Phase Two
Environmental Site Assessment

193 Norice Street
Ottawa, Ontario

Prepared for:

2707120 Ontario Inc.
549 De Mazenod Avenue
Ottawa, Ontario
K1S 5H3

LRL File No.: 240094

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EXECUTIVE SUMMARY

2707120 Ontario Inc. has retained LRL Engineering (LRL) to complete a Phase Two Environmental Site Assessment (ESA) on the property located at 193 Norice Street in Ottawa, Ontario (herein referred to as the 'Site'). The assessment was conducted in the context of property development, in support of a Site Plan Application package to the City of Ottawa for the development of a four (4) storey, multi-unit residence. The assessment was completed generally as per O. Reg. 153/04 as amended.

The purpose of a Phase Two ESA is to determine if recognized potential environmental concerns have negatively impacted soil and groundwater quality of the subject Site. Such an assessment provides information regarding the nature and extent of potential contamination to assist in making informed business decisions about the property. The potential environmental concerns (PECs) identified that requires investigation include the following: Importation of Fill Materials of Unknown Quality on the Site.

The Executive Summary for this Phase Two ESA is as follows:

Executive Summary	
Summary of Phase Two ESA Property ('Site')	The Phase Two ESA is located at 193 Norice Street in Ottawa, Ontario. The Site is rectangular in shape with an area of approximately 1,350 m² (0.33 acres). The property is currently vacant however used to contain a residential home which was demolished between 2015 and 2017. The Site was transferred to 2707120 Ontario Inc. in 2023, who remains the present-day owner.
Phase Two ESA Investigation	The purpose of a Phase Two ESA is to determine if recognized potential environmental concerns have negatively impacted soil and groundwater quality of the subject Site. Such an assessment provides information regarding the nature and extent of potential contamination to assist in making informed business decisions about the property. The assessment was conducted in the context of property development, in support of a Site Plan Application package to the City of Ottawa for the development of a four (4) storey, multi-unit residence. The assessment was completed generally as per O. Reg. 153/04 as amended.
Geologic Conditions	According to available geological mapping, the surficial geology consists of marine offshore deposits including clay, silty clay and silt, commonly calcareous and fossiliferous; local overlain by thin sand. The subsurface soil conditions encountered during the intrusive investigation on Site generally consist of fill, silty-sand with some gravel, to depths of 1.45 m bgs, followed by clayey silt to 3.96 m bgs and sand, with some silt and trace clay to between 6.70 and 8.23 m bgs, where the boreholes were terminated. It should be noted that the Phase Two ESA sample collected was limited to the initial approximately 2.1 m where the PCA of fill of unknown origin was identified. Bedrock is part of Ottawa Formation, consisting mainly of grey limestone, some dolomite, shale and sandstone in the lower part. Subsurface soil conditions in the area were determined from water well records on the adjacent properties. The Subsurface structure consist of clay to depths between 10 and 20 m bgs, followed

	by silt/sand to depths between 15 to 25 m bgs, followed by limestone in which the wells were terminated.
Hydrogeological Conditions	The investigation involved advancing two (2) boreholes on the Site at strategic locations based on areas of PECs. None of which were completed into monitoring wells, therefore the hydrogeological conditions were not assessed as part of this investigation. As discussed in the corresponding Phase One Environmental Report prepared by LRL in support of the proposed development application, *According to The Atlas of Canada – Toporama*, the overall regional groundwater flow direction is inferred to follow local topography to the north-northwest towards an un-named water course located approximately 1.5 km northwest of the Site, which flow north-west towards the Ottawa River (4.7 km north of the Site). For the purposes of this report, the groundwater flow direction across the Site will be inferred as north/north-west, following the topography of the area. Additional information retrieved through the City of Ottawa's Development Application Search provides additional support towards this groundwater flow rationale (general northerly direction).
Applicable Site Condition Standards	Regulatory requirements for assessing environmental conditions of a Site are established by Ontario Regulation 153/04 – Records of Site Conditions, Part XV.1 of the Environmental Protection Act (O. Reg. 153/04). Site condition standards are set out in the MECP's "Soil, Ground Water and Sediment Standards for Use Under Part IV.1 of the Environmental Protection Act", April 15, 2011, as amended. The applicable SCS used was the Table 2 Full Depth Generic Site Condition Standards in a Potable Groundwater Condition, residential property use and fine-textured soils.
Soil Quality	Contaminants of potential concern for the upper soils on the Site, include Petroleum Hydrocarbon Compounds (PHCs), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAH), metals, and inorganics. No olfactory or visual evidence of petroleum hydrocarbon impacts were observed in the soils collected from all boreholes, The CSV concentrations measured in the soil samples collected ranged between non-detect (<0.1 ppm) and 0.1 ppm. The soil sample collected from BH2 from depths of between 0.0 and 0.6 m bgs had a CSV reading of 0.1 ppm. All the remaining samples were confirmed to have a CSV reading of <0.1 ppm. VOC parameters analysed were not detected in the corresponding soil samples submitted for analysis. PHCs were not detected in sample BH1-SS3, however PHC F2 through PHC F4 were encountered in sample BH2-SS1, collected from depths of between 0.0 and 0.6 m bgs. The concentrations were 5, 25 and 15 µg/g, for PHC F2, PHC F3 and PHC F4, respectively. These levels are below the O. Reg. 153/04, as amended, Table 2 Site Condition Standards (SCS) for Fine-Textured Soils, of 150, 1,300 and 5,600 µg/g. Select PAH parameters were detected in the samples submitted. These parameters include: Benzo[a]anthracene; Benzo[a]pyrene; Benzo[b]fluoranthene; Benzo[g,h,i]perylene; Benzo[k]fluoranthene; Chrysene; Fluoranthene; Indeno [1,2,3-cd] pyrene; Phenanthrene; and Pyrene. No exceedances to the applicable SCS were detected for PAH parameters in the soil samples submitted. Select metals and general inorganics parameters analysed were detected in the soil samples submitted for analysis. A notable distinction in select parameters is apparent between the samples collected which represent the fill material, and

	those of the underlying native soils. No exceedances were encountered for any of the parameters detected.
Conclusions	The soil within the areas of concern assessed on the Site meet the applicable SCS for the identified contaminates of concern. Based on our observations during drilling activities, along with screening of samples and laboratory analysis, there does not appear to be a negative influence, with respect to the site conditions, relating the fill material deposited on the Site. The findings presented herein, in this Phase Two ESA report, may be relied upon by the client for the purposes of re-development, subject to the appliable conclusions and limitation outlined herein.
Recommendations	At the time of redevelopment, excess soil must be removed in accordance with O. Reg. 406/19: On-Site and Excess Soil Management, which will require additional sampling, and laboratory analysis.
Limitations	Findings contained in this report are based on data and information collected during the Phase Two ESA of the subject property conducted by LRL Engineering. Conclusions and recommendations are based solely on-site conditions encountered at the time of our fieldwork on May 16th, 2024, supplemented by historical information and data obtained as described in this report. No assurance is made regarding changes in conditions subsequent to the time of this investigation. If additional information is discovered or obtained, LRL Engineering should be requested to re-evaluate the conclusions presented in this report and to provide amendments as required. In evaluating the subject property, LRL Engineering has relied in good faith on information provided by individuals as noted in this report. We assume that the information provided is factual and accurate. We accept no responsibility for any deficiencies, misstatements or inaccuracies contained in this report as a result of omissions, misinterpretation or fraudulent acts of the persons contacted. Additional Limitations and Use of the Report are provided at the end of the subsequent report.

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1 INTRODUCTION

2707120 Ontario Inc. has retained LRL Engineering (LRL) to complete a Phase Two Environmental Site Assessment (ESA) on the property located at 193 Norice Street in Ottawa, Ontario (herein referred to as the 'Site'). The assessment was conducted in the context of property development, in support of a Site Plan Application package to the City of Ottawa for the development of a four (4) storey, multi-unit residence. The assessment was completed generally as per O. Reg. 153/04 as amended.

1.1 Purpose

The purpose of a Phase Two ESA is to determine if recognized potential environmental concerns have negatively impacted soil and groundwater quality of the subject Site. Such an assessment provides information regarding the nature and extent of potential contamination to assist in making informed business decisions about the property.

The potential environmental concerns (PECs) identified that requires investigation include the following:

- Importation of Fill Materials of Unknown Quality on the Site.

Contaminates	Parameters
Petroleum Hydrocarbon Compounds (PHCs)	PHC Fraction F1 through Fraction F4
Volatile Organic Compounds (VOCs)	Acetone; Benzene; Bromodichloromethane; Bromoform; Bromomethane; Carbon Tetrachloride; Chlorobenzene; Chloroform; Dibromochloromethane; Dichlorodifluoromethane; 1,2-Dichlorobenzene; 1,3-Dichlorobenzene; 1,4-Dichlorobenzene; 1,1-Dichloroethane; 1,2-Dichloroethane; 1,1-Dichloroethylene; cis-1,2-Dichloroethylene; trans-1,2-Dichloroethylene; 1,2-Dichloropropane; cis-1,3-Dichloropropylene; trans-1,3-Dichloropropylene; 1,3-Dichloropropene, total; Ethylbenzene; Ethylene dibromide (dibromoethane, 1,2-); Hexane; Methyl Ethyl Ketone (2-Butanone); Methyl Isobutyl Ketone; Methyl tert-butyl ether; Methylene Chloride; Styrene; 1,1,1,2-Tetrachloroethane; 1,1,2,2-Tetrachloroethane; Tetrachloroethylene; Toluene; 1,1,1-Trichloroethane; 1,1,2-Trichloroethane; Trichloroethylene; Trichlorofluoromethane; Vinyl Chloride; m/p-Xylene; o-Xylene; and Xylenes, total
Polycyclic Aromatic Hydrocarbons (PAH)	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]anthracene; Benzo[a]pyrene; Benzo[b]fluoranthene; Benzo[g,h,i]perylene; Benzo[k]fluoranthene; Chrysene; Dibenzo[a,h]anthracene; Fluoranthene; Fluorene; Indeno[1,2,3-cd]pyrene; 1-Methylnaphthalene; 2-Methylnaphthalene; Methylnaphthalene (1&2); Naphthalene; Phenanthrene; Pyrene
Regulation 153/04 Metals; and	Antimony; Beryllium; Cadmium; Chromium VI; Chromium; Cobalt; Copper; Lead; Mercury; Molybdenum; Nickel; Silver; Thallium; Uranium; Vanadium; Zinc
Hydride Forming Metals	Sodium Absorption Ration (SAR); Conductivity; Boron; Boron Hot Water; Selenium; Cyanide; Arsenic; Barium; and pH

The Phase Two ESA will establish the Site's subsurface geology conditions. Soil conditions will be evaluated with respect to the contaminants of concern in the context of the current regulations and guidelines applicable to contaminated sites. Findings and conclusions presented in this report apply only to the recognized environmental conditions assessed.

