERTSON ROAD
OTTAWA, ON K2H5B7
(613) 592-9600
ATTENTION TO: Keith Holmes
PROJECT: 23592402 - 170 Slater St. PHASE TWO
AGAT WORK ORDER: 23Z010333
TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist
WATER ANALYSIS REVIEWED BY: Nivine Basily, Inorganics Report Writer
DATE REPORTED: Apr 06, 2023
PAGES (INCLUDING COVER): 17
VERSION*: 1

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

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.
- For environmental samples in the Province of Quebec: The analysis is performed on and results apply to samples as received. A temperature above 6°C upon receipt, as indicated in the Sample Reception Notification (SRN), could indicate the integrity of the samples has been compromised if the delay between sampling and submission to the laboratory could not be minimized.

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 23Z010333

PROJECT: 23592402 - 170 Slater St. PHASE TWO

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:Paul Jackson

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

DATE RECEIVED: 2023-03-30

DATE REPORTED: 2023-04-06

SAMPLE DESCRIPTION:				22-03	22-04 Deep	22-04 Shallow	23-05	23-02	DUP-01
SAMPLE TYPE:				Water	Water	Water	Water	Water	Water
DATE SAMPLED:				2023-03-29 14:25	2023-03-29 16:05	2023-03-29 16:40	2023-03-29 17:30	2023-03-29 18:00	2023-03-29 14:25
Parameter	Unit	G / S	RDL	4889145	4889151	4889152	4889158	4889161	4889162
Naphthalene	µg/L	1400	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Acenaphthylene	µg/L	1.8	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Acenaphthene	µg/L	600	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Fluorene	µg/L	400	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Phenanthrene	µg/L	580	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Anthracene	µg/L	2.4	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Fluoranthene	µg/L	130	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Pyrene	µg/L	68	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Benzo(a)anthracene	µg/L	4.7	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chrysene	µg/L	1	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(b)fluoranthene	µg/L	0.75	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(k)fluoranthene	µg/L	0.4	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(a)pyrene	µg/L	0.81	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	µg/L	0.2	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dibenz(a,h)anthracene	µg/L	0.52	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Benzo(g,h,i)perylene	µg/L	0.2	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
2-and 1-methyl Naphthalene	µg/L	1800	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Sediment				NO	NO	NO	NO	NO	NO
Surrogate	Unit	Acceptable Limits							
Naphthalene-d8	%	50-140		108	117	97	108	92	98
Acridine-d9	%	50-140		113	116	112	114	110	113
Terphenyl-d14	%	50-140		101	75	89	107	87	83

Certified By: NPopowkolof

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 23Z010333

PROJECT: 23592402 - 170 Slater St. PHASE TWO

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:Paul Jackson

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

DATE RECEIVED: 2023-03-30

DATE REPORTED: 2023-04-06

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards 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.

4889145-4889162 Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.
Legend: 1 = no sediment present; 2 = sediment present; 3 = sediment present in trace amount
Note: The result for Benzo(b)Fluoranthene is the total of the Benzo(b)&(j)Fluoranthene isomers because the isomers co-elute on the GC column.
2- and 1-Methyl Naphthalene is a calculated parameter. The calculated value is the sum of 2-Methyl Naphthalene and 1-Methyl Naphthalene. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popowkolof

AGAT Laboratories

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http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 23Z010333

PROJECT: 23592402 - 170 Slater St. PHASE TWO

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:Paul Jackson

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

DATE RECEIVED: 2023-03-30

DATE REPORTED: 2023-04-06

				SAMPLE DESCRIPTION:	22-03	22-04 Deep	22-04 Shallow
				SAMPLE TYPE:	Water	Water	Water
				DATE SAMPLED:	2023-03-29 14:25	2023-03-29 16:05	2023-03-29 16:40
Parameter	Unit	G / S	RDL		4889145	4889151	4889152
F1 (C6-C10)	µg/L	750	25		<25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L	750	25		<25	<25	<25
F2 (C10 to C16)	µg/L	150	100		<100	<100	<100
F2 (C10 to C16) minus Naphthalene	µg/L		100		<100	<100	<100
F3 (C16 to C34)	µg/L	500	100		<100	<100	<100
F3 (C16 to C34) minus PAHs	µg/L		100		<100	<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			103	105	109
Terphenyl	% Recovery	60-140			71	78	78

Certified By: NPopowich

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Certificate of Analysis

AGAT WORK ORDER: 23Z010333

PROJECT: 23592402 - 170 Slater St. PHASE TWO

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:Paul Jackson

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

DATE RECEIVED: 2023-03-30

DATE REPORTED: 2023-04-06

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards 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.

4889145-4889152 The C6-C10 fraction is calculated using toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX and PAH contributions.
C>10 – C16 (F2- Naphthalene) is a calculated parameter. The calculated value is F2 - Naphthalene.
C>16 - C34 (F3-PAH) is a calculated parameter. The calculated value is F3-PAH (PAH: sum of Phenanthrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Fluoranthene, Dibenzo(a,h)anthracene, Indeno(1,2,3-c,d)pyrene and Pyrene).
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.

Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.
Legend: 1 = no sediment present; 2 = sediment present; 3 = sediment present in trace amounts

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: NPopowkolof

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AGAT WORK ORDER: 23Z010333

PROJECT: 23592402 - 170 Slater St. PHASE TWO

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:Paul Jackson

O. Reg. 153(511) - VOCs (with PHC) (Water)

DATE RECEIVED: 2023-03-30

DATE REPORTED: 2023-04-06

SAMPLE DESCRIPTION:				22-03	22-04 Deep	22-04 Shallow
SAMPLE TYPE:				Water	Water	Water
DATE SAMPLED:				2023-03-29 14:25	2023-03-29 16:05	2023-03-29 16:40
Parameter	Unit	G / S	RDL	4889145	4889151	4889152
Dichlorodifluoromethane	µg/L	4400	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	5.6	0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L	2500	0.40	<0.40	<0.40	<0.40
Acetone	µg/L	130000	1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene	µg/L	1.6	0.30	<0.30	<0.30	<0.30
Methylene Chloride	µg/L	610	0.30	<0.30	<0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20	<0.20
Methyl tert-butyl ether	µg/L	190	0.20	<0.20	<0.20	<0.20
1,1-Dichloroethane	µg/L	320	0.30	<0.30	<0.30	<0.30
Methyl Ethyl Ketone	µg/L	470000	1.0	<1.0	<1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20	<0.20
Chloroform	µg/L	2.4	0.20	<0.20	7.17	3.08
1,2-Dichloroethane	µg/L	1.6	0.20	<0.20	<0.20	<0.20
1,1,1-Trichloroethane	µg/L	640	0.30	<0.30	<0.30	<0.30
Carbon Tetrachloride	µg/L	0.79	0.20	<0.20	<0.20	<0.20
Benzene	µg/L	44	0.20	<0.20	<0.20	<0.20
1,2-Dichloropropane	µg/L	16	0.20	<0.20	<0.20	<0.20
Trichloroethylene	µg/L	1.6	0.20	<0.20	<0.20	<0.20
Bromodichloromethane	µg/L	85000	0.20	<0.20	0.54	<0.20
Methyl Isobutyl Ketone	µg/L	140000	1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	µg/L	4.7	0.20	<0.20	<0.20	<0.20
Toluene	µg/L	18000	0.20	<0.20	<0.20	<0.20
Dibromochloromethane	µg/L	82000	0.10	<0.10	<0.10	<0.10
Ethylene Dibromide	µg/L	0.25	0.10	<0.10	<0.10	<0.10
Tetrachloroethylene	µg/L	1.6	0.20	<0.20	<0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	3.3	0.10	<0.10	<0.10	<0.10
Chlorobenzene	µg/L	630	0.10	<0.10	<0.10	<0.10
Ethylbenzene	µg/L	2300	0.10	<0.10	<0.10	<0.10

