FINAL REPORT

Phase Two Environmental Site Assessment

3440 Frank Kenny Rd, Ottawa, ON

Submitted to:

J.L Richards & Associates Limited
Tower II, 343 Preston St Suite 1000,
Ottawa, ON
K1S 1N4

Submitted by:

WSP Canada Inc.
1931 Robertson Road, Ottawa, Ontario, K2H 5B7, Canada

+1 613 592 9600

21493887

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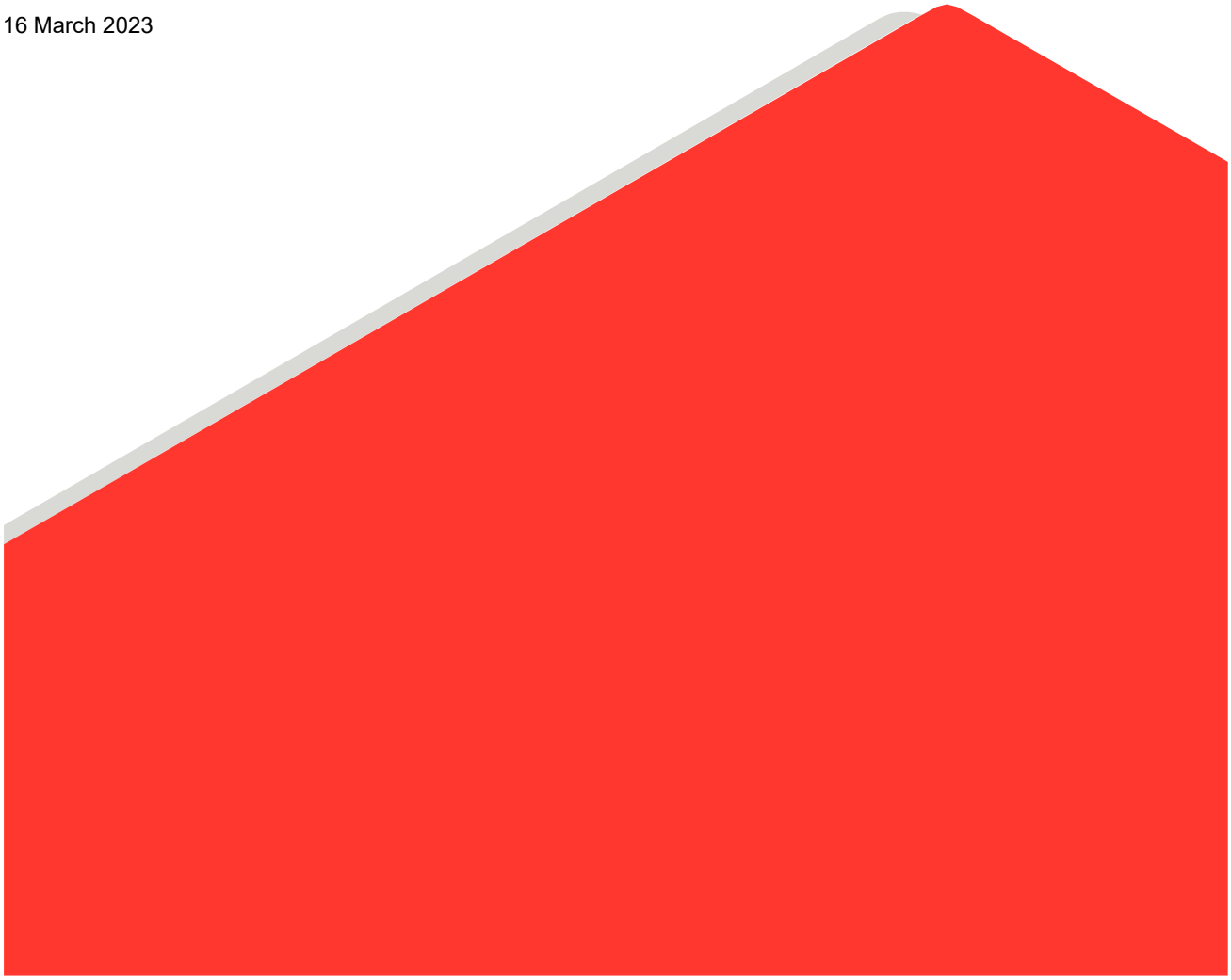

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1.0 EXECUTIVE SUMMARY

WSP Canada Inc. (“WSP”) formerly Golder Associates Ltd., was retained by J.L. Richards & Associates Ltd., (“Richards”) acting on behalf of Hydro One to conduct a Phase Two Environmental Site Assessment (“Phase Two ESA”) of the property located at 3440 Frank Kenny Road, Ottawa, Ontario (the “Site” or the “Phase Two Property”). The location of the Phase Two Property is provided in Figure 1.

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, 3440 Frank Kenny Road, Navan, Ontario*”, dated October 2022. Based on the findings of the Phase One ESA, WSP recommended a Phase Two ESA investigation to investigate and areas of potential environmental concern (APECs).

The analytical results from the sampling and analysis program indicates that the reported concentrations of arsenic and vanadium in shallow soil at the Phase Two Property do not meet the applicable Ministry of Environment, Conservation and Parks (“MECP”) Table 2 site condition standards (residential use, coarse textured soil)[1]. It is inferred the arsenic may be a result of wood preservative due to its proximity to the wood hydro pole storage area. Given that the proposed construction activities are to occur in the southern portion of the South (approximately 70 m from the arsenic exceedance), the exceedance of arsenic is not a concern for the proposed development, with respect to soils management. It is inferred the vanadium naturally occurring in the clay present on site (Golder Associates 2016). Vanadium is considered to be naturally elevated due to the presence of marine clay at the Site and is not attributed to any of the potentially contaminating activities (PCAs) on the Site. The reported concentrations of all other parameters tested in soil and groundwater were below the Table 2 site condition standards.

2.0 INTRODUCTION

2.1 Site Description

WSP was retained by J.L. Richards to conduct a Phase Two Environmental Site Assessment (“Phase Two ESA”) of the following property:

Municipal Address	3440 Frank Kenny Road
Size of the Phase Two Property	2.65 hectares

The location of the Phase Two Property is provided in 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

Previous Owners and property description are described below:

Approximate Date of Ownership/Occupation	Ownership/Use	Comment/Source
Up to 1846	Crown	Title Search
1846 – 1880	Canada Company	
1880 – 1994	Multiple private ownerships	
1994 – 1995	Berton Farms Inc.	
1995 – 2011	743120 Ontario Inc.	

[1] *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*, Ministry of the Environment, April 15, 2011 (PIBS# 7382e01)

2.3 Current and Proposed Future Uses

The Phase Two Property is currently developed with two buildings. The first building is a slab-on-grade office building which is located near the road. The office has a fully functioning washroom and kitchenette. Wastewater is stored in a holding tank, buried on Site to the south of the office building. The second building on site is a storage/warehouse building where parts for hydro maintenance were kept and basic urgent truck maintenance is performed on an as needed basis. The proposed future use of the Phase Two Property remains as commercial or industrial. The proposed development plan is provided in Appendix A.

2.4 Applicable Site Condition Standard

The analytical results of the samples collected for this Phase Two ESA were compared to the Table 2 generic site condition standards in a potable groundwater condition (commercial/industrial/community property 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. The applicable site condition standards were selected based on the following rationale:

- The closest water body is an unnamed creek, located approximately 300 m northeast of the Phase Two Property.
- No Areas of Natural or Scientifical Interest (ANSI) are known to be present within the Phase One Property.
- A review of the infrastructure information on the City of Ottawa's GeoOttawa website does not show any municipal services along Frank Kenny Road. The Site and other properties within the Site Area are served by drinking water wells.
- There is one water supply well (WWIS-1) present on Site which was constructed in 1975 at 3450 Frank Kenny Road to a depth of 56.4 m, within the bedrock. There are two other water wells present on surrounding properties. One well (WWIS-2) was shown to be located west of the Site but the records only show that this well was drilled in 1998 is not used, as it was drilled as a test hole. There was no further information provided.
- 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.
- The pH of surface soil is 5≤pH≤9 and the pH of sub-surface soil meets the requirement that 5≤pH≤11 (Section 6.4).
- The intended use for the Phase Two Property is commercial and industrial.
- The overburden thickness is greater than 2 metres over more than one-third of the Site.

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 is an unnamed creek, located approximately 300 m northeast east of the Phase Two Property. There are no areas of natural significance within the Phase One Study area. Land uses surrounding the Phase Two Property include mostly agricultural, residential, and commercial, as shown in Figure 2.

Bedrock in the area consists of a mixture of a Lindsay Formation and a Billings Formation overlain by offshore marine deposits consisting of clay, silty clay & silt over a glacial till composed of clayey sand with some gravel and frequent cobbles. Groundwater flow direction is inferred to be towards the northerly based on the groundwater elevations recorded at two of the monitoring wells that were accessible at the time of the survey. Ground water levels can be found on figure 8.

The topography of the Site and surrounding areas is generally flat. The Site grade is relatively at the same level as the adjoining properties

3.2 Past Investigations

3.2.1 Phase One ESA

Golder WSP conducted a Phase One ESA entitled, "*Phase One Environmental Site Assessment, 3440 Frank Kenny Road, Navan, Ontario*", dated October 2022, to assess the likelihood of soil and/or groundwater contamination resulting from historical or present activities at the Site and surrounding area. This included a review of available historical information on the Site and surrounding area, interviews with persons familiar with the Site and a Site reconnaissance. The APECs identified in the 2022 Phase One ESA are summarized in Table 1:

Table 1: Areas of Potential Concern and Contaminants of Concern

Area of Potential Environmental Concern[1]	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity[2]	Location of PCA (on-Site or off-Site)	Contaminants of Potential Concern[3]	Media Potentially Impacted (groundwater, soil and/or sediment)
APEC 1 – Lay down area for treated wood hydro poles.	On the north west portion of the Site.	#59. Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products	On-Site	Metals (including hydride forming metals), PAHs (including creosote)	Soil and Groundwater
APEC 2 - Fill of unknown quality.	In the yard area of the Site (northern portion).	#30. Importation of Fill Material of Unknown Quality	On-Site	Metals, hydride-forming metals	Soil

Area of Potential Environmental Concern[1]	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity[2]	Location of PCA (on-Site or off-Site)	Contaminants of Potential Concern[3]	Media Potentially Impacted (groundwater, soil and/or sediment)
APEC 3 – Previous and current use as an agricultural field. Potential application of pesticides.	Entire Site	#40. Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications	On-Site	Organochlorine Pesticides	Soil and Groundwater
APEC 4 – Potential groundwater contamination from up-gradient bus depot activities	Northern portion of Site	#28 Gasoline and Associated Products Storage in Fixed Tanks #52. Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems	Off-Site	PHCs/BTEX	Groundwater

This report was prepared by the Qualified Person and will be relied upon for the Phase Two investigation.

4.0 SCOPE OF THE INVESTIGATION

4.1 Overview of Site Investigation

The Phase Two ESA investigation activities were completed between January 9, 2023 and February 14, 2023 and 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 three boreholes, each completed as groundwater monitoring wells, all of which were used for groundwater sampling at the Site. The rationale for the selected location of the boreholes is provided in the Sampling and Analysis Plan provided in Appendix B. The locations of the boreholes and monitoring wells are provided in Figure 4. The monitoring well construction details are presented in Table 1.

- **Shallow Soil Sampling**: Two shallow soil test pit samples were collected on December 1st , 2022 from the agricultural field portion of the site. The soil samples were submitted for chemical analysis of Organochlorine pesticides.
- **Soil Sampling**: Soil samples were collected on January 9, 2023 from 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") metals, hexavalent chromium and mercury.
- **Groundwater Monitoring and Sampling**: Groundwater samples were collected on January 12, 2023. Groundwater samples were submitted for analysis of one or more of the following: PHCs, VOCs, metals, hexavalent chromium and mercury .
- **Surveying**: An elevation survey of the monitoring wells ground surface and top of pipe was completed on February 14th 2023. Monitoring well MW23-02 was inaccessible at the time of survey due to snow and ice cover.
- **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 subsurface 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 Tables 3 and 4. The sampling and analysis plan outlines the rationale for the field investigation activities carried out at the Site and the associated methodologies used to meet the objectives of this Phase Two ESA.

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 Site is a rectangular shaped parcel that covers an area of approximately 2.65 hectares (6.65 acres) that is located immediately west of Frank Kenny Road. Two buildings are present on site and were built in 2011 or later. The first building is a small office complex which is located near the road. The office has a fully functioning washroom and kitchenette which get their wastewater collected and stored in a holding tank. The second building on Site is a warehouse/storage building where parts for hydro maintenance were kept and basic urgent truck maintenance is performed on an as needed basis.

- There is one water supply well (WWIS-1) present on Site which was constructed in 1975 at 3450 Frank Kenny Road to a depth of 56.4 m, within the bedrock. There are two other water wells present on surrounding properties. One well (WWIS-2) was shown to be located west of the Site but the records only show that this well was drilled in 1998 is not used, as it was drilled as a test hole. There was no further information provided.
- The closest water body is an unnamed creek, located approximately 300m northeast of the Site.
- No areas of natural and scientific interest (ANSI) are known to be located on the Site or on the Phase One Study Area.
- At the time of the Phase One ESA, the surrounding properties within the Phase One Study Area included:
  - West: Agricultural fields.
  - North: The area north of the Phase One Property was developed into a bus depot which has multiple ASTs, likely used to fuel vehicles. Vehicle maintenance is performed on the busses at this location. Beyond the bus depot is forested land.
  - South: Colonial Road, followed by agricultural fields.
  - East: Frank Kenny Road, followed by agricultural fields.
- Five (5) Potentially Contaminating Activities (PCAs) were identified in the Phase One Study Area, three (3) of which were on the Phase One Property, as shown on Figure 2. Based on site characteristics and the locations of the PCAs, a total of four (4) Areas of Potential Environmental Concern (“APECs”) were identified for the Phase One Property as shown on Figure 3.
- Electrical power is distributed through underground services. An emergency propane generator is located on site. No other services are present. No sanitary sewer connection is present at the Site. Two washrooms and a kitchenette are present on Site. Wastewater is collected in a holding tank which gets pumped on a as per needed basis. No septic system is present, only a holding tank. A natural gas main is located under Frank Kenny Road, outside of the site.
- Soil at the Site consists primarily of offshore marine deposits consisting of clay, silty clay & silt over a glacial till composed of clayey sand with some gravel and frequent cobbles. Bedrock in the area consists of a mixture of a Lindsay Formation and a Billings Formation.
- Local groundwater was anticipated to flow towards the north.

4.4 Deviations from Sampling and Analysis Plan

A sampling and analysis plan is provided in Appendix B which incorporates the 2023 investigation program. The sampling and analysis plan outlines the rationale for the field investigation activities carried out at the Site and the associated methodologies used to meet the objectives of this Phase Two ESA. This plan dated January 2023 covers the activities undertaken during the Phase Two ESA. The procedures described in the Sampling and Analysis Plan were generally followed with modifications as described below:

- Sample MW23-01 was also submitted for VOCs due to a chemical smell noted during drilling.

No further material deviations from the sampling and analysis plan were identified during the investigation. The deviations from the sampling and analysis plan helped to enhance the completeness of the site characterization.

4.5 Impediments

Physical impediments to the Phase Two ESA investigation were encountered on February 14th, 2023, when surveying the ground water wells. The flush mount was inaccessible at the time of survey due to snow and ice above. Access to the Phase Two Property was not denied or restricted.

5.0 INVESTIGATION METHOD

5.1 General

The following sections describe the field investigation methodology employed during the Phase Two ESA. The field work was conducted between January 9th, 2023, and February 14th, 2023.

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 tail gate meeting was held with WSP's subcontractors each day prior to completion 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

On January 9, 2023, three boreholes (MW23-01, MW23-02 and MW23-03) were advanced to depths of 3.05 to 4.57 metres below ground surface ("mbgs"). Borehole locations are provided in Figure 4 and borehole logs are provided in Appendix C. A description of the quality assurance/quality control measures taken to minimize the potential for cross-contamination between sampling locations is provided in Section 5.12.

Boreholes were advanced by Strata Drilling Group ("Strata") using a track mounted GeoProbe 7822DT 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 a WSP field supervisor.

5.3 Soil: Sampling

Soil samples were collected from undisturbed locations and split in the field into two components. One component was placed into laboratory-prepared container with minimal headspace and stored in a cooler for potential laboratory analysis. The second component was placed inside a plastic bag for field screening, consisting of the soil description, and noting 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.

As per the sampling and analysis plan, provided in Appendix B, at least one soil sample was 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 to vertically delineate impacts.

One soil sample representing "worst-case" conditions at each sampling location was selected for laboratory analysis based on the field headspace screening measurements, visual observations (e.g., staining, discoloration and/or free product, if any), and olfactory observations (if any). 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 Table 3.

Geologic descriptions, visual and olfactory observations, and results of field headspace measurements are presented on the field logs in Appendix C.

5.4 Field Screening Measurements

Field measurements of sample headspace concentration were made using the equipment in Table 2:

Table 2: Drilling Field Screening Equipment

Equipment	Parameters Detected	Detection Limit	Precision	Accuracy	Calibration Standard
RKI Eagle 2	Combustible gas	0-50,000 ppm	NA	±5%	Hexane (100 ppm)
RKI Eagle 2	Total organic vapour	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). The results of soil headspace screening measurements are provided in the field logs in Appendix C.

5.5 Groundwater: Monitoring Well Installation

Groundwater monitoring wells were installed by Strata using threaded 50 mm diameter, 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 and completed with a flush mount protective well casing. The riser pipes were sealed with a J-plug. A description of the quality assurance/quality control measures taken to minimize the potential for cross-contamination between sampling locations is provided in Section 5.12.

Following drilling, the monitoring wells were developed on January 9 and 10, 2023 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.

5.6 Groundwater: Field Measurements for Water Quality Parameters

Groundwater indicator parameters including temperature, pH, conductivity, oxidation-reduction potential (“ORP”) and dissolved oxygen were measured prior to sampling to ensure adequate well development and purging. A Horiba U-52 water quality meter was used to measure groundwater quality during monitoring well development and groundwater sampling. The instrument was rented from Maxim environmental services with a certificate of calibration provided.

5.7 Groundwater: Sampling

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. Purged 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 January 12, 2023.

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 Table 4.

5.8 Sediment: Sampling

No sediment samples were collected as part of this investigation.

5.9 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 (CALA) (General Requirement for the Competence of Testing and Calibration Laboratories, May 5, 2005, as amended) and the standards for proficiency testing developed by the Standards Council of Canada, the Canadian Association for Laboratory Accreditation or another accreditation body accepted by the MECP.

5.10 Residue Management Procedures

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 disposal by the owner.

5.11 Elevation Surveying

Elevations were determined relative to the following permanent and recoverable benchmark:

- Traffic cone set up near storage of hydro boxes on north side of building with an assumed elevation of 100.00 masl.

5.12 Quality Assurance and Quality Control Measures

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

- The use of standard operating procedures for all field investigation activities.
- All monitoring wells were developed following installation to remove fine particles from the filter pack and any 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 footvalves) and clean disposable Nitrile™ gloves were used at each sampling location to prevent cross-contamination. All non-dedicated sampling equipment (e.g., water level meters, split spoons) was decontaminated between sampling locations. Sampling equipment in contact with soil, groundwater, or sediment was: cleaned by mechanical means; washed with a phosphate-free, laboratory-grade detergent (e.g., 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 Table 3.

Table 3: Duplicate and Parent Samples

Date	Media	Sample ID	Duplicate ID	Trip Blanks
January 9, 2023	Soil	MW23-03 SA2	DUP-1	NA
January 12, 2023	Groundwater	MW23-01	DUP-1	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 test pitting and borehole drilling programs are presented in the field logs (Appendix C). The following presents a summary of the subsurface soil conditions encountered during the investigation.

In general, the subsurface soil conditions encountered in the boreholes and test pits consisted of surficial topsoil and fill of variable depths (up to 2.29 mbgs at borehole MW23-03), with native silty clay soils underlying the fill that extend to the maximum depth of investigation (4.57 mbgs at MW23-03). The fill materials encountered at the Phase Two Property predominantly consisted of sands and gravel.

6.2 Groundwater: Elevations and Flow Direction

All monitoring wells were used in the interpretation of shallow groundwater contours and shallow groundwater flow direction. Any temporary fluctuation in water levels on the Phase Two Property is not anticipated to affect the conclusions of the Phase Two ESA. MW23-02 was not surveyed, as such, not elevation is available for MW23-02.

The base of the three existing shallow groundwater monitoring well screen were installed at elevations ranging from approximately 97.217 to 95.512 masl (2.13 to 4.27 mbgs). The location and depth of the screens for the three new monitoring wells were selected based on the issues being investigated and were installed to straddle the water table. A summary of the monitoring well construction details are presented in Table 1. No evidence of petroleum hydrocarbon free product or sheen in groundwater was observed.

The elevations of the potentiometric surface at each monitoring well are summarized in Table 2. Groundwater elevations ranged from 98.66 to 98.72 masl (0.6 to 0.98 mbgs) on February 14th, 2023. Although three elevations are required to calculate groundwater flow direction, the two measured elevations at monitoring wells MW23-01 and MW23-03 suggest a northerly flow is most likely.

Seasonal fluctuation in water levels 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 COC as the water table is not inferred to intercept buried utilities and subsurface structures at the Phase Two Property and no COC are present in groundwater exceeding the applicable site condition standards.

6.3 Groundwater: Hydraulic Gradients

Vertical and Horizontal hydraulic gradients were not calculated as no COC were identified in groundwater exceeding the site condition standards and as such, no nested monitoring wells were installed at the Site.

6.4 Soil: Field Screening

The results of headspace vapour measurements are presented on the field logs in Appendix C. All combustible gas vapour and organic vapour measurements were non-detect.

6.5 Soil: Quality

The reported concentrations of all contaminants of potential concern in soil met the applicable site condition standards with the exception of the reported concentration of arsenic in the soil sample collected from MW23-01 SA1, and Vanadium in the soil samples collected from MW23-01 SA2 and MW23-03 SA2. A list of soil samples submitted for laboratory analysis is provided in Table 3. The analytical results for soil samples are summarized in Tables 5a to 5e. Certificates of analysis are provided in Appendix D.

6.6 Groundwater: Quality

Monitoring well construction details are summarized in Table 1 and a list of groundwater samples submitted for laboratory analysis is provided in Table 4. The analytical results for groundwater samples are summarized in Tables 6a to 6d. Certificates of analysis are provided in Appendix D. The reported concentrations of all groundwater samples met the applicable site condition standards. 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 analytical tables following this report, 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 Table 28, appended to this report. A summary of RPDs for samples and their corresponding duplicate samples are provided in Table 4, below:

Table 4: Relative Percent Differences between the Original and Duplicate Samples

Field Duplicate Sample ID	Original Sample ID	Relative percent difference (RPD)		
		PHC	PAH	Metals
Soil				
DUP1	MW23-03	Not calculated due to parameters being less than RDL	Not calculated due to parameters being less than RDL	7.65 – 27.81 %
Groundwater				
DUP1	MW23-01	Not calculated due to parameters being less than RDL	Not calculated due to parameters being less than RDL	2.88 – 6.21 %

No exceedances of RPD thresholds were found in soil or groundwater. As such, the results obtained from the WSP and the laboratory QA/QC programs are acceptable and the data collected during this investigation are considered acceptable for the purposes of this project.

All certificates of analysis or analytical reports received pursuant to clause 47 (2) (b) of the regulation comply with subsection 47(3). A certificate of analysis or analytical report has been received for each sample submitted for analysis and is provided in Appendix A(iii).

6.9 Phase Two Conceptual Site Model

The Phase Two conceptual site model is presented in the following sections. The location of the Phase Two Property is provided in Figure 1.