2 SITE DESCRIPTION

The subject Site is located at 193 Norice Street in Ottawa, Ontario. It is located within a generally an urban residential and commercial area of Ottawa, approximately 75 m west of the Woodroffe Avenue and Norice Street intersection. The location of the Site is presented in **Figure 1**. The property is legally described as Part Lot 32, Concession 1RF, Parcel 161 as in CR532638, City of Ottawa with Zoning - Local Commercial LC [2127]. It is understood that the proposed development may require a zoning amendment or zoning change. The property is currently vacant however used to contain a residential home which was demolished between 2015 and 2017.

The property has a rectangular shape and is between approximately 30 m wide (fronting Norice Street) by approximately 45 m deep, for a total area of approximately 1,350 m^2 (0.33 acres). The topography of the Site and neighbouring lands is generally flat. The subject Site and the neighbouring lands have a common topographic elevation of approximately 88 m above mean sea level (amsl) according to The Atlas of Canada - Toporama. More specifically, the Site has a slight slope to the north, towards the Ottawa River.

The dimensions of the Site, and general configuration, are presented in **Figure 2**. For the purpose of this report, Norice Street will be inferred as being orientated in an east-west direction.

2.1 Property Information

Parameters	Information
Location/ Address:	193 Norice Street, Ottawa Ontario The location of the Site is presented in the included **Figure 1.**
Property Identification Numbers (PIN):	PIN#: 04673-0191 (LT)
Legal Description:	Part Lot 32, Concession 1RF, Parcel 161 as in CR532638.
Dimensions/Shape:	Rectangular shape: approximately 30 m wide (fronting Norice Street) by approximately 45 m deep. The general Site configuration is shown on the Site Plan in **Figure 2**.
Frontage:	Norice Street
Zoning:	Local Commercial LC [2127]
Area:	Approximately 1,350 m^2 (0.33 acres)

2.2 Site Occupancy

Parameters	Information
Current use/ Occupancy:	The property is currently vacant.
Current use since:	Approximately 2015-2017 when the previous residence was demolished.
Proposed Land Use:	Residential

2.3 Property Ownership

Parameters	Information
Current owner:	The records reveal that the Site was transferred to 2707120 Ontario Inc. in 2023, who remains the present-day owner.
Owner since:	2023
Owner Contact:	Peter Hume peter.hume@hpurban.ca

2.4 Current and Proposed Land Use

The Site is presently un-developed with the exception of an asphalt driveway associated with the former residence which was located on the Site from between approximately the mid-1950's through to between 2015-2017 when it was demolished.

It is anticipated that one (1) - four (4) storey, multi-unit residence will be constructed on the Site. The proposed development will be serviced by the City of Ottawa sanitary and water supply services.

3 APPLICABLE GUIDELINE CRITERIA

Regulatory requirements for assessing the environmental conditions of a site are established by Ontario Regulation 153/04 – Records of Site Conditions, Part XV.1 of the Environmental Protection Act (O. Reg. 153/04). The site condition standards are set out in the Ministry of Environment, Conservation and Parks' "*Soil, Ground Water and Sediment Standards for Use Under Part IV.1 of the Environmental Protection Act*", as amended. The applicable site condition standard used was the Table 2 Full Depth Generic Site Condition Standards (SCS) in a potable groundwater condition, residential property use and fine textured soils for the following reasons outlined in the table below.

Parameters	Information
Property Land Use	The land use of the property is residential The previous, and proposed use of the property will be residential.
Potable or Non-Potable Groundwater Conditions	Although the Site and adjacent properties have Non-Potable Groundwater Conditions, records of supply wells were retrieved within 150 m of the Site, with no confirmation to whether they have been decommissioned or are still in use. Therefore the groundwater conditions of the Site will be considered as Potable.
Proximity to Surface Water	According to The Atlas of Canada – Toporama, an un-named water course is located approximately 1.5 km northwest of the Site, which flow north-west towards the Ottawa River (4.7 km north of the Site).
Areas of Natural Significance	None.
Bedrock Details	Based on available geological resources, bedrock in the vicinity of the Site is inferred to be at depths ranging between 15 and 25 m below grade. Bedrock mapping indicates that the bedrock is part of Ottawa Formation, consisting mainly of grey limestone, some dolomite, shale and sandstone in the lower part.
Direction of Groundwater Flow	According to *The Atlas of Canada – Toporama*, the overall regional groundwater flow direction is inferred to follow local topography to the north-northwest towards an un-named water course located approximately 1.5 km northwest of the Site, which flow northwest towards the Ottawa River (4.7 km north of the Site). For the purposes of this report, the groundwater flow direction across the Site will be inferred as north/north-west, following the topography of the area. As discussed in the Phase One Environmental Site Assessment completed by LRL in support of the proposed development application for the Site, and in conjunction with this Phase Two Environmental Site Assessment, a previously completed Phase Two Environmental Site Assessment prepared by others for the property located approximately 350 m southwest of the Site, at 40 Beechcliffe Street, was reviewed to further confirm geological and hydrogeological conditions of the area. Based on the findings presented in the report by others, groundwater elevations demonstrated a generally northerly groundwater flow direction which further supports the findings from our *The Atlas of Canada – Toporama* review.
Grain Size Analysis	As part of a Geotechnical Investigation completed by LRL, in support of the proposed Site re-development, select soil samples were submitted for laboratory gradation analyses. Based on the analytical results, the native subsurface soils were identified to be fine- to medium-grained. A copy of the analytical results is include in **Appendix A**.
pH of Soil	Laboratory Analysis, discussed in greater detail below in Section 0, reported soil pH values of between 6.9 and 7.4 pH units from depths between 0.0 and 2.1 m bgs.

4 BACKGROUND INFORMATION

4.1 Physical Setting

The topography of the Site and neighbouring lands is generally flat. The subject Site and the neighbouring lands have a common topographic elevation of approximately 88 m above mean sea level (amsl) according to The Atlas of Canada - Toporama. More specifically, the Site has a slight slope to the north, towards the Ottawa River.

According to The Atlas of Canada – Toporama, the overall regional groundwater flow direction is inferred to follow local topography to the north-northwest towards an un-named water course located approximately 1.5 km northwest of the Site, which flow northwest towards the Ottawa River (4.7 km north of the Site). For the purposes of this report, the groundwater flow direction across the Site will be inferred as north/north-west, following the topography of the area. Additional information retrieved, as presented in the corresponding Phase One Environmental Site Assessment prepared in support of this proposed development application, through the City of Ottawa's Development Application Search provides additional support towards this groundwater flow rationale.

Based on a review of the Canada Radon, Radon Potential Map of Ontario, the Site is situated within a Relative Radon Hazard Zone 3 – Guarded.

4.2 Neighbouring Properties and Land Uses

According to the City of Ottawa's Zoning information, available through the City of Ottawa's on-line interactive mapping portal, geo-Ottawa, the neighbouring lands are zoned as follows:

- Residential Zone (R2D and R1FF) to the north, south and west; and
- Institutional (I1B) to the southwest and west.

The current land uses of the adjoining properties were observed from the property limits and publicly accessible locations to assess potential impacts to the Site that may arise from off-Site operations. The properties surrounding the subject Site are as follows:

- North: Residential, Westwood Drive.
- South: Residential, Norice Street.
- East: Residential.
- West Commercial: Maya Market, H & R Pizza, Oil Changers (automotive service facility).

4.3 Previous Reports

No previous reports for the property are available. However, it should be noted that LRL Engineering has completed a Geotechnical Investigation in support of the proposed Site re-development. The Geotechnical Investigation findings have been referenced for the completion of this report.

4.4 Media Investigation

The Phase Two ESA was initiated to investigate the potential for impact to the soil on, within or under the Site. No sediment sampling was completed as part of this Phase Two ESA, as no surface water bodies are present on the Site at the time of the investigation. Furthermore, as the identified potential environmental concern is limited to the shallow 1.2 m of overburden, the risk for groundwater impairment is unlikely, therefore groundwater was not investigated as part of this

assessment. Further discussion related to the extents of the identified fill, and limits are included below in Section 6.1.

4.5 Scope of Investigation

LRL conducted this work in accordance with the standard Phase Two ESA procedures, which generally reflect the requirements of:

- Canadian Standards Association (CSA) Phase II Environmental Site Assessment, Z769-00 (R2018).
- Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario, Ministry of the Environment, Conservation and Parks, March 2009; and
- O. Reg. 153/04, as amended.

This report will present the results of the ESA carried out between May 16th and May 24th, 2024.

4.5.1 Soil Investigation

The subsurface soil investigation was initiated to confirm the possible impacts associated with the areas of potential environmental concern identified (fill of unknown origin). The investigation was done in conjunction with previously mentioned Geotechnical Investigation, and generally completed as such:

- The drilling contractor was Downing Drilling (Hawkesbury, Ontario) and worked under LRL field staff supervision;
- Two (2) boreholes (BH1 and BH2) were advanced within the overburden to depths of 8.2 and 6.7 m below ground surface (bgs), respectively;
- A truck-mounted CME 75, equipped with approximately 203 mm hollow stem auger, and 0.6 m length split-spoon samples;
- Soil samples were collected in 0.6 m lengths from the split-spoon samplers;
- As part of the Phase Two Environmental Investigation, representative soil samples from each soil stratum encountered from the upper approximately 2.1 m were collected and transferred immediately into sealed laboratory supplied glass containers and polyethylene freezer bags. The boreholes were extended further, without sample collected for the purpose of the Geotechnical Investigation;
- Samples were examined for soil type, colour, staining/discolouration and odours;
- Samples were logged, labelled and stored on-Site in a cooler chilled with ice to prevent evaporation of potential combustible soil vapours (CSV);
- Soil samples stored in bags were screened for CSV presence using a Mini Rae 3000 Photoionization Detector (PID);
- All field-screening devices such as the combustible gas detector, were calibrated prior to use, to ensure accuracy and reliability of readings;
- Use of dedicated sampling equipment when possible;
- Thorough documentation of all field activities and sample handling practices including field notes, chain of custody forms, memos to files, etc.;
- Samples were submitted to a laboratory which is certified by the Canadian Association for Laboratory Accreditation (CALA); and

- Soil cuttings were collected and temporarily stored on Site in sealed containers awaiting future off-Site disposal at a licenced waste disposal facility by a competent contractor.