Certified By: N Popnikolof

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Certificate of Analysis

AGAT WORK ORDER: 23Z010333

PROJECT: 23592402 - 170 Slater St. PHASE TWO

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:Paul Jackson

O. Reg. 153(511) - VOCs (with PHC) (Water)

DATE RECEIVED: 2023-03-30

DATE REPORTED: 2023-04-06

SAMPLE DESCRIPTION:				22-03	22-04 Deep	22-04 Shallow
SAMPLE TYPE:				Water	Water	Water
DATE SAMPLED:				2023-03-29 14:25	2023-03-29 16:05	2023-03-29 16:40
Parameter	Unit	G / S	RDL	4889145	4889151	4889152
m & p-Xylene	µg/L		0.20	<0.20	<0.20	<0.20
Bromoform	µg/L	380	0.10	<0.10	<0.10	<0.10
Styrene	µg/L	1300	0.10	<0.10	<0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	3.2	0.10	<0.10	<0.10	<0.10
o-Xylene	µg/L		0.10	<0.10	<0.10	<0.10
1,3-Dichlorobenzene	µg/L	9600	0.10	<0.10	<0.10	<0.10
1,4-Dichlorobenzene	µg/L	8	0.10	<0.10	<0.10	<0.10
1,2-Dichlorobenzene	µg/L	4600	0.10	<0.10	<0.10	<0.10
1,3-Dichloropropene	µg/L	5.2	0.30	<0.30	<0.30	<0.30
Xylenes (Total)	µg/L	4200	0.20	<0.20	<0.20	<0.20
n-Hexane	µg/L	51	0.20	<0.20	<0.20	<0.20
Surrogate	Unit	Acceptable Limits				
Toluene-d8	% Recovery	50-140		103	105	109
4-Bromofluorobenzene	% Recovery	50-140		85	84	82

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards 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.

4889145-4889152 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 Popnikolof

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Certificate of Analysis

AGAT WORK ORDER: 23Z010333

PROJECT: 23592402 - 170 Slater St. PHASE TWO

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:Paul Jackson

O. Reg. 153(511) - Metals (Including Hydrides) (Water)

DATE RECEIVED: 2023-03-30

DATE REPORTED: 2023-04-06

				SAMPLE DESCRIPTION:	22-03	22-04 Deep	22-04 Shallow
				SAMPLE TYPE:	Water	Water	Water
				DATE SAMPLED:	2023-03-29 14:25	2023-03-29 16:05	2023-03-29 16:40
Parameter	Unit	G / S	RDL		4889145	4889151	4889152
Dissolved Antimony	µg/L	20000	1.0		<1.0	<1.0	<1.0
Dissolved Arsenic	µg/L	1900	1.0		<1.0	<1.0	<1.0
Dissolved Barium	µg/L	29000	2.0		31.0	39.9	88.8
Dissolved Beryllium	µg/L	67	0.50		<0.50	<0.50	<0.50
Dissolved Boron	µg/L	45000	10.0		98.3	45.4	29.3
Dissolved Cadmium	µg/L	2.7	0.20		<0.20	<0.20	<0.20
Dissolved Chromium	µg/L	810	2.0		<2.0	<2.0	<2.0
Dissolved Cobalt	µg/L	66	0.50		<0.50	<0.50	<0.50
Dissolved Copper	µg/L	87	1.0		<1.0	<1.0	1.9
Dissolved Lead	µg/L	25	0.50		<0.50	<0.50	<0.50
Dissolved Molybdenum	µg/L	9200	0.50		6.66	7.31	8.24
Dissolved Nickel	µg/L	490	1.0		1.3	2.0	2.3
Dissolved Selenium	µg/L	63	1.0		1.9	<1.0	<1.0
Dissolved Silver	µg/L	1.5	0.20		<0.20	<0.20	<0.20
Dissolved Thallium	µg/L	510	0.30		<0.30	<0.30	<0.30
Dissolved Uranium	µg/L	420	0.50		3.78	3.75	4.75
Dissolved Vanadium	µg/L	250	0.40		0.40	0.46	<0.40
Dissolved Zinc	µg/L	1100	5.0		<5.0	<5.0	<5.0

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards 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.

4889145-4889152 Metals analysis completed on a filtered sample.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

AGAT Laboratories

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Exceedance Summary

AGAT WORK ORDER: 23Z010333

PROJECT: 23592402 - 170 Slater St. PHASE TWO

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
4889151	22-04 Deep	ON T3 NPGW CT	O. Reg. 153(511) - VOCs (with PHC) (Water)	Chloroform	µg/L	2.4	7.17
4889152	22-04 Shallow	ON T3 NPGW CT	O. Reg. 153(511) - VOCs (with PHC) (Water)	Chloroform	µg/L	2.4	3.08

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 23592402 - 170 Slater St. PHASE TWO
SAMPLING SITE:170 Slater St, Ottawa, Ontario