POTENTIAL SOURCES OF CONTAMINATION

Potentially Contaminating Activities

Based on the information obtained as part of the Phase One ESA, the following potentially contaminating activities (“PCAs”) identified below in Table 5. The location of each PCA is provided in Figure 2:

Table 5: PCAs and contribution to APEC

Location	Identification Number	Potentially Contaminating Activity	Information Source	Rationale for Potential Contribution of the PCA to an APEC
Phase One Property	3	#30 Importation of Fill Material of Unknown Quality – Fill was reported imported to the Phase One Property to create the yard.	Previous report and Site observations	The PCA is located on the Phase One Property and must be identified as an APEC.
	4	59. Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products – Treated damaged hydro poles in the western portion of the yard.	Site observations	The PCA is located on the Phase One Property and must be identified as an APEC.
	5	40. Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications – Previous and current Site use as agricultural field.	Site observations	The PCA is located on the Phase One Property and must be identified as an APEC.
Phase One Study Area (excluding the Phase One Property)	2	#28 Gasoline and Associated Products Storage in Fixed Tanks – ASTs located at the bus depot to the north of the Site	Site observations, ERIS report	Based on the up-gradient location of this PCA to the Site, and the nature of impacts associated with this PCA which may migrate through groundwater, the presence of this PCA may impact the Phase One Property.
	1	52. Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems – Vehicles undergo routine maintenance at the bus depot located to the north of the Site	Site observations.	Based on the up-gradient location of this PCA to the Site, and the nature of impacts associated with this PCA which may migrate through groundwater, the presence of this PCA may impact the Phase One Property.

Areas of Potential Environmental Concern

A summary of the APECs identified at the Phase One Property is provided in Table 6. The location of each APEC is presented in Figure 4.

Table 6: Areas of Potential Concern

Area of Potential Environmental Concern[1]	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity[2]	Location of PCA (on-Site or off-Site)	Contaminants of Potential Concern[3]	Media Potentially Impacted (groundwater, soil and/or sediment)
APEC 1 – Lay down area for treated wood hydro poles.	On the north west portion of the Site.	#59. Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products	On-Site	Metals (including hydride forming metals), PAHs (including creosote)	Soil and Groundwater
APEC 2 - Fill of unknown quality.	In the yard area of the Site (northern portion).	#30. Importation of Fill Material of Unknown Quality	On-Site	Metals, hydride-forming metals	Soil
APEC 3 – Previous and current use as an agricultural field. Potential application of pesticides.	Entire Site	#40. Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications	On-Site	Organochlorine Pesticides	Soil and Groundwater
APEC 4 – Potential groundwater contamination from up-gradient bus depot activities	Northern portion of Site	#28 Gasoline and Associated Products Storage in Fixed Tanks #52. Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems	Off-Site	PHCs/BTEX	Groundwater

A summary of the investigation for each APEC is provided in the following sections.

APEC 1 – The investigation included the collection of one soil and one groundwater sample from APEC 1. The reported concentrations of all COCs were below the applicable site condition standards.

APEC 2 – The investigation included the collection of three soil samples from APEC 2. The reported concentrations of all contaminants of potential concern in soil met the applicable site condition standards with the exception of the reported concentration of Arsenic in the soil sample collected from MW23-01 SA1, and Vanadium in the soil samples collected from MW23-01 SA2 and MW23-03 SA2.

APEC 3 – The investigation included the collection of two test pit soil samples from APEC 4 The reported concentrations of all COCs were below the applicable site condition standards.

APEC 4 – The investigation included the collection of three groundwater samples from APEC 4 The reported concentrations of all COCs were below the applicable site condition standards.

Subsurface Structures and Utilities

Subsurface electrical conduit around the perimeter of the property were identified by the private locator. The presence of subsurface utilities and structures at the Site are not expected to act as preferential pathways promoting the migration of COCs as no COCs are present in groundwater exceeding the Site condition standards.

An on-Site water supply well is located south of the building. The Site is serviced by a private septic system (holding tank), located South of the building.

PHYSICAL SETTING

Stratigraphy

In general, the subsurface soil conditions encountered in the boreholes and test pits consisted of surficial topsoil and fill of variable depths (up to 2.29 mbgs at borehole MW23-03), with native silty clay soils underlying the fill that extend to the maximum depth of investigation (4.57 mbgs at MW23-03). The fill materials encountered at the Phase Two Property predominantly consisted of sands and gravel.

The fill materials encountered at the Phase Two Property predominantly consisted of variable sands and gravel. Bedrock was not encountered during the Phase Two ESA.

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).

Depth to Bedrock

Bedrock in the area consists of a mixture of a Lindsay Formation and a Billings Formation at depths of 3 to 10 mbgs.

Hydrogeological Characteristics

The regional groundwater flow direction is inferred to be towards the north.

Depth to Groundwater

The depth to the water table ranged from 0.5 to 1.5 mbgs in 2011, and more recently from 0.50 to 0.95 mbgs (based on the January 2023 monitoring).

SITE CONDITION STANDARDS

Environmentally Sensitive Areas

An area of natural significance is not 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

Overburden thickness at the Site extends to the maximum depth of drilling (4.57 mbgs). The reported depth to bedrock in the Phase One Study Area is 3 to 10 mbgs. The property 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 the Phase One ESA, Fill was brought in for the gravel parking/yard area, and possibly as subgrade material beneath the site buildings. 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.

Proposed Buildings and Other Structures

Renovations and modifications to the Site and Site building are currently proposed. An additional building is currently proposed, along with a septic bed and a stormwater management facility. Currently, there is no intention to use the Phase Two Property for residential purposes and its current use will continue.

DELINEATION OF CONTAMINANT IMPACTS

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

The reported concentrations of all soil and groundwater samples submitted for analysis indicate that soil and groundwater quality at all APECs meets the applicable site condition standards with the exception of soil samples MW23-01 SA1, MW23-01SA2, and MW23-03 SA2.

Contaminant Distribution

Metals contaminants were identified in soil samples MW23-01 SA1, MW23-01SA2, and MW23-03 SA2. Delineation was not completed as part of this Phase Two ESA. MW23-01 SA1 is inferred to originate from the pole storage area as arsenic can be used as a wood preservative. Vanadium on site is inferred to originate from the natural deposition of the marine clay, common to the Ottawa region (Golder associates, 2016) and as such is not considered to represent an exceedance of the site condition standards.

Potential Reason for Discharge into the Environment at the Site

No discharge of contaminants have occurred on, in or under the Phase Two property which has resulted in impacts at concentrations greater than the applicable site condition standards.

Contaminant Migration

None of the contaminants of potential concern were detected in groundwater samples at concentrations exceeding the applicable site condition standards and therefore contaminant migration in groundwater is not relevant to the Site.

Meteorological and Climatic Considerations

Seasonal fluctuation in water levels 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.

Soil Vapour Intrusion Pathways

The depth and location of building foundations and footings are unknown; however there is no basement. No contaminants were present at concentrations greater than the applicable site condition standards and therefore soil vapour intrusion is not anticipated.

POTENTIAL EXPOSURE PATHWAYS AND RECEPTORS

The Site is developed with two one-storey commercial buildings. The proposed future use of the Site remains commercial. Surrounding land uses are agricultural, community, residential, and commercial.

No surface water bodies are located on-Site; the nearest off-Site water body is located over 300 m away.

Soil exceedances attributed to APEC 1 were identified at the Site, for Arsenic.

The following receptors and exposure pathways were considered operable:

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

- Stem and foliar uptake of vapours sourced from groundwater by plants.
- Dermal exposure to contaminated soil by mammals & birds.

7.0 CONCLUSIONS

The Phase Two ESA investigated the four APECs identified in the 2022 Phase One ESA.

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 MECP standards for arsenic (one borehole location) and vanadium (two borehole locations). The lone arsenic exceedance (at MW23-01) is inferred to originate from the nearby hydropole storage area, as arsenic can be used as a wood preservative. Given that the proposed construction activities are to occur in the southern portion of the South (approximately 70 m from the arsenic exceedance), the exceedance of arsenic is not a concern for the proposed development, with respect to soils management. Vanadium on-Site is inferred to originate from the natural deposition of the marine clay, common to the Ottawa region (Golder Associates, 2016), and as such is not considered to represent an exceedance of the site condition standards.

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

8.0 REFERENCES

Phase I Environmental Site Assessment, 3440 Frank Kenny Road, Navan, Ontario (Golder WSP, 2022).

Rational For Naturally Occurring Barium, Cobalt, and Vanadium in Ottawa Marine Clay Above Generic Standards to Support a Record of Site Condition (RSC) At 175 Main Street, Ottawa, ON, (Golder Associates, 2016).

Quaternary Geology of Ontario, Southern Sheet. Map 2556. Ontario Ministry of Development and Mines dated

1991 (Map No. 2556, Quaternary Geology of Ontario, Southern Sheet, 1991).

Bedrock Geology of Ontario, Southern Sheet. Map 2544. Ontario Ministry of Development and Mines dated 1991.

Map No. 2544, Bedrock Geology of Ontario, Southern Sheet, 1991).

9.0 LIMITATIONS

This report was prepared for the exclusive use of J.L. Richards Associates. The report, which specifically includes all tables, figures and appendices, is based on data and information, collected during conducting the Phase Two ESA, and is based solely on the conditions of the property at the time of conducting investigations, supplemented by historical information and data obtained by WSP Canada Inc. as described in this report.

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

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

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

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

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

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

10.0 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.

Philippe Chevrette, BEng, EIT
Environmental Consultant

Keith Holmes, MSC., PGeo
Principal Geoscientist

PAC/PJ/JD/KPH/sg
https://golderassociates.sharepoint.com/sites/152302/project files/6 deliverables/phase two esa/21493887-hydro phase two final_mar2023.docx

Table 1: Groundwater Monitoring Well Construction Details

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	99.347	99.255	3.05	0.61 - 2.13	Silty Clay	09-Jan-13
MW23-02	N/A	N/A	3.05	0.61 - 2.13	Silty sand and clay	09-Jan-13
MW23-03	99.782	99.701	4.27	2.74 - 4.27	Clay	09-Jan-13

Notes:

mASL- metres above sea level

mbgs-metres below ground surface

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

MW23-02 surveying was inaccessible due to snow and ice

Monitoring Well	Ground Surface Elevation (mASL)	Top of Pipe Elevation (mASL)	Depth to Groundwater (mbTOP)	Groundwater Elevation (mASL)	Date of Measurement
MW23-01	99.347	99.255	0.60	98.66	12-Jan-23
MW23-02	N/A	N/A	0.50	N/A	12-Jan-23
MW23-03	99.782	99.701	0.98	98.72	12-Jan-23

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.
Surveying was not completed for the top of pipe of well 23-02 due to snow and ice over the flushmount

Location	Soil Samples Analyzed	Parameters Analyzed	MECP Table 2 Exceedances (1)
MW23-01	MW23-01 SA1	PHCs, BTEX, PAHs, Metals, VOCs	Arsenic
	MW23-01 SA2	Metals	-
MW23-02	MW23-02 SA1	PHCs, BTEX, PAHs, Metals	-
MW23-03	MW23-03 SA1	PHCs, BTEX, PAHs, Metals	-
	MW23-03 SA2	PHCs, BTEX, PAHs, Metals	Vanadium
	DUP-1	PHCs, BTEX, PAHs, Metals	Vanadium
TP22-01	TP22-01	OCP	None
TP22-02	TP22-02	OCP	None

(1) MECP Table 2 Standards: Table 2- Full Depth Generic Site Condition Standards for Soils in a Potable Ground Water Condition, Industrial/Commercial 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

OCP: Organochlorine Pesticides

Monitoring Well ID	Water Levels (mbtop)	Screen Interval (mbgs)	Groundwater Samples Submitted for Analysis	Analytical Parameters	MECP Table 2 Exceedances (1)
MW23-01	0.6	0.61 - 2.13	MW23-01	PHCs, BTEX, PAHs, Metals, VOCs	None
DUP-1	-	-	MW23-01/ Duplicate analysis (DUP 1)	PHCs, BTEX, PAHs, Metals, VOCs	None
MW23-02	0.50	0.61 - 2.13	MW23-02	PHCs, BTEX, PAHs, Metals	None
MW23-03	0.95	2.74 - 4.27	MW23-03	PHCs, BTEX, PAHs, Metals	None

(1) MECP Table 3 Standards: Table 2- Full Depth Generic Site Condition Standards for Soils in a Potable Ground Water Condition, All Types of 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

Sample Location		MOE Table 2 Standard (Commercial) [1] [2]	MW23-01		MW23-02	MW23-03			TP22-01	TP22-02
Sample ID			MW23-01 SA1	MW23-01 SA2	MW23-02 SA1	MW23-03 SA1	MW23-03 SA2	DUP-1	TP22-01	TP22-02
Date	Unit	[2] [1] REG153 (11) T3-R/P/I SOIL COARSE	01/09/2023	01/09/2023	01/09/2023	01/09/2023	01/09/2023	01/09/2023	12/01/2022	12/01/2022
Sample Depth	m		1.32 - 1.52	2.56 - 3.05	0.96 - 1.52	0.91 - 1.52	2.29 - 3.05	2.29 - 3.05	0 - 0.15	0 - 0.15
Metals and Inorganics										
Antimony	µg/g	40	<0.8	<0.8	<0.8	<0.8	<0.8	<0.9	NA	NA
Arsenic	µg/g	18	**20**	2	7	4	2	2	NA	NA
Barium	µg/g	670	336	498	277	227	418	553	NA	NA
Beryllium	µg/g	8	0.5	0.9	0.5	<0.4	1.1	1.2	NA	NA
Boron	µg/g	120	13	7	13	12	10	11	NA	NA
Boron (Hot Water Soluble)	µg/g	2	0.37	0.14	0.44	0.63	0.18	0.19	NA	NA
Cadmium	µg/g	1.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA
Chromium	µg/g	160	38	125	32	10	88	95	NA	NA
Cobalt	µg/g	80	7.8	25	7.7	4.4	21	24.8	NA	NA
Copper	µg/g	230	21.1	44.5	10.1	3.1	45.6	49.8	NA	NA
Lead	µg/g	120	8.0	9	9	7	9	10	NA	NA
Molybdenum	µg/g	40	0.6	<0.5	0.8	<0.5	<0.5	<0.5	NA	NA
Nickel	µg/g	270	21	70	20	12	51	57	NA	NA
Selenium	µg/g	5.5	<0.8	<0.8	<0.8	<0.8	1.0	<0.8	NA	NA
Silver	µg/g	40	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA
Thallium	µg/g	3.3	<0.5	<0.5	<0.5	<0.5	<0.5	1	NA	NA
Uranium	µg/g	33	0.71	0.85	0.87	0.62	0.91	0.93	NA	NA
Vanadium	µg/g	86	25.6	**118**	24.8	8.8	**101**	**117**	NA	NA
Zinc	µg/g	340	36	139	38	13	130	159	NA	NA
Chromium, Hexavalent	µg/g	8	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	NA
Cyanide, WAD	µg/g	0.051	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	NA	NA
Mercury	µg/g	3.9	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	NA	NA
Electrical Conductivity (2:1)	mS/cm	1.4	0.367	0.57	0.321	0.241	1.01	1.06	0.142	0.102
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	12	0.674	0.80	0.981	0.423	1.49	1.41	0.178	0.325
pH, 2:1 CaCl2 Extraction	pH Units	5.0-9.0	7.45	7.03	7.52	7.42	7.08	7.34	6.1	5.94

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 2: Full Depth Generic Site Conditions in a Potable Groundwater Condition, Commercial/Industrial/Community Property Use, Coarse Grained Soils
(2) Bolded and Grayed = Parameter concentration greater than MOE Table 2 Standard

Sample Location		MOE Table 2 Standard (Commercial) [1] [2]	MW23-01	MW23-02	MW23-03		
Sample ID			MW23-01 SA1	MW23-02 SA1	MW23-03 SA1	MW23-03 SA2	DUP-1
Date	Unit	[2] [1] REG153 (11) T3-R/P/I SOIL COARSE	01/09/2023	01/09/2023	01/09/2023	01/09/2023	01/09/2023
Sample Depth	m		1.32 - 1.52	0.96 - 1.52	0.91 - 1.52	2.29 - 3.05	2.29 - 3.05
PAHs							
Naphthalene	µg/g	9.6	<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	21	<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	12	<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	9.6	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	µg/g	96	<0.05	<0.05	<0.05	<0.05	<0.05
Benz(a)anthracene	µg/g	0.96	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	µg/g	9.6	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.96	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/g	0.96	<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	0.76	<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	9.6	<0.05	<0.05	<0.05	<0.05	<0.05
1 and 2 Methlynaphthalene	µg/g	30	<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 observed.
(1) Ontario Regulation 153/04 (2011) Table 2: Full Depth Generic Site Conditions in a Potable Groundwater Condition,
(2) Bolded and Grayed = Parameter concentration greater than MOE Table 2 Standard

Sample Location		MOE Table 2 Standard (Commercial) [1] [2]	MW23-01	MW23-02	MW23-03		
Sample ID			MW23-01 SA1	MW23-02 SA1	MW23-03 SA1	MW23-03 SA2	DUP-1
Date	Unit	[2] [1] REG153 (11) T3-R/P/I SOIL COARSE	01/09/2023	01/09/2023	01/09/2023	01/09/2023	01/09/2023
Sample Depth	m		1.32 - 1.52	0.96 - 1.52	0.91 - 1.52	2.29 - 3.05	2.29 - 3.05
BTEX							
Benzene	µg/g	0.32	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	µg/g	6.4	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	µg/g	1.1	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	µg/g	26	<0.05	<0.05	<0.05	<0.05	<0.05
Petroleum Hydrocarbons							
F1 (C6 - C10)	µg/g	55	<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g	230	<10	<10	<10	<10	<10
F3 (C16 to C34)	µg/g	1700	<50	<50	<50	<50	<50
F4 (C34 to C50)	µg/g	3300	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	3300	NA	NA	NA	NA	NA
Moisture Content	%	-	15.6	29.5	4.1	37.8	38.5

Footnotes:

Tables should be read in conjunction with the accompanying document.

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> 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 2: Full Depth Generic Site Conditions in a Potable Groundwater Condition, Commercial/Industrial/Community Property Use, Coarse Grained Soils
(2) Bolded and Grayed = Parameter concentration greater than MOE Table 2 Standard

Sample Location		MOE Table 2 Standard	MW23-01
Sample ID		[2] [1] REG153 (11) T3-R/P/I SOIL COARSE	MW23-01 SA1
Date	Unit		01/09/2023
Sample Depth	m		1.32 - 1.52
VOCs (with PHC)			
Dichlorodifluoromethane	µg/g	16	<0.05
Vinyl Chloride	ug/g	0.032	<0.02
Bromomethane	ug/g	0.05	<0.05
Trichlorofluoromethane	ug/g	4	<0.05
Acetone	ug/g	16	<0.50
1,1-Dichloroethylene	ug/g	0.064	<0.05
Methylene Chloride	ug/g	1.6	<0.05
Trans- 1,2-Dichloroethylene	ug/g	1.3	<0.05
Methyl tert-butyl Ether	ug/g	1.6	<0.05
1,1-Dichloroethane	ug/g	0.47	<0.02
Methyl Ethyl Ketone	ug/g	70	<0.50
Cis- 1,2-Dichloroethylene	ug/g	1.9	<0.02
Chloroform	ug/g	0.47	<0.04
1,2-Dichloroethane	ug/g	0.05	<0.03
1,1,1-Trichloroethane	ug/g	6.1	<0.05
Carbon Tetrachloride	ug/g	0.21	<0.05
1,2-Dichloropropane	ug/g	0.16	<0.03
Trichloroethylene	ug/g	0.55	<0.03
Bromodichloromethane	ug/g	1.5	<0.05
Methyl Isobutyl Ketone	ug/g	31	<0.50
1,1,2-Trichloroethane	ug/g	0.05	<0.04
Dibromochloromethane	ug/g	2.3	<0.05
Ethylene Dibromide	ug/g	0.05	<0.04
Tetrachloroethylene	ug/g	1.9	<0.05
1,1,1,2-Tetrachloroethane	ug/g	0.087	<0.04
Chlorobenzene	ug/g	2.4	<0.05
m & p-Xylene	ug/g	-	<0.05
Bromoform	ug/g	0.61	<0.05
Styrene	ug/g	34	<0.05
1,1,2,2-Tetrachloroethane	ug/g	0.05	<0.05
o-Xylene	ug/g	-	<0.05
1,3-Dichlorobenzene	ug/g	9.6	<0.05
1,4-Dichlorobenzene	ug/g	0.2	<0.05
1,2-Dichlorobenzene	ug/g	1.2	<0.05
1,3-Dichloropropene (Cis + Trans)	µg/g	0.059	<0.05
n-Hexane	µg/g	46	<0.05

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

(1) Ontario Regulation 153/04 (2011) Table 2: Full Depth Generic Site Conditions in a Potable Groundwater Condition, Commercial/Industrial/Community Property Use, Coarse Grained Soils

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

Sample Location		MOE Table 2 Standard (Commercial) [1] [2]	TP22-01	TP22-02
Sample ID			TP22-01	TP22-02
Date	Unit	[2] [1] REG153 (11) T3-R/P/I SOIL COARSE	12/01/2022	12/01/2022
Sample Depth	m		0 - 0.15	0 - 0.15
OC Pesticides				
Hexachloroethane	µg/g	0.21	<0.005	<0.005
Gamma-Hexachlorocyclohexane	µg/g	0.056	<0.005	<0.005
Heptachlor	µg/g	0.19	<0.005	<0.005
Aldrin	µg/g	0.088	<0.005	<0.005
Heptachlor Epoxide	µg/g	0.05	<0.005	<0.005
Endosulfan I	µg/g	-	<0.005	<0.005
Endosulfan II	µg/g	-	<0.005	<0.005
Endosulfan	µg/g	0.3	<0.005	<0.005
Alpha-Chlordane	µg/g	-	<0.005	<0.005
gamma-Chlordane	µg/g	-	<0.005	<0.005
Chlordane	µg/g	0.05	<0.007	<0.007
op'-DDE	ug/g	-	<0.005	<0.005
pp'-DDE	µg/g	-	<0.005	<0.005
DDE	µg/g	0.52	<0.007	<0.007
op'-DDD	µg/g	-	<0.005	<0.005
pp'-DDD	µg/g	-	<0.005	<0.005
DDD	µg/g	4.6	<0.007	<0.007
op'-DDT	µg/g	-	<0.005	<0.005
pp'-DDT	µg/g	-	<0.005	<0.005
DDT (Total)	µg/g	1.4	<0.007	<0.007
Dieldrin	µg/g	0.088	<0.005	<0.005
Endrin	µg/g	0.04	<0.005	<0.005
Methoxychlor	µg/g	1.6	<0.005	<0.005
Hexachlorobenzene	µg/g	0.66	<0.005	<0.005
Hexachlorobutadiene	µg/g	0.031	<0.01	<0.01
TCMX	%	-	104	105
Decachlorobiphenyl	%	-	105	105
Moisture Content	%	-	25.5	31.7
wet weight OC	g	-	10.52	10.43

Footnotes:
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Grey background indicates exceedances. In this case no exceedances are observed.
OC pesticides= Organochlorine pesticides
(1) Ontario Regulation 153/04 (2011) Table 2: Full Depth Generic Site Conditions in a Potable Groundwater Condition, Commercial/Industrial/Community Property Use, Coarse Grained Soils
(2) Bolded and Grayed = Parameter concentration greater than MOE Table 2 Standard

Sample Location		MOE Table 2 Standard (Commercial) [1] [2]	MW23-01		MW23-02	MW23-03
Sample ID			MW23-01	DUP-1		
Parameter	Unit	[2] [1] REG153 (11) T3-R/P/I SOIL COARSE	01/12/2023	01/12/2023	01/12/2023	01/12/2023
PAHs						
Naphthalene	µg/L	11	<0.20	<0.20	<0.20	<0.20
Acenaphthylene	µg/L	1	<0.20	<0.20	<0.20	<0.20
Acenaphthene	µg/L	4.1	<0.20	<0.20	<0.20	<0.20
Fluorene	µg/L	120	<0.20	<0.20	<0.20	<0.20
Phenanthrene	µg/L	1	<0.10	<0.10	<0.10	<0.10
Anthracene	µg/L	2.4	<0.10	<0.10	<0.10	<0.10
Fluoranthene	µg/L	0.41	<0.20	<0.20	<0.20	<0.20
Pyrene	µg/L	4.1	<0.20	<0.20	<0.20	<0.20
Benzo(a)anthracene	µg/L	1	<0.20	<0.20	<0.20	<0.20
Chrysene	µg/L	0.1	<0.10	<0.10	<0.10	<0.10
Benzo(b)fluoranthene	µg/L	0.1	<0.10	<0.10	<0.10	<0.10
Benzo(k)fluoranthene	µg/L	0.1	<0.10	<0.10	<0.10	<0.10
Benzo(a)pyrene	µg/L	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
Dibenz(a,h)anthracene	µg/L	0.2	<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
2-and 1-methyl Naphthalene	µg/L	3.2	<0.20	<0.20	<0.20	<0.20
Naphthalene-d8	%	-	77	91	86	108
Acridine-d9	%	-	73	64	79	78
Terphenyl-d14	%	-	72	72	73	77