Details of the borehole drilling are provided in the borehole logs in **Appendix A**. Locations of the boreholes are presented in **Figure 3**.

4.6 Phase I Environmental Site Assessment Conceptual Model

The PCAs identified on the Phase One Property, as well as those identified within the Phase One Study Area were recognised through the records review, interview, and Site reconnaissance. One (1) PCAs was identified, which is summarized in the following table.

O. Reg 153/04 Schedule D PCA	Location of PCA	Description and Source Information	Contribution to an APEC
PCA 30: Importation of Fill Materials of Unknown Quality	On-Site	In the 1956 aerial image, the Site appeared to be developed with a residence. In 2017, the residence appears to have been demolished. At the time of the Site visit, a mound of suspected fill material was encountered, potentially as a result of the demolition of the residence. Based on the findings of the geotechnical investigation completed in support of the proposed re-development application with the City, has confirmed a thin layer of fill material a the upper overburden stratum across the Site.	The PCA is located on the Site and is therefore automatically considered to contribute to an on-site APEC.

The contaminates of potential concern, related to the identified PCAs, are as follows:

Contaminates	Parameters
Petroleum Hydrocarbon Compounds (PHCs)	PHC Fraction F1 through Fraction F4
Volatile Organic Compounds (VOCs)	Acetone; Benzene; Bromodichloromethane; Bromoform; Bromomethane; Carbon Tetrachloride; Chlorobenzene; Chloroform; Dibromochloromethane; Dichlorodifluoromethane; 1,2-Dichlorobenzene; 1,3-Dichlorobenzene; 1,4-Dichlorobenzene; 1,1-Dichloroethane; 1,2-Dichloroethane; 1,1-Dichloroethylene; cis-1,2-Dichloroethylene; trans-1,2-Dichloroethylene; 1,2-Dichloropropane; cis-1,3-Dichloropropylene; trans-1,3-Dichloropropylene; 1,3-Dichloropropene, total; Ethylbenzene; Ethylene dibromide (dibromoethane, 1,2-); Hexane; Methyl Ethyl Ketone (2-Butanone); Methyl Isobutyl Ketone; Methyl tert-butyl ether; Methylene Chloride; Styrene; 1,1,1,2-Tetrachloroethane; 1,1,2,2-Tetrachloroethane; Tetrachloroethylene; Toluene; 1,1,1-Trichloroethane; 1,1,2-Trichloroethane; Trichloroethylene; Trichlorofluoromethane; Vinyl Chloride; m/p-Xylene; o-Xylene; and Xylenes, total
Polycyclic Aromatic Hydrocarbons (PAH)	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]anthracene; Benzo[a]pyrene; Benzo[b]fluoranthene; Benzo[g,h,i]perylene; Benzo[k]fluoranthene; Chrysene; Dibenzo[a,h]anthracene; Fluoranthene; Fluorene; Indeno[1,2,3-cd]pyrene; 1-Methylnaphthalene; 2-Methylnaphthalene; Methylnaphthalene (1&2); Naphthalene; Phenanthrene; Pyrene
Regulation 153/04 Metals; and	Antimony; Beryllium; Cadmium; Chromium VI; Chromium; Cobalt; Copper; Lead; Mercury; Molybdenum; Nickel; Silver; Thallium; Uranium; Vanadium; Zinc
Hydride Forming Metals	Sodium Absorption Ration (SAR); Conductivity; Boron; Boron Hot Water; Selenium; Cyanide; Arsenic; Barium; and pH

Based on an underground utilities request associated with the corresponding geotechnical investigation, there does not appear to be any buried utilities on the Site.

The topography of the Site and neighbouring lands is generally flat. The subject Site and the neighbouring lands have a common topographic elevation of approximately 88 m above mean sea level (amsl) according to The Atlas of Canada - Toporama. More specifically, the Site has a slight slope to the north, towards the Ottawa River. According to The Atlas of Canada – Toporama, the overall regional groundwater flow direction is inferred to follow local topography to the north-northwest towards an un-named water course located approximately 1.5 km northwest of the Site, which flow north-west towards the Ottawa River (4.7 km north of the Site). For the purposes of this report, the groundwater flow direction across the Site will be inferred as north/north-west, following the topography of the area.

According to available geological mapping, the surficial geology consists of marine offshore deposits including clay, silty clay and silt, commonly calcareous and fossiliferous; local overlain by thin sand. Bedrock is part of Ottawa Formation, consisting mainly of grey limestone, some dolomite, shale and sandstone in the lower part. Subsurface soil conditions in the area were determined from water well records on the adjacent properties. The Subsurface structure consist of clay to depths between 10 and 20 m bgs, followed by silt/sand to depths between 15 to 25 m bgs, followed by limestone in which the wells were terminated.

5 INVESTIGATION METHOD

5.1 General

5.1.1 Field Preparation

Location of all buried and overhead services were obtained by LRL prior to initiation of the subsurface investigation.

5.1.2 Intrusive Investigation

An intrusive investigation was carried out on May 16th, 2024. Two (2) boreholes were advanced across the Site.

Borehole	Location	Rational
BH-1	South-central portion of the Site in the general area of the remaining asphalt driveway.	To establish the potential soil impacts associated with the suspected deposition of fill of unknown origin on the subject Site.
BH-2	General central portion of the Site, within the footprint of the former residence.	To establish the potential soil impacts associated with the suspected deposition of fill of unknown origin on the subject Site.

Borehole locations are presented in the included **Figure 3.**

5.2 Borehole Drilling

The intrusive investigation was conducted on May 16th, 2024, by LRL, in conjunction with a Geotechnical Investigation. The drilling contractor retained was Downing Drilling (Hawkesbury, Ontario) and worked under LRL field staff supervision. Two (2) boreholes (BH-1 and BH-2) were advanced within the overburden to depths of 6.7 and 8.2 m bgs using a truck-mounted CME 75 drilling rig equipped with approximately 205 mm hollow stem augers. Soil samples were collected using split-spoon samplers.

Details of the borehole drilling are provided in the borehole logs in **Appendix A**. Locations of the boreholes are presented in **Figure 3**.

5.2.1 Soil Sampling and Field Screening

Representative soil samples from the fill material encountered, and material immediate underlying the fill, at intervals of 0.6 m, were collected and transferred immediately into sealed laboratory supplied glass containers and polyethylene freezer bags. Samples were examined for soil type, colour, staining/discolouration and odours. Samples were logged, labelled and stored on-Site in a cooler chilled with ice to prevent evaporation of potential combustible soil vapours (CSV). Soil samples stored in bags were screened for CSV presence using a Mini Rae 3000 Photoionization Detector (PID).

Measures taken to minimize cross contamination during the intrusive investigation are provided below in Section 5.6.

5.3 Monitoring Well Installation

No groundwater monitoring wells were installed as part of this assessment based on the shallow nature of the suspected impacts.

5.4 Elevation Surveying

Ground surface elevations were surveyed and referenced to a temporary benchmark, assigned an arbitrary elevation of 100.00 m. This benchmark was established as the top of a local hydrant spindle.

For the purposes of this assessment, geodetic elevations of the ground surface across the property are not considered a requirement at this time, for the investigation. Should the levels presented herein be considered for development purposes, reference to a known benchmark elevations should be assigned to the ground surface.

5.5 Analytical Testing

Representative soil and groundwater samples collected during the investigation were submitted for laboratory analysis. The rationale for selection of the samples submitted for analysis was based on the results of the sample field screening (CSVs), visual/olfactory observations and/or proximity to the water table.

Samples were submitted to Paracel Laboratories Ltd., (Ottawa, Ontario) for the following contaminants of concern: VOC, PHC fractions F1 (C6 – C10), F2 (>C11 – C16), F3 (>C16 – C34) and F4 (>C34), PAH, metals, and general inorganics.

Laboratory Certificates of Analysis are included in **Appendix B**. All remaining samples not analyzed will be kept in storage for a period of one month following submission of this report at which time they shall be disposed of unless a written or verbal notice is received, stating otherwise.

5.6 QA/QC Protocols

Quality assurance/quality control (QA/QC) protocols were followed during the borehole drilling and sampling to ensure that representative samples were obtained. The protocols were generally performed in accordance with the following:

- Ontario Ministry of Environment, Conservation and Parks' (MECP) "*Guidance on* Sampling and Analytical Methods for Use at Contaminated Sites in Ontario", revised February 1997.
- Canadian Standards Association (CSA) Phase II Environmental Site Assessment, Z769-00 (R2018).

Field protocols that were employed include:

- All field-screening devices such as the combustible gas detector, were calibrated prior to use, to ensure accuracy and reliability of readings;
- Thorough decontamination of all sampling equipment. Use of dedicated sampling equipment when possible;
- Soil and groundwater samples collected were placed in laboratory supplied glass sample containers;
- Thorough documentation of all field activities and sample handling practices including field notes, chain of custody forms, memos to files, etc.; and
- Samples were submitted to a laboratory which is certified by the Canadian Association for Laboratory Accreditation (CALA).

Other QA/QC procedures conducted by LRL are outlined in the methodologies detailed below in Section 6.

6 REVIEW & EVALUATION

6.1 Soil Sampling

6.1.1 Geology

The subsurface soil conditions in the area investigated on the Site are summarized in the following table. Detailed borehole logs are presented in **Appendix A**.

Borehole Identification	Type	Geological Description	Depth Range (m bgs)	Soil Sample
BH-1	Fill Material	Silt-sand, some gravel, moist, greyish brown, loose.	0.0 – 1.45	SS1, SS2
	Clayey Silt	Trace sand, brownish grey, moist, very loose to loose.	1.45 – 3.96	SS3
	Sand	Some silt, trace clay, wet, grey, compact to dense.	3.96 – 8.23	--
BH-2	Fill Material	Silt-sand, some gravel, moist, greyish brown, loose.	0.0 – 1.45	SS1, SS2
	Clayey Silt	Trace sand, brownish grey, moist, very loose to loose.	1.45 – 3.96	SS3
	Sand	Some silt, trace clay, wet, grey, compact to dense.	3.96 – 6.70	--

6.1.2 Soil: Field Screening

No olfactory or visual evidence of petroleum hydrocarbon impacts were observed in the soils collected from all boreholes. The CSV concentrations measured in the soil samples collected ranged between non-detect (<0.1 ppm) and 0.1 ppm. The soil sample collected from BH2 from depths of between 0.0 and 0.6 m bgs had a CSV reading of 0.1 ppm. All the remaining samples were confirmed to have a CSV reading of <0.1 ppm.