AGAT WORK ORDER: 23Z010333
ATTENTION TO: Keith Holmes
SAMPLED BY:Paul Jackson

Trace Organics Analysis

RPT Date: Apr 06, 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 (Water)															
Naphthalene	4883465		<0.20	<0.20	NA	< 0.20	74%	50%	140%	91%	50%	140%	97%	50%	140%
Acenaphthylene	4883465		<0.20	<0.20	NA	< 0.20	88%	50%	140%	91%	50%	140%	100%	50%	140%
Acenaphthene	4883465		<0.20	<0.20	NA	< 0.20	99%	50%	140%	86%	50%	140%	97%	50%	140%
Fluorene	4883465		<0.20	<0.20	NA	< 0.20	95%	50%	140%	82%	50%	140%	101%	50%	140%
Phenanthrene	4883465		<0.10	<0.10	NA	< 0.10	92%	50%	140%	72%	50%	140%	106%	50%	140%
Anthracene	4883465		<0.10	<0.10	NA	< 0.10	117%	50%	140%	88%	50%	140%	96%	50%	140%
Fluoranthene	4883465		<0.20	<0.20	NA	< 0.20	115%	50%	140%	80%	50%	140%	101%	50%	140%
Pyrene	4883465		<0.20	<0.20	NA	< 0.20	115%	50%	140%	78%	50%	140%	97%	50%	140%
Benzo(a)anthracene	4883465		<0.20	<0.20	NA	< 0.20	72%	50%	140%	72%	50%	140%	91%	50%	140%
Chrysene	4883465		<0.10	<0.10	NA	< 0.10	78%	50%	140%	85%	50%	140%	96%	50%	140%
Benzo(b)fluoranthene	4883465		<0.10	<0.10	NA	< 0.10	87%	50%	140%	95%	50%	140%	101%	50%	140%
Benzo(k)fluoranthene	4883465		<0.10	<0.10	NA	< 0.10	81%	50%	140%	106%	50%	140%	90%	50%	140%
Benzo(a)pyrene	4883465		<0.01	<0.01	NA	< 0.01	70%	50%	140%	106%	50%	140%	91%	50%	140%
Indeno(1,2,3-cd)pyrene	4883465		<0.20	<0.20	NA	< 0.20	90%	50%	140%	82%	50%	140%	88%	50%	140%
Dibenz(a,h)anthracene	4883465		<0.20	<0.20	NA	< 0.20	69%	50%	140%	90%	50%	140%	86%	50%	140%
Benzo(g,h,i)perylene	4883465		<0.20	<0.20	NA	< 0.20	112%	50%	140%	103%	50%	140%	92%	50%	140%
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Water)															
F1 (C6-C10)	4889152	4889152	<25	<25	NA	< 25	93%	60%	140%	98%	60%	140%	86%	60%	140%
F2 (C10 to C16)	4889145		< 100	< 100	0.0%	< 100	100%	60%	140%	80%	60%	140%	74%	60%	140%
F3 (C16 to C34)	4889145		< 100	< 100	0.0%	< 100	99%	60%	140%	72%	60%	140%	82%	60%	140%
F4 (C34 to C50)	4889145		< 100	< 100	0.0%	< 100	85%	60%	140%	82%	60%	140%	89%	60%	140%
O. Reg. 153(511) - VOCs (with PHC) (Water)															
Dichlorodifluoromethane	4889152	4889152	<0.40	<0.40	NA	< 0.40	103%	50%	140%	89%	50%	140%	95%	50%	140%
Vinyl Chloride	4889152	4889152	<0.17	<0.17	NA	< 0.17	113%	50%	140%	78%	50%	140%	90%	50%	140%
Bromomethane	4889152	4889152	<0.20	<0.20	NA	< 0.20	92%	50%	140%	71%	50%	140%	87%	50%	140%
Trichlorofluoromethane	4889152	4889152	<0.40	<0.40	NA	< 0.40	72%	50%	140%	81%	50%	140%	102%	50%	140%
Acetone	4889152	4889152	<1.0	<1.0	NA	< 1.0	115%	50%	140%	85%	50%	140%	105%	50%	140%
1,1-Dichloroethylene	4889152	4889152	<0.30	<0.30	NA	< 0.30	79%	50%	140%	102%	60%	130%	98%	50%	140%
Methylene Chloride	4889152	4889152	<0.30	<0.30	NA	< 0.30	100%	50%	140%	116%	60%	130%	119%	50%	140%
trans- 1,2-Dichloroethylene	4889152	4889152	<0.20	<0.20	NA	< 0.20	109%	50%	140%	96%	60%	130%	94%	50%	140%
Methyl tert-butyl ether	4889152	4889152	<0.20	<0.20	NA	< 0.20	105%	50%	140%	90%	60%	130%	95%	50%	140%
1,1-Dichloroethane	4889152	4889152	<0.30	<0.30	NA	< 0.30	84%	50%	140%	102%	60%	130%	98%	50%	140%
Methyl Ethyl Ketone	4889152	4889152	<1.0	<1.0	NA	< 1.0	105%	50%	140%	93%	50%	140%	93%	50%	140%
cis- 1,2-Dichloroethylene	4889152	4889152	<0.20	<0.20	NA	< 0.20	74%	50%	140%	93%	60%	130%	93%	50%	140%
Chloroform	4889152	4889152	3.08	3.23	4.8%	< 0.20	76%	50%	140%	100%	60%	130%	100%	50%	140%
1,2-Dichloroethane	4889152	4889152	<0.20	<0.20	NA	< 0.20	86%	50%	140%	105%	60%	130%	116%	50%	140%
1,1,1-Trichloroethane	4889152	4889152	<0.30	<0.30	NA	< 0.30	90%	50%	140%	99%	60%	130%	89%	50%	140%
Carbon Tetrachloride	4889152	4889152	<0.20	<0.20	NA	< 0.20	83%	50%	140%	73%	60%	130%	78%	50%	140%

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 23592402 - 170 Slater St. PHASE TWO
SAMPLING SITE:170 Slater St, Ottawa, Ontario

AGAT WORK ORDER: 23Z010333
ATTENTION TO: Keith Holmes
SAMPLED BY:Paul Jackson

Trace Organics Analysis (Continued)

RPT Date: Apr 06, 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
Benzene	4889152	4889152	<0.20	<0.20	NA	< 0.20	71%	50%	140%	97%	60%	130%	87%	50%	140%
1,2-Dichloropropane	4889152	4889152	<0.20	<0.20	NA	< 0.20	80%	50%	140%	89%	60%	130%	83%	50%	140%
Trichloroethylene	4889152	4889152	<0.20	<0.20	NA	< 0.20	74%	50%	140%	88%	60%	130%	81%	50%	140%
Bromodichloromethane	4889152	4889152	<0.20	<0.20	NA	< 0.20	76%	50%	140%	95%	60%	130%	92%	50%	140%
Methyl Isobutyl Ketone	4889152	4889152	<1.0	<1.0	NA	< 1.0	112%	50%	140%	97%	50%	140%	109%	50%	140%
1,1,2-Trichloroethane	4889152	4889152	<0.20	<0.20	NA	< 0.20	119%	50%	140%	91%	60%	130%	95%	50%	140%
Toluene	4889152	4889152	<0.20	<0.20	NA	< 0.20	79%	50%	140%	99%	60%	130%	75%	50%	140%
Dibromochloromethane	4889152	4889152	<0.10	<0.10	NA	< 0.10	107%	50%	140%	102%	60%	130%	102%	50%	140%
Ethylene Dibromide	4889152	4889152	<0.10	<0.10	NA	< 0.10	108%	50%	140%	95%	60%	130%	102%	50%	140%
Tetrachloroethylene	4889152	4889152	<0.20	<0.20	NA	< 0.20	78%	50%	140%	104%	60%	130%	84%	50%	140%
1,1,1,2-Tetrachloroethane	4889152	4889152	<0.10	<0.10	NA	< 0.10	79%	50%	140%	90%	60%	130%	82%	50%	140%
Chlorobenzene	4889152	4889152	<0.10	<0.10	NA	< 0.10	89%	50%	140%	99%	60%	130%	92%	50%	140%
Ethylbenzene	4889152	4889152	<0.10	<0.10	NA	< 0.10	69%	50%	140%	97%	60%	130%	83%	50%	140%
m & p-Xylene	4889152	4889152	<0.20	<0.20	NA	< 0.20	116%	50%	140%	98%	60%	130%	85%	50%	140%
Bromoform	4889152	4889152	<0.10	<0.10	NA	< 0.10	104%	50%	140%	112%	60%	130%	110%	50%	140%
Styrene	4889152	4889152	<0.10	<0.10	NA	< 0.10	72%	50%	140%	91%	60%	130%	80%	50%	140%
1,1,2,2-Tetrachloroethane	4889152	4889152	<0.10	<0.10	NA	< 0.10	109%	50%	140%	90%	60%	130%	99%	50%	140%
o-Xylene	4889152	4889152	<0.10	<0.10	NA	< 0.10	84%	50%	140%	103%	60%	130%	92%	50%	140%
1,3-Dichlorobenzene	4889152	4889152	<0.10	<0.10	NA	< 0.10	92%	50%	140%	103%	60%	130%	93%	50%	140%
1,4-Dichlorobenzene	4889152	4889152	<0.10	<0.10	NA	< 0.10	92%	50%	140%	102%	60%	130%	99%	50%	140%
1,2-Dichlorobenzene	4889152	4889152	<0.10	<0.10	NA	< 0.10	92%	50%	140%	93%	60%	130%	91%	50%	140%
n-Hexane	4889152	4889152	<0.20	<0.20	NA	< 0.20	105%	50%	140%	84%	60%	130%	78%	50%	140%

Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

Certified By: N Popnikolof

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 23592402 - 170 Slater St. PHASE TWO
SAMPLING SITE:170 Slater St, Ottawa, Ontario

AGAT WORK ORDER: 23Z010333
ATTENTION TO: Keith Holmes
SAMPLED BY:Paul Jackson

Water Analysis

RPT Date: Apr 06, 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) - Metals (Including Hydrides) (Water)															
Dissolved Antimony	4887646		<1.0	<1.0	NA	< 1.0	101%	70%	130%	104%	80%	120%	103%	70%	130%
Dissolved Arsenic	4887646		<1.0	<1.0	NA	< 1.0	101%	70%	130%	102%	80%	120%	109%	70%	130%
Dissolved Barium	4887646		190	185	2.7%	< 2.0	99%	70%	130%	101%	80%	120%	105%	70%	130%
Dissolved Beryllium	4887646		<0.50	<0.50	NA	< 0.50	91%	70%	130%	96%	80%	120%	100%	70%	130%
Dissolved Boron	4887646		27.3	25.9	NA	< 10.0	94%	70%	130%	95%	80%	120%	95%	70%	130%
Dissolved Cadmium	4887646		<0.20	<0.20	NA	< 0.20	99%	70%	130%	101%	80%	120%	99%	70%	130%
Dissolved Chromium	4887646		<2.0	<2.0	NA	< 2.0	105%	70%	130%	101%	80%	120%	104%	70%	130%
Dissolved Cobalt	4887646		<0.50	<0.50	NA	< 0.50	109%	70%	130%	103%	80%	120%	104%	70%	130%
Dissolved Copper	4887646		1.4	1.1	NA	< 1.0	105%	70%	130%	100%	80%	120%	98%	70%	130%
Dissolved Lead	4887646		<0.50	<0.50	NA	< 0.50	98%	70%	130%	90%	80%	120%	89%	70%	130%
Dissolved Molybdenum	4887646		2.42	2.18	NA	< 0.50	106%	70%	130%	106%	80%	120%	108%	70%	130%
Dissolved Nickel	4887646		2.2	1.7	NA	< 1.0	108%	70%	130%	100%	80%	120%	102%	70%	130%
Dissolved Selenium	4887646		1.4	<1.0	NA	< 1.0	105%	70%	130%	104%	80%	120%	115%	70%	130%
Dissolved Silver	4887646		<0.20	<0.20	NA	< 0.20	104%	70%	130%	97%	80%	120%	93%	70%	130%
Dissolved Thallium	4887646		<0.30	<0.30	NA	< 0.30	99%	70%	130%	97%	80%	120%	97%	70%	130%
Dissolved Uranium	4887646		4.72	4.56	3.4%	< 0.50	102%	70%	130%	102%	80%	120%	105%	70%	130%
Dissolved Vanadium	4887646		1.01	1.24	NA	< 0.40	109%	70%	130%	105%	80%	120%	109%	70%	130%
Dissolved Zinc	4887646		<5.0	<5.0	NA	< 5.0	104%	70%	130%	107%	80%	120%	104%	70%	130%

Comments: NA signifies Not Applicable.
Duplicate NA: results are under 5X the RDL and will not be calculated.

Certified By:

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z010333

PROJECT: 23592402 - 170 Slater St. PHASE TWO

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:Paul Jackson

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Fluorene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Anthracene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Pyrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(a)anthracene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Chrysene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
2-and 1-methyl Naphthalene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Sediment			N/A
F1 (C6-C10)	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	modified from MOE PHC-E3421	P&T GC/FID
Toluene-d8	VOL-91- 5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F3 (C16 to C34)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F3 (C16 to C34) minus PAHs	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F4 (C34 to C50)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	modified from MOE PHC-E3421	BALANCE
Terphenyl	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Dichlorodifluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z010333

PROJECT: 23592402 - 170 Slater St. PHASE TWO

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:Paul Jackson

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Vinyl Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
trans- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl tert-butyl ether	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
cis- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z010333

PROJECT: 23592402 - 170 Slater St. PHASE TWO

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:Paul Jackson

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
m & p-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z010333

PROJECT: 23592402 - 170 Slater St. PHASE TWO

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:Paul Jackson

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis			
Dissolved Antimony	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Arsenic	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Barium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Beryllium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Boron	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Cadmium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Chromium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Cobalt	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Copper	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Lead	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Molybdenum	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Nickel	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Selenium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Silver	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Thallium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Uranium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Vanadium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Zinc	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS

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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 CANADA
Contact: KEITH HOLMES
Address: 1931 ROBERTSON RD, NEPEAN ON K2H 5Z7
Phone: 613-592-9600 Fax:
Reports to be sent to:
1. Email: KEITH.P.HOLMES@WSP.COM
2. Email: PAUL.JACKSON@WSP.COM

Project Information:

Project: 170 Slater St. PHASE TWO, 23592402
Site Location: 170 SLATER ST, OTTAWA, ONTARIO
Sampled By: PAUL JACKSON
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:

Regulatory Requirements:

(Please check all applicable boxes)

☑ Regulation 153/04
Table 3 (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 #: 23Z010333
Cooler Quantity: one - loose ice
Arrival Temperatures: 3.4 | 3.6 | 3.5 / 2.1 | 1.9 | 1.8
Custody Seal Intact: ☐ Yes ☐ No ☑ N/A
Notes:

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

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)
22-03	3/29/23	~~1425~~ 1405 AM/PM	11	GW		Y		✓	✓	✓		✓					
22-04 Deep		~~1555~~ 1605 AM/PM	11	GW		Y		✓	✓	✓		✓					
22-04 Shallow		1640 AM/PM	11	GW		Y		✓	✓	✓		✓					
23-05		1730 AM/PM	2	GW						✓							
23-02		1800 AM/PM	2	GW						✓							
Dup-01	↓	1425 AM/PM	2	GW						✓							
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															

Samples Relinquished By (Print Name and Sign):	Date: 3/30/23	Time: 1315	Samples Received By (Print Name and Sign): MAR 30 2023	Date:	Time: 14h00	
Samples Relinquished By (Print Name and Sign): MAR 30 2023	Date:	Time: 16h00	Samples Received By (Print Name and Sign):	Date: Mar 31	Time: 8:32Am	Page ____ of ____
Samples Relinquished By (Print Name and Sign):	Date:	Time:	Samples Received By (Print Name and Sign):	Date:	Time:	Nº: T 114843

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CLIENT NAME: WSP CANADA INC.
1931 ROBERTSON ROAD
OTTAWA, ON K2H5B7
(613) 592-9600
ATTENTION TO: Keith Holmes
PROJECT: 170 Slater St PHASE TWO 23592402
AGAT WORK ORDER: 23Z011205
TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist
WATER ANALYSIS REVIEWED BY: Nivine Basily, Inorganics Report Writer
DATE REPORTED: Apr 10, 2023
PAGES (INCLUDING COVER): 17
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: 23Z011205

PROJECT: 170 Slater St PHASE TWO 23592402

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:Paul Jackson

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

DATE RECEIVED: 2023-04-03

DATE REPORTED: 2023-04-10

				SAMPLE DESCRIPTION:	23-01
				SAMPLE TYPE:	Water
				DATE SAMPLED:	2023-04-03 12:00
Parameter	Unit	G / S	RDL		4896256
Naphthalene	µg/L	1400	0.20		<0.20
Acenaphthylene	µg/L	1.8	0.20		<0.20
Acenaphthene	µg/L	600	0.20		<0.20
Fluorene	µg/L	400	0.20		<0.20
Phenanthrene	µg/L	580	0.10		<0.10
Anthracene	µg/L	2.4	0.10		<0.10
Fluoranthene	µg/L	130	0.20		<0.20
Pyrene	µg/L	68	0.20		<0.20
Benzo(a)anthracene	µg/L	4.7	0.20		<0.20
Chrysene	µg/L	1	0.10		<0.10
Benzo(b)fluoranthene	µg/L	0.75	0.10		<0.10
Benzo(k)fluoranthene	µg/L	0.4	0.10		<0.10
Benzo(a)pyrene	µg/L	0.81	0.01		<0.01
Indeno(1,2,3-cd)pyrene	µg/L	0.2	0.20		<0.20
Dibenz(a,h)anthracene	µg/L	0.52	0.20		<0.20
Benzo(g,h,i)perylene	µg/L	0.2	0.20		<0.20
2-and 1-methyl Naphthalene	µg/L	1800	0.20		<0.20
Sediment					NO
Surrogate	Unit	Acceptable Limits			
Naphthalene-d8	%	50-140			92
Acridine-d9	%	50-140			83
Terphenyl-d14	%	50-140			75

Certified By: NPopowich

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AGAT WORK ORDER: 23Z011205

PROJECT: 170 Slater St PHASE TWO 23592402

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:Paul Jackson

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

DATE RECEIVED: 2023-04-03

DATE REPORTED: 2023-04-10

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards 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.

4896256 Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.
Legend: 1 = no sediment present; 2 = sediment present; 3 = sediment present in trace amount
Note: The result for Benzo(b)Fluoranthene is the total of the Benzo(b)&(j)Fluoranthene isomers because the isomers co-elute on the GC column.
2- and 1-Methyl Naphthalene is a calculated parameter. The calculated value is the sum of 2-Methyl Naphthalene and 1-Methyl Naphthalene. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popowkolof

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AGAT WORK ORDER: 23Z011205

PROJECT: 170 Slater St PHASE TWO 23592402

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:Paul Jackson

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

DATE RECEIVED: 2023-04-03

DATE REPORTED: 2023-04-10

				SAMPLE DESCRIPTION:	23-01
				SAMPLE TYPE:	Water
				DATE SAMPLED:	2023-04-03 12:00
Parameter	Unit	G / S	RDL		4896256
F1 (C6-C10)	µg/L	750	25		<25
F1 (C6 to C10) minus BTEX	µg/L	750	25		<25
F2 (C10 to C16)	µg/L	150	100		<100
F2 (C10 to C16) minus Naphthalene	µg/L		100		<100
F3 (C16 to C34)	µg/L	500	100		<100
F3 (C16 to C34) minus PAHs	µg/L		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			104
Terphenyl	% Recovery	60-140			107

Certified By: N Popowich

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AGAT WORK ORDER: 23Z011205

PROJECT: 170 Slater St PHASE TWO 23592402

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:Paul Jackson

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

DATE RECEIVED: 2023-04-03

DATE REPORTED: 2023-04-10

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards 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.

4896256 The C6-C10 fraction is calculated using toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX and PAH contributions.
C>10 – C16 (F2- Naphthalene) is a calculated parameter. The calculated value is F2 - Naphthalene.
C>16 - C34 (F3-PAH) is a calculated parameter. The calculated value is F3-PAH (PAH: sum of Phenanthrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Fluoranthene, Dibenzo(a,h)anthracene, Indeno(1,2,3-c,d)pyrene and Pyrene).
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.

Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.
Legend: 1 = no sediment present; 2 = sediment present; 3 = sediment present in trace amounts