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 2: Full Depth Generic Site Conditions in a Potable Groundwater Condition, Commercial/Industrial/Community Property Use

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

Sample Location	Unit	MOE Table 2 Standard (Commercial) [1] [2]	MW23-01		MW23-02	MW23-03
Sample ID			MW23-01	DUP-1		
Parameter		[2] [1] REG153 (11) T3-R/P/I SOIL COARSE	01/12/2023	01/12/2023	01/12/2023	01/12/2023
BTEX						
Benzene	µg/L	5.0	<0.20	<0.20	<0.20	<0.20
Toluene	µg/L	24	<0.20	<0.20	<0.20	<0.20
Ethylbenzene	µg/L	2.4	<0.10	<0.10	<0.10	<0.10
Xylenes (Total)	µg/L	300	<0.20	<0.20	<0.20	<0.20
Petroleum Hydrocarbons						
F1 (C6-C10)	µg/L	750	<25	<25	<25	<25
F2 (C10 to C16)	µg/L	150	<100	<100	<100	<100
F3 (C16 to C34)	µg/L	500	<100	<100	<100	<100
F4 (C34 to C50)	µg/L	500	<100	<100	<100	<100
Gravimetric Heavy Hydrocarbons	µg/L	-	NA	NA	NA	NA

Footnotes:

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(1) Ontario Regulation 153/04 (2011) Table 2: Full Depth Generic Site Conditions in a Potable Groundwater Condition, Commercial/Industrial/Community Property Use

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

Sample Location	Unit	MOE Table 2 Standard (Commercial) (1) (2)	MW23-01	
Sample ID			MW23-01	DUP-1
Parameter		(2) (1) REG153 (11) T3-R/P/I SOIL COARSE	01/12/2023	01/12/2023
VOCs				
Dichlorodifluoromethane	µg/L	590	<0.40	<0.40
Vinyl Chloride	µg/L	0.5	<0.17	<0.17
Bromomethane	µg/L	0.89	<0.20	<0.20
Trichlorofluoromethane	µg/L	150	<0.40	<0.40
Acetone	µg/L	2700	<1.0	<1.0
1,1-Dichloroethylene	µg/L	1.6	<0.30	<0.30
Methylene Chloride	µg/L	50	<0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L	1.6	<0.20	<0.20
Methyl tert-butyl ether	µg/L	15	<0.20	<0.20
1,1-Dichloroethane	µg/L	5	<0.30	<0.30
Methyl Ethyl Ketone	µg/L	1800	<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	200	<0.30	<0.30
Carbon Tetrachloride	µg/L	0.79	<0.20	<0.20
1,2-Dichloropropane	µg/L	5	<0.20	<0.20
Trichloroethylene	µg/L	1.6	<0.20	<0.20
Bromodichloromethane	µg/L	16	<0.20	<0.20
Methyl Isobutyl Ketone	µg/L	640	<1.0	<1.0
1,1,2-Trichloroethane	µg/L	4.7	<0.20	<0.20
Toluene	µg/L	24	<0.20	<0.20
Dibromochloromethane	µg/L	25	<0.10	<0.10
Ethylene Dibromide	µg/L	0.2	<0.10	<0.10
Tetrachloroethylene	µg/L	1.6	<0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	1.1	<0.10	<0.10
Chlorobenzene	µg/L	30	<0.10	<0.10
Ethylbenzene	µg/L	2.4	<0.10	<0.10
m & p-Xylene	µg/L	-	<0.20	<0.20
Bromoform	µg/L	25	<0.10	<0.10
Styrene	µg/L	5.4	<0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	1	<0.10	<0.10
o-Xylene	µg/L	-	<0.10	<0.10
1,3-Dichlorobenzene	µg/L	59	<0.10	<0.10
1,4-Dichlorobenzene	µg/L	1	<0.10	<0.10
1,2-Dichlorobenzene	µg/L	3	<0.10	<0.10
1,3-Dichloropropene	µg/L	0.5	<0.30	<0.30
Xylenes (Total)	µg/L	300	<0.20	<0.20

Footnotes:

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(1) Ontario Regulation 153/04 (2011) Table 2: Full Depth Generic Site Conditions in a Potable Groundwater Condition, Commercial/Industrial/Community Property Use

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

Sample Location	Unit	MOE Table 2 Standard (Commercial) [1] [2]	MW23-01		MW23-02	MW23-03
Sample ID			MW23-01	DUP-1		
Parameter		[2] [1] REG153 (11) T3-R/P/I SOIL COARSE	01/12/2023	01/12/2023	01/12/2023	01/12/2023
Metals (Including Hydrides)						
Dissolved Antimony	µg/L	6	<1.0	<1.0	<1.0	<1.0
Dissolved Arsenic	µg/L	25	<1.0	<1.0	<1.0	<1.0
Dissolved Barium	µg/L	1000	21.1	20.5	37.2	189
Dissolved Beryllium	µg/L	4	<0.50	<0.50	<0.50	<0.50
Dissolved Boron	µg/L	5000	63.1	59.3	47.7	20.1
Dissolved Cadmium	µg/L	2.7	<0.20	<0.20	<0.20	<0.20
Dissolved Chromium	µg/L	50	<2.0	<2.0	<2.0	<2.0
Dissolved Cobalt	µg/L	3.8	<0.50	<0.50	<0.50	<0.50
Dissolved Copper	µg/L	87	1.7	<1.0	7.2	3.2
Dissolved Lead	µg/L	10	1.45	1.51	1.04	0.59
Dissolved Molybdenum	µg/L	70	1.07	1.49	0.77	1.78
Dissolved Nickel	µg/L	100	2.3	2.1	1.9	<1.0
Dissolved Selenium	µg/L	10	<1.0	2.4	1.7	1.7
Dissolved Silver	µg/L	1.5	<0.20	<0.20	<0.20	<0.20
Dissolved Thallium	µg/L	2	<0.30	<0.30	<0.30	<0.30
Dissolved Uranium	µg/L	20	1.86	1.83	1.59	4.08
Dissolved Vanadium	µg/L	6.2	<0.40	<0.40	<0.40	<0.40
Dissolved Zinc	µg/L	1100	<5.0	<5.0	<5.0	<5.0

Footnotes:

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> value = Indicates parameter detected above equipment analytical range.

-- Chemical not analyzed or criteria not defined.

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(1) Ontario Regulation 153/04 (2011) Table 2: Full Depth Generic Site Conditions in a Potable Groundwater Condition, Commercial/Industrial/Community Property Use

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

Sample ID	Units	BFR_L2_SW9		RPD (%)
		MW23-03 SA2	DUP-1	
Date Collected		**01/09/2023**	**01/09/2023**	
Sample Depth (mbgs)		2.29 - 3.05	2.29 - 3.05	
Antimony	µg/g	<0.8	<0.9	-
Arsenic	µg/g	2	2	NA
Barium	µg/g	418	553	27.81
Beryllium	µg/g	1.1	1.2	NA
Boron	µg/g	10	11	NA
Boron (Hot Water Soluble)	µg/g	0.18	0.19	NA
Cadmium	µg/g	<0.5	<0.5	-
Chromium	µg/g	88	95	7.65
Cobalt	µg/g	21	24.8	16.59
Copper	µg/g	45.6	49.8	8.81
Lead	µg/g	9	10	10.53
Molybdenum	µg/g	<0.5	<0.5	-
Nickel	µg/g	51	57	11.11
Selenium	µg/g	1.0	<0.8	NA
Silver	µg/g	<0.5	<0.5	-
Thallium	µg/g	<0.5	1	NA
Uranium	µg/g	0.91	0.93	NA
Vanadium	µg/g	**101**	**117**	14.68
Zinc	µg/g	130	159	20.07
Chromium, Hexavalent	µg/g	<0.2	<0.2	-
Cyanide, WAD	µg/g	<0.040	<0.040	-
Mercury	µg/g	<0.10	<0.10	-

Notes:

mbgs = metres below ground surface

< = concentration is below Reportable Detection Limit (RDL)

RPD over 50% limit

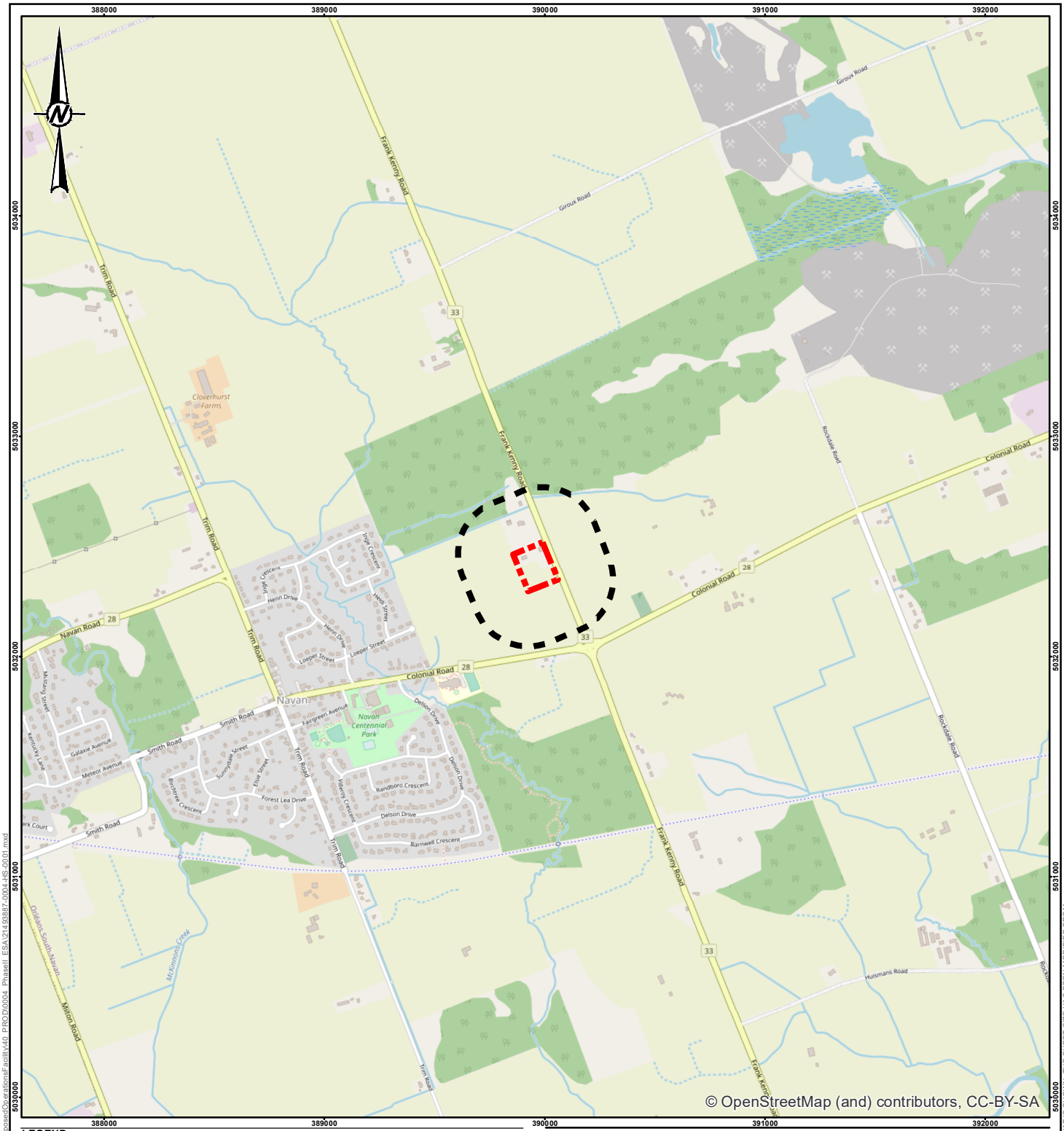
Table 7B: Relative Percent Differences (RPDs) - Metals in Groundwater

Sample ID	Units	MW23-01		
		MW23-01	DUP-1	RPD (%)
Date Collected		01/12/2023	01/12/2023	
Dissolved Antimony	µg/L	<1.0	<1.0	-
Dissolved Arsenic	µg/L	<1.0	<1.0	-
Dissolved Barium	µg/L	21.1	20.5	2.88
Dissolved Beryllium	µg/L	<0.50	<0.50	-
Dissolved Boron	µg/L	63.1	59.3	6.21
Dissolved Cadmium	µg/L	<0.20	<0.20	-
Dissolved Chromium	µg/L	<2.0	<2.0	-
Dissolved Cobalt	µg/L	<0.50	<0.50	-
Dissolved Copper	µg/L	1.7	<1.0	NA
Dissolved Lead	µg/L	1.45	1.51	NA
Dissolved Molybdenum	µg/L	1.07	1.49	NA
Dissolved Nickel	µg/L	2.3	2.1	NA
Dissolved Selenium	µg/L	<1.0	2.4	NA
Dissolved Silver	µg/L	<0.20	<0.20	-
Dissolved Thallium	µg/L	<0.30	<0.30	-
Dissolved Uranium	µg/L	1.86	1.83	NA
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)



LEGEND

PHASE TWO PROPERTY BOUNDARY

PHASE ONE STUDY AREA

0 250 500 1,000

1:25,000 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

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

CLIENT

J.L. RICHARDS & ASSOCIATES LIMITED

PROJECT

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
HYDRO ONE ORLEANS OC, PHASE 2
3440 FRANK KENNY ROAD, OTTAWA, ONTARIO

TITLE

KEY PLAN

CONSULTANT

wsp

YYYY-MM-DD	2023-02-13
DESIGNED	----
PREPARED	JEM
REVIEWED	PJ
APPROVED	KPH

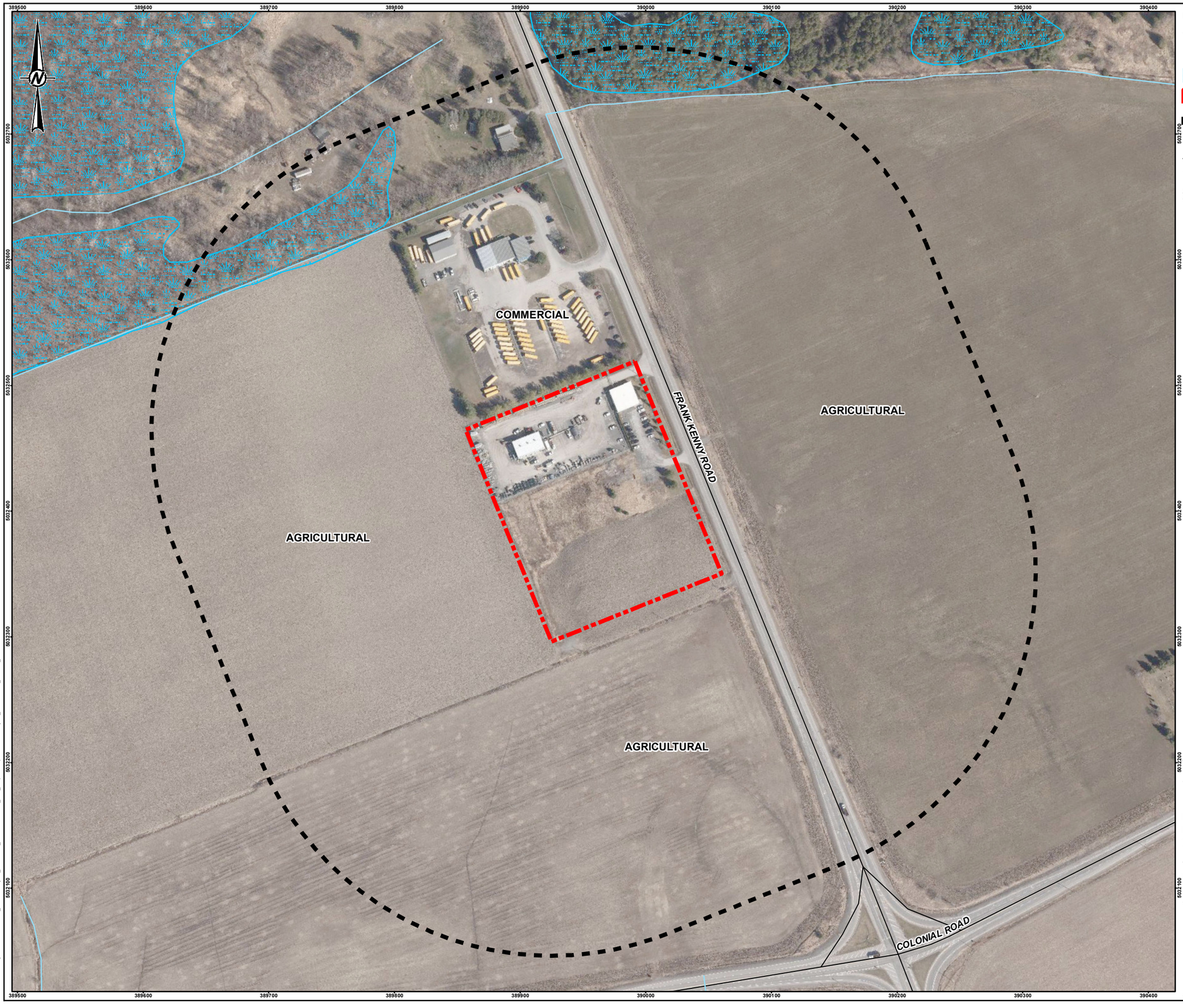
PROJECT NO.	CONTROL	REV.	FIGURE
21493887	0004	0	1

Path: S:\Clients\HydroOne\3406-3450_FrankKennyRd_Ottawa\93_PROJ\21493887_JLR_ProposedOperationsFacility\40_PRO\0004_Phase II_ESA\21493887-0004-HS-0001.mxd

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

25mm

0



LEGEND

- ROADWAY
- WATERCOURSE
- WETLAND
- PHASE TWO PROPERTY BOUNDARY
- PHASE ONE STUDY AREA

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

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

0 30 60 120
1:3,000 METRES

CLIENT
J.L. RICHARDS & ASSOCIATES LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
HYDRO ONE ORLEANS OC, PHASE 2
3440 FRANK KENNY ROAD, OTTAWA, ONTARIO

TITLE
PHASE TWO PROPERTY AND PHASE ONE STUDY AREA

CONSULTANT

YYYY-MM-DD	2023-02-13
DESIGNED	----
PREPARED	JEM
REVIEWED	PJ
APPROVED	KPH

PROJECT No.	CONTROL	REV.	FIGURE
21493887	0004	0	**2**

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

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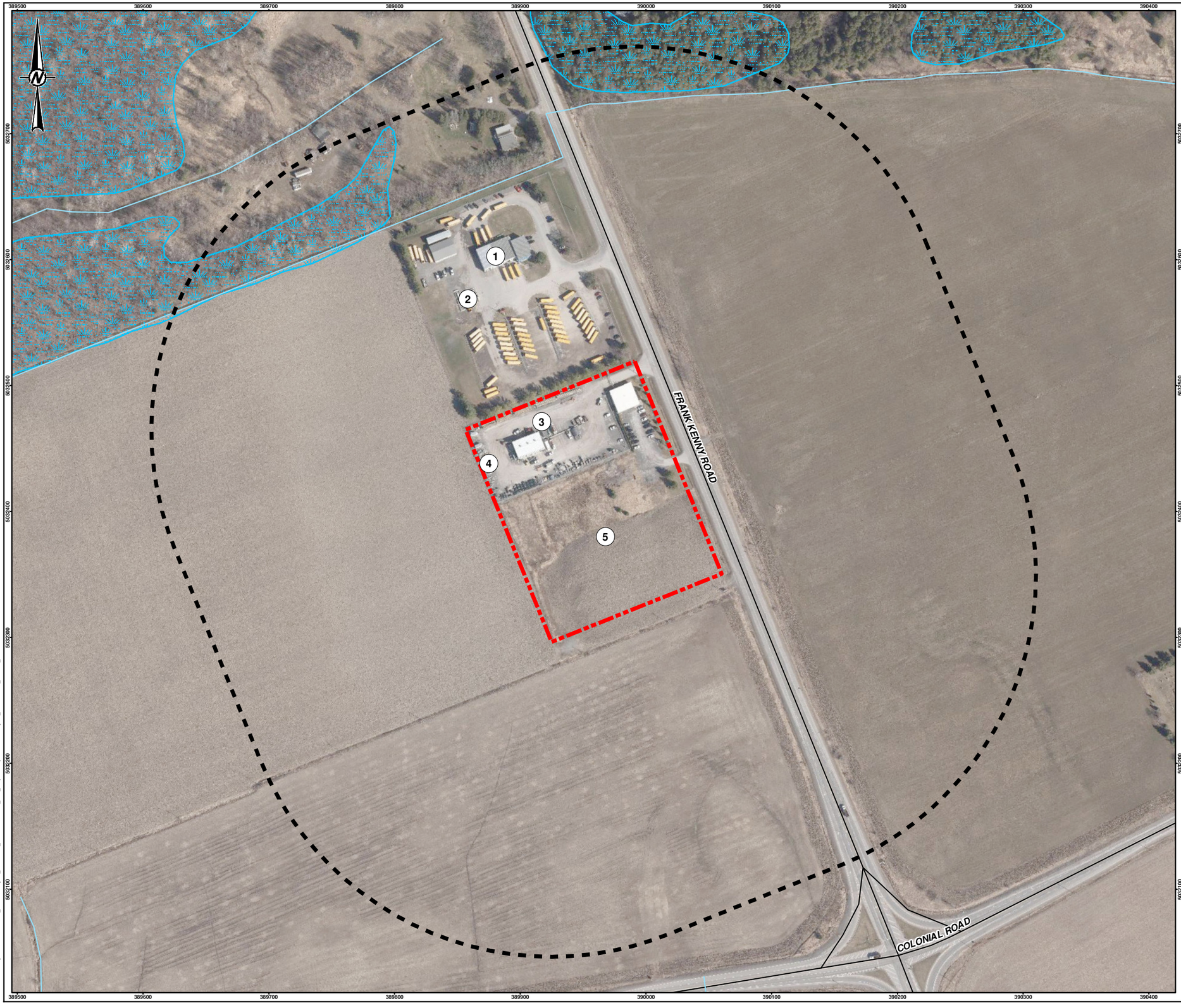

LEGEND

- ROADWAY
- WATERCOURSE
- WETLAND
- PHASE TWO PROPERTY BOUNDARY
- PHASE ONE STUDY AREA

PCA Location #	Potentially Contaminating Activity
1	***52. Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems -*** Bus depot to the north houses maintenance garage.
2	***#28. Gasoline and Associated Products in Fixed Tanks –*** ASTs located on bus depot to the north.
3	***#30 Importation of Fill Material of Unknown Quality –*** Fill was used to construct and grade the Site.
4	***59. Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products*** - Lay down area for treated wood hydropoles.
5	***40. Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications -*** Previous and current use as agricultural fields.

NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE

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

0 30 60 120
1:3,000 METRES

CLIENT
J.L. RICHARDS & ASSOCIATES LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
HYDRO ONE ORLEANS OC, PHASE 2
3440 FRANK KENNY ROAD, OTTAWA, ONTARIO

TITLE
POTENTIALLY CONTAMINATING ACTIVITIES

CONSULTANT

YYYY-MM-DD	2023-02-13
DESIGNED	----
PREPARED	JEM
REVIEWED	PJ
APPROVED	KPH

PROJECT No.	CONTROL	REV.	FIGURE
21493887	0004	0	**3**

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

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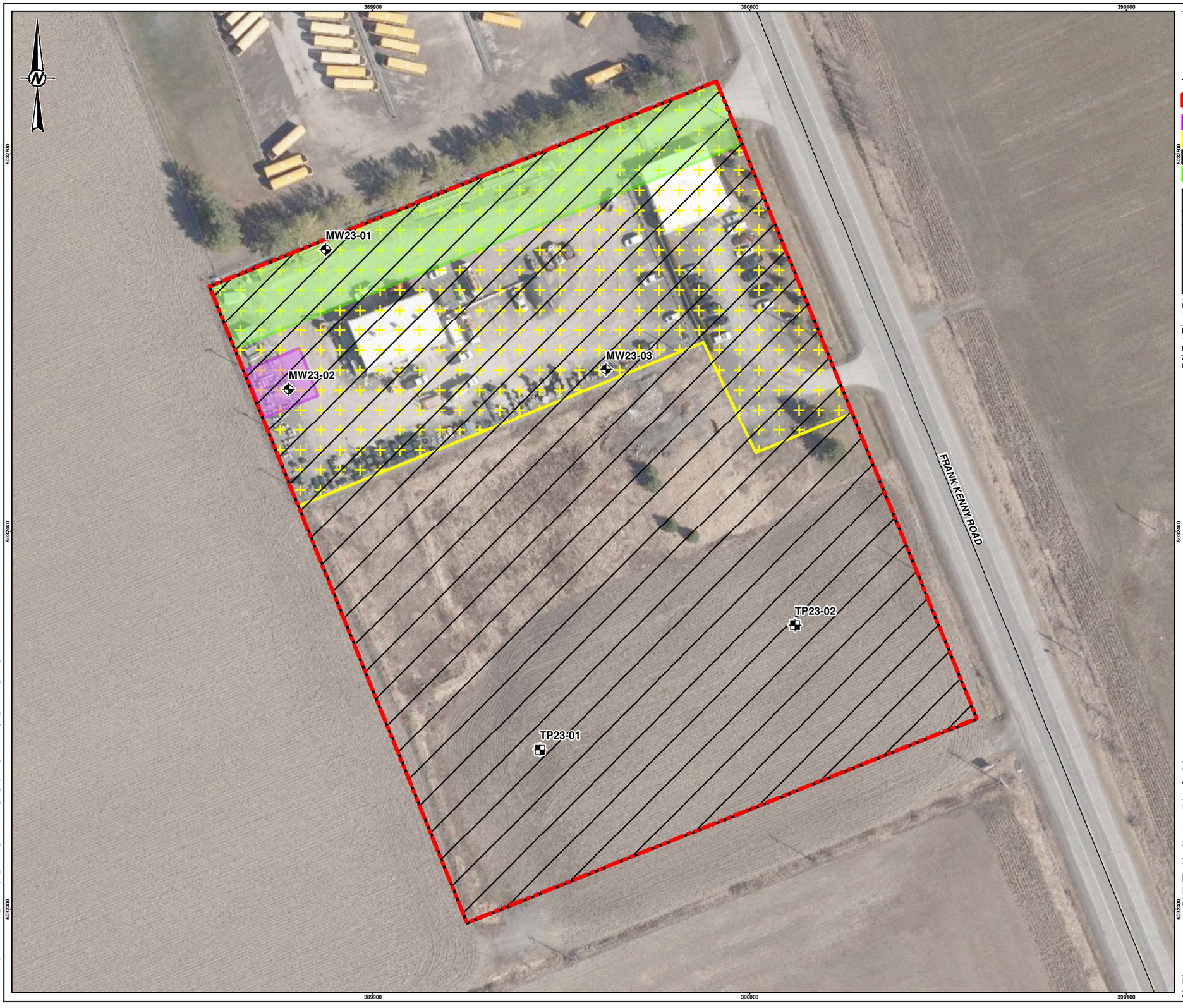


LEGEND

- APPROXIMATE BOREHOLE/MONITORING WELL LOCATION
- APPROXIMATE TEST PIT LOCATION
- ROADWAY
- PHASE TWO PROPERTY BOUNDARY
- APEC 1
- APEC 2
- APEC 3
- APEC 4

APEC Location #	PCA Location #	Area of Potential Environmental Concern
1	4	**1.** Lay down area for treated wood hydropoles.
2	3	**2.** Fill of unknown quality
3	5	**3.** Previous and current use as agricultural fields. Potential application of pesticides.
4	1,2	**4.** Potential groundwater contamination from upgradient bus depot activities (maintenance garagae and ASTs).

NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE

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

0 10 20 40
1:1,000 METRES

CLIENT
J.L. RICHARDS & ASSOCIATES LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
HYDRO ONE ORLEANS OC, PHASE 2
3440 FRANK KENNY ROAD, OTTAWA, ONTARIO

TITLE
INVESTIGATION LOCATIONS AND AREAS OF POTENTIAL ENVIRONMENTAL CONCERN

CONSULTANT

YYYY-MM-DD	2023-02-13
DESIGNED	----
PREPARED	JEM
REVIEWED	PJ
APPROVED	KPH

PROJECT No.	CONTROL	REV.	FIGURE
21493887	0004	0	**4**

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

Path: S:\Clients\HydroOne\3406-3460_FrankKennyRd_Ottawa\99_PROJ\21493887_JLR_Proposed\Operations\Facility\40_PROD\0004_Phase\I_ESA\21493887-0004-HS-0004.mxd

Sample ID	MECP Table 2 Standards (I/C/C)	MW23-01 SA1	MW23-01 SA2
Sample Date		9-Jan-23	9-Jan-23
Sample Depth (mbgs)		1.32 - 1.52	1.32 - 1.52
Parameters Analyzed		Metals	
Arsenic	18	20	2
Vanadium	86	25.6	**118**

Sample ID	MECP Table 2 Standards (I/C/C)	MW23-03 SA1	MW23-03 SA2	DUP-1
Sample Date		9-Jan-23	9-Jan-23	9-Jan-23
Sample Depth (mbgs)		0.91 - 1.52	2.29 - 3.05	2.29 - 3.05
Parameters Analyzed		Metals		
Vanadium	86	8.8	**101**	**117**

Sample ID	MECP Table 2 Standards (I/C/C)	MW23-02 SA1
Sample Date		9-Jan-23
Sample Depth (mbgs)		1.27 - 1.52
Parameters Analyzed		Metals
Sample complies with MECP Table 2 Standards (I/C/C) for Metals		

MW23-01
MW23-02
MW23-03
TP23-01
TP23-02
FRANK KENNY ROAD

389900
390000
390100
5032500
5032400
5032300

LEGEND

- APPROXIMATE BOREHOLE/MONITORING WELL LOCATION
- APPROXIMATE TEST PIT LOCATION
- ALL SAMPLES MEET MECP TABLE 2 STANDARDS
- ONE OR MORE SAMPLES EXCEEDS MECP TABLE 2 STANDARDS
- ROADWAY
- PHASE TWO PROPERTY BOUNDARY

NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE

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

0 10 20 40
1:1,000 METRES

CLIENT
J.L. RICHARDS & ASSOCIATES LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
HYDRO ONE ORLEANS OC, PHASE 2
3440 FRANK KENNY ROAD, OTTAWA, ONTARIO

TITLE
METALS ANALYSIS AND EXCEEDANCES IN SOIL

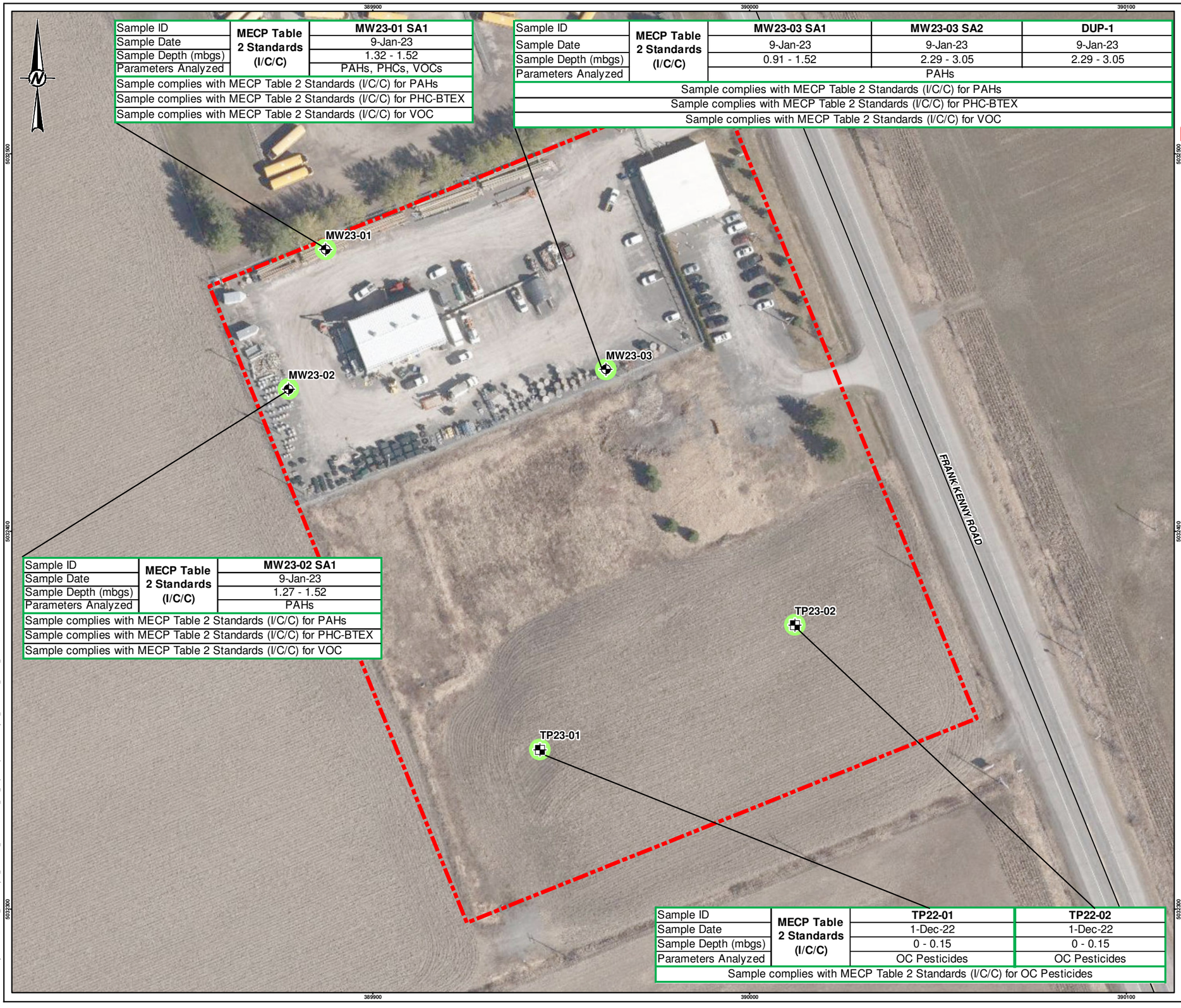
CONSULTANT

YYYY-MM-DD	2023-02-13
DESIGNED	----
PREPARED	JEM
REVIEWED	PJ
APPROVED	KPH

PROJECT No.	CONTROL	REV.	FIGURE
21493887	0004	0	**5**

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

Path: S:\Clients\HydroOne\3406-3460_FrankKennyRd_Ottawa\99_PROJ\21493887_JLR_ProposedOperationsFacility40_PROD\0004_PhaseII_ESA\21493887-0004-HS-0005.mxd



Sample ID	MECP Table 2 Standards (I/C/C)	MW23-01 SA1
Sample Date		9-Jan-23
Sample Depth (mbgs)		1.32 - 1.52
Parameters Analyzed		PAHs, PHCs, VOCs
Sample complies with MECP Table 2 Standards (I/C/C) for PAHs		
Sample complies with MECP Table 2 Standards (I/C/C) for PHC-BTEX		
Sample complies with MECP Table 2 Standards (I/C/C) for VOC		

Sample ID	MECP Table 2 Standards (I/C/C)	MW23-03 SA1	MW23-03 SA2	DUP-1
Sample Date		9-Jan-23	9-Jan-23	9-Jan-23
Sample Depth (mbgs)		0.91 - 1.52	2.29 - 3.05	2.29 - 3.05
Parameters Analyzed		PAHs		
Sample complies with MECP Table 2 Standards (I/C/C) for PAHs				
Sample complies with MECP Table 2 Standards (I/C/C) for PHC-BTEX				
Sample complies with MECP Table 2 Standards (I/C/C) for VOC				

Sample ID	MECP Table 2 Standards (I/C/C)	MW23-02 SA1
Sample Date		9-Jan-23
Sample Depth (mbgs)		1.27 - 1.52
Parameters Analyzed		PAHs
Sample complies with MECP Table 2 Standards (I/C/C) for PAHs		
Sample complies with MECP Table 2 Standards (I/C/C) for PHC-BTEX		
Sample complies with MECP Table 2 Standards (I/C/C) for VOC		

Sample ID	MECP Table 2 Standards (I/C/C)	TP22-01	TP22-02
Sample Date		1-Dec-22	1-Dec-22
Sample Depth (mbgs)		0 - 0.15	0 - 0.15
Parameters Analyzed		OC Pesticides	OC Pesticides
Sample complies with MECP Table 2 Standards (I/C/C) for OC Pesticides			

LEGEND

- APPROXIMATE BOREHOLE/MONITORING WELL LOCATION
- APPROXIMATE TEST PIT LOCATION
- ALL SAMPLES MEET MECP TABLE 2 STANDARDS
- ROADWAY
- PHASE TWO PROPERTY BOUNDARY

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

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

0 10 20 40
1:1,000 METRES

CLIENT
J.L. RICHARDS & ASSOCIATES LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
HYDRO ONE ORLEANS OC, PHASE 2
3440 FRANK KENNY ROAD, OTTAWA, ONTARIO

TITLE
PHC, PAH, AND VOC ANALYSIS AND EXCEEDANCES IN SOIL

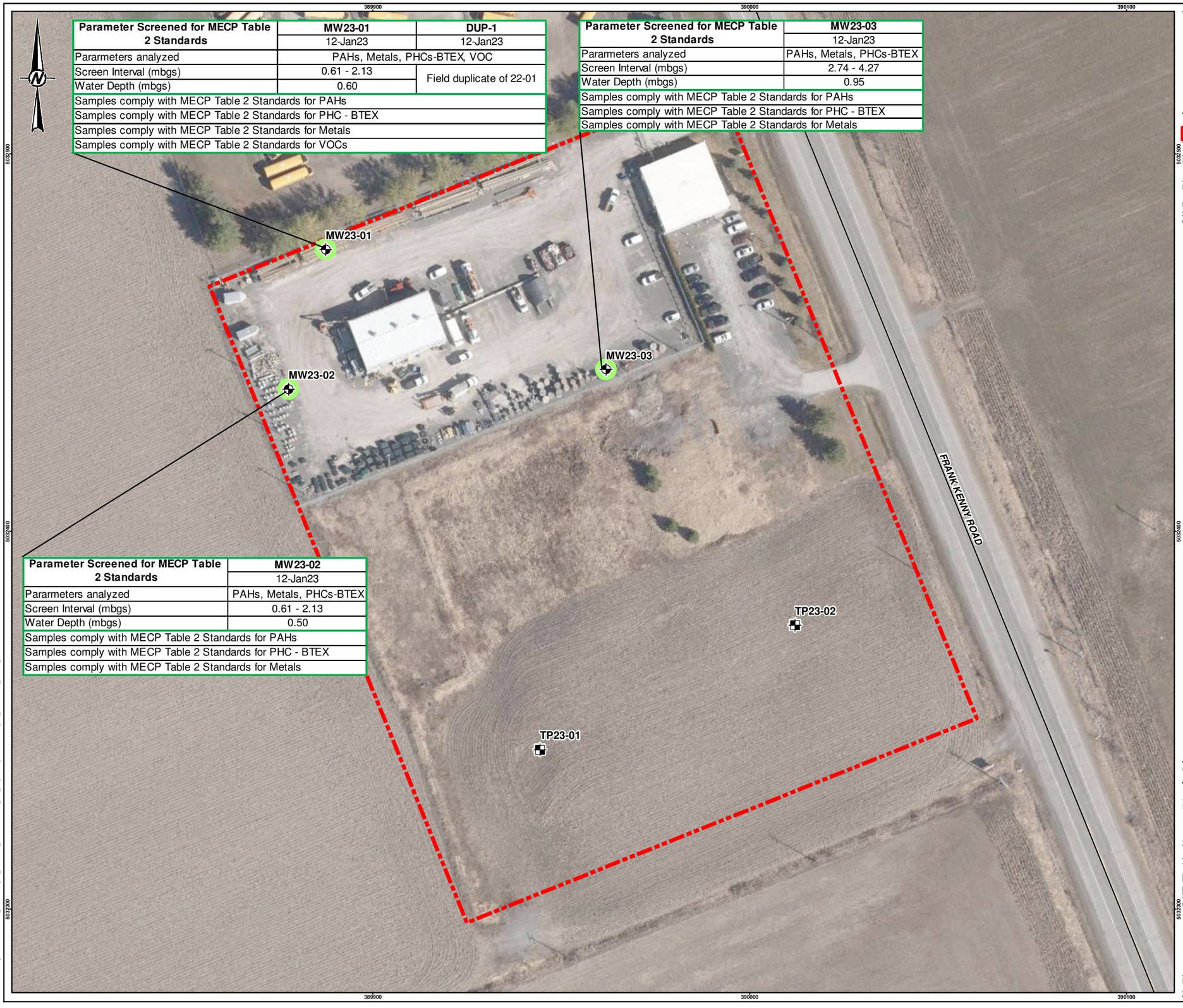
CONSULTANT

YYYY-MM-DD	2023-02-13
DESIGNED	----
PREPARED	JEM
REVIEWED	PJ
APPROVED	KPH

PROJECT No.	CONTROL	REV.	FIGURE
21493887	0004	0	6

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

Path: S:\Clients\HydroOne\3406-3460_FrankKennyRd_Ottawa\99_PROJ\21493887_JLR_Proposed\OperationsFacility\40_PROD\0004_Phase\I_ESA\21493887-0004-HS-0006.mxd



Parameter Screened for MECP Table 2 Standards	MW23-01	DUP-1
	12-Jan23	12-Jan23
Pararmeters analyzed	PAHs, Metals, PHCs-BTEX, VOC	
Screen Interval (mbgs)	0.61 - 2.13	Field duplicate of 22-01
Water Depth (mbgs)	0.60	
Samples comply with MECP Table 2 Standards for PAHs		
Samples comply with MECP Table 2 Standards for PHC - BTEX		
Samples comply with MECP Table 2 Standards for Metals		
Samples comply with MECP Table 2 Standards for VOCs		

Parameter Screened for MECP Table 2 Standards	MW23-03
	12-Jan23
Pararmeters analyzed	PAHs, Metals, PHCs-BTEX
Screen Interval (mbgs)	2.74 - 4.27
Water Depth (mbgs)	0.95
Samples comply with MECP Table 2 Standards for PAHs	
Samples comply with MECP Table 2 Standards for PHC - BTEX	
Samples comply with MECP Table 2 Standards for Metals	

Parameter Screened for MECP Table 2 Standards	MW23-02
	12-Jan23
Pararmeters analyzed	PAHs, Metals, PHCs-BTEX
Screen Interval (mbgs)	0.61 - 2.13
Water Depth (mbgs)	0.50
Samples comply with MECP Table 2 Standards for PAHs	
Samples comply with MECP Table 2 Standards for PHC - BTEX	
Samples comply with MECP Table 2 Standards for Metals	

LEGEND

- APPROXIMATE BOREHOLE/MONITORING WELL LOCATION
- APPROXIMATE TEST PIT LOCATION
- ALL SAMPLES MEET MECP TABLE 2 STANDARDS
- ROADWAY
- PHASE TWO PROPERTY BOUNDARY

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

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

0 10 20 40
1:1,000 METRES

CLIENT
J.L. RICHARDS & ASSOCIATES LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
HYDRO ONE ORLEANS OC, PHASE 2
3440 FRANK KENNY ROAD, OTTAWA, ONTARIO

TITLE
METALS, PHC, PAH, AND VOC ANALYSIS AND EXCEEDANCES IN GROUNDWATER

CONSULTANT

YYYY-MM-DD	2023-02-13
DESIGNED	----
PREPARED	JEM
REVIEWED	PJ
APPROVED	KPH

PROJECT No.	CONTROL	REV.	FIGURE
21493887	0004	0	7

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

Path: S:\Clients\HydroOne\3406-3460_FrankKennyRd_Ottawa\99_PROJ\21493887_JLR_Proposed\OperationsFacility\40_PROD\0004_Phase\II_ESA\21493887-0004-HS-0007.mxd

LEGEND

- APPROXIMATE BOREHOLE/MONITORING WELL LOCATION
- APPROXIMATE TEST PIT LOCATION
- ROADWAY
- PHASE TWO PROPERTY BOUNDARY
- 0.60 GROUNDWATER, mbToP
- 98.660 GROUNDWATER ELEVATION, mASL
- 99.347 GROUND SURFACE ELEVATION, mASL
- 99.255 TOP OF PIPE ELEVATION, mASL

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE
2. METRES BELOW TOP OF PIPE (mbToP)
3. METRES ABOVE SEAL LEVEL (mASL)
4. MONITORING WELL 23-02 WAS UNABLE TO BE SURVEYED AS OBSTRUCTIONS COVERED THE WELL
5. WATER ELEVATIONS COLLECTED JANUARY 12th, 2023

REFERENCE(S)

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

0 10 20 40
1:1,000 METRES

CLIENT
J.L. RICHARDS & ASSOCIATES LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
HYDRO ONE ORLEANS OC, PHASE 2
3440 FRANK KENNY ROAD, OTTAWA, ONTARIO

TITLE
GROUNDWATER ELEVATIONS AND INTERPRETED GROUNDWATER FLOW DIRECTION

CONSULTANT

YYYY-MM-DD	2023-02-24
DESIGNED	----
PREPARED	JEM
REVIEWED	PJ
APPROVED	KPH

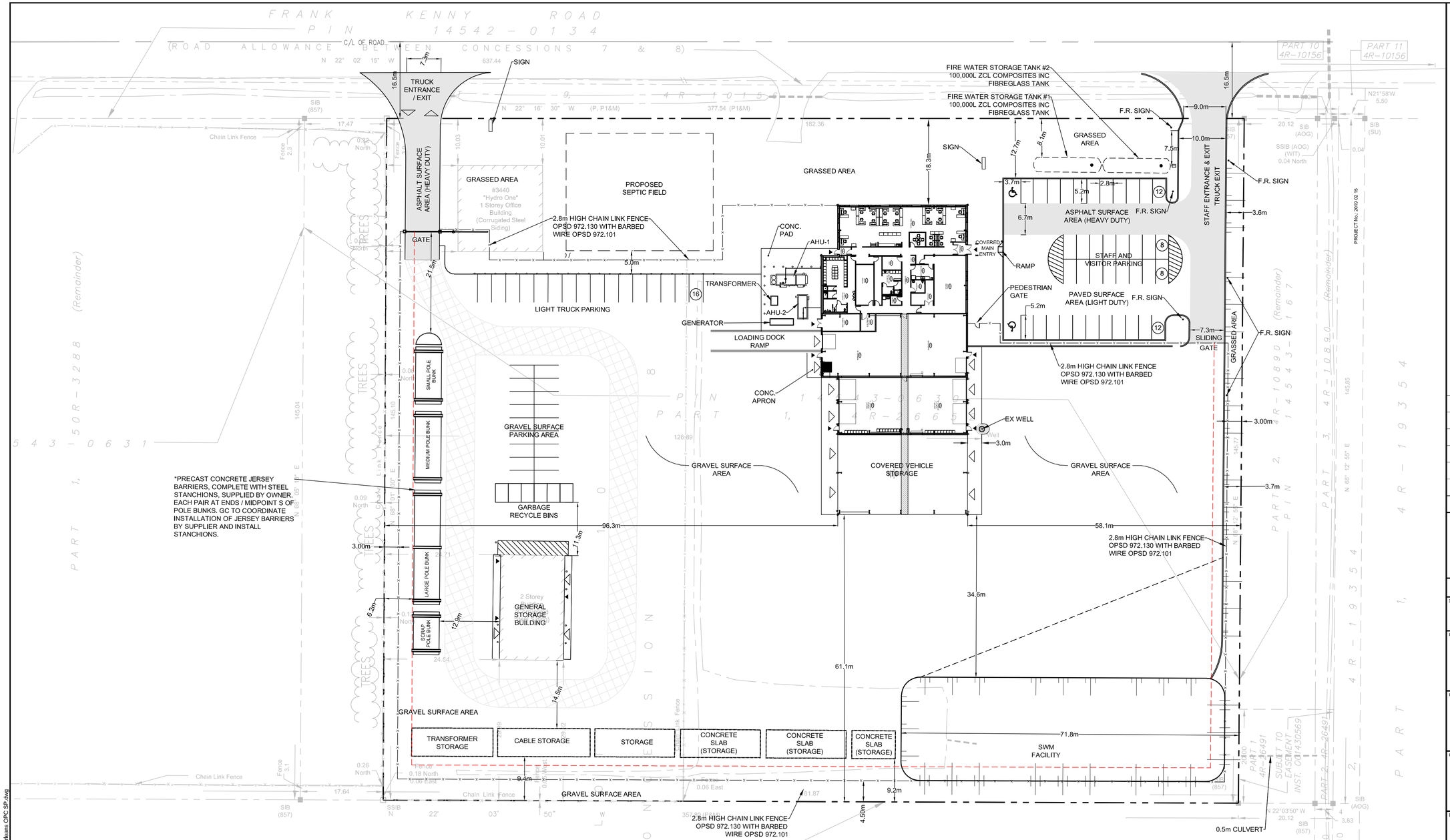
PROJECT No.	CONTROL	REV.	FIGURE
21493887	0004	0	**8**