6.1.3 Soil Texture

As part of a Geotechnical Investigation completed by LRL, in support of the proposed Site re-development, select soil samples were submitted for laboratory gradation analyses. Based on the analytical results, the native subsurface soils were identified to be fine- to medium-grained. A copy of the analytical results is included in **Appendix C**.

Further details with regards to the sampling and analysis are available in the Geotechnical Investigation, prepared by LRL in support of the proposed development.

6.1.4 Soil Quality

The analytical results of the submitted soil samples and respective MECP standards are presented in **Table 1** and **Table 2**. The soil exceedances are presented in **Figure 4**. Two (2) samples from each boreholes were submitted for chemical analysis to determine the impacts of recognized APECs. The samples were representative of the upper fill material, and the underlying native soils to confirm the quality and potential impacts of the fill material encountered. The laboratory certificates of analysis for soil are included in **Appendix B**.

VOC parameters analysed were not detected in the corresponding soil samples submitted for analysis. PHCs were not detected in sample BH1-SS3, however PHC F2 through PHC F4 were encountered in sample BH2-SS1, collected from depths of between 0.0 and 0.6 m bgs. The concentrations were 5, 25 and 15 µg/g, for PHC F2, PHC F3 and PHC F4, respectively. These levels are below the O. Reg. 153/04, as amended, Table 2 Site Condition Standards (SCS) for Fine-Textured Soils, of 150, 1,300 and 5,600 µg/g.

Select PAH parameters were detected in the samples submitted. These parameters include: Benzo[a]anthracene; Benzo[a]pyrene; Benzo[b]fluoranthene; Benzo[g,h,i]perylene; Benzo[k]fluoranthene; Chrysene; Fluoranthene; Indeno [1,2,3-cd] pyrene; Phenanthrene; and Pyrene. No exceedances to the applicable SCS were detected for PAH parameters in the soil samples submitted.

Select metals and general inorganics parameters analysed were detected in the soil samples submitted for analysis. A notable distinction in select parameters is apparent between the samples collected which represent the fill material, and those of the underlying native soils. No exceedances were encountered for any of the parameters detected.

The soil sample results were also compared to the O. Reg. 406/19 Table 2.1 Ceiling Limit for Residential/Parkland/Institutional, volume independent for additional support during the proposed re-development activities. Although additional sampling and analysis would be required to comply with the requirements of O. Reg 406/19 for off-Site disposal of excess overburden, at this time, the samples submitted for analysis as part of the Phase Two ESA meet the O. Reg. 406/19 Table 2.1 Ceiling Limit for Residential/Parkland/Institutional criteria.

7 CONCLUSIONS & RECOMMENDATIONS

Based on our Site visit, results of soil and groundwater sampling and laboratory analytical programs, LRL offers the following conclusions regarding environmental conditions of the subject Site:

- The Phase II ESA subject Site is located at 193 Norice Street in Ottawa, Ontario.
- The Site is rectangular in shape with an area of approximately 1,350 m² (0.33 acres).
- The property is currently vacant however used to contain a residential home which was demolished between 2015 and 2017.
- The purpose of a Phase Two ESA is to determine if recognized potential environmental concerns have negatively impacted soil and groundwater quality of the subject Site. Such an assessment provides information regarding the nature and extent of potential contamination to assist in making informed business decisions about the property. The assessment was conducted in the context of property development, in support of a Site Plan Application package to the City of Ottawa for the development of a four (4) storey, multi-unit residence. The assessment was completed generally as per O. Reg. 153/04 as amended.

- Based on the findings of a Phase One ESA, completed in support of the proposed development of the Site, the potential environmental concerns (PECs) identified that requires investigation include the following: Importation of Fill Materials of Unknown Quality on the Site.
- The topography of the Site and neighbouring lands is generally flat. The subject Site and the neighbouring lands have a common topographic elevation of approximately 88 m above mean sea level (amsl) according to *The Atlas of Canada - Toporama*. More specifically, the Site has a slight slope to the north, towards the Ottawa River.
- According to The Atlas of Canada – Toporama, the overall regional groundwater flow direction is inferred to follow local topography to the north-northwest towards an un-named water course located approximately 1.5 km northwest of the Site, which flow northwest towards the Ottawa River (4.7 km north of the Site). For the purposes of this report, the groundwater flow direction across the Site will be inferred as north/north-west, following the topography of the area. This is confirmed through findings presented by others, for neighbouring lands (general northerly shallow groundwater flow direction).
- According to available geological mapping, the surficial geology consists of marine offshore deposits including clay, silty clay and silt, commonly calcareous and fossiliferous; local overlain by thin sand.
- Bedrock is part of Ottawa Formation, consisting mainly of grey limestone, some dolomite, shale and sandstone in the lower part. Subsurface soil conditions in the area were determined from water well records on the adjacent properties. The Subsurface structure consist of clay to depths between 10 and 20 m bgs, followed by silt/sand to depths between 15 to 25 m bgs, followed by limestone in which the wells were terminated.
- The investigation involved advancing two (2) boreholes across the Site at strategic locations based on PCAs. No groundwater monitoring wells were installed as part of this assessment based on the shallow nature of the suspected impacts.
- The boreholes were advanced in conjunction with a Geotechnical Investigation which was initiated to satisfy the City of Ottawa conditions for the proposed re-development application of the Site.
- The subsurface soil conditions encountered generally consist of fill, silty-sand with some gravel, to depths of 1.45 m bgs, followed by clayey silt to 3.96 m bgs and sand, with some silt and trace clay to between 6.70 and 8.23 m bgs, where the boreholes were terminated. It should be noted that the Phase Two ESA sample collected was limited to the initial approximately 2.1 m where the PCA of fill of unknown origin was identified.
- Regulatory requirements for assessing environmental conditions of a Site are established by Ontario Regulation 153/04 – Records of Site Conditions, Part XV.1 of the Environmental Protection Act (O. Reg. 153/04). Site condition standards are set out in the MECP's "Soil, Ground Water and Sediment Standards for Use Under Part IV.1 of the Environmental Protection Act", April 15, 2011, as amended. The applicable SCS used was the Table 2 Full Depth Generic Site Condition Standards in a Potable Groundwater Condition, residential property use and fine-textured soils.

- Contaminants of potential concern for the upper soils on the Site, include Petroleum Hydrocarbon Compounds (PHCs), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAH), metals, and inorganics.
- No olfactory or visual evidence of petroleum hydrocarbon impacts were observed in the soils collected from all boreholes, The CSV concentrations measured in the soil samples collected ranged between non-detect (<0.1 ppm) and 0.1 ppm. The soil sample collected from BH2 from depths of between 0.0 and 0.6 m bgs had a CSV reading of 0.1 ppm. All the remaining samples were confirmed to have a CSV reading of <0.1 ppm.
- VOC parameters analysed were not detected in the corresponding soil samples submitted for analysis. PHCs were not detected in sample BH1-SS3, however PHC F2 through PHC F4 were encountered in sample BH2-SS1, collected from depths of between 0.0 and 0.6 m bgs. The concentrations were 5, 25 and 15 µg/g, for PHC F2, PHC F3 and PHC F4, respectively. These levels are below the O. Reg. 153/04, as amended, Table 2 Site Condition Standards (SCS) for Fine-Textured Soils, of 150, 1,300 and 5,600 µg/g.
- Select PAH parameters were detected in the samples submitted. These parameters include: Benzo[a]anthracene; Benzo[a]pyrene; Benzo[b]fluoranthene; Benzo[g,h,i]perylene; Benzo[k]fluoranthene; Chrysene; Fluoranthene; Indeno [1,2,3-cd] pyrene; Phenanthrene; and Pyrene. No exceedances to the applicable SCS were detected for PAH parameters in the soil samples submitted.
- Select metals and general inorganics parameters analysed were detected in the soil samples submitted for analysis. A notable distinction in select parameters is apparent between the samples collected which represent the fill material, and those of the underlying native soils. No exceedances were encountered for any of the parameters detected.
- The soil sample results were also compared to the O. Reg. 406/19 Table 2.1 Ceiling Limit for Residential/Parkland/Institutional, volume independent for additional support during the proposed re-development activities. Although additional sampling and analysis would be required to comply with the requirements of O. Reg 406/19 for off-Site disposal of excess overburden, at this time, the samples submitted for analysis as part of the Phase Two ESA meet the O. Reg. 406/19 Table 2.1 Ceiling Limit for Residential/Parkland/Institutional criteria.

Based on our observations during drilling activities, along with screening of samples and laboratory analysis, there does not appear to be a negative influence, with respect to the site conditions, relating the fill material deposited on the Site. The findings presented herein, in this Phase Two ESA report, may be relied upon by the client for the purposes of re-development, subject to the appliable conclusions and limitation outlined herein.

At the time of redevelopment, excess soil must be removed in accordance with O. Reg. 406/19: On-Site and Excess Soil Management, which will require additional sampling, and laboratory analysis.

8 LIMITATIONS AND USE OF REPORT

Results of this Phase Two ESA should not be considered a warranty that the subject property is free from any and all contaminants from former and current practices, other than those noted in this report, nor that all compliance issues have been addressed.

Findings contained in this report are based on data and information collected during the Phase Two ESA of the subject property conducted by LRL Engineering. Conclusions and recommendations are based solely on-site conditions encountered at the time of our fieldwork between May 16th and 24th, 2024, supplemented by historical information and data obtained as described in this report. No assurance is made regarding changes in conditions subsequent to the time of this investigation. If additional information is discovered or obtained, LRL Engineering should be requested to re-evaluate the conclusions presented in this report and to provide amendments as required.

In evaluating the subject property, LRL Engineering has relied in good faith on information provided by individuals as noted in this report. We assume that the information provided is factual and accurate. We accept no responsibility for any deficiencies, misstatements or inaccuracies contained in this report as a result of omissions, misinterpretation or fraudulent acts of the persons contacted.

This report is intended for the sole use of 2707120 Ontario Inc. and their authorized agents. LRL Engineering will not be responsible for any use of the information contained within this report by any third party.

In addition, LRL Engineering will not be responsible for the real or perceived decrease in the property value, its saleability or ability to gain financing, through the reporting of factual information.

Yours truly,
LRL Engineering

Jessica Arthurs
Environmental Engineering Manager

John (Gianni) Lametti, P. Eng. QPESA
Environmental Engineer

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9 REFERENCES

Canadian Standards Association, Phase II Environmental Site Assessment CAN/CSA-Z769-00, March 2000 (R2013).

City of Ottawa Interactive Map accessed through: http://maps.ottawa.ca/geoottawa/

Ministry of Environment, Conservations and Parks, Ontario Regulation 153/04: Records of Site Condition – Part XV.1 of the Environmental Protection Act, as amended.