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: NPopowkolof

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AGAT WORK ORDER: 23Z011205

PROJECT: 170 Slater St PHASE TWO 23592402

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:Paul Jackson

O. Reg. 153(511) - VOCs (with PHC) (Water)

DATE RECEIVED: 2023-04-03

DATE REPORTED: 2023-04-10

				SAMPLE DESCRIPTION:	23-01
				SAMPLE TYPE:	Water
				DATE SAMPLED:	2023-04-03 12:00
Parameter	Unit	G / S	RDL		4896256
Dichlorodifluoromethane	µg/L	4400	0.40		<0.40
Vinyl Chloride	µg/L	0.5	0.17		<0.17
Bromomethane	µg/L	5.6	0.20		<0.20
Trichlorofluoromethane	µg/L	2500	0.40		<0.40
Acetone	µg/L	130000	1.0		<1.0
1,1-Dichloroethylene	µg/L	1.6	0.30		<0.30
Methylene Chloride	µg/L	610	0.30		<0.30
trans- 1,2-Dichloroethylene	µg/L	1.6	0.20		<0.20
Methyl tert-butyl ether	µg/L	190	0.20		<0.20
1,1-Dichloroethane	µg/L	320	0.30		<0.30
Methyl Ethyl Ketone	µg/L	470000	1.0		<1.0
cis- 1,2-Dichloroethylene	µg/L	1.6	0.20		<0.20
Chloroform	µg/L	2.4	0.20		<0.20
1,2-Dichloroethane	µg/L	1.6	0.20		<0.20
1,1,1-Trichloroethane	µg/L	640	0.30		<0.30
Carbon Tetrachloride	µg/L	0.79	0.20		<0.20
Benzene	µg/L	44	0.20		<0.20
1,2-Dichloropropane	µg/L	16	0.20		<0.20
Trichloroethylene	µg/L	1.6	0.20		<0.20
Bromodichloromethane	µg/L	85000	0.20		<0.20
Methyl Isobutyl Ketone	µg/L	140000	1.0		<1.0
1,1,2-Trichloroethane	µg/L	4.7	0.20		<0.20
Toluene	µg/L	18000	0.20		<0.20
Dibromochloromethane	µg/L	82000	0.10		<0.10
Ethylene Dibromide	µg/L	0.25	0.10		<0.10
Tetrachloroethylene	µg/L	1.6	0.20		<0.20
1,1,1,2-Tetrachloroethane	µg/L	3.3	0.10		<0.10
Chlorobenzene	µg/L	630	0.10		<0.10
Ethylbenzene	µg/L	2300	0.10		<0.10

Certified By: N Popnikolof

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Certificate of Analysis

AGAT WORK ORDER: 23Z011205

PROJECT: 170 Slater St PHASE TWO 23592402

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:Paul Jackson

O. Reg. 153(511) - VOCs (with PHC) (Water)

DATE RECEIVED: 2023-04-03

DATE REPORTED: 2023-04-10

				SAMPLE DESCRIPTION:	23-01
				SAMPLE TYPE:	Water
				DATE SAMPLED:	2023-04-03 12:00
Parameter	Unit	G / S	RDL	4896256	
m & p-Xylene	µg/L		0.20	<0.20	
Bromoform	µg/L	380	0.10	<0.10	
Styrene	µg/L	1300	0.10	<0.10	
1,1,2,2-Tetrachloroethane	µg/L	3.2	0.10	<0.10	
o-Xylene	µg/L		0.10	<0.10	
1,3-Dichlorobenzene	µg/L	9600	0.10	<0.10	
1,4-Dichlorobenzene	µg/L	8	0.10	<0.10	
1,2-Dichlorobenzene	µg/L	4600	0.10	<0.10	
1,3-Dichloropropene	µg/L	5.2	0.30	<0.30	
Xylenes (Total)	µg/L	4200	0.20	<0.20	
n-Hexane	µg/L	51	0.20	<0.20	
Surrogate	Unit	Acceptable Limits			
Toluene-d8	% Recovery	50-140		104	
4-Bromofluorobenzene	% Recovery	50-140		79	

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards 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.

4896256 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 Popnikolof

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AGAT WORK ORDER: 23Z011205

PROJECT: 170 Slater St PHASE TWO 23592402

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:Paul Jackson

O. Reg. 153(511) - Metals (Including Hydrides) (Water)

DATE RECEIVED: 2023-04-03

DATE REPORTED: 2023-04-10

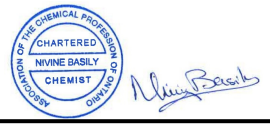
				SAMPLE DESCRIPTION:	23-01
				SAMPLE TYPE:	Water
				DATE SAMPLED:	2023-04-03 12:00
Parameter	Unit	G / S	RDL	4896256	
Dissolved Antimony	µg/L	20000	1.0	2.1	
Dissolved Arsenic	µg/L	1900	1.0	2.7	
Dissolved Barium	µg/L	29000	2.0	108	
Dissolved Beryllium	µg/L	67	0.50	<0.50	
Dissolved Boron	µg/L	45000	10.0	146	
Dissolved Cadmium	µg/L	2.7	0.20	<0.20	
Dissolved Chromium	µg/L	810	2.0	27.6	
Dissolved Cobalt	µg/L	66	0.50	1.44	
Dissolved Copper	µg/L	87	1.0	1.0	
Dissolved Lead	µg/L	25	0.50	<0.50	
Dissolved Molybdenum	µg/L	9200	0.50	139	
Dissolved Nickel	µg/L	490	1.0	16.3	
Dissolved Selenium	µg/L	63	1.0	26.2	
Dissolved Silver	µg/L	1.5	0.20	<0.20	
Dissolved Thallium	µg/L	510	0.30	0.54	
Dissolved Uranium	µg/L	420	0.50	16.7	
Dissolved Vanadium	µg/L	250	0.40	1.73	
Dissolved Zinc	µg/L	1100	5.0	<5.0	

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards 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.

4896256 Metals analysis completed on a filtered sample.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 170 Slater St PHASE TWO 23592402
SAMPLING SITE:170 Slater St, Ottawa, Ontario