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

Path: S:\Clients\HydroOne\3436-3450_FrankKennyRd_Ottawa\99_PROJ\21493887_JLR_ProposedOperationsFacility\40_PROD\0004_PhaseII_ESA\21493887-0004-HS-0008.mxd

APPENDIX A

Plan of Survey



MUNICIPAL ADDRESS: 3440 FRANK KENNY ROAD

LEGAL DESCRIPTION: CON 8 PT LOT 9 & 10 RP;50R-3288 PART 1 LESS RP;4R-10156 PTS 9 & 10 RP;4R-10890 PART 1

PART 13 – RURAL ZONES

ZONING – RH[35r], RURAL HEAVY INDUSTRIAL, EXCEPTION 35

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	MOUNTING HEIGHT	MOUNTING TYPE
A	LED AREA LIGHTING - FULL CUT OFF SPAULDING LIGHTING - CIMARRON SERIES (LED) (CL1-MAF-90L-U-5K-4-PS-105)	9.1 m	POLE MOUNTED (DIRECT BURIED WOODEN POLE C/W 1.2m MOUNTING BRACKET)
B	LED AREA LIGHTING - FULL CUT OFF SPAULDING LIGHTING - CIMARRON SERIES (LED) (CL1-MAF-30L-U-5K-3-PS)	9.1 m	POLE MOUNTED (DIRECT BURIED WOODEN POLE C/W 1.2m MOUNTING BRACKET)
C	LED BUILDING LIGHTING - FULL CUT OFF HUBBELL LIGHTING - LAREDO SERIES (LED) (LMC-LED-18LU-5K-P-TL)	5.0 m	WALL MOUNTED

MINIMUM PARKING SPACE RATES

USE - AREA D (RURAL AREA)	REQUIRED	PROVIDED
OFFICE = 2.4:100 sq m OF GFA 327.5 sq m	8	
STORAGE YARD = 1:100 sq m GFA 1,553 sq m	16	
WAREHOUSE = 0.8 PER 100 sq m of GFA 300 sq m	2	
TOTAL	26	

BICYCLE PARKING SPACE RATES

USE	REQUIRED	PROVIDED
OFFICE: 1 PER 250 sq m / (327.5 sq m)	1	2
STORAGE YARD: 1 per 2000 sq m / (1,533 sq m)	1	
WAREHOUSE: 1 PER 2000 sq m / (300 sq m)	0.15	
TOTAL	2	2

ZONING INFORMATION CHART

ZONE PROVISIONS - RH [35r]	REQUIRED	PROVIDED
LOT WIDTH (MIN)	50m	181.87m
LOT AREA (MIN)	8,000m²	26,480m²
FRONT YARD SETBACK (MIN)	10m	
REAR YARD SETBACK (MIN)	15m	
INTERIOR SIDE YARD SETBACK (MIN)	10m	
MAX PRINCIPAL BUILDING HEIGHT (MIN)	15m	
MAX LOT COVERAGE	50%	
OUTDOOR STORAGE	a) NOT WITHIN ANY REQUIRED FRONT YARD b) SCREENED FROM ABUTTING PUBLIC STREET BY AN OPAQUE SCREEN AT LEAST 1.8m IN HEIGHT	

- ▲ PEDESTRIAN DOOR LOCATION (EXIT/ACCESS DOOR)
- △ OVERHEAD DOOR LOCATION
- BARRIER FREE PARKING SPACE
- BARRIER FREE RAMP COMPLETE WITH CURB DEPRESSION
- (40) PARKING COUNT
- • BOLLARDS TYP.
- PROPERTY LIMITS

No.	ISSUE / REVISION	DD/MM/YY

SCALE: 1:400

CLIENT: hydro one

CONSULTANT:

CONSULTANT:

PROFESSIONAL STAMP

PROFESSIONAL STAMP

PROJECT:

ORLÉANS OPERATIONS SERVICE CENTRE

3440 FRANK KENNY ROAD, OTTAWA

DRAWING:

SITE PLAN

DESIGN: MR	
DRAWN: KTK	DRAWING #:
CHECKED: MF	SP
JLR #: 31500	

PLOT DATE: Friday, March 11, 2022 3:39:14 PM

File Location: P:\31000\31500-000 - HONI Orleans OPC\3-Production\7-Plan\31500-000 - HONI Orleans OPC SP.dwg

APPENDIX B

Sampling and Analysis Plan

MEMORANDUM

DATE January 2023 **Project No.** 21493887

2023 FIELD DRILLING AND SAMPLING INSTRUCTIONS – 3440 FRANK KENNY

Health and Safety

Please review the HASEP on SharePoint.

- As the site is located in a truck yard, traffic is the main hazard associated with most tasks.
- Drilling is occurring which is the biggest hazard besides trucks in the yard.
- If you need traffic control equipment, do not hesitate to call BeaconLite and ask them to deliver it as soon as they can.
- Check in upon arrival and departure from site each day with Phil Chevrette (613-297-9555)

Scope of Work

Drilling

The scope of work for this field program includes the following:

Logging and sampling soil from three boreholes with following details:

- Check in at the Hydro main door when you arrive and let them know you are from WSP, and that you will be drilling the wells in the yard.
- Drilling to be performed until water table is straddled (estimated to be within overburden).
- Sampling frequency of two (2) feet.
- Standard proctor test or similar, no blow counts needed.
- Bring samples to lab for analysis of PHCs and BETX, PAHs, Metals.
- Take one duplicate sample.
- Get head space reading with PID for every sample.

Surveying

The scope of work for this field program includes the following:

- Check in at the Hydro main door when you arrive and let them know you are from WSP, and that you will be surveying the wells in the yard.
- Using laser level, capture one reference point of 100 masl, then capture the elevations of top of pipe and ground surface for every well installed.
- Take at least one turning point and remeasure beginning point, you should have less than 5mm difference.

WSP Canada Inc.
1931 Robertson Road, Ottawa, Ontario, K2H 5B7, Canada T: +1 613 592 9600 F: +1 613 592 9601

Test Pitting

The scope of work for this field program includes the following:

- Take two (2) test pits in adjacent field and submit for OC pesticides.

Ground Water Sampling

The scope of work for this field program includes the following:

Documenting and sampling groundwater from three wells with following details:

- Check in at the Hydro main door when you arrive and let them know you are from WSP, and that you will be sampling the wells in the yard.
- Purge at least ten well volumes to develop the wells and wait 24 hours before sampling.
- Collect samples with LoFlow methods after parameters stabilize.
- Bring samples to lab for analysis of PHCs and BETX, PAHs, Metals.
- Take one duplicate sample.

Field Cleaning

- Clean water level probe with rinse of Alconox Solution then distilled water after every water level.

The project is: 21493887.

- If any of the wells are dry or inaccessible, please contact Phil Chevrette or James Doyle.
- Please also keep detailed notes.

Equipment Required

Required equipment (to be ordered from Maxim Environmental) includes:

- 1 interface probe
- 1 peristaltic pump
- 1 water quality meter with flowthrough cell
- Laser survey equipment
- PID
- Proper PPE

Please see SharePoint for figures.

APPENDIX C

Field Logs

PROJECT: 21493887

LOCATION: N ; E

RECORD OF BOREHOLE: MW22-01

BORING DATE: January 9, 2023

DRILL RIG: Geoprobe 7822DT

SHEET 1 OF 1

DATUM:

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ ND = Not Detected (100 200 300 400) / HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ ND = Not Detected (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT Wp W Wl (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE									
0	Geoprobe 7822DT 60 mm Dual Tube Sampler	FILL - (GP) sandy GRAVEL; dark brown to black		0.00	1A	DO		ND			Bentonite; Silica Sand
1		(CL) SILTY CLAY; brown; wet		1.32	1B						Screen
2					2	DO		ND			Jan 9, 2023
3		END OF BOREHOLE		3.05							
4											
5											
6											
7											
8											
9											
10											

DEPTH SCALE

1 : 50

LOGGED: RF

CHECKED:

GTA-BHS 001 S:\CLIENTS\HYDROONE\3406-3450_FRANKKENNYRD_OTTAWA\02_DATA\GINT\3406-3450_FRANKKENNYRD_OTTAWA.GPJ GAL-MIS.GDT 3/6/23

PROJECT: 21493887

LOCATION: N ; E

RECORD OF BOREHOLE: MW22-02

BORING DATE: January 9, 2023

DRILL RIG: Geoprobe 7822DT

SHEET 1 OF 1

DATUM:

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ ND = Not Detected (100 200 300 400) / HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ ND = Not Detected (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT Wp W Wl (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE									
0	Geoprobe 7822DT; 60 mm Dual Tube Sampler	FILL - (GP) sandy GRAVEL		0.00							Bentonite
1					1A	DO		ND			Silica Sand
		(CL) SILTY CLAY; brown; wet		1.27	1B						Jan 9, 2023
2											Screen
		(CL-ML) SILTY sandy CLAY; brown; wet		2.49	2	DO		ND			
3		END OF BOREHOLE		3.05							
4											
5											
6											
7											
8											
9											
10											

DEPTH SCALE

1 : 50

LOGGED: RF

CHECKED:

GTA-BHS 001 S:\CLIENTS\HYDROONE\3406-3450_FRANKKENNYRD_OTTAWA\02_DATA\GINT\3406-3450_FRANKKENNYRD_OTTAWA.GPJ GAL-MIS.GDT 3/6/23

PROJECT: 21493887

LOCATION: N ; E

RECORD OF BOREHOLE: MW22-03

BORING DATE: January 9, 2023

DRILL RIG: Geoprobe 7822DT

SHEET 1 OF 1

DATUM:

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	BLOWS/0.3m	HEADSPACE COMBUSTIBLE VAPOUR CONCENTRATIONS [PPM] ⊕ ND = Not Detected (100 200 300 400) / HEADSPACE ORGANIC VAPOUR CONCENTRATIONS [PPM] □ ND = Not Detected (100 200 300 400)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT Wp W Wl (10 20 30 40)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE									
	Geoprobe 7822DT 60 mm Dual Tube Sampler	FILL - (GP) sandy GRAVEL		0.00	1	DO		ND			Jan 9, 2023; Bentonite
1					2A						
2		(CL) SILTY CLAY; brown; wet		2.29	2B	DO		ND			Silica Sand
3					3	DO		ND			Screen
4		(CH) CLAY; grey; wet		3.81	4	DO		ND			
		END OF BOREHOLE		4.57							
5											
6											
7											
8											
9											
10											

DEPTH SCALE

1 : 50

LOGGED: RF

CHECKED:

GTA-BHS 001 S:\CLIENTS\HYDROONE\3406-3450_FRANKKENNYRD_OTTAWA\02_DATA\GINT\3406-3450_FRANKKENNYRD_OTTAWA.GPJ GAL-MIS.GDT 3/6/23

APPENDIX D

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: GOLDER ASSOCIATES LTD
1931 ROBERTSON ROAD
OTTAWA, ON K2H5B7
(613) 592-9600
ATTENTION TO: James Doyle; Phill Chevrette
PROJECT: 21493887
AGAT WORK ORDER: 22Z976710
SOIL ANALYSIS REVIEWED BY: Amanjot Bhela, Inorganic Lab Manager
TRACE ORGANICS REVIEWED BY: Radhika Chakraberty, Trace Organics Lab Manager
DATE REPORTED: Dec 09, 2022
PAGES (INCLUDING COVER): 10
VERSION*: 1

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

*Notes

Disclaimer:

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

AGAT Laboratories

5835 COOPERS AVENUE
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CANADA L4Z 1Y2
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Certificate of Analysis

AGAT WORK ORDER: 22Z976710

PROJECT: 21493887

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: James Doyle; Phill Chevrette

SAMPLING SITE:Franh Henny

SAMPLED BY:Philippe Chevrette

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

DATE RECEIVED: 2022-12-02

DATE REPORTED: 2022-12-09

					SAMPLE DESCRIPTION:	TP22-01	TP22-02
					SAMPLE TYPE:	Soil	Soil
					DATE SAMPLED:	2022-12-01 09:00	2022-12-01 09:20
Parameter	**Unit**	**G / S: A**	**G / S: B**	**RDL**		**4585087**	**4585088**
Electrical Conductivity (2:1)	mS/cm	1.4	0.7	0.005		0.142[<B]	0.102[<B]
pH, 2:1 CaCl2 Extraction	pH Units	5.0-9.0	5.0-9.0	NA		6.10	5.94
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	12	5	N/A		0.178[<B]	0.325[<B]

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Soil - Industrial/Commercial/Community Property Use - Coarse Textured Soils, B 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.

4585087-4585088 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 obtained from 2:1 leaching procedure (2 parts extraction fluid:1 part wet soil). SAR is a calculated parameter.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 22Z976710

PROJECT: 21493887

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: James Doyle; Phill Chevrette

SAMPLING SITE:Franh Henny

SAMPLED BY:Philippe Chevrette

O. Reg. 153(511) - OC Pesticides (Soil)

DATE RECEIVED: 2022-12-02

DATE REPORTED: 2022-12-09

					SAMPLE DESCRIPTION:	TP22-01	TP22-02
					SAMPLE TYPE:	Soil	Soil
					DATE SAMPLED:	2022-12-01 09:00	2022-12-01 09:20
Parameter	Unit	G / S: A	G / S: B	RDL		4585087	4585088
Hexachloroethane	µg/g	0.21	0.089	0.005		<0.005[<B]	<0.005[<B]
Gamma-Hexachlorocyclohexane	µg/g	0.056	0.056	0.005		<0.005[<A]	<0.005[<A]
Heptachlor	µg/g	0.19	0.15	0.005		<0.005[<B]	<0.005[<B]
Aldrin	µg/g	0.088	0.05	0.005		<0.005[<B]	<0.005[<B]
Heptachlor Epoxide	µg/g	0.05	0.05	0.005		<0.005[<A]	<0.005[<A]
Endosulfan I	µg/g			0.005		<0.005	<0.005
Endosulfan II	µg/g			0.005		<0.005	<0.005
Endosulfan	µg/g	0.3	0.04	0.005		<0.005[<B]	<0.005[<B]
Alpha-Chlordane	µg/g			0.005		<0.005	<0.005
gamma-Chlordane	µg/g			0.005		<0.005	<0.005
Chlordane	µg/g	0.05	0.05	0.007		<0.007[<A]	<0.007[<A]
op'-DDE	ug/g			0.005		<0.005	<0.005
pp'-DDE	µg/g			0.005		<0.005	<0.005
DDE	µg/g	0.52	0.26	0.007		<0.007[<B]	<0.007[<B]
op'-DDD	µg/g			0.005		<0.005	<0.005
pp'-DDD	µg/g			0.005		<0.005	<0.005
DDD	µg/g	4.6	3.3	0.007		<0.007[<B]	<0.007[<B]
op'-DDT	µg/g			0.005		<0.005	<0.005
pp'-DDT	µg/g			0.005		<0.005	<0.005
DDT (Total)	µg/g	1.4	1.4	0.007		<0.007[<A]	<0.007[<A]
Dieldrin	µg/g	0.088	0.05	0.005		<0.005[<B]	<0.005[<B]
Endrin	µg/g	0.04	0.04	0.005		<0.005[<A]	<0.005[<A]
Methoxychlor	µg/g	1.6	0.13	0.005		<0.005[<B]	<0.005[<B]
Hexachlorobenzene	µg/g	0.66	0.52	0.005		<0.005[<B]	<0.005[<B]
Hexachlorobutadiene	µg/g	0.031	0.012	0.01		<0.01[<B]	<0.01[<B]
Moisture Content	%			0.1		25.5	31.7
wet weight OC	g			0.01		10.52	10.43

Certified By: R. Chakraberty

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Certificate of Analysis

AGAT WORK ORDER: 22Z976710

PROJECT: 21493887

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: James Doyle; Phill Chevrette

SAMPLING SITE:Franh Henny

SAMPLED BY:Philippe Chevrette

O. Reg. 153(511) - OC Pesticides (Soil)

DATE RECEIVED: 2022-12-02

DATE REPORTED: 2022-12-09

			SAMPLE DESCRIPTION:	TP22-01	TP22-02
			SAMPLE TYPE:	Soil	Soil
			DATE SAMPLED:	2022-12-01 09:00	2022-12-01 09:20
Surrogate	Unit	Acceptable Limits		4585087	4585088
TCMX	%	50-140		104	105
Decachlorobiphenyl	%	50-140		105	105

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Soil - Industrial/Commercial/Community Property Use - Coarse Textured Soils, B 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.

4585087-4585088 Results are based on the dry weight of the soil.
DDT total is a calculated parameter. The calculated value is the sum of op'DDT and pp'DDT.
DDD total is a calculated parameter. The calculated value is the sum of op'DDD and pp'DDD.
DDE total is a calculated parameter. The calculated value is the sum of op'DDE and pp'DDE.
Endosulfan total is a calculated parameter. The calculated value is the sum of Endosulfan I and Endosulfan II.
Chlordane total is a calculated parameter. The calculated value is the sum of Alpha-Chlordane and Gamma-Chlordane.
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: R. Chakraberty

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CANADA L4Z 1Y2
TEL (905)712-5100
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Quality Assurance

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 22Z976710

PROJECT: 21493887

ATTENTION TO: James Doyle; Phill Chevrette

SAMPLING SITE:Franh Henny

SAMPLED BY:Philippe Chevrette

Soil Analysis

RPT Date: Dec 09, 2022			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - ORPs (Soil)															
Electrical Conductivity (2:1)	4591363		0.304	0.302	0.7%	< 0.005	114%	80%	120%	NA			NA		
pH, 2:1 CaCl2 Extraction	4583891		7.62	7.71	1.2%	NA	100%	80%	120%	NA			NA		
Sodium Adsorption Ratio (2:1) (Calc.)	4591424		2.20	2.24	1.8%	N/A	NA			NA			NA		

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:

Amanjot Bhela

ASSOCIATION OF THE CHEMICAL PROFESSION OF ONTARIO
CHARTERED
AMANJOT BHELA
CHEMIST

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

Quality Assurance

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 22Z976710

PROJECT: 21493887

ATTENTION TO: James Doyle; Phill Chevrette

SAMPLING SITE:Franh Henny

SAMPLED BY:Philippe Chevrette

Trace Organics Analysis

RPT Date: Dec 09, 2022			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - OC Pesticides (Soil)															
Hexachloroethane	4585088	4585088	< 0.005	< 0.005	NA	< 0.005	104%	50%	140%	106%	50%	140%	87%	50%	140%
Gamma-Hexachlorocyclohexane	4585088	4585088	< 0.005	< 0.005	NA	< 0.005	119%	50%	140%	108%	50%	140%	86%	50%	140%
Heptachlor	4585088	4585088	< 0.005	< 0.005	NA	< 0.005	107%	50%	140%	100%	50%	140%	105%	50%	140%
Aldrin	4585088	4585088	< 0.005	< 0.005	NA	< 0.005	103%	50%	140%	103%	50%	140%	83%	50%	140%
Heptachlor Epoxide	4585088	4585088	< 0.005	< 0.005	NA	< 0.005	105%	50%	140%	105%	50%	140%	87%	50%	140%
Endosulfan I	4585088	4585088	< 0.005	< 0.005	NA	< 0.005	108%	50%	140%	98%	50%	140%	88%	50%	140%
Endosulfan II	4585088	4585088	< 0.005	< 0.005	NA	< 0.005	109%	50%	140%	97%	50%	140%	86%	50%	140%
Alpha-Chlordane	4585088	4585088	< 0.005	< 0.005	NA	< 0.005	108%	50%	140%	99%	50%	140%	80%	50%	140%
gamma-Chlordane	4585088	4585088	< 0.005	< 0.005	NA	< 0.005	109%	50%	140%	100%	50%	140%	81%	50%	140%
op'-DDE	4585088	4585088	< 0.005	< 0.005	NA	< 0.005	98%	50%	140%	98%	50%	140%	103%	50%	140%
pp'-DDE	4585088	4585088	< 0.005	< 0.005	NA	< 0.005	86%	50%	140%	99%	50%	140%	83%	50%	140%
op'-DDD	4585088	4585088	< 0.005	< 0.005	NA	< 0.005	82%	50%	140%	92%	50%	140%	88%	50%	140%
pp'-DDD	4585088	4585088	< 0.005	< 0.005	NA	< 0.005	85%	50%	140%	94%	50%	140%	89%	50%	140%
op'-DDT	4585088	4585088	< 0.005	< 0.005	NA	< 0.005	85%	50%	140%	89%	50%	140%	82%	50%	140%
pp'-DDT	4585088	4585088	< 0.005	< 0.005	NA	< 0.005	96%	50%	140%	100%	50%	140%	86%	50%	140%
Dieldrin	4585088	4585088	< 0.005	< 0.005	NA	< 0.005	106%	50%	140%	102%	50%	140%	81%	50%	140%
Endrin	4585088	4585088	< 0.005	< 0.005	NA	< 0.005	88%	50%	140%	99%	50%	140%	105%	50%	140%
Methoxychlor	4585088	4585088	< 0.005	< 0.005	NA	< 0.005	85%	50%	140%	112%	50%	140%	86%	50%	140%
Hexachlorobenzene	4585088	4585088	< 0.005	< 0.005	NA	< 0.005	97%	50%	140%	108%	50%	140%	94%	50%	140%
Hexachlorobutadiene	4585088	4585088	< 0.01	< 0.01	NA	< 0.01	109%	50%	140%	107%	50%	140%	95%	50%	140%

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

Certified By: R. Chakraberty

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
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Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 22Z976710

PROJECT: 21493887

ATTENTION TO: James Doyle; Phill Chevrette

SAMPLING SITE:Franh Henny

SAMPLED BY:Philippe Chevrette

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Electrical Conductivity (2:1)	INOR-93-6075	modified from MSA PART 3, CH 14 and SM 2510 B	PC TITRATE
pH, 2:1 CaCl2 Extraction	INOR-93-6075	modified from EPA 9045D, MCKEAGUE 3.11 E3137	PC TITRATE
Sodium Adsorption Ratio (2:1) (Calc.)	INOR-93-6007	modified from EPA 6010D & Analytical Protocol	ICP/OES

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Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 22Z976710

PROJECT: 21493887

ATTENTION TO: James Doyle; Phill Chevrette

SAMPLING SITE:Franh Henny

SAMPLED BY:Philippe Chevrette

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Hexachloroethane	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Gamma-Hexachlorocyclohexane	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Heptachlor	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Aldrin	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Heptachlor Epoxide	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Endosulfan I	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Endosulfan II	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Endosulfan	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	CALCULATION
Alpha-Chlordane	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
gamma-Chlordane	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Chlordane	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	CALCULATION
op'-DDE	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
pp'-DDE	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
DDE	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
op'-DDD	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
pp'-DDD	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
DDD	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	CALCULATION
op'-DDT	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
pp'-DDT	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
DDT (Total)	ORG-91-5113	modified from EPA 3570, 3620C & 8081B	CALCULATION
Dieldrin	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Endrin	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Methoxychlor	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Hexachlorobenzene	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Hexachlorobutadiene	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
TCMX	ORG-91-5112	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Decachlorobiphenyl	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Moisture Content	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE

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MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
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Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 22Z976710

PROJECT: 21493887

ATTENTION TO: James Doyle; Phill Chevrette

SAMPLING SITE:Franh Henny

SAMPLED BY:Philippe Chevrette

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
wet weight OC	ORG-91-5113		BALANCE

(no bag, will get wet if in cooler)

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Mississauga, Ontario L4Z 1Y2
Ph: 905.712.5100 Fax: 905.712.5122
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Laboratory Use Only

Work Order #: 22Z976710

Cooler Quantity: one - ice packs

Arrival Temperatures: 8.7 | 8.6 | 8.5 ; 6.3 | 7.1 | 6.9

Custody Seal Intact: ☐Yes ☐No ☐N/A

Notes:

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: GAL

Company:

Contact: James Doyle /phil Chevette

Address: 1931 Robertson Rd.