Ontario Ministry of the Environment, *Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario*, 1996.

Ontario Ministry of the Environment, *Soil, Groundwater and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*, April 15, 2011.

Ontario Regulation 903, made under the Water Resources Act of the Environmental Protection Act, *Wells*, R.R.O. 1990.

Ontario Well Records Map accessed through: https://www.ontario.ca/environment-and-energy/map-well-records

Phase One Environmental Site Assessment, 193 Norice Street, Ottawa, Ontario, prepared by LRL Engineering, June 7, 2024 (Revision01 August 8, 2025).

Terrapex, Phase Two Environmental Site Assessment, Southern Portion of 40 Beechcliffe Street, Ottawa, Ontario, prepared for the City of Ottawa, April 2, 2025.

FIGURES

LRL
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PROJECT
PHASE TWO
ENVIRONMENTAL SITE ASSESSMENT
193 NORICE STREET
OTTAWA, ONTARIO

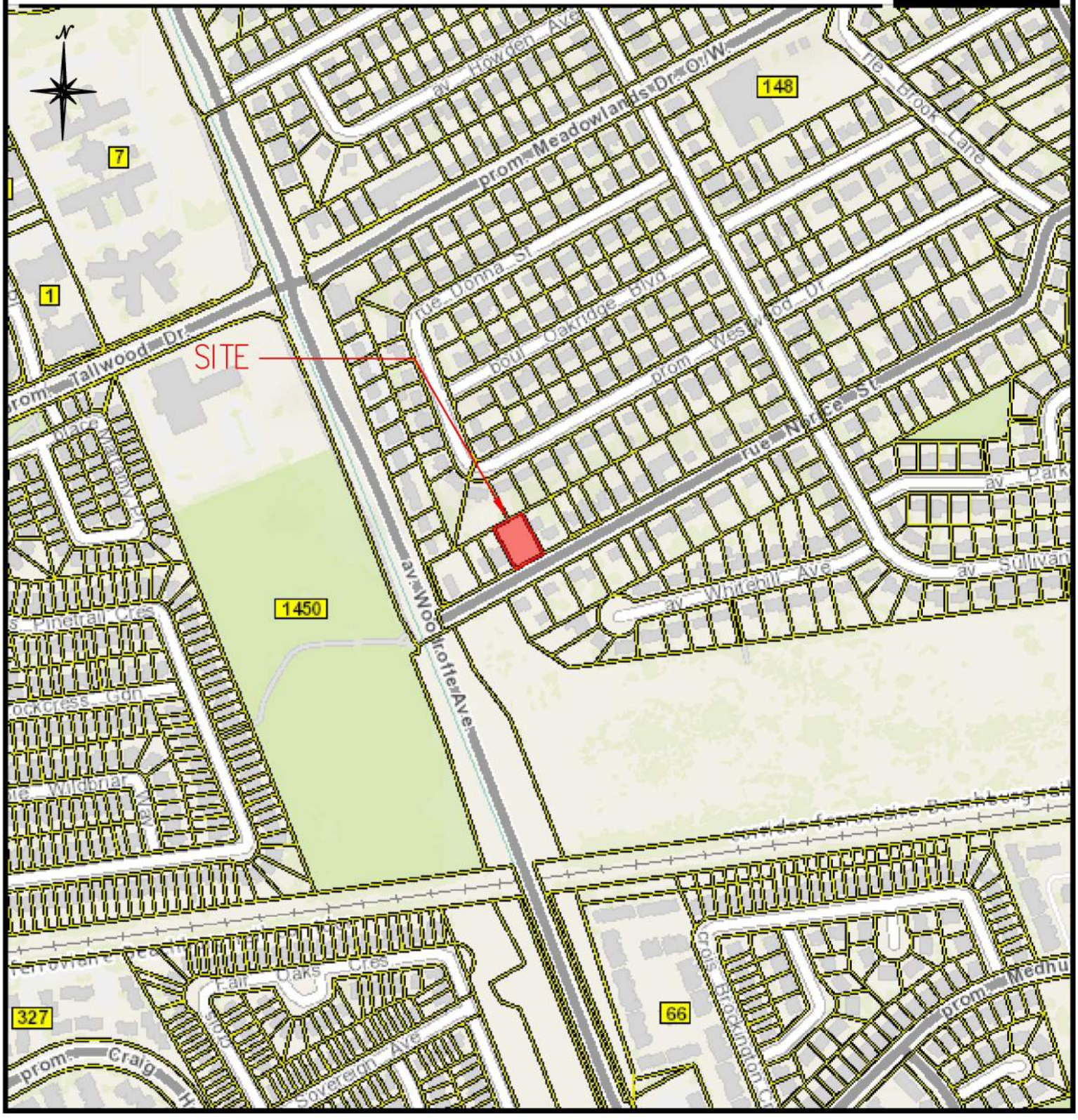
DRAWING TITLE
SITE LOCATION
(NOT TO SCALE)
SOURCE: GEOOTTAWA

CLIENT
2707120 ONTARIO INC.

DATE
MAY 2024

PROJECT
240094

FIGURE 1



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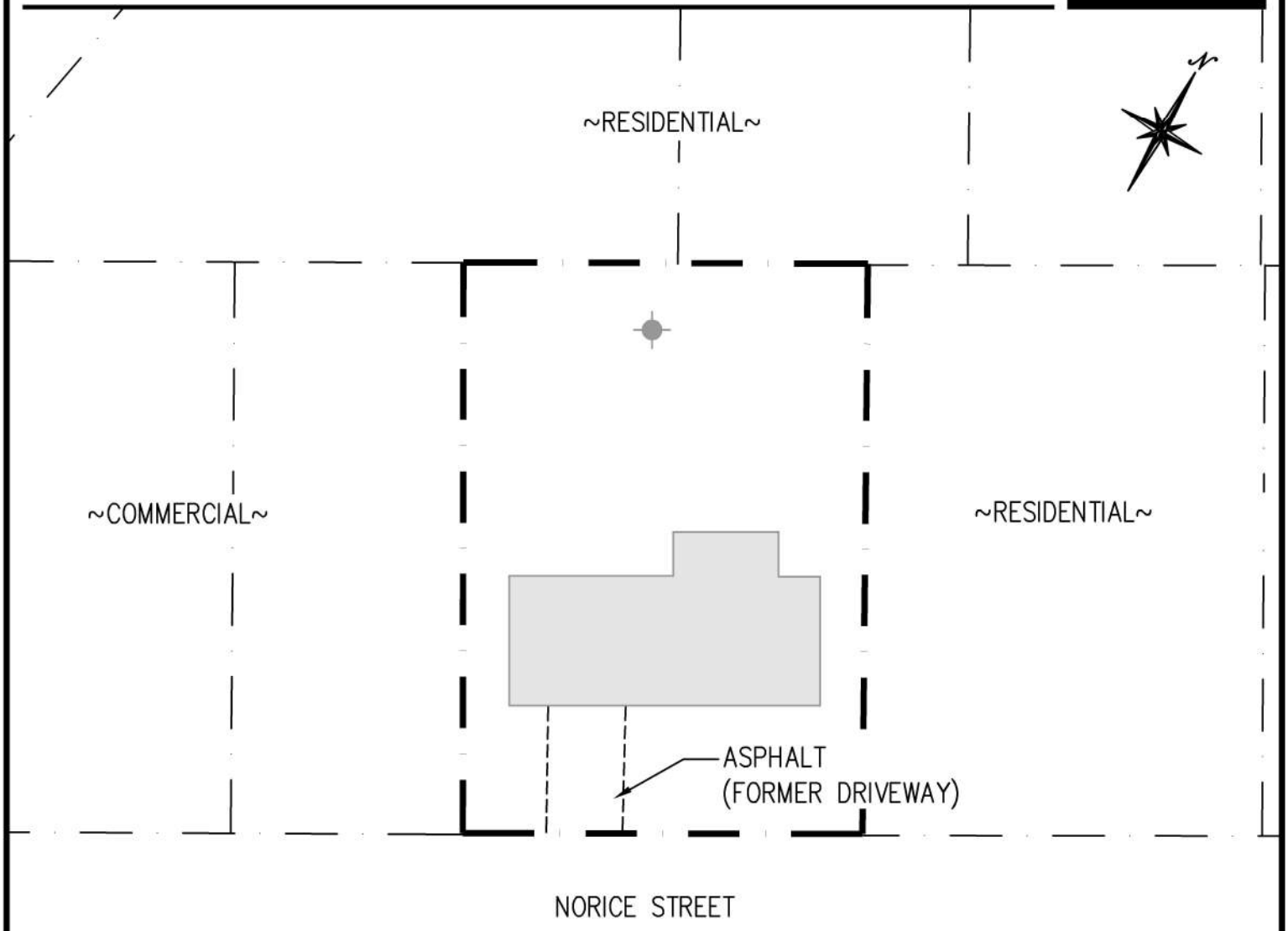
PROJECT
PHASE TWO
ENVIRONMENTAL SITE ASSESSMENT
193 NORICE STREET
OTTAWA, ONTARIO

DRAWING TITLE
SITE PLAN

CLIENT	DATE	PROJECT
2707120 ONTARIO INC.	MAY 2024	240094

FIGURE 2



LEGEND

- PROPERTY LINE
- EXTENTS OF ASPHALT – FORMER DRIVEWAY
- PVC PIEZOMETER – MONITORING WELL INSTALLED BY OTHERS
- APPROXIMATE LIMITS OF FORMER RESIDENCE ON THE SITE