AGAT WORK ORDER: 23Z011205
ATTENTION TO: Keith Holmes
SAMPLED BY:Paul Jackson

Trace Organics Analysis

RPT Date: Apr 10, 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 (Water)															
Naphthalene	4871094		<0.20	<0.20	NA	< 0.20	83%	50%	140%	80%	50%	140%	110%	50%	140%
Acenaphthylene	4871094		<0.20	<0.20	NA	< 0.20	82%	50%	140%	107%	50%	140%	99%	50%	140%
Acenaphthene	4871094		<0.20	<0.20	NA	< 0.20	84%	50%	140%	93%	50%	140%	103%	50%	140%
Fluorene	4871094		<0.20	<0.20	NA	< 0.20	102%	50%	140%	84%	50%	140%	92%	50%	140%
Phenanthrene	4871094		<0.10	<0.10	NA	< 0.10	68%	50%	140%	93%	50%	140%	91%	50%	140%
Anthracene	4871094		<0.10	<0.10	NA	< 0.10	109%	50%	140%	110%	50%	140%	107%	50%	140%
Fluoranthene	4871094		<0.20	<0.20	NA	< 0.20	106%	50%	140%	89%	50%	140%	83%	50%	140%
Pyrene	4871094		<0.20	<0.20	NA	< 0.20	108%	50%	140%	99%	50%	140%	97%	50%	140%
Benzo(a)anthracene	4871094		<0.20	<0.20	NA	< 0.20	72%	50%	140%	92%	50%	140%	102%	50%	140%
Chrysene	4871094		<0.10	<0.10	NA	< 0.10	79%	50%	140%	100%	50%	140%	101%	50%	140%
Benzo(b)fluoranthene	4871094		<0.10	<0.10	NA	< 0.10	96%	50%	140%	80%	50%	140%	97%	50%	140%
Benzo(k)fluoranthene	4871094		<0.10	<0.10	NA	< 0.10	70%	50%	140%	87%	50%	140%	95%	50%	140%
Benzo(a)pyrene	4871094		<0.01	<0.01	NA	< 0.01	94%	50%	140%	97%	50%	140%	98%	50%	140%
Indeno(1,2,3-cd)pyrene	4871094		<0.20	<0.20	NA	< 0.20	85%	50%	140%	92%	50%	140%	74%	50%	140%
Dibenz(a,h)anthracene	4871094		<0.20	<0.20	NA	< 0.20	112%	50%	140%	89%	50%	140%	91%	50%	140%
Benzo(g,h,i)perylene	4871094		<0.20	<0.20	NA	< 0.20	91%	50%	140%	109%	50%	140%	93%	50%	140%
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Water)															
F1 (C6-C10)	4900057		<25	<25	NA	< 25	124%	60%	140%	114%	60%	140%	88%	60%	140%
F2 (C10 to C16)	4890495		<100	<100	NA	< 100	96%	60%	140%	71%	60%	140%	64%	60%	140%
F3 (C16 to C34)	4890495		<100	<100	NA	< 100	99%	60%	140%	68%	60%	140%	64%	60%	140%
F4 (C34 to C50)	4890495		<100	<100	NA	< 100	76%	60%	140%	63%	60%	140%	71%	60%	140%
O. Reg. 153(511) - VOCs (with PHC) (Water)															
Dichlorodifluoromethane	4900057		< 0.40	< 0.40	NA	< 0.40	114%	50%	140%	100%	50%	140%	71%	50%	140%
Vinyl Chloride	4900057		< 0.17	< 0.17	NA	< 0.17	100%	50%	140%	119%	50%	140%	105%	50%	140%
Bromomethane	4900057		< 0.20	< 0.20	NA	< 0.20	91%	50%	140%	111%	50%	140%	83%	50%	140%
Trichlorofluoromethane	4900057		< 0.40	< 0.40	NA	< 0.40	92%	50%	140%	88%	50%	140%	99%	50%	140%
Acetone	4900057		< 1.0	< 1.0	NA	< 1.0	98%	50%	140%	89%	50%	140%	90%	50%	140%
1,1-Dichloroethylene	4900057		<0.30	<0.30	NA	< 0.30	56%	50%	140%	44%	60%	130%	104%	50%	140%
Methylene Chloride	4900057		< 0.30	< 0.30	NA	< 0.30	88%	50%	140%	100%	60%	130%	109%	50%	140%
trans- 1,2-Dichloroethylene	4900057		< 0.20	< 0.20	NA	< 0.20	101%	50%	140%	89%	60%	130%	82%	50%	140%
Methyl tert-butyl ether	4900057		< 0.20	< 0.20	NA	< 0.20	92%	50%	140%	81%	60%	130%	90%	50%	140%
1,1-Dichloroethane	4900057		< 0.30	< 0.30	NA	< 0.30	91%	50%	140%	93%	60%	130%	105%	50%	140%
Methyl Ethyl Ketone	4900057		< 1.0	< 1.0	NA	< 1.0	89%	50%	140%	113%	50%	140%	93%	50%	140%
cis- 1,2-Dichloroethylene	4900057		< 0.20	< 0.20	NA	< 0.20	116%	50%	140%	77%	60%	130%	109%	50%	140%
Chloroform	4900057		< 0.20	< 0.20	NA	< 0.20	87%	50%	140%	86%	60%	130%	114%	50%	140%
1,2-Dichloroethane	4900057		< 0.20	< 0.20	NA	< 0.20	118%	50%	140%	99%	60%	130%	116%	50%	140%
1,1,1-Trichloroethane	4900057		< 0.30	< 0.30	NA	< 0.30	111%	50%	140%	92%	60%	130%	96%	50%	140%
Carbon Tetrachloride	4900057		< 0.20	< 0.20	NA	< 0.20	102%	50%	140%	82%	60%	130%	108%	50%	140%

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 170 Slater St PHASE TWO 23592402
SAMPLING SITE:170 Slater St, Ottawa, Ontario

AGAT WORK ORDER: 23Z011205
ATTENTION TO: Keith Holmes
SAMPLED BY:Paul Jackson

Trace Organics Analysis (Continued)

RPT Date: Apr 10, 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
Benzene	4900057		< 0.20	< 0.20	NA	< 0.20	98%	50%	140%	97%	60%	130%	92%	50%	140%
1,2-Dichloropropane	4900057		< 0.20	< 0.20	NA	< 0.20	85%	50%	140%	108%	60%	130%	111%	50%	140%
Trichloroethylene	4900057		1.24	1.43	14.2%	< 0.20	90%	50%	140%	77%	60%	130%	114%	50%	140%
Bromodichloromethane	4900057		< 0.20	< 0.20	NA	< 0.20	88%	50%	140%	96%	60%	130%	117%	50%	140%
Methyl Isobutyl Ketone	4900057		< 1.0	< 1.0	NA	< 1.0	104%	50%	140%	109%	50%	140%	100%	50%	140%
1,1,2-Trichloroethane	4900057		< 0.20	< 0.20	NA	< 0.20	100%	50%	140%	106%	60%	130%	116%	50%	140%
Toluene	4900057		< 0.20	< 0.20	NA	< 0.20	94%	50%	140%	90%	60%	130%	111%	50%	140%
Dibromochloromethane	4900057		< 0.10	< 0.10	NA	< 0.10	107%	50%	140%	82%	60%	130%	85%	50%	140%
Ethylene Dibromide	4900057		< 0.10	< 0.10	NA	< 0.10	118%	50%	140%	95%	60%	130%	98%	50%	140%
Tetrachloroethylene	4900057		< 0.20	< 0.20	NA	< 0.20	86%	50%	140%	101%	60%	130%	90%	50%	140%
1,1,1,2-Tetrachloroethane	4900057		< 0.10	< 0.10	NA	< 0.10	114%	50%	140%	79%	60%	130%	92%	50%	140%
Chlorobenzene	4900057		< 0.10	< 0.10	NA	< 0.10	101%	50%	140%	86%	60%	130%	110%	50%	140%
Ethylbenzene	4900057		< 0.10	< 0.10	NA	< 0.10	101%	50%	140%	79%	60%	130%	109%	50%	140%
m & p-Xylene	4900057		< 0.20	< 0.20	NA	< 0.20	116%	50%	140%	87%	60%	130%	117%	50%	140%
Bromoform	4900057		< 0.10	< 0.10	NA	< 0.10	78%	50%	140%	78%	60%	130%	79%	50%	140%
Styrene	4900057		< 0.10	< 0.10	NA	< 0.10	101%	50%	140%	81%	60%	130%	84%	50%	140%
1,1,2,2-Tetrachloroethane	4900057		< 0.10	< 0.10	NA	< 0.10	114%	50%	140%	110%	60%	130%	104%	50%	140%
o-Xylene	4900057		< 0.10	< 0.10	NA	< 0.10	110%	50%	140%	90%	60%	130%	117%	50%	140%
1,3-Dichlorobenzene	4900057		< 0.10	< 0.10	NA	< 0.10	113%	50%	140%	80%	60%	130%	100%	50%	140%
1,4-Dichlorobenzene	4900057		< 0.10	< 0.10	NA	< 0.10	110%	50%	140%	79%	60%	130%	93%	50%	140%
1,2-Dichlorobenzene	4900057		< 0.10	< 0.10	NA	< 0.10	106%	50%	140%	76%	60%	130%	90%	50%	140%
n-Hexane	4900057		< 0.20	< 0.20	NA	< 0.20	102%	50%	140%	115%	60%	130%	120%	50%	140%

Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

Certified By: N Popnikolof

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 170 Slater St PHASE TWO 23592402
SAMPLING SITE:170 Slater St, Ottawa, Ontario

AGAT WORK ORDER: 23Z011205
ATTENTION TO: Keith Holmes
SAMPLED BY:Paul Jackson

Water Analysis

RPT Date: Apr 10, 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) - Metals (Including Hydrides) (Water)															
Dissolved Antimony	4896791		<1.0	<1.0	NA	< 1.0	100%	70%	130%	100%	80%	120%	103%	70%	130%
Dissolved Arsenic	4896791		<1.0	<1.0	NA	< 1.0	100%	70%	130%	99%	80%	120%	98%	70%	130%
Dissolved Barium	4896791		23.6	23.0	2.6%	< 2.0	104%	70%	130%	106%	80%	120%	105%	70%	130%
Dissolved Beryllium	4896791		<0.50	<0.50	NA	< 0.50	103%	70%	130%	104%	80%	120%	106%	70%	130%
Dissolved Boron	4896791		<10.0	<10.0	NA	< 10.0	101%	70%	130%	102%	80%	120%	103%	70%	130%
Dissolved Cadmium	4896791		<0.20	<0.20	NA	< 0.20	100%	70%	130%	99%	80%	120%	103%	70%	130%
Dissolved Chromium	4896791		<2.0	<2.0	NA	< 2.0	98%	70%	130%	99%	80%	120%	99%	70%	130%
Dissolved Cobalt	4896791		<0.50	<0.50	NA	< 0.50	96%	70%	130%	98%	80%	120%	97%	70%	130%
Dissolved Copper	4896791		<1.0	<1.0	NA	< 1.0	98%	70%	130%	101%	80%	120%	93%	70%	130%
Dissolved Lead	4896791		<0.50	<0.50	NA	< 0.50	98%	70%	130%	91%	80%	120%	87%	70%	130%
Dissolved Molybdenum	4896791		<0.50	<0.50	NA	< 0.50	101%	70%	130%	101%	80%	120%	102%	70%	130%
Dissolved Nickel	4896791		<1.0	<1.0	NA	< 1.0	95%	70%	130%	94%	80%	120%	98%	70%	130%
Dissolved Selenium	4896791		2.4	<1.0	NA	< 1.0	99%	70%	130%	91%	80%	120%	102%	70%	130%
Dissolved Silver	4896791		<0.20	<0.20	NA	< 0.20	95%	70%	130%	96%	80%	120%	95%	70%	130%
Dissolved Thallium	4896791		<0.30	<0.30	NA	< 0.30	100%	70%	130%	99%	80%	120%	96%	70%	130%
Dissolved Uranium	4896791		<0.50	<0.50	NA	< 0.50	89%	70%	130%	103%	80%	120%	98%	70%	130%
Dissolved Vanadium	4896791		<0.40	<0.40	NA	< 0.40	96%	70%	130%	101%	80%	120%	102%	70%	130%
Dissolved Zinc	4896791		<5.0	<5.0	NA	< 5.0	100%	70%	130%	90%	80%	120%	97%	70%	130%

Comments: NA signifies Not Applicable.
Duplicate NA: results are under 5X the RDL and will not be calculated.

Certified By:

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QC Exceedance

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z011205

PROJECT: 170 Slater St PHASE TWO 23592402

ATTENTION TO: Keith Holmes

RPT Date: Apr 10, 2023

PARAMETER	Sample Id	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
			Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - VOCs (with PHC) (Water)										
1,1-Dichloroethylene		56%	50%	140%	44%	60%	130%	104%	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).

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z011205

PROJECT: 170 Slater St PHASE TWO 23592402

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:Paul Jackson

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Fluorene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Anthracene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Pyrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(a)anthracene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Chrysene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
2-and 1-methyl Naphthalene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Sediment			N/A
F1 (C6-C10)	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	modified from MOE PHC-E3421	P&T GC/FID
Toluene-d8	VOL-91- 5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F3 (C16 to C34)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F3 (C16 to C34) minus PAHs	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F4 (C34 to C50)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	modified from MOE PHC-E3421	BALANCE
Terphenyl	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Dichlorodifluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z011205

PROJECT: 170 Slater St PHASE TWO 23592402

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:Paul Jackson

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Vinyl Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
trans- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl tert-butyl ether	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
cis- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z011205

PROJECT: 170 Slater St PHASE TWO 23592402

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:Paul Jackson

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
m & p-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z011205

PROJECT: 170 Slater St PHASE TWO 23592402

ATTENTION TO: Keith Holmes

SAMPLING SITE:170 Slater St, Ottawa, Ontario

SAMPLED BY:Paul Jackson

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis			
Dissolved Antimony	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Arsenic	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Barium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Beryllium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Boron	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Cadmium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Chromium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Cobalt	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Copper	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Lead	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Molybdenum	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Nickel	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Selenium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Silver	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Thallium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Uranium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Vanadium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Zinc	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS

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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 #: 23Z011205

Cooler Quantity: one - loose ice.

Arrival Temperatures: 9.6 | 10.1 | 10.5 / 9.8 | 9.2 | 9.5

Custody Seal Intact: ☐Yes ☐No ☑N/A

Notes: melted ice

Report Information:

Company: WSP CANADA

Contact: KEITH HOLMES

Address: 1931 ROBERTSON ROAD, NEPEAN, ON K2H 5B7

Phone: 613-592-9600 Fax:

Reports to be sent to:

1. Email: KEITH.P.HOLMES ~~@WSP~~ @WSP.COM
2. Email: PAUL.JACKSON@WSP.COM

Regulatory Requirements:

(Please check all applicable boxes)

☑ Regulation 153/04 — Table 3 (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: 170 Slater St, PHASE TWO 23592402

Site Location: 170 Slater St, OTTAWA, ONTARIO

Sampled By: PAUL JACKSON

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	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: 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)
23-01	4/3/23	1200 PM	11	GW		Y		✓	✓	✓		✓											
		AM PM																					
		AM PM																					
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Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Paul Jackson	4/3/23	1350	C. Cw...	APR 03 2023	13h54
C. Cw...	APR 03 2023	16h00	T. Persaud	Apr 4	8:36

Page ____ of ____

Nº: T 122867

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