Phone: Fax:

Reports to be sent to:

1. Email: philippe.chevette@wsp.com
2. Email: James.Doyle@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: 21493887

Site Location: French Henry

Sampled By: Philippe Chevette

AGAT ID #: PO:

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

Sample Matrix Legend

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

Invoice Information:

Bill To Same: Yes ☑ No ☐

Company:

Contact:

Address:

Email:

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	PAHs	Total PCBs ☐ Aroclor	VOC	O. Reg 558: Landfill Disposal Characterization TCLP: TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	pH	OC Pesticides					Potentially Hazardous or High Concentration (Y/N)
TP22-01	01/12/22	9:00 AM/PM	4	S	only use whats	N											X	X	X					
TP22-02	01/12/22	9:20 AM/PM	4	S	needed took extra	N											X	X	X					
		AM PM																						
		AM PM																						
		AM PM																						
		AM PM																						
		AM PM																						
		AM PM																						
		AM PM																						
		AM PM																						
		AM PM																						

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Philippe Chevette	01/12/22	5:25	C. Cantin	DEC 0 2 2022	8h10
C. Cantin	DEC 0 2 2022	6h00	A. [illegible]		

'22 DEC 3 10:44 AM

Page 1 of 1

Nº: T 122819

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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: James Doyle
PROJECT: 21493887
AGAT WORK ORDER: 23T990281
SOIL ANALYSIS REVIEWED BY: Amanjot Bhela, Inorganic Lab Manager
DATE REPORTED: Jan 31, 2023
PAGES (INCLUDING COVER): 7
VERSION*: 1

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

*Notes

AGAT Laboratories

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MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
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FAX (905)712-5122
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Certificate of Analysis

AGAT WORK ORDER: 23T990281
PROJECT: 21493887

CLIENT NAME: WSP CANADA INC.
SAMPLING SITE:3440 Frank Kennedy Rd.

ATTENTION TO: James Doyle
SAMPLED BY:Ryan Francis

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

DATE RECEIVED: 2023-01-20

DATE REPORTED: 2023-01-31

		SAMPLE DESCRIPTION:		MW23-01_SA2
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2023-01-21 13:50
Parameter	Unit	G / S	RDL	4705664
Antimony	µg/g	40	0.8	<0.8
Arsenic	µg/g	18	1	2
Barium	µg/g	670	2.0	498
Beryllium	µg/g	8	0.4	0.9
Boron	µg/g	120	5	7
Boron (Hot Water Soluble)	µg/g	2	0.10	0.14
Cadmium	µg/g	1.9	0.5	<0.5
Chromium	µg/g	160	5	125
Cobalt	µg/g	80	0.5	25.3
Copper	µg/g	230	1.0	44.5
Lead	µg/g	120	1	9
Molybdenum	µg/g	40	0.5	<0.5
Nickel	µg/g	270	1	70
Selenium	µg/g	5.5	0.8	<0.8
Silver	µg/g	40	0.5	<0.5
Thallium	µg/g	3.3	0.5	<0.5
Uranium	µg/g	33	0.50	0.85
Vanadium	µg/g	86	0.4	118
Zinc	µg/g	340	5	139
Chromium, Hexavalent	µg/g	8	0.2	<0.2
Cyanide, WAD	µg/g	0.051	0.040	<0.040
Mercury	µg/g	3.9	0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	1.4	0.005	0.566
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	12	N/A	0.800
pH, 2:1 CaCl2 Extraction	pH Units	5.0-9.0	NA	7.03

Certified By:

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CANADA L4Z 1Y2
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Certificate of Analysis

AGAT WORK ORDER: 23T990281

PROJECT: 21493887

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: James Doyle

SAMPLING SITE:3440 Frank Kennedy Rd.

SAMPLED BY:Ryan Francis

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

DATE RECEIVED: 2023-01-20

DATE REPORTED: 2023-01-31

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 - Industrial/Commercial/Community Property Use - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

4705664 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:

Amanjot Bhela

ASSOCIATION OF THE CHEMICAL PROFESSION OF ONTARIO
CHARTERED
AMANJOT BHELA
CHEMIST

AGAT Laboratories

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CANADA L4Z 1Y2
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Exceedance Summary

AGAT WORK ORDER: 23T990281

PROJECT: 21493887

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: James Doyle

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
4705664	MW23-01_SA2	ON T3 S ICC CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Vanadium	µg/g	86	118

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
AGAT WORK ORDER: 23T990281
PROJECT: 21493887
ATTENTION TO: James Doyle
SAMPLING SITE:3440 Frank Kennedy Rd.
SAMPLED BY:Ryan Francis

Soil Analysis

RPT Date: Jan 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	4710807		<0.8	<0.8	NA	< 0.8	117%	70%	130%	83%	80%	120%	88%	70%	130%
Arsenic	4710807		3	3	NA	< 1	120%	70%	130%	96%	80%	120%	102%	70%	130%
Barium	4710807		96.1	92.1	4.3%	< 2.0	107%	70%	130%	102%	80%	120%	103%	70%	130%
Beryllium	4710807		0.5	0.4	NA	< 0.4	95%	70%	130%	103%	80%	120%	101%	70%	130%
Boron	4710807		18	15	NA	< 5	84%	70%	130%	107%	80%	120%	96%	70%	130%
Boron (Hot Water Soluble)	4710807		1.12	1.10	1.8%	< 0.10	99%	60%	140%	104%	70%	130%	104%	60%	140%
Cadmium	4710807		<0.5	<0.5	NA	< 0.5	89%	70%	130%	106%	80%	120%	111%	70%	130%
Chromium	4710807		29	29	0.0%	< 5	97%	70%	130%	111%	80%	120%	106%	70%	130%
Cobalt	4710807		4.7	4.4	6.6%	< 0.5	105%	70%	130%	104%	80%	120%	103%	70%	130%
Copper	4710807		11.3	12.8	12.4%	< 1.0	101%	70%	130%	105%	80%	120%	104%	70%	130%
Lead	4710807		15	13	14.3%	< 1	109%	70%	130%	104%	80%	120%	98%	70%	130%
Molybdenum	4710807		1.0	1.2	NA	< 0.5	117%	70%	130%	109%	80%	120%	115%	70%	130%
Nickel	4710807		11	11	0.0%	< 1	109%	70%	130%	107%	80%	120%	100%	70%	130%
Selenium	4710807		<0.8	<0.8	NA	< 0.8	98%	70%	130%	106%	80%	120%	109%	70%	130%
Silver	4710807		<0.5	<0.5	NA	< 0.5	109%	70%	130%	103%	80%	120%	95%	70%	130%
Thallium	4710807		<0.5	<0.5	NA	< 0.5	103%	70%	130%	101%	80%	120%	102%	70%	130%
Uranium	4710807		0.77	0.74	NA	< 0.50	117%	70%	130%	98%	80%	120%	110%	70%	130%
Vanadium	4710807		26.1	25.5	2.3%	< 0.4	121%	70%	130%	116%	80%	120%	111%	70%	130%
Zinc	4710807		62	57	8.4%	< 5	106%	70%	130%	108%	80%	120%	100%	70%	130%
Chromium, Hexavalent	4705483		<0.2	<0.2	NA	< 0.2	99%	70%	130%	85%	80%	120%	95%	70%	130%
Cyanide, WAD	4715810		<0.040	<0.040	NA	< 0.040	104%	70%	130%	95%	80%	120%	99%	70%	130%
Mercury	4710807		<0.10	<0.10	NA	< 0.10	117%	70%	130%	101%	80%	120%	102%	70%	130%
Electrical Conductivity (2:1)	4708507		0.060	0.054	10.5%	< 0.005	82%	80%	120%						
Sodium Adsorption Ratio (2:1) (Calc.)	4708507		0.013	0.013	0.0%	NA									
pH, 2:1 CaCl2 Extraction	4705483		6.98	7.18	2.8%	NA	99%	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:

AGAT Laboratories

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MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
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FAX (905)712-5122
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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23T990281

PROJECT: 21493887

ATTENTION TO: James Doyle

SAMPLING SITE:3440 Frank Kennedy Rd.

SAMPLED BY:Ryan Francis

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

small 4.6
loose ice

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 #: 23T990281

Cooler Quantity: one - bag ice ice

Arrival Temperatures: 1.5 1.5 1.5

Custody Seal Intact: ☐ Yes ☐ No ☐ N/A

Notes:

Report Information:

Company: WSP
Contact: James Doyle
Address:
Phone: Fax:
Reports to be sent to:
1. Email: James.Doyle@wsp.com
2. Email: Philippe.Chevrette@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)

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: 2149 3887
Site Location: 3490 Frank Kenny Rd.
Sampled By: Ryan Francis
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

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	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)
MW22-01 SA2	Jan 9/23	1:50 PM	1	S			✓	✓										
		AM PM																
		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): Ryan Francis	Jan 20/23	3:39	Samples Received By (Print Name and Sign): C. Griffith	JAN 20 2023	15h41	
Samples Relinquished By (Print Name and Sign):	JAN 20 2023	16h00	Samples Received By (Print Name and Sign): GWYNET V	01/21/23	10:30A	Page 1 of 1
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time	N°: T 122900

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MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
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CLIENT NAME: WSP CANADA INC.
1931 ROBERTSON ROAD
OTTAWA, ON K2H5B7
(613) 592-9600

ATTENTION TO: James Doyle

PROJECT: 21493887

AGAT WORK ORDER: 23Z987502

SOIL ANALYSIS REVIEWED BY: Nivine Basily, Inorganics Report Writer

TRACE ORGANICS REVIEWED BY: Pinkal Patel, Report Reviewer

DATE REPORTED: Feb 09, 2023

PAGES (INCLUDING COVER): 18

VERSION*: 2

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

*Notes

VERSION 2:Revised report with sample ID updated. 02/09
VERSION 1:Criteria revised as per request. 01/20

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http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 23Z987502

PROJECT: 21493887

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: James Doyle

SAMPLING SITE:3440 Frank Kenny Rd.

SAMPLED BY:Ryan Francis

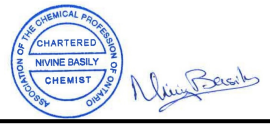
O. Reg. 153(511) - Metals & Inorganics (Soil)

DATE RECEIVED: 2023-01-12

DATE REPORTED: 2023-02-09

SAMPLE DESCRIPTION:				MW23-01 SA1	MW23-02 SA1	MW23-03 SA1	MW23-03 SA2	DUP-1
SAMPLE TYPE:				Soil	Soil	Soil	Soil	Soil
DATE SAMPLED:				2023-01-09 13:50	2023-01-09 12:55	2023-01-09 12:05	2023-01-09 12:05	2023-01-09 12:05
Parameter	Unit	G / S	RDL	4681826	4681830	4681831	4681832	4681833
Antimony	µg/g	40	0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	1	20	7	4	2	2
Barium	µg/g	670	2.0	336	277	227	418	553
Beryllium	µg/g	8	0.4	0.5	0.5	<0.4	1.1	1.2
Boron	µg/g	120	5	13	13	12	10	11
Boron (Hot Water Soluble)	µg/g	2	0.10	0.37	0.44	0.63	0.18	0.19
Cadmium	µg/g	1.9	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	160	5	38	32	10	88	95
Cobalt	µg/g	80	0.5	7.8	7.7	4.4	21.0	24.8
Copper	µg/g	230	1.0	21.1	10.1	3.1	45.6	49.8
Lead	µg/g	120	1	8	9	7	9	10
Molybdenum	µg/g	40	0.5	0.6	0.8	<0.5	<0.5	<0.5
Nickel	µg/g	270	1	21	20	12	51	57
Selenium	µg/g	5.5	0.8	<0.8	<0.8	<0.8	1.0	<0.8
Silver	µg/g	40	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Thallium	µg/g	3.3	0.5	<0.5	<0.5	<0.5	<0.5	0.6
Uranium	µg/g	33	0.50	0.71	0.87	0.62	0.91	0.93
Vanadium	µg/g	86	0.4	25.6	24.8	8.8	101	117
Zinc	µg/g	340	5	36	38	13	130	159
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	3.9	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	1.4	0.005	0.367	0.321	0.241	1.01	1.06
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	12	N/A	0.674	0.981	0.423	1.49	1.41
pH, 2:1 CaCl2 Extraction	pH Units	5.0-9.0	NA	7.45	7.52	7.42	7.08	7.34

Certified By:



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MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
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Certificate of Analysis

AGAT WORK ORDER: 23Z987502

PROJECT: 21493887

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: James Doyle

SAMPLING SITE:3440 Frank Kenny Rd.

SAMPLED BY:Ryan Francis

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

DATE RECEIVED: 2023-01-12

DATE REPORTED: 2023-02-09

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 - Industrial/Commercial/Community Property Use - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

4681826-4681833 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:

AGAT Laboratories

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MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
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Certificate of Analysis

AGAT WORK ORDER: 23Z987502

PROJECT: 21493887

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: James Doyle

SAMPLING SITE:3440 Frank Kenny Rd.

SAMPLED BY:Ryan Francis

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

DATE RECEIVED: 2023-01-12

DATE REPORTED: 2023-02-09

				SAMPLE DESCRIPTION:	MW23-01 SA1	MW23-02 SA1	MW23-03 SA1	MW23-03 SA2	DUP-1
				SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil
				DATE SAMPLED:	2023-01-09 13:50	2023-01-09 12:55	2023-01-09 12:05	2023-01-09 12:05	2023-01-09 12:05
Parameter	Unit	G / S	RDL		4681826	4681830	4681831	4681832	4681833
Naphthalene	µg/g	9.6	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	21	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	12	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
Fluoranthene	µg/g	9.6	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	µg/g	96	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Benz(a)anthracene	µg/g	0.96	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	µg/g	9.6	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.96	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/g	0.96	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	0.76	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	9.6	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
1 and 2 Methlynaphthalene	µg/g	30	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1		15.6	29.5	4.1	37.8	38.5
Surrogate	Unit	Acceptable Limits							
Naphthalene-d8	%	50-140			105	70	120	115	105
Acridine-d9	%	50-140			70	80	95	85	90
Terphenyl-d14	%	50-140			85	70	100	85	70

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 - Industrial/Commercial/Community Property Use - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

4681826-4681833 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

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5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
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AGAT WORK ORDER: 23Z987502

PROJECT: 21493887

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: James Doyle

SAMPLING SITE:3440 Frank Kenny Rd.

SAMPLED BY:Ryan Francis

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

DATE RECEIVED: 2023-01-12

DATE REPORTED: 2023-02-09

		SAMPLE DESCRIPTION:		MW23-01 SA1
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2023-01-09 13:50
Parameter	Unit	G / S	RDL	4681826
F1 (C6 - C10)	µg/g	55	5	<5
F1 (C6 to C10) minus BTEX	µg/g	55	5	<5
F2 (C10 to C16)	µg/g	230	10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10
F3 (C16 to C34)	µg/g	1700	50	<50
F3 (C16 to C34) minus PAHs	µg/g		50	<50
F4 (C34 to C50)	µg/g	3300	50	<50
Gravimetric Heavy Hydrocarbons	µg/g	3300	50	NA
Moisture Content	%		0.1	15.6
Surrogate	Unit	Acceptable Limits		
Toluene-d8	%	50-140		102
Terphenyl	%	60-140		66

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 - Industrial/Commercial/Community Property Use - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

4681826 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: Pinkal Patel

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
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AGAT WORK ORDER: 23Z987502

PROJECT: 21493887

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: James Doyle

SAMPLING SITE:3440 Frank Kenny Rd.

SAMPLED BY:Ryan Francis

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

DATE RECEIVED: 2023-01-12

DATE REPORTED: 2023-02-09

				SAMPLE DESCRIPTION:	MW23-02 SA1	MW23-03 SA1	MW23-03 SA2	DUP-1
				SAMPLE TYPE:	Soil	Soil	Soil	Soil
				DATE SAMPLED:	2023-01-09 12:55	2023-01-09 12:05	2023-01-09 12:05	2023-01-09 12:05
Parameter	Unit	G / S	RDL		4681830	4681831	4681832	4681833
Benzene	µg/g	0.32	0.02		<0.02	<0.02	<0.02	<0.02
Toluene	µg/g	6.4	0.05		<0.05	<0.05	<0.05	<0.05
Ethylbenzene	µg/g	1.1	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
o-Xylene	µg/g		0.05		<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	µg/g	26	0.05		<0.05	<0.05	<0.05	<0.05
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	230	10		<10	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10		<10	<10	<10	<10
F3 (C16 to C34)	µg/g	1700	50		<50	<50	<50	<50
F3 (C16 to C34) minus PAHs	µg/g		50		<50	<50	<50	<50
F4 (C34 to C50)	µg/g	3300	50		<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	3300	50		NA	NA	NA	NA
Moisture Content	%		0.1		29.5	4.1	37.8	38.5
Surrogate	Unit	Acceptable Limits						
Toluene-d8	% Recovery	60-140			88	102	116	78
Terphenyl	%	60-140			72	62	63	65

Certified By:

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CANADA L4Z 1Y2
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FAX (905)712-5122
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AGAT WORK ORDER: 23Z987502

PROJECT: 21493887

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: James Doyle

SAMPLING SITE:3440 Frank Kenny Rd.

SAMPLED BY:Ryan Francis

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

DATE RECEIVED: 2023-01-12

DATE REPORTED: 2023-02-09

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 - Industrial/Commercial/Community Property Use - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

4681830-4681833 Results are based on sample dry weight.
The C6-C10 fraction is calculated using toluene response factor.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX and PAH contributions.
C>10 – C16 (F2- Naphthalene) is a calculated parameter. The calculated value is F2 - Naphthalene.
C>16 - C34 (F3-PAH) is a calculated parameter. The calculated value is F3-PAH (PAH: sum of Phenanthrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Fluoranthene, Dibenzo(a,h)anthracene, Indeno(1,2,3-c,d)pyrene and Pyrene).
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: Jinkal Patel

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
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AGAT WORK ORDER: 23Z987502

PROJECT: 21493887

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: James Doyle

SAMPLING SITE:3440 Frank Kenny Rd.

SAMPLED BY:Ryan Francis

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

DATE RECEIVED: 2023-01-12

DATE REPORTED: 2023-02-09

				SAMPLE DESCRIPTION:	MW23-01 SA1
				SAMPLE TYPE:	Soil
				DATE SAMPLED:	2023-01-09 13:50
Parameter	Unit	G / S	RDL		4681826
Dichlorodifluoromethane	µg/g	16	0.05		<0.05
Vinyl Chloride	ug/g	0.032	0.02		<0.02
Bromomethane	ug/g	0.05	0.05		<0.05
Trichlorofluoromethane	ug/g	4	0.05		<0.05
Acetone	ug/g	16	0.50		<0.50
1,1-Dichloroethylene	ug/g	0.064	0.05		<0.05
Methylene Chloride	ug/g	1.6	0.05		<0.05
Trans- 1,2-Dichloroethylene	ug/g	1.3	0.05		<0.05
Methyl tert-butyl Ether	ug/g	1.6	0.05		<0.05
1,1-Dichloroethane	ug/g	0.47	0.02		<0.02
Methyl Ethyl Ketone	ug/g	70	0.50		<0.50
Cis- 1,2-Dichloroethylene	ug/g	1.9	0.02		<0.02
Chloroform	ug/g	0.47	0.04		<0.04
1,2-Dichloroethane	ug/g	0.05	0.03		<0.03
1,1,1-Trichloroethane	ug/g	6.1	0.05		<0.05
Carbon Tetrachloride	ug/g	0.21	0.05		<0.05
Benzene	ug/g	0.32	0.02		<0.02
1,2-Dichloropropane	ug/g	0.16	0.03		<0.03
Trichloroethylene	ug/g	0.55	0.03		<0.03
Bromodichloromethane	ug/g	1.5	0.05		<0.05
Methyl Isobutyl Ketone	ug/g	31	0.50		<0.50
1,1,2-Trichloroethane	ug/g	0.05	0.04		<0.04
Toluene	ug/g	6.4	0.05		<0.05
Dibromochloromethane	ug/g	2.3	0.05		<0.05
Ethylene Dibromide	ug/g	0.05	0.04		<0.04
Tetrachloroethylene	ug/g	1.9	0.05		<0.05
1,1,1,2-Tetrachloroethane	ug/g	0.087	0.04		<0.04
Chlorobenzene	ug/g	2.4	0.05		<0.05
Ethylbenzene	ug/g	1.1	0.05		<0.05

Certified By: Pinkal Patel

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5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
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Certificate of Analysis

AGAT WORK ORDER: 23Z987502

PROJECT: 21493887

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: James Doyle

SAMPLING SITE:3440 Frank Kenny Rd.