10m 5 0 10 20m

SCALE: 1:500

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PROJECT

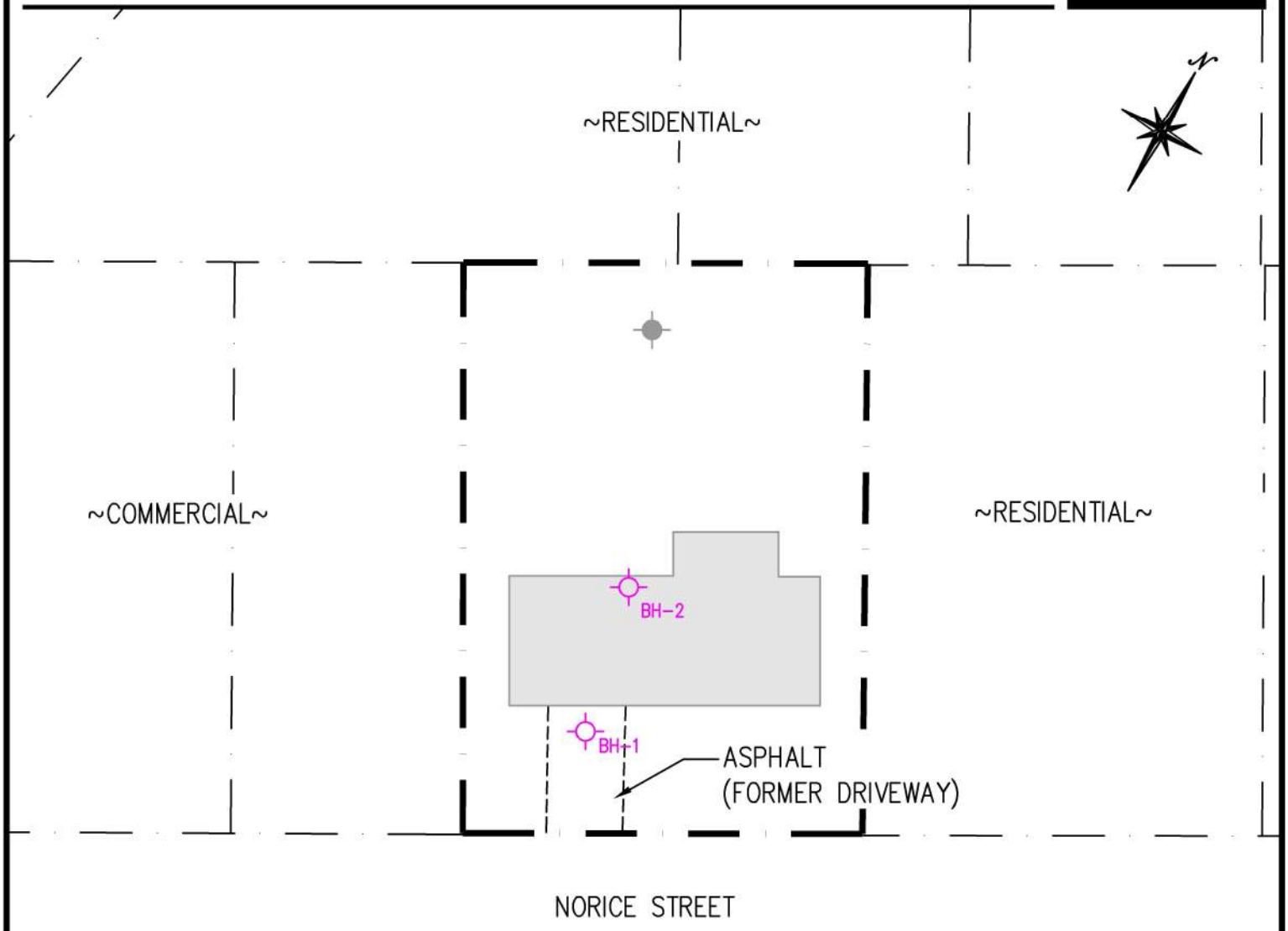
PHASE TWO
ENVIRONMENTAL SITE ASSESSMENT
193 NORICE STREET
OTTAWA, ONTARIO

DRAWING TITLE

BOREHOLE LOCATIONS

CLIENT	DATE	PROJECT
2707120 ONTARIO INC.	MAY 2024	240094

FIGURE 3



LEGEND

- PROPERTY LINE
- EXTENTS OF ASPHALT – FORMER DRIVEWAY
- PVC PIEZOMETER – MONITORING WELL INSTALLED BY OTHERS
- APPROXIMATE LIMITS OF FORMER RESIDENCE ON THE SITE
- BH-1 BOREHOLE LOCATION – MAY 2024

10m 5 0 10 20m

SCALE: 1:500

TABLES

Table 1
Summary of Soil VOC, PHC, and General Inorganics Analysis
Phase Two Environmental Site Assessment
193 Norice Street, Ottawa, Ontario, Ontario
LRL File: 240094

Parameter	Units	MDL	O. Reg. 153/04[1] Table 2[2] Residential Property Use Fine textured soil	Sample BH1-SS1	BH1-SS3	BH2-SS1	BH2-SS2
Sample Date (d/m/y)			--	16-May-24	16-May-24	May 16-2024	16-May-24
Depth below top of Ground	m		--	0.0 - 0.6	1.5 - 2.1	0.0 - 0.6	0.75 - 1.35
CSV Readings[3]	ppm	5	--	<0.1	<0.1	0.1	<0.1
Physical Characteristics							
% Solids	% by wt.	0.1	--	95.8	75.2	94.4	83.0
>0.075 mm	%	0.1	--	--	--	--	--
<0.075 mm	%	0.1	--	--	--	--	--
Texture	%	0.1	--	--	--	--	--
General Inorganics							
SAR	N/A	0.01	5	0.10	0.14	0.14	1.26
Conductivity	uS/cm	5	700	139	153	111	495
Cyanide, free	ug/g dry	0.03	0.051	<0.03	<0.03	<0.03	<0.03
pH	pH Units	0.1	--	7.39	6.92	7.47	6.98
Volatiles							
Acetone	ug/g dry	0.50	28	--	<0.50	<0.50	--
Benzene	ug/g dry	0.02	0.17	--	<0.02	<0.02	--
Bromodichloromethane	ug/g dry	0.05	1.9	--	<0.05	<0.05	--
Bromoform	ug/g dry	0.05	0.26	--	<0.05	<0.05	--
Bromomethane	ug/g dry	0.05	0.05	--	<0.05	<0.05	--
Carbon Tetrachloride	ug/g dry	0.05	0.12	--	<0.05	<0.05	--
Chlorobenzene	ug/g dry	0.05	2.7	--	<0.05	<0.05	--
Chloroform	ug/g dry	0.05	0.18	--	<0.05	<0.05	--
Dibromochloromethane	ug/g dry	0.05	2.9	--	<0.05	<0.05	--
Dichlorodifluoromethane	ug/g dry	0.05	25	--	<0.05	<0.05	--
1,2-Dichlorobenzene	ug/g dry	0.05	1.7	--	<0.05	<0.05	--
1,3-Dichlorobenzene	ug/g dry	0.05	6	--	<0.05	<0.05	--
1,4-Dichlorobenzene	ug/g dry	0.05	0.097	--	<0.05	<0.05	--
1,1-Dichloroethane	ug/g dry	0.05	0.6	--	<0.05	<0.05	--
1,2-Dichloroethane	ug/g dry	0.05	0.05	--	<0.05	<0.05	--
1,1-Dichloroethylene	ug/g dry	0.05	0.05	--	<0.05	<0.05	--
cis-1,2-Dichloroethylene	ug/g dry	0.05	2.5	--	<0.05	<0.05	--
trans-1,2-Dichloroethylene	ug/g dry	0.05	0.75	--	<0.05	<0.05	--
1,2-Dichloropropane	ug/g dry	0.05	0.085	--	<0.05	<0.05	--
cis-1,3-Dichloropropylene	ug/g dry	0.05		--	<0.05	<0.05	--
trans-1,3-Dichloropropylene	ug/g dry	0.05		--	<0.05	<0.05	--
1,3-Dichloropropene, total	ug/g dry	0.05	0.081	--	<0.05	<0.05	--
Ethylbenzene	ug/g dry	0.05	1.6	--	<0.05	<0.05	--
Ethylene dibromide (dibromoethane, 1,2-)	ug/g dry	0.05	0.05	--	<0.05	<0.05	--
Hexane	ug/g dry	0.05	34	--	<0.05	<0.05	--
Methyl Ethyl Ketone (2-Butanone)	ug/g dry	0.50	44	--	<0.50	<0.50	--
Methyl Isobutyl Ketone	ug/g dry	0.50	4.3	--	<0.50	<0.50	--
Methyl tert-butyl ether	ug/g dry	0.05	1.4	--	<0.05	<0.05	--
Methylene Chloride	ug/g dry	0.05	0.96	--	<0.05	<0.05	--
Styrene	ug/g dry	0.05	2.2	--	<0.05	<0.05	--
1,1,1,2-Tetrachloroethane	ug/g dry	0.05	0.05	--	<0.05	<0.05	--
1,1,2,2-Tetrachloroethane	ug/g dry	0.05	0.05	--	<0.05	<0.05	--
Tetrachloroethylene	ug/g dry	0.05	2.3	--	<0.05	<0.05	--
Toluene	ug/g dry	0.05	6	--	<0.05	<0.05	--
1,1,1-Trichloroethane	ug/g dry	0.05	3.4	--	<0.05	<0.05	--
1,1,2-Trichloroethane	ug/g dry	0.05	0.05	--	<0.05	<0.05	--
Trichloroethylene	ug/g dry	0.05	0.52	--	<0.05	<0.05	--
Trichlorofluoromethane	ug/g dry	0.05	5.8	--	<0.05	<0.05	--
Vinyl Chloride	ug/g dry	0.02	0.022	--	<0.02	<0.02	--
m/p-Xylene	ug/g dry	0.05		--	<0.05	<0.05	--
o-Xylene	ug/g dry	0.05		--	<0.05	<0.05	--
Xylenes, total	ug/g dry	0.05	25	--	<0.05	<0.05	--
Hydrocarbons							
F1 PHCs (C6-C10)	ug/g dry	7	65	--	<7	<7	--
F2 PHCs (C10-C16)	ug/g dry	4	150	--	<4	5	--
F3 PHCs (C16-C34)	ug/g dry	8	1300	--	<8	25	--
F4 PHCs (C34-C50)	ug/g dry	6	5600	--	<6	15	--

NOTES:
[1] MECP's *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011*
[2] Table 2 Full Depth Generic Site Condition Standards in a Potable Groundwater Condition, Residenital property use.
[3] Combustible soil vapour concentrations measured with a MiniRAE 3000 PID
MDL Method Detection Limit
-- No Value/Not Analysed
PHC Petroleum Hydrocarbon

Table 2
Summary of Soil PAH Analysis
Phase Two Environmental Site Assessment
193 Norice Street, Ottawa, Ontario
LRL File: 240094

Parameter	Units	MDL	O. Reg. 153/04[1] Table 2[2] Residential Property Use Fine textured soil	Sample BH1-SS1	BH1-SS3	BH2-SS1	BH2-SS2
Sample Date (d/m/y)			--	16-May-24	16-May-24	May 16-2024	16-May-24
Depth below top of Ground	m		--	0.0 - 0.6	1.5 - 2.1	0.0 - 0.6	0.75 - 1.35
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	ug/g dry	0.02	29	<0.02	--	--	<0.02
Acenaphthylene	ug/g dry	0.02	0.17	<0.02	--	--	<0.02
Anthracene	ug/g dry	0.02	0.74	<0.02	--	--	<0.02
Benzo[a]anthracene	ug/g dry	0.02	0.63	0.03	--	--	0.03
Benzo[a]pyrene	ug/g dry	0.02	0.3	0.03	--	--	0.02
Benzo[b]fluoranthene	ug/g dry	0.02	0.78	0.05	--	--	0.03
Benzo[g,h,i]perylene	ug/g dry	0.02	7.8	0.05	--	--	<0.02
Benzo[k]fluoranthene	ug/g dry	0.02	0.78	0.03	--	--	<0.02
Chrysene	ug/g dry	0.02	7.8	0.04	--	--	0.03
Dibenzo[a,h]anthracene	ug/g dry	0.02	0.1	<0.02	--	--	<0.02
Fluoranthene	ug/g dry	0.02	0.69	0.07	--	--	0.07
Fluorene	ug/g dry	0.02	69	<0.02	--	--	<0.02
Indeno[1,2,3-cd]pyrene	ug/g dry	0.02	0.48	0.03	--	--	<0.02
1-Methylnaphthalene	ug/g dry	0.02	3.4	<0.02	--	--	<0.02
2-Methylnaphthalene	ug/g dry	0.02	3.4	<0.02	--	--	<0.02
Methylnaphthalene (1&2)	ug/g dry	0.04	3.4	<0.04	--	--	<0.04
Naphthalene	ug/g dry	0.01	0.75	<0.01	--	--	<0.01
Phenanthrene	ug/g dry	0.02	7.8	0.02	--	--	0.05
Pyrene	ug/g dry	0.02	78	0.05	--	--	0.06

NOTES:

[1] MECP's *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011*

[2] Table 2 Full Depth Generic Site Condition Standards in a Potable Groundwater Condition, Residential property use.

MDL Method Detection Limit

-- No Value/Not Analysed

PHC Petroleum Hydrocarbon

Table 3
Summary of Soil Metals Analysis
Phase Two Environmental Site Assessment
193 Norice Street, Ottawa, Ontario
LRL File: 240094

Parameter	Units	MDL	O. Reg. 153/04[1] Table 2[2] Residential Property Use Fine textured soil	Sample			
				BH1-SS1	BH1-SS3	BH2-SS1	BH2-SS2
Sample Date (d/m/y)			--	16-May-24	16-May-24	May 16-2024	16-May-24
Depth below top of Ground	m		--	0.0 - 0.6	1.5 - 2.1	0.0 - 0.6	0.75 - 1.35
Polycyclic Aromatic Hydrocarbons							
Antimony	ug/g dry	1.0	7.5	<1.0	<1.0	<1.0	<1.0
Arsenic	ug/g dry	1.0	18	1.5	2.4	1.4	2.2
Barium	ug/g dry	1.0	390	48.0	212	28.6	147
Beryllium	ug/g dry	0.5	5	<0.5	0.6	<0.5	0.5
Boron, available	ug/g dry	0.5	1.5	<0.5	<0.5	<0.5	<0.5
Boron	ug/g dry	5.0	120	6.4	<5.0	<5.0	<5.0
Cadmium	ug/g dry	0.5	1.2	<0.5	<0.5	<0.5	<0.5
Chromium (VI)	ug/g dry	0.2	10	<0.2	0.7	<0.2	0.2
Chromium	ug/g dry	5.0	160	11.8	50.0	11.9	42.6
Cobalt	ug/g dry	1.0	22	3.3	12.2	4.0	10.1
Copper	ug/g dry	5.0	180	7.2	25.8	8.5	10.7
Lead	ug/g dry	1.0	120	4.4	4.9	7.0	8.3
Mercury	ug/g dry	0.1	1.8	<0.1	<0.1	<0.1	<0.1
Molybdenum	ug/g dry	1.0	6.9	<1.0	<1.0	<1.0	<1.0
Nickel	ug/g dry	5.0	130	7.0	26.3	7.8	18.7
Selenium	ug/g dry	1.0	2.4	<1.0	<1.0	<1.0	<1.0
Silver	ug/g dry	0.3	25	<0.3	<0.3	<0.3	<0.3
Thallium	ug/g dry	1.0	1	<1.0	<1.0	<1.0	<1.0
Uranium	ug/g dry	1.0	23	<1.0	<1.0	<1.0	1.0
Vanadium	ug/g dry	10.0	86	17.0	65.3	16.8	50.9
Zinc	ug/g dry	20.0	340	<20.0	72.9	<20.0	76.0

NOTES:

[1] MECP's *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011*

[2] Table 2 Full Depth Generic Site Condition Standards in a Potable Groundwater Condition, Residential property use.

MDL Method Detection Limit

-- No Value/Not Analysed

PHC Petroleum Hydrocarbon

APPENDIX A

Borehole Logs

Borehole Log: BH-1

Project No.: 240094 **Project:** GEO Investigation - Proposed 4-Storey Residential

Client: 2707120 Ontario Inc. **Location:** 193 Norice St, Ottawa ON

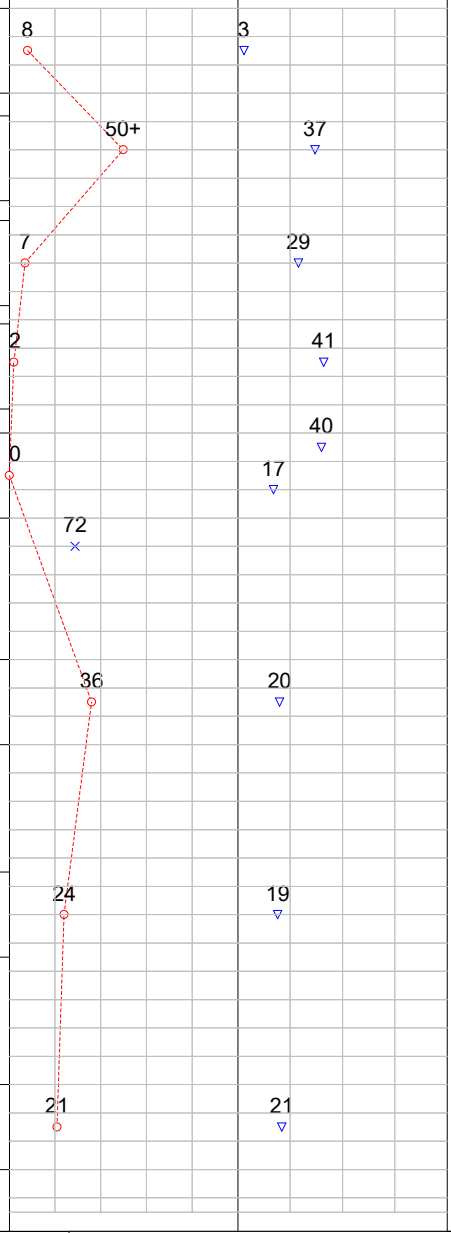
Date: May 16, 2024 **Field Personnel:** BJ

Driller: George Downing Estate Drilling. **Drilling Equipment:** Truck Mount CME 75 **Drilling Method:** Hollow Stem Auger

Depth (ft / m)	Soil Description	Elev./Depth (m)	Lithology	Type	Sample Number	N or RQD	Recovery (%)
0 / 0	Ground Surface	88.10					
0 – 3 / 0 – 1	**FILL MATERIAL** silt-sand, some gravel, moist, greyish brown, loose to very dense.	0.00 – 86.65			SS1	8	33
					SS2	50+	50
5 – 8 / 2 – 2.5	**CLAYEY SILT** trace sand, brownish grey, moist, very loose to loose.	1.45			SS3	7	75
					SS4	2	42
10 / 3	-becomes wet and grey at about 3.0 m bgs.				SS5	0	100
13 / 4	**SAND** some silt, trace clay, wet, grey, compact to dense.	84.14 – 3.96					
16 / 5					SS6	36	50
20 / 6					SS7	24	75
26 / 8					SS8	21	86
27	End of Borehole	79.87 – 8.23					

Shear Strength (kPa) 50 150 — **SPT N Value** (Blows/0.3 m) 20 40 60 80

Water Content (%) 25 50 75 — **Liquid Limit** (%) 25 50 75



Water Level (Standpipe or Open Borehole)

Easting: 440949 **Northing:** 5020963

Site Datum: Site Benchmark - Top of Spindle of Hydrant: 88.88 m

Groundsurface Elevation: 88.10 m **Top of Riser Elev.:** 88.75 m

Hole Diameter: 200mm

NOTES:

50+ blows from SS2 on suspected concrete debris within the Fill Material

Borehole Log: BH-2

Project No.: 240094 **Project:** GEO Investigation - Proposed 4-Storey Residential

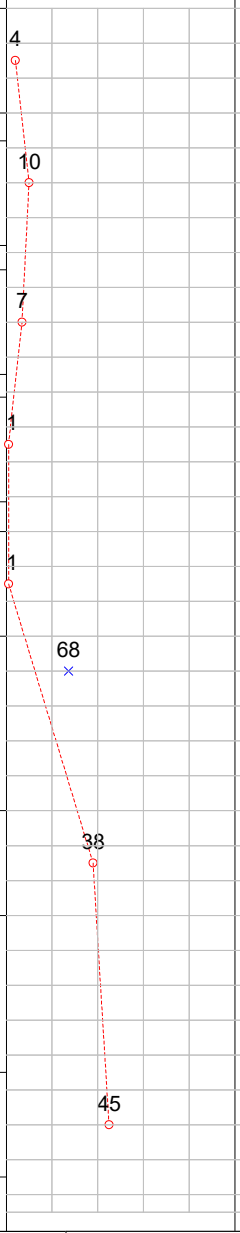
Client: 2707120 Ontario Inc. **Location:** 193 Norice St, Ottawa ON

Date: May 16, 2024 **Field Personnel:** BJ

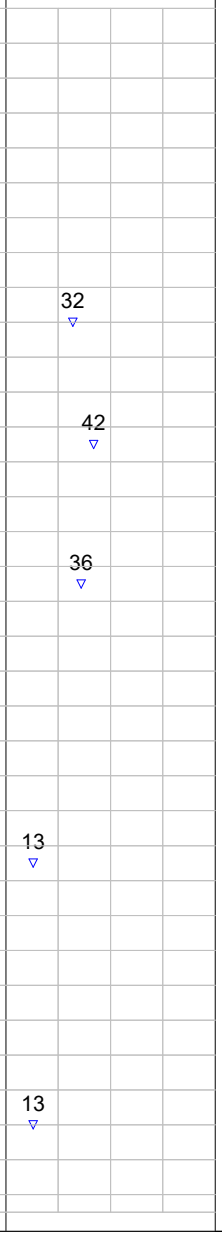
Driller: George Downing Estate Drilling. **Drilling Equipment:** Truck Mount CME 75 **Drilling Method:** Hollow Stem Auger