SAMPLED BY:Ryan Francis

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

DATE RECEIVED: 2023-01-12

DATE REPORTED: 2023-02-09

				SAMPLE DESCRIPTION:	MW23-01 SA1
				SAMPLE TYPE:	Soil
				DATE SAMPLED:	2023-01-09 13:50
Parameter	Unit	G / S	RDL		4681826
m & p-Xylene	ug/g		0.05		<0.05
Bromoform	ug/g	0.61	0.05		<0.05
Styrene	ug/g	34	0.05		<0.05
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.05		<0.05
o-Xylene	ug/g		0.05		<0.05
1,3-Dichlorobenzene	ug/g	9.6	0.05		<0.05
1,4-Dichlorobenzene	ug/g	0.2	0.05		<0.05
1,2-Dichlorobenzene	ug/g	1.2	0.05		<0.05
Xylenes (Total)	ug/g	26	0.05		<0.05
1,3-Dichloropropene (Cis + Trans)	µg/g	0.059	0.05		<0.05
n-Hexane	µg/g	46	0.05		<0.05
Moisture Content	%		0.1		15.6
Surrogate	Unit	Acceptable Limits			
Toluene-d8	% Recovery	50-140			102
4-Bromofluorobenzene	% Recovery	50-140			83

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 - Industrial/Commercial/Community Property Use - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

4681826 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: Pinkal Patel

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5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
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FAX (905)712-5122
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Exceedance Summary

AGAT WORK ORDER: 23Z987502

PROJECT: 21493887

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: James Doyle

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
4681826	MW23-01 SA1	ON T2 S ICC CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Arsenic	µg/g	18	20
4681832	MW23-03 SA2	ON T2 S ICC CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Vanadium	µg/g	86	101
4681833	DUP-1	ON T2 S ICC CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Vanadium	µg/g	86	117

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

Quality Assurance

CLIENT NAME: WSP CANADA INC.
AGAT WORK ORDER: 23Z987502
PROJECT: 21493887
ATTENTION TO: James Doyle
SAMPLING SITE:3440 Frank Kenny Rd.
SAMPLED BY:Ryan Francis

Soil Analysis

RPT Date: Feb 09, 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) - Metals & Inorganics (Soil)															
Antimony	4684030		<0.8	<0.8	NA	< 0.8	106%	70%	130%	84%	80%	120%	86%	70%	130%
Arsenic	4684030		4	4	NA	< 1	120%	70%	130%	96%	80%	120%	100%	70%	130%
Barium	4684030		85.3	89.8	5.1%	< 2.0	105%	70%	130%	102%	80%	120%	104%	70%	130%
Beryllium	4684030		0.7	0.7	NA	< 0.4	100%	70%	130%	100%	80%	120%	98%	70%	130%
Boron	4684030		10	10	NA	< 5	96%	70%	130%	95%	80%	120%	91%	70%	130%
Boron (Hot Water Soluble)	4679964		<0.10	<0.10	NA	< 0.10	95%	60%	140%	103%	70%	130%	96%	60%	140%
Cadmium	4684030		<0.5	<0.5	NA	< 0.5	112%	70%	130%	105%	80%	120%	109%	70%	130%
Chromium	4684030		25	26	3.9%	< 5	111%	70%	130%	108%	80%	120%	108%	70%	130%
Cobalt	4684030		9.8	9.9	1.0%	< 0.5	109%	70%	130%	104%	80%	120%	106%	70%	130%
Copper	4684030		19.0	19.3	1.6%	< 1.0	99%	70%	130%	107%	80%	120%	100%	70%	130%
Lead	4684030		17	17	0.0%	< 1	110%	70%	130%	104%	80%	120%	102%	70%	130%
Molybdenum	4684030		<0.5	<0.5	NA	< 0.5	114%	70%	130%	109%	80%	120%	113%	70%	130%
Nickel	4684030		21	22	4.7%	< 1	109%	70%	130%	106%	80%	120%	103%	70%	130%
Selenium	4684030		<0.8	<0.8	NA	< 0.8	74%	70%	130%	105%	80%	120%	107%	70%	130%
Silver	4684030		<0.5	<0.5	NA	< 0.5	103%	70%	130%	100%	80%	120%	96%	70%	130%
Thallium	4684030		<0.5	<0.5	NA	< 0.5	124%	70%	130%	104%	80%	120%	103%	70%	130%
Uranium	4684030		0.71	0.70	NA	< 0.50	129%	70%	130%	105%	80%	120%	112%	70%	130%
Vanadium	4684030		38.5	38.8	0.8%	< 0.4	129%	70%	130%	112%	80%	120%	108%	70%	130%
Zinc	4684030		70	78	10.8%	< 5	111%	70%	130%	109%	80%	120%	118%	70%	130%
Chromium, Hexavalent	4686568		<0.2	<0.2	NA	< 0.2	103%	70%	130%	89%	80%	120%	96%	70%	130%
Cyanide, WAD	4688307		<0.040	<0.040	NA	< 0.040	73%	70%	130%	94%	80%	120%	104%	70%	130%
Mercury	4684030		<0.10	<0.10	NA	< 0.10	112%	70%	130%	103%	80%	120%	101%	70%	130%
Electrical Conductivity (2:1)	4679964		0.134	0.118	12.7%	< 0.005	97%	80%	120%						
Sodium Adsorption Ratio (2:1) (Calc.)	4679964		0.085	0.084	1.2%	NA									
pH, 2:1 CaCl2 Extraction	4680022		7.01	7.12	1.6%	NA	99%	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:

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

Quality Assurance

CLIENT NAME: WSP CANADA INC.
AGAT WORK ORDER: 23Z987502
PROJECT: 21493887
ATTENTION TO: James Doyle
SAMPLING SITE:3440 Frank Kenny Rd.
SAMPLED BY:Ryan Francis

Trace Organics Analysis

RPT Date: Feb 09, 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)	4679459		<5	<5	NA	< 5	74%	60%	140%	95%	60%	140%	91%	60%	140%
F2 (C10 to C16)	4680021		<10	<10	NA	< 10	109%	60%	140%	84%	60%	140%	106%	60%	140%
F3 (C16 to C34)	4680021		<50	<50	NA	< 50	115%	60%	140%	83%	60%	140%	104%	60%	140%
F4 (C34 to C50)	4680021		<50	<50	NA	< 50	95%	60%	140%	66%	60%	140%	75%	60%	140%
O. Reg. 153(511) - VOCs (with PHC) (Soil)															
Dichlorodifluoromethane	4679459		<0.05	<0.05	NA	< 0.05	73%	50%	140%	83%	50%	140%	71%	50%	140%
Vinyl Chloride	4679459		<0.02	<0.02	NA	< 0.02	82%	50%	140%	93%	50%	140%	77%	50%	140%
Bromomethane	4679459		<0.05	<0.05	NA	< 0.05	97%	50%	140%	100%	50%	140%	91%	50%	140%
Trichlorofluoromethane	4679459		<0.05	<0.05	NA	< 0.05	84%	50%	140%	91%	50%	140%	77%	50%	140%
Acetone	4679459		<0.50	<0.50	NA	< 0.50	97%	50%	140%	103%	50%	140%	76%	50%	140%
1,1-Dichloroethylene	4679459		<0.05	<0.05	NA	< 0.05	87%	50%	140%	75%	60%	130%	100%	50%	140%
Methylene Chloride	4679459		<0.05	<0.05	NA	< 0.05	120%	50%	140%	95%	60%	130%	83%	50%	140%
Trans- 1,2-Dichloroethylene	4679459		<0.05	<0.05	NA	< 0.05	81%	50%	140%	75%	60%	130%	114%	50%	140%
Methyl tert-butyl Ether	4679459		<0.05	<0.05	NA	< 0.05	109%	50%	140%	114%	60%	130%	110%	50%	140%
1,1-Dichloroethane	4679459		<0.02	<0.02	NA	< 0.02	103%	50%	140%	89%	60%	130%	79%	50%	140%
Methyl Ethyl Ketone	4679459		<0.50	<0.50	NA	< 0.50	96%	50%	140%	96%	50%	140%	90%	50%	140%
Cis- 1,2-Dichloroethylene	4679459		<0.02	<0.02	NA	< 0.02	83%	50%	140%	75%	60%	130%	73%	50%	140%
Chloroform	4679459		<0.04	<0.04	NA	< 0.04	86%	50%	140%	77%	60%	130%	82%	50%	140%
1,2-Dichloroethane	4679459		<0.03	<0.03	NA	< 0.03	84%	50%	140%	76%	60%	130%	79%	50%	140%
1,1,1-Trichloroethane	4679459		<0.05	<0.05	NA	< 0.05	90%	50%	140%	87%	60%	130%	77%	50%	140%
Carbon Tetrachloride	4679459		<0.05	<0.05	NA	< 0.05	96%	50%	140%	81%	60%	130%	84%	50%	140%
Benzene	4679459		<0.02	<0.02	NA	< 0.02	83%	50%	140%	76%	60%	130%	83%	50%	140%
1,2-Dichloropropane	4679459		<0.03	<0.03	NA	< 0.03	101%	50%	140%	90%	60%	130%	97%	50%	140%
Trichloroethylene	4679459		<0.03	<0.03	NA	< 0.03	91%	50%	140%	83%	60%	130%	80%	50%	140%
Bromodichloromethane	4679459		<0.05	<0.05	NA	< 0.05	105%	50%	140%	97%	60%	130%	84%	50%	140%
Methyl Isobutyl Ketone	4679459		<0.50	<0.50	NA	< 0.50	107%	50%	140%	80%	50%	140%	99%	50%	140%
1,1,2-Trichloroethane	4679459		<0.04	<0.04	NA	< 0.04	85%	50%	140%	98%	60%	130%	79%	50%	140%
Toluene	4679459		<0.05	<0.05	NA	< 0.05	86%	50%	140%	82%	60%	130%	78%	50%	140%
Dibromochloromethane	4679459		<0.05	<0.05	NA	< 0.05	99%	50%	140%	95%	60%	130%	87%	50%	140%
Ethylene Dibromide	4679459		<0.04	<0.04	NA	< 0.04	85%	50%	140%	81%	60%	130%	87%	50%	140%
Tetrachloroethylene	4679459		<0.05	<0.05	NA	< 0.05	91%	50%	140%	84%	60%	130%	84%	50%	140%
1,1,1,2-Tetrachloroethane	4679459		<0.04	<0.04	NA	< 0.04	90%	50%	140%	86%	60%	130%	83%	50%	140%
Chlorobenzene	4679459		<0.05	<0.05	NA	< 0.05	89%	50%	140%	85%	60%	130%	82%	50%	140%
Ethylbenzene	4679459		<0.05	<0.05	NA	< 0.05	98%	50%	140%	91%	60%	130%	91%	50%	140%
m & p-Xylene	4679459		<0.05	<0.05	NA	< 0.05	106%	50%	140%	100%	60%	130%	98%	50%	140%
Bromoform	4679459		<0.05	<0.05	NA	< 0.05	99%	50%	140%	95%	60%	130%	88%	50%	140%
Styrene	4679459		<0.05	<0.05	NA	< 0.05	94%	50%	140%	89%	60%	130%	97%	50%	140%
1,1,2,2-Tetrachloroethane	4679459		<0.05	<0.05	NA	< 0.05	92%	50%	140%	88%	60%	130%	78%	50%	140%
o-Xylene	4679459		<0.05	<0.05	NA	< 0.05	113%	50%	140%	107%	60%	130%	103%	50%	140%

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
AGAT WORK ORDER: 23Z987502
PROJECT: 21493887
ATTENTION TO: James Doyle
SAMPLING SITE:3440 Frank Kenny Rd.
SAMPLED BY:Ryan Francis

Trace Organics Analysis (Continued)

RPT Date: Feb 09, 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	4679459		<0.05	<0.05	NA	< 0.05	112%	50%	140%	107%	60%	130%	106%	50%	140%
1,4-Dichlorobenzene	4679459		<0.05	<0.05	NA	< 0.05	105%	50%	140%	101%	60%	130%	99%	50%	140%
1,2-Dichlorobenzene	4679459		<0.05	<0.05	NA	< 0.05	105%	50%	140%	99%	60%	130%	103%	50%	140%
n-Hexane	4679459		<0.05	<0.05	NA	< 0.05	97%	50%	140%	98%	60%	130%	76%	50%	140%
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	4685171		<0.05	<0.05	NA	< 0.05	96%	50%	140%	90%	50%	140%	98%	50%	140%
Acenaphthylene	4685171		<0.05	<0.05	NA	< 0.05	76%	50%	140%	80%	50%	140%	90%	50%	140%
Acenaphthene	4685171		<0.05	<0.05	NA	< 0.05	92%	50%	140%	108%	50%	140%	113%	50%	140%
Fluorene	4685171		<0.05	<0.05	NA	< 0.05	70%	50%	140%	83%	50%	140%	90%	50%	140%
Phenanthrene	4685171		<0.05	<0.05	NA	< 0.05	64%	50%	140%	95%	50%	140%	90%	50%	140%
Anthracene	4685171		<0.05	<0.05	NA	< 0.05	68%	50%	140%	98%	50%	140%	90%	50%	140%
Fluoranthene	4685171		<0.05	<0.05	NA	< 0.05	105%	50%	140%	78%	50%	140%	93%	50%	140%
Pyrene	4685171		<0.05	<0.05	NA	< 0.05	74%	50%	140%	73%	50%	140%	73%	50%	140%
Benz(a)anthracene	4685171		<0.05	<0.05	NA	< 0.05	63%	50%	140%	75%	50%	140%	85%	50%	140%
Chrysene	4685171		<0.05	<0.05	NA	< 0.05	73%	50%	140%	88%	50%	140%	105%	50%	140%
Benzo(b)fluoranthene	4685171		<0.05	<0.05	NA	< 0.05	97%	50%	140%	105%	50%	140%	115%	50%	140%
Benzo(k)fluoranthene	4685171		<0.05	<0.05	NA	< 0.05	93%	50%	140%	98%	50%	140%	115%	50%	140%
Benzo(a)pyrene	4685171		<0.05	<0.05	NA	< 0.05	74%	50%	140%	108%	50%	140%	83%	50%	140%
Indeno(1,2,3-cd)pyrene	4685171		<0.05	<0.05	NA	< 0.05	63%	50%	140%	88%	50%	140%	88%	50%	140%
Dibenz(a,h)anthracene	4685171		<0.05	<0.05	NA	< 0.05	80%	50%	140%	90%	50%	140%	78%	50%	140%
Benzo(g,h,i)perylene	4685171		<0.05	<0.05	NA	< 0.05	86%	50%	140%	93%	50%	140%	78%	50%	140%
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)															
Benzene	4660845		<0.02	<0.02	NA	< 0.02	84%	60%	140%	89%	60%	140%	100%	60%	140%
Toluene	4660845		<0.05	<0.05	NA	< 0.05	91%	60%	140%	80%	60%	140%	106%	60%	140%
Ethylbenzene	4660845		<0.05	<0.05	NA	< 0.05	96%	60%	140%	87%	60%	140%	87%	60%	140%
m & p-Xylene	4660845		<0.05	<0.05	NA	< 0.05	113%	60%	140%	109%	60%	140%	98%	60%	140%
o-Xylene	4660845		<0.05	<0.05	NA	< 0.05	95%	60%	140%	84%	60%	140%	92%	60%	140%
F1 (C6 - C10)	4660845		<5	<5	NA	< 5	88%	60%	140%	85%	60%	140%	81%	60%	140%
F2 (C10 to C16)	4680021		<10	<10	NA	< 10	109%	60%	140%	84%	60%	140%	106%	60%	140%
F3 (C16 to C34)	4680021		<50	<50	NA	< 50	115%	60%	140%	83%	60%	140%	104%	60%	140%
F4 (C34 to C50)	4680021		<50	<50	NA	< 50	95%	60%	140%	66%	60%	140%	75%	60%	140%

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

Certified By:

AGAT Laboratories

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

Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z987502

PROJECT: 21493887

ATTENTION TO: James Doyle

SAMPLING SITE:3440 Frank Kenny Rd.

SAMPLED BY:Ryan Francis

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: 23Z987502

PROJECT: 21493887

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SAMPLING SITE:3440 Frank Kenny Rd.

SAMPLED BY:Ryan Francis

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluorene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benz(a)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Chrysene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
1 and 2 Methlynaphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Moisture Content	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
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
Benzene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Toluene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS

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Method Summary

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PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Ethylbenzene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
m & p-Xylene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
o-Xylene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Xylenes (Total)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Toluene-d8	VOL-91-5009	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
Dichlorodifluoromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Vinyl Chloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trans- 1,2-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl tert-butyl Ether	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Cis- 1,2-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
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

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

AGAT Laboratories
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
Contact: James Doyle
Address: 1931 Robertson Road
Phone: _____ Fax: _____
Reports to be sent to:
1. Email: James.Doyle@wsp.com
2. Email: Philippe.Chevrette@wsp.com

Project Information:

Project: 21493887
Site Location: 3440 Frank Kenny rd
Sampled By: Ryan Francis
AGAT Quote #: _____ PO: _____
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☑ No ☐
Company:
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 #: 2379875O2
Cooler Quantity: one - loose ice
Arrival Temperatures: 4.5 | 4.6 | 4.5 / 5.1 | 5.3 | 5.5
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes: ICE

Turnaround Time (TAT) Required:

Regular TAT ☑ 5 to 7 Business Days
Rush TAT (Rush Surcharges Apply)
☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day
OR Date Required (Rush Surcharges May Apply): _____
Please provide prior notification for rush TAT
**TAT is exclusive of weekends and statutory holidays*
For 'Same Day' analysis, please contact your AGAT CPM

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☑ CrVI, ☑ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs	O. Reg 153: Analyze F4G if required ☐ Yes ☐ No	O. Reg 153: PAHs	O. Reg 153: PCBs	O. Reg 153: VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	On Hold	Potentially Hazardous or High Concentration (Y/N)
MW23-01 SA1	09/01/23	1:50PM AM PM	4	S			☑	☑	☑		☑		☑						
MW23-02 SA1	09/01/23	12:55PM AM PM	4	S			☑	☑	☑		☑								
MW23-03 SA1	09/01/23	12:05PM AM PM	4	S			☑	☑	☑		☑								
MW23-03 SA2	09/01/23	12:05PM AM PM	4	S			☑	☑	☑		☑								
DUP-1	09/01/23	12:05PM AM PM	4	S			☑	☑	☑		☑								
		AM PM																	✓
		AM PM																✓	
		AM PM																✓	
		AM PM																	✓
		AM PM																	
		AM PM																	

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Ryan Francis /	2022-01-12	8 am	C. Cuthbertson JAN 12 2023	JAN 12 2023	10h00
C. Cuthbertson JAN 12 2023	JAN 12 2023	16h00	Zaid	1/13/23	9:30am

Page 1 of 1
N°:

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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: James Doyle
PROJECT: 21493887
AGAT WORK ORDER: 23Z987933
TRACE ORGANICS REVIEWED BY: Radhika Chakraberty, Trace Organics Lab Manager
WATER ANALYSIS REVIEWED BY: Amanjot Bhela, Inorganic Lab Manager
DATE REPORTED: Feb 09, 2023
PAGES (INCLUDING COVER): 17
VERSION*: 2

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

*Notes

VERSION 2:Revised report with sample IDs updated. 02/09
VERSION 1:Criteria revised as per request. 01/20

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CANADA L4Z 1Y2
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FAX (905)712-5122
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Certificate of Analysis

AGAT WORK ORDER: 23Z987933

PROJECT: 21493887

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: James Doyle

SAMPLING SITE:3440 Frank Kenny Rd.

SAMPLED BY:Ryan Frands

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

DATE RECEIVED: 2023-01-12

DATE REPORTED: 2023-02-09

SAMPLE DESCRIPTION:				MW 23-01	MW 23-02	MW 23-03	DUP-1
SAMPLE TYPE:				Water	Water	Water	Water
DATE SAMPLED:				2023-01-12 12:05	2023-01-12 13:40	2023-01-12 15:10	2023-01-12 12:05
Parameter	Unit	G / S	RDL	4685525	4685532	4685533	4685534
Naphthalene	µg/L	11	0.20	<0.20	<0.20	<0.20	<0.20
Acenaphthylene	µg/L	1	0.20	<0.20	<0.20	<0.20	<0.20
Acenaphthene	µg/L	4.1	0.20	<0.20	<0.20	<0.20	<0.20
Fluorene	µg/L	120	0.20	<0.20	<0.20	<0.20	<0.20
Phenanthrene	µg/L	1	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
Fluoranthene	µg/L	0.41	0.20	<0.20	<0.20	<0.20	<0.20
Pyrene	µg/L	4.1	0.20	<0.20	<0.20	<0.20	<0.20
Benzo(a)anthracene	µg/L	1	0.20	<0.20	<0.20	<0.20	<0.20
Chrysene	µg/L	0.1	0.10	<0.10	<0.10	<0.10	<0.10
Benzo(b)fluoranthene	µg/L	0.1	0.10	<0.10	<0.10	<0.10	<0.10
Benzo(k)fluoranthene	µg/L	0.1	0.10	<0.10	<0.10	<0.10	<0.10
Benzo(a)pyrene	µg/L	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
Dibenz(a,h)anthracene	µg/L	0.2	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
2-and 1-methyl Naphthalene	µg/L	3.2	0.20	<0.20	<0.20	<0.20	<0.20
Sediment				NO	NO	NO	NO
Surrogate	Unit	Acceptable Limits					
Naphthalene-d8	%	50-140		77	86	108	91
Acridine-d9	%	50-140		73	79	78	64
Terphenyl-d14	%	50-140		72	73	77	72

Certified By: R. Chakraberty

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Certificate of Analysis

AGAT WORK ORDER: 23Z987933
PROJECT: 21493887

CLIENT NAME: WSP CANADA INC.
SAMPLING SITE:3440 Frank Kenny Rd.

ATTENTION TO: James Doyle
SAMPLED BY:Ryan Frands

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

DATE RECEIVED: 2023-01-12 DATE REPORTED: 2023-02-09

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 - 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.

4685525-4685534 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: R. Chakraberty

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FAX (905)712-5122
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Certificate of Analysis

AGAT WORK ORDER: 23Z987933

PROJECT: 21493887

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: James Doyle

SAMPLING SITE:3440 Frank Kenny Rd.

SAMPLED BY:Ryan Frands

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

DATE RECEIVED: 2023-01-12

DATE REPORTED: 2023-02-09

				SAMPLE DESCRIPTION:	MW 23-01	DUP-1
				SAMPLE TYPE:	Water	Water
				DATE SAMPLED:	2023-01-12 12:05	2023-01-12 12:05
Parameter	Unit	G / S	RDL		4685525	4685534
F1 (C6-C10)	µg/L	750	25		<25	<25
F1 (C6 to C10) minus BTEX	µg/L	750	25		<25	<25
F2 (C10 to C16)	µg/L	150	100		<100	<100
F2 (C10 to C16) minus Naphthalene	µg/L		100		<100	<100
F3 (C16 to C34)	µg/L	500	100		<100	<100
F3 (C16 to C34) minus PAHs	µg/L		100		<100	<100
F4 (C34 to C50)	µg/L	500	100		<100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500		NA	NA
Sediment					3	3
Surrogate	Unit	Acceptable Limits				
Toluene-d8	%	50-140			106	100
Terphenyl	% Recovery	60-140			69	81

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 - 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.

4685525-4685534 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.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: R. Chakraberty

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MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
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Certificate of Analysis

AGAT WORK ORDER: 23Z987933

PROJECT: 21493887

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: James Doyle

SAMPLING SITE:3440 Frank Kenny Rd.

SAMPLED BY:Ryan Frands

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

DATE RECEIVED: 2023-01-12

DATE REPORTED: 2023-02-09

				SAMPLE DESCRIPTION:	MW 23-02	MW 23-03
				SAMPLE TYPE:	Water	Water
				DATE SAMPLED:	2023-01-12 13:40	2023-01-12 15:10
Parameter	Unit	G / S	RDL		4685532	4685533
Benzene	µg/L	5.0	0.20		<0.20	<0.20
Toluene	µg/L	24	0.20		<0.20	<0.20
Ethylbenzene	µg/L	2.4	0.10		<0.10	<0.10
m & p-Xylene	µg/L		0.20		<0.20	<0.20
o-Xylene	µg/L		0.10		<0.10	<0.10
Xylenes (Total)	µg/L	300	0.20		<0.20	<0.20
F1 (C6-C10)	µg/L	750	25		<25	<25
F1 (C6 to C10) minus BTEX	µg/L	750	25		<25	<25
F2 (C10 to C16)	µg/L	150	100		<100	<100
F2 (C10 to C16) minus Naphthalene	µg/L		100		<100	<100
F3 (C16 to C34)	µg/L	500	100		<100	<100
F3 (C16 to C34) minus PAHs	µg/L		100		<100	<100
F4 (C34 to C50)	µg/L	500	100		<100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500		NA	NA
Sediment					3	3
Surrogate	Unit	Acceptable Limits				
Toluene-d8	% Recovery	60-140			84.5	93.2
Terphenyl	% Recovery	60-140			111	97

Certified By: R. Chakraberty

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Certificate of Analysis

AGAT WORK ORDER: 23Z987933

PROJECT: 21493887

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: James Doyle

SAMPLING SITE:3440 Frank Kenny Rd.

SAMPLED BY:Ryan Frands

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

DATE RECEIVED: 2023-01-12

DATE REPORTED: 2023-02-09

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 - 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.

4685532-4685533 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
The C6-C10 fraction is calculated using toluene response factor.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX and PAH contributions.
C>10 – C16 (F2- Naphthalene) is a calculated parameter. The calculated value is F2 - Naphthalene.
C>16 - C34 (F3-PAH) is a calculated parameter. The calculated value is F3-PAH (PAH: sum of Phenanthrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Fluoranthene, Dibenzo(a,h)anthracene, Indeno(1,2,3-c,d)pyrene and Pyrene).
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: R. Chakraberty

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CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
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Certificate of Analysis

AGAT WORK ORDER: 23Z987933

PROJECT: 21493887

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: James Doyle

SAMPLING SITE:3440 Frank Kenny Rd.

SAMPLED BY:Ryan Frands

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

DATE RECEIVED: 2023-01-12

DATE REPORTED: 2023-02-09

		SAMPLE DESCRIPTION:		MW 23-01	DUP-1
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2023-01-12 12:05	2023-01-12 12:05
Parameter	Unit	G / S	RDL	4685525	4685534
Dichlorodifluoromethane	µg/L	590	0.40	<0.40	<0.40
Vinyl Chloride	µg/L	0.5	0.17	<0.17	<0.17
Bromomethane	µg/L	0.89	0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L	150	0.40	<0.40	<0.40
Acetone	µg/L	2700	1.0	<1.0	<1.0
1,1-Dichloroethylene	µg/L	1.6	0.30	<0.30	<0.30
Methylene Chloride	µg/L	50	0.30	<0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20
Methyl tert-butyl ether	µg/L	15	0.20	<0.20	<0.20
1,1-Dichloroethane	µg/L	5	0.30	<0.30	<0.30
Methyl Ethyl Ketone	µg/L	1800	1.0	<1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20
Chloroform	µg/L	2.4	0.20	<0.20	<0.20
1,2-Dichloroethane	µg/L	1.6	0.20	<0.20	<0.20
1,1,1-Trichloroethane	µg/L	200	0.30	<0.30	<0.30
Carbon Tetrachloride	µg/L	0.79	0.20	<0.20	<0.20
Benzene	µg/L	5.0	0.20	<0.20	<0.20
1,2-Dichloropropane	µg/L	5	0.20	<0.20	<0.20
Trichloroethylene	µg/L	1.6	0.20	<0.20	<0.20
Bromodichloromethane	µg/L	16	0.20	<0.20	<0.20
Methyl Isobutyl Ketone	µg/L	640	1.0	<1.0	<1.0
1,1,2-Trichloroethane	µg/L	4.7	0.20	<0.20	<0.20
Toluene	µg/L	24	0.20	<0.20	<0.20
Dibromochloromethane	µg/L	25	0.10	<0.10	<0.10
Ethylene Dibromide	µg/L	0.2	0.10	<0.10	<0.10
Tetrachloroethylene	µg/L	1.6	0.20	<0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.10	<0.10	<0.10
Chlorobenzene	µg/L	30	0.10	<0.10	<0.10
Ethylbenzene	µg/L	2.4	0.10	<0.10	<0.10

Certified By: R. Chakraberty

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CANADA L4Z 1Y2
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Certificate of Analysis

AGAT WORK ORDER: 23Z987933

PROJECT: 21493887

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: James Doyle

SAMPLING SITE:3440 Frank Kenny Rd.

SAMPLED BY:Ryan Frands

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

DATE RECEIVED: 2023-01-12

DATE REPORTED: 2023-02-09

				SAMPLE DESCRIPTION:	MW 23-01	DUP-1
				SAMPLE TYPE:	Water	Water
				DATE SAMPLED:	2023-01-12 12:05	2023-01-12 12:05
Parameter	Unit	G / S	RDL		4685525	4685534
m & p-Xylene	µg/L		0.20		<0.20	<0.20
Bromoform	µg/L	25	0.10		<0.10	<0.10
Styrene	µg/L	5.4	0.10		<0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	1	0.10		<0.10	<0.10
o-Xylene	µg/L		0.10		<0.10	<0.10
1,3-Dichlorobenzene	µg/L	59	0.10		<0.10	<0.10
1,4-Dichlorobenzene	µg/L	1	0.10		<0.10	<0.10
1,2-Dichlorobenzene	µg/L	3	0.10		<0.10	<0.10
1,3-Dichloropropene	µg/L	0.5	0.30		<0.30	<0.30
Xylenes (Total)	µg/L	300	0.20		<0.20	<0.20
n-Hexane	µg/L	51	0.20		<0.20	<0.20
Surrogate	Unit	Acceptable Limits				
Toluene-d8	% Recovery	50-140			106	100
4-Bromofluorobenzene	% Recovery	50-140			88	87

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 - 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.

4685525-4685534 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: R. Chakraberty

AGAT Laboratories

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CANADA L4Z 1Y2
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Certificate of Analysis

AGAT WORK ORDER: 23Z987933

PROJECT: 21493887

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: James Doyle

SAMPLING SITE:3440 Frank Kenny Rd.

SAMPLED BY:Ryan Frands

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

DATE RECEIVED: 2023-01-12

DATE REPORTED: 2023-02-09

				SAMPLE DESCRIPTION:	MW 23-01	MW 23-02	MW 23-03	DUP-1
				SAMPLE TYPE:	Water	Water	Water	Water
				DATE SAMPLED:	2023-01-12 12:05	2023-01-12 13:40	2023-01-12 15:10	2023-01-12 12:05
Parameter	Unit	G / S	RDL		4685525	4685532	4685533	4685534
Dissolved Antimony	µg/L	6	1.0		<1.0	<1.0	<1.0	<1.0
Dissolved Arsenic	µg/L	25	1.0		<1.0	<1.0	<1.0	<1.0
Dissolved Barium	µg/L	1000	2.0		21.1	37.2	189	20.5
Dissolved Beryllium	µg/L	4	0.50		<0.50	<0.50	<0.50	<0.50
Dissolved Boron	µg/L	5000	10.0		63.1	47.7	20.1	59.3
Dissolved Cadmium	µg/L	2.7	0.20		<0.20	<0.20	<0.20	<0.20
Dissolved Chromium	µg/L	50	2.0		<2.0	<2.0	<2.0	<2.0
Dissolved Cobalt	µg/L	3.8	0.50		<0.50	<0.50	<0.50	<0.50
Dissolved Copper	µg/L	87	1.0		1.7	7.2	3.2	<1.0
Dissolved Lead	µg/L	10	0.50		1.45	1.04	0.59	1.51
Dissolved Molybdenum	µg/L	70	0.50		1.07	0.77	1.78	1.49
Dissolved Nickel	µg/L	100	1.0		2.3	1.9	<1.0	2.1
Dissolved Selenium	µg/L	10	1.0		<1.0	1.7	1.7	2.4
Dissolved Silver	µg/L	1.5	0.20		<0.20	<0.20	<0.20	<0.20
Dissolved Thallium	µg/L	2	0.30		<0.30	<0.30	<0.30	<0.30
Dissolved Uranium	µg/L	20	0.50		1.86	1.59	4.08	1.83
Dissolved Vanadium	µg/L	6.2	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 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition - 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.

4685525-4685534 Metals analysis completed on a filtered sample.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

AGAT Laboratories

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

Quality Assurance

CLIENT NAME: WSP CANADA INC.
PROJECT: 21493887
SAMPLING SITE:3440 Frank Kenny Rd.

AGAT WORK ORDER: 23Z987933
ATTENTION TO: James Doyle
SAMPLED BY:Ryan Frands

Trace Organics Analysis

RPT Date: Feb 09, 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) (Water)															
F1 (C6-C10)	4682388		<25	<25	NA	< 25	94%	60%	140%	96%	60%	140%	81%	60%	140%
F2 (C10 to C16)	4689756		<100	<100	NA	< 100	97%	60%	140%	69%	60%	140%	71%	60%	140%
F3 (C16 to C34)	4689756		<100	<100	NA	< 100	103%	60%	140%	86%	60%	140%	75%	60%	140%
F4 (C34 to C50)	4689756		<100	<100	NA	< 100	95%	60%	140%	86%	60%	140%	112%	60%	140%
O. Reg. 153(511) - VOCs (with PHC) (Water)															
Dichlorodifluoromethane	4682388		<0.40	<0.40	NA	< 0.40	79%	50%	140%	100%	50%	140%	71%	50%	140%
Vinyl Chloride	4682388		<0.17	<0.17	NA	< 0.17	91%	50%	140%	94%	50%	140%	73%	50%	140%
Bromomethane	4682388		<0.20	<0.20	NA	< 0.20	112%	50%	140%	104%	50%	140%	90%	50%	140%
Trichlorofluoromethane	4682388		<0.40	<0.40	NA	< 0.40	112%	50%	140%	120%	50%	140%	75%	50%	140%
Acetone	4682388		<1.0	<1.0	NA	< 1.0	97%	50%	140%	118%	50%	140%	104%	50%	140%
1,1-Dichloroethylene	4682388		<0.30	<0.30	NA	< 0.30	100%	50%	140%	97%	60%	130%	95%	50%	140%
Methylene Chloride	4682388		<0.30	<0.30	NA	< 0.30	106%	50%	140%	101%	60%	130%	103%	50%	140%
trans- 1,2-Dichloroethylene	4682388		<0.20	<0.20	NA	< 0.20	100%	50%	140%	96%	60%	130%	93%	50%	140%
Methyl tert-butyl ether	4682388		<0.20	<0.20	NA	< 0.20	89%	50%	140%	87%	60%	130%	92%	50%	140%
1,1-Dichloroethane	4682388		<0.30	<0.30	NA	< 0.30	102%	50%	140%	97%	60%	130%	93%	50%	140%
Methyl Ethyl Ketone	4682388		<1.0	<1.0	NA	< 1.0	110%	50%	140%	114%	50%	140%	92%	50%	140%
cis- 1,2-Dichloroethylene	4682388		<0.20	<0.20	NA	< 0.20	102%	50%	140%	98%	60%	130%	94%	50%	140%
Chloroform	4682388		<0.20	<0.20	NA	< 0.20	102%	50%	140%	98%	60%	130%	95%	50%	140%
1,2-Dichloroethane	4682388		<0.20	<0.20	NA	< 0.20	113%	50%	140%	102%	60%	130%	105%	50%	140%
1,1,1-Trichloroethane	4682388		<0.30	<0.30	NA	< 0.30	93%	50%	140%	92%	60%	130%	82%	50%	140%
Carbon Tetrachloride	4682388		<0.20	<0.20	NA	< 0.20	113%	50%	140%	103%	60%	130%	103%	50%	140%
Benzene	4682388		<0.20	<0.20	NA	< 0.20	98%	50%	140%	92%	60%	130%	93%	50%	140%
1,2-Dichloropropane	4682388		<0.20	<0.20	NA	< 0.20	90%	50%	140%	83%	60%	130%	90%	50%	140%
Trichloroethylene	4682388		<0.20	<0.20	NA	< 0.20	83%	50%	140%	81%	60%	130%	83%	50%	140%
Bromodichloromethane	4682388		<0.20	<0.20	NA	< 0.20	104%	50%	140%	97%	60%	130%	82%	50%	140%
Methyl Isobutyl Ketone	4682388		<1.0	<1.0	NA	< 1.0	116%	50%	140%	100%	50%	140%	92%	50%	140%
1,1,2-Trichloroethane	4682388		<0.20	<0.20	NA	< 0.20	102%	50%	140%	97%	60%	130%	96%	50%	140%
Toluene	4682388		<0.20	<0.20	NA	< 0.20	99%	50%	140%	93%	60%	130%	96%	50%	140%
Dibromochloromethane	4682388		<0.10	<0.10	NA	< 0.10	107%	50%	140%	113%	60%	130%	99%	50%	140%
Ethylene Dibromide	4682388		<0.10	<0.10	NA	< 0.10	119%	50%	140%	114%	60%	130%	108%	50%	140%
Tetrachloroethylene	4682388		<0.20	<0.20	NA	< 0.20	94%	50%	140%	90%	60%	130%	90%	50%	140%
1,1,1,2-Tetrachloroethane	4682388		<0.10	<0.10	NA	< 0.10	102%	50%	140%	98%	60%	130%	85%	50%	140%
Chlorobenzene	4682388		<0.10	<0.10	NA	< 0.10	96%	50%	140%	90%	60%	130%	93%	50%	140%
Ethylbenzene	4682388		<0.10	<0.10	NA	< 0.10	98%	50%	140%	95%	60%	130%	94%	50%	140%
m & p-Xylene	4682388		<0.20	<0.20	NA	< 0.20	97%	50%	140%	93%	60%	130%	94%	50%	140%
Bromoform	4682388		<0.10	<0.10	NA	< 0.10	114%	50%	140%	109%	60%	130%	116%	50%	140%
Styrene	4682388		<0.10	<0.10	NA	< 0.10	90%	50%	140%	85%	60%	130%	86%	50%	140%
1,1,2,2-Tetrachloroethane	4682388		<0.10	<0.10	NA	< 0.10	110%	50%	140%	100%	60%	130%	99%	50%	140%
o-Xylene	4682388		<0.10	<0.10	NA	< 0.10	97%	50%	140%	92%	60%	130%	94%	50%	140%

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

Quality Assurance

CLIENT NAME: WSP CANADA INC.
AGAT WORK ORDER: 23Z987933
PROJECT: 21493887
ATTENTION TO: James Doyle
SAMPLING SITE:3440 Frank Kenny Rd.
SAMPLED BY:Ryan Frands

Trace Organics Analysis (Continued)

RPT Date: Feb 09, 2023

PARAMETER	Batch	Sample Id	DUPLICATE Dup #1	DUPLICATE Dup #2	DUPLICATE RPD	Method Blank	REFERENCE MATERIAL Measured Value	REFERENCE MATERIAL Acceptable Limits Lower	REFERENCE MATERIAL Acceptable Limits Upper	METHOD BLANK SPIKE Recovery	METHOD BLANK SPIKE Acceptable Limits Lower	METHOD BLANK SPIKE Acceptable Limits Upper	MATRIX SPIKE Recovery	MATRIX SPIKE Acceptable Limits Lower	MATRIX SPIKE Acceptable Limits Upper
1,3-Dichlorobenzene	4682388		<0.10	<0.10	NA	< 0.10	99%	50%	140%	88%	60%	130%	96%	50%	140%
1,4-Dichlorobenzene	4682388		<0.10	<0.10	NA	< 0.10	100%	50%	140%	88%	60%	130%	94%	50%	140%
1,2-Dichlorobenzene	4682388		<0.10	<0.10	NA	< 0.10	95%	50%	140%	85%	60%	130%	93%	50%	140%
n-Hexane	4682388		<0.20	<0.20	NA	< 0.20	102%	50%	140%	93%	60%	130%	89%	50%	140%
O. Reg. 153(511) - PAHs (Water)															
Naphthalene	4685533	4685533	<0.20	<0.20	NA	< 0.20	106%	50%	140%	78%	50%	140%	84%	50%	140%
Acenaphthylene	4685533	4685533	<0.20	<0.20	NA	< 0.20	119%	50%	140%	97%	50%	140%	84%	50%	140%
Acenaphthene	4685533	4685533	<0.20	<0.20	NA	< 0.20	96%	50%	140%	83%	50%	140%	72%	50%	140%
Fluorene	4685533	4685533	<0.20	<0.20	NA	< 0.20	110%	50%	140%	68%	50%	140%	78%	50%	140%
Phenanthrene	4685533	4685533	<0.10	<0.10	NA	< 0.10	86%	50%	140%	98%	50%	140%	99%	50%	140%
Anthracene	4685533	4685533	<0.10	<0.10	NA	< 0.10	94%	50%	140%	77%	50%	140%	113%	50%	140%
Fluoranthene	4685533	4685533	<0.20	<0.20	NA	< 0.20	110%	50%	140%	82%	50%	140%	106%	50%	140%
Pyrene	4685533	4685533	<0.20	<0.20	NA	< 0.20	102%	50%	140%	81%	50%	140%	102%	50%	140%
Benzo(a)anthracene	4685533	4685533	<0.20	<0.20	NA	< 0.20	69%	50%	140%	98%	50%	140%	89%	50%	140%
Chrysene	4685533	4685533	<0.10	<0.10	NA	< 0.10	75%	50%	140%	67%	50%	140%	90%	50%	140%
Benzo(b)fluoranthene	4685533	4685533	<0.10	<0.10	NA	< 0.10	100%	50%	140%	87%	50%	140%	103%	50%	140%
Benzo(k)fluoranthene	4685533	4685533	<0.10	<0.10	NA	< 0.10	115%	50%	140%	99%	50%	140%	103%	50%	140%
Benzo(a)pyrene	4685533	4685533	<0.01	<0.01	NA	< 0.01	110%	50%	140%	72%	50%	140%	111%	50%	140%
Indeno(1,2,3-cd)pyrene	4685533	4685533	<0.20	<0.20	NA	< 0.20	118%	50%	140%	108%	50%	140%	78%	50%	140%
Dibenz(a,h)anthracene	4685533	4685533	<0.20	<0.20	NA	< 0.20	109%	50%	140%	67%	50%	140%	75%	50%	140%
Benzo(g,h,i)perylene	4685533	4685533	<0.20	<0.20	NA	< 0.20	101%	50%	140%	89%	50%	140%	88%	50%	140%
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Water)															
Benzene	4685533	4685533	<0.20	<0.20	NA	< 0.20	99%	60%	140%	96%	60%	140%	100%	60%	140%
Toluene	4685533	4685533	<0.20	<0.20	NA	< 0.20	92%	60%	140%	112%	60%	140%	90%	60%	140%
Ethylbenzene	4685533	4685533	<0.10	<0.10	NA	< 0.10	86%	60%	140%	106%	60%	140%	99%	60%	140%
m & p-Xylene	4685533	4685533	<0.20	<0.20	NA	< 0.20	102%	60%	140%	96%	60%	140%	100%	60%	140%
o-Xylene	4685533	4685533	<0.10	<0.10	NA	< 0.10	100%	60%	140%	106%	60%	140%	102%	60%	140%
F1 (C6-C10)	4685533	4685533	<25	<25	NA	< 25	89%	60%	140%	86%	60%	140%	96%	60%	140%
F2 (C10 to C16)	4689756		<100	<100	NA	< 100	97%	60%	140%	69%	60%	140%	71%	60%	140%
F3 (C16 to C34)	4689756		<100	<100	NA	< 100	103%	60%	140%	86%	60%	140%	75%	60%	140%
F4 (C34 to C50)	4689756		<100	<100	NA	< 100	95%	60%	140%	86%	60%	140%	112%	60%	140%

Certified By: R. Chakraborty

AGAT Laboratories

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

Quality Assurance

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z987933

PROJECT: 21493887

ATTENTION TO: James Doyle

SAMPLING SITE:3440 Frank Kenny Rd.

SAMPLED BY:Ryan Frands

Water Analysis

RPT Date: Feb 09, 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	4685525	4685525	<1.0	<1.0	NA	< 1.0	105%	70%	130%	104%	80%	120%	104%	70%	130%
Dissolved Arsenic	4685525	4685525	<1.0	<1.0	NA	< 1.0	95%	70%	130%	95%	80%	120%	100%	70%	130%
Dissolved Barium	4685525	4685525	21.1	19.9	5.9%	< 2.0	99%	70%	130%	96%	80%	120%	94%	70%	130%
Dissolved Beryllium	4685525	4685525	<0.50	<0.50	NA	< 0.50	102%	70%	130%	100%	80%	120%	90%	70%	130%
Dissolved Boron	4685525	4685525	63.1	60.0	5.0%	< 10.0	100%	70%	130%	95%	80%	120%	88%	70%	130%
Dissolved Cadmium	4685525	4685525	<0.20	<0.20	NA	< 0.20	101%	70%	130%	99%	80%	120%	101%	70%	130%
Dissolved Chromium	4685525	4685525	<2.0	<2.0	NA	< 2.0	99%	70%	130%	93%	80%	120%	98%	70%	130%
Dissolved Cobalt	4685525	4685525	<0.50	<0.50	NA	< 0.50	97%	70%	130%	91%	80%	120%	98%	70%	130%
Dissolved Copper	4685525	4685525	1.7	1.6	NA	< 1.0	96%	70%	130%	90%	80%	120%	92%	70%	130%
Dissolved Lead	4685525	4685525	1.45	1.38	NA	< 0.50	98%	70%	130%	89%	80%	120%	86%	70%	130%
Dissolved Molybdenum	4685525	4685525	1.07	1.38	NA	< 0.50	101%	70%	130%	99%	80%	120%	104%	70%	130%
Dissolved Nickel	4685525	4685525	2.3	2.1	NA	< 1.0	97%	70%	130%	90%	80%	120%	96%	70%	130%
Dissolved Selenium	4685525	4685525	<1.0	1.6	NA	< 1.0	108%	70%	130%	102%	80%	120%	112%	70%	130%
Dissolved Silver	4685525	4685525	<0.20	<0.20	NA	< 0.20	97%	70%	130%	92%	80%	120%	92%	70%	130%
Dissolved Thallium	4685525	4685525	<0.30	<0.30	NA	< 0.30	101%	70%	130%	95%	80%	120%	93%	70%	130%
Dissolved Uranium	4685525	4685525	1.86	1.86	NA	< 0.50	94%	70%	130%	97%	80%	120%	98%	70%	130%
Dissolved Vanadium	4685525	4685525	<0.40	<0.40	NA	< 0.40	102%	70%	130%	97%	80%	120%	105%	70%	130%
Dissolved Zinc	4685525	4685525	<5.0	<5.0	NA	< 5.0	96%	70%	130%	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:

AGAT Laboratories

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

Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z987933

PROJECT: 21493887

ATTENTION TO: James Doyle

SAMPLING SITE:3440 Frank Kenny Rd.

SAMPLED BY:Ryan Frands

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
Benzene	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
Toluene	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS

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MISSISSAUGA, ONTARIO
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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z987933

PROJECT: 21493887

ATTENTION TO: James Doyle

SAMPLING SITE:3440 Frank Kenny Rd.

SAMPLED BY:Ryan Frands

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Ethylbenzene	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
m & p-Xylene	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
o-Xylene	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
Xylenes (Total)	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
F1 (C6-C10)	VOL-91- 5010	modified from MOE PHC-E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	modified from MOE PHC-E3421	P&T GC/FID
Toluene-d8	VOL-91-5010	modified from MOE PHC-E3421	(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
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

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

Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z987933

PROJECT: 21493887

ATTENTION TO: James Doyle

SAMPLING SITE:3440 Frank Kenny Rd.

SAMPLED BY:Ryan Frands

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

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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 23Z987933

PROJECT: 21493887

ATTENTION TO: James Doyle

SAMPLING SITE:3440 Frank Kenny Rd.

SAMPLED BY:Ryan Frands

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

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 #: 2327987933

Cooler Quantity: One - loose ice

Arrival Temperatures: 3.0 | 3.3 | 3.9
6.5 | 6.7 | 6.1

Custody Seal Intact: ☐ Yes ☐ No ☐ N/A

Notes: Late

Report Information:

Company: WSP
Contact: James Doyle
Address: 1931 Robertson Rd

Phone: Fax:

Reports to be sent to:
1. Email: James.Doyle@wsp.com
2. Email: Philippe.Cheurette@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 ☒ 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: 21493887
Site Location: 3140 Frank Kenny Rd
Sampled By: Ryan Francis
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☒ No ☐

Company:
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	PAHs	PCBs	VOC	Aroclors	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach ☐ Metals ☐ VOCs ☐ SVOCs	Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Corrosivity: Include Moisture ☐ Sulphide ☐	Potentially Hazardous or High Concentration (Y/N)
MW 22-01	Jan 12/23	12:05 AM/PM	8	GW			✓	✓	✓	✓		✓						
MW 22-02	Jan 12/23	1:40 AM/PM	8	GW			✓	✓	✓	✓								
MW 22-03	Jan 12/23	3:10 AM/PM	8	GW			✓	✓	✓	✓		✓						
DUP-1	Jan 12/23	12:05 AM/PM	8	GW			✓	✓	✓	✓		✓						
		AM/PM																
		AM/PM																
		AM/PM																
		AM/PM																
		AM/PM																
		AM/PM																
		AM/PM																

Samples Relinquished By (Print Name and Sign): Ryan Francis	Date: Jan 12/23	Time: 4:40	Samples Received By (Print Name and Sign): C. Crafton	Date: JAN 12 2023	Time: 16h50
Samples Relinquished By (Print Name and Sign): C. Crafton	Date: JAN 13 2023	Time: 16h00	Samples Received By (Print Name and Sign):	Date: 1/14/23	Time: 10:45
Samples Relinquished By (Print Name and Sign):	Date:	Time:	Samples Received By (Print Name and Sign):	Date:	Time:

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N°: T - 138704

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