Depth (ft / m)	Soil Description	Elev./Depth (m)	Lithology	Type	Sample Number	N or RQD	Recovery (%)
0 / 0	Ground Surface	87.33					
0 – 3 / 0 – 1	**FILL MATERIAL** silt-sand, some gravel, moist, greyish brown, loose.	0.00			SS1	4	15
3 – 5 / 1					SS2	10	42
		85.88					
5 – 7 / 1 – 2	**CLAYEY SILT** some sand, brownish grey, moist, very loose to loose.	1.45			SS3	7	86
7 – 9 / 2					SS4	1	100
9 – 12 / 3	-becomes wet and grey at about 3.0 m bgs.				SS5	1	100
		83.37					
12 – 20 / 4 – 6	**SAND** some silt, trace clay, wet, grey, compact to dense.	3.96			SS6	38	50
					SS7	45	75
		80.63					
22 / 6	End of Borehole	6.70					

Shear Strength (kPa) 50 – 150 | **SPT N Value (Blows/0.3 m)** 20 – 40 – 60 – 80



Water Content (%) 25 – 50 – 75 | **Liquid Limit (%)** 25 – 50 – 75



Water Level (Standpipe or Open Borehole)

Easting: 440942 **Northing:** 5020980

Site Datum: Site Benchmark - Top of Spindle of Hydrant: 88.88 m

Groundsurface Elevation: 87.33 m **Top of Riser Elev.:** N/A

Hole Diameter: 200mm

NOTES:

APPENDIX B

Certificates of Laboratory Analysis

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Certificate of Analysis

LRL Associates Ltd.
5430 Canotek Road
Ottawa, ON K1J 9G2
Attn: Jessica Arthurs

Client PO:
Project: 240094
Custody: 73623

Report Date: 24-May-2024
Order Date: 17-May-2024

Order #: 2420509

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

Paracel ID	Client ID
2420509-01	BH1-SS1
2420509-02	BH1-SS3
2420509-03	BH2-SS1
2420509-04	BH2-SS2

Approved By:

Dale Robertson, BSc
Laboratory Director

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Boron, available	MOE (HWE), EPA 200.8 - ICP-MS	22-May-24	22-May-24
Chromium, hexavalent - soil	MOE E3056 - Extraction, colourimetric	21-May-24	22-May-24
Conductivity	MOE E3138 - probe @25 °C, water ext	22-May-24	22-May-24
Cyanide, free	MOE E3015 - Auto Colour, water extraction	21-May-24	21-May-24
Mercury by CVAA	EPA 7471B - CVAA, digestion	22-May-24	22-May-24
pH, soil	EPA 150.1 - pH probe @ 25 °C, CaCl buffered ext.	22-May-24	22-May-24
PHC F1	CWS Tier 1 - P&T GC-FID	21-May-24	22-May-24
PHCs F2 to F4	CWS Tier 1 - GC-FID, extraction	21-May-24	23-May-24
REG 153: Metals by ICP/MS, soil	EPA 6020 - Digestion - ICP-MS	22-May-24	22-May-24
REG 153: PAHs by GC-MS	EPA 8270 - GC-MS, extraction	21-May-24	23-May-24
REG 153: VOCs by P&T GC/MS	EPA 8260 - P&T GC-MS	21-May-24	22-May-24
SAR	Calculated	22-May-24	22-May-24
Solids, %	CWS Tier 1 - Gravimetric	21-May-24	22-May-24

Certificate of Analysis

Report Date: 24-May-2024

Client: **LRL Associates Ltd.**

Order Date: 17-May-2024

Client PO:

Project Description: 240094

	Client ID:	BH1-SS1	BH1-SS3	BH2-SS1	BH2-SS2	-	-
	Sample Date:	16-May-24 09:00	16-May-24 09:00	16-May-24 09:00	16-May-24 09:00		
	Sample ID:	2420509-01	2420509-02	2420509-03	2420509-04		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Physical Characteristics							
% Solids	0.1 % by Wt.	95.8	75.2	94.4	83.0	-	-
General Inorganics							
SAR	0.01 N/A	0.10	0.14	0.14	1.26	-	-
Conductivity	5 uS/cm	139	153	111	495	-	-
Cyanide, free	0.03 ug/g	<0.03	<0.03	<0.03	<0.03	-	-
pH	0.05 pH Units	7.39	6.92	7.47	6.98	-	-
Metals							
Antimony	1.0 ug/g	<1.0	<1.0	<1.0	<1.0	-	-
Arsenic	1.0 ug/g	1.5	2.4	1.4	2.2	-	-
Barium	1.0 ug/g	48.0	212	28.6	147	-	-
Beryllium	0.5 ug/g	<0.5	0.6	<0.5	0.5	-	-
Boron	5.0 ug/g	6.4	<5.0	<5.0	<5.0	-	-
Boron, available	0.5 ug/g	<0.5	<0.5	<0.5	<0.5	-	-
Cadmium	0.5 ug/g	<0.5	<0.5	<0.5	<0.5	-	-
Chromium (VI)	0.2 ug/g	<0.2	0.7	<0.2	0.2	-	-
Chromium	5.0 ug/g	11.8	50.0	11.9	42.6	-	-
Cobalt	1.0 ug/g	3.3	12.2	4.0	10.1	-	-
Copper	5.0 ug/g	7.2	25.8	8.5	10.7	-	-
Lead	1.0 ug/g	4.4	4.9	7.0	8.3	-	-
Mercury	0.1 ug/g	<0.1	<0.1	<0.1	<0.1	-	-
Molybdenum	1.0 ug/g	<1.0	<1.0	<1.0	<1.0	-	-
Nickel	5.0 ug/g	7.0	26.3	7.8	18.7	-	-
Selenium	1.0 ug/g	<1.0	<1.0	<1.0	<1.0	-	-
Silver	0.3 ug/g	<0.3	<0.3	<0.3	<0.3	-	-
Thallium	1.0 ug/g	<1.0	<1.0	<1.0	<1.0	-	-

Certificate of Analysis

Report Date: 24-May-2024

Client: **LRL Associates Ltd.**

Order Date: 17-May-2024

Client PO:

Project Description: 240094

	Client ID:	BH1-SS1	BH1-SS3	BH2-SS1	BH2-SS2	-	-
	Sample Date:	16-May-24 09:00	16-May-24 09:00	16-May-24 09:00	16-May-24 09:00		
	Sample ID:	2420509-01	2420509-02	2420509-03	2420509-04		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Metals							
Uranium	1.0 ug/g	<1.0	<1.0	<1.0	1.0	-	-
Vanadium	10.0 ug/g	17.0	65.3	16.8	50.9	-	-
Zinc	20.0 ug/g	<20.0	72.9	<20.0	76.0	-	-
Volatiles							
Acetone	0.50 ug/g	-	<0.50	<0.50	-	-	-
Benzene	0.02 ug/g	-	<0.02	<0.02	-	-	-
Bromodichloromethane	0.05 ug/g	-	<0.05	<0.05	-	-	-
Bromoform	0.05 ug/g	-	<0.05	<0.05	-	-	-
Bromomethane	0.05 ug/g	-	<0.05	<0.05	-	-	-
Carbon Tetrachloride	0.05 ug/g	-	<0.05	<0.05	-	-	-
Chlorobenzene	0.05 ug/g	-	<0.05	<0.05	-	-	-
Chloroform	0.05 ug/g	-	<0.05	<0.05	-	-	-
Dibromochloromethane	0.05 ug/g	-	<0.05	<0.05	-	-	-
Dichlorodifluoromethane	0.05 ug/g	-	<0.05	<0.05	-	-	-
1,2-Dichlorobenzene	0.05 ug/g	-	<0.05	<0.05	-	-	-
1,3-Dichlorobenzene	0.05 ug/g	-	<0.05	<0.05	-	-	-
1,4-Dichlorobenzene	0.05 ug/g	-	<0.05	<0.05	-	-	-
1,1-Dichloroethane	0.05 ug/g	-	<0.05	<0.05	-	-	-
1,2-Dichloroethane	0.05 ug/g	-	<0.05	<0.05	-	-	-
1,1-Dichloroethylene	0.05 ug/g	-	<0.05	<0.05	-	-	-
cis-1,2-Dichloroethylene	0.05 ug/g	-	<0.05	<0.05	-	-	-
trans-1,2-Dichloroethylene	0.05 ug/g	-	<0.05	<0.05	-	-	-
1,2-Dichloropropane	0.05 ug/g	-	<0.05	<0.05	-	-	-
cis-1,3-Dichloropropylene	0.05 ug/g	-	<0.05	<0.05	-	-	-
trans-1,3-Dichloropropylene	0.05 ug/g	-	<0.05	<0.05	-	-	-

	Client ID:	BH1-SS1	BH1-SS3	BH2-SS1	BH2-SS2	-	-
	Sample Date:	16-May-24 09:00	16-May-24 09:00	16-May-24 09:00	16-May-24 09:00		
	Sample ID:	2420509-01	2420509-02	2420509-03	2420509-04		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Volatiles							
1,3-Dichloropropene, total	0.05 ug/g	-	<0.05	<0.05	-	-	-
Ethylbenzene	0.05 ug/g	-	<0.05	<0.05	-	-	-
Ethylene dibromide (dibromoethane,	0.05 ug/g	-	<0.05	<0.05	-	-	-
Hexane	0.05 ug/g	-	<0.05	<0.05	-	-	-
Methyl Ethyl Ketone (2-Butanone)	0.50 ug/g	-	<0.50	<0.50	-	-	-
Methyl Isobutyl Ketone	0.50 ug/g	-	<0.50	<0.50	-	-	-
Methyl tert-butyl ether	0.05 ug/g	-	<0.05	<0.05	-	-	-
Methylene Chloride	0.05 ug/g	-	<0.05	<0.05	-	-	-
Styrene	0.05 ug/g	-	<0.05	<0.05	-	-	-
1,1,1,2-Tetrachloroethane	0.05 ug/g	-	<0.05	<0.05	-	-	-
1,1,2,2-Tetrachloroethane	0.05 ug/g	-	<0.05	<0.05	-	-	-
Tetrachloroethylene	0.05 ug/g	-	<0.05	<0.05	-	-	-
Toluene	0.05 ug/g	-	<0.05	<0.05	-	-	-
1,1,1-Trichloroethane	0.05 ug/g	-	<0.05	<0.05	-	-	-
1,1,2-Trichloroethane	0.05 ug/g	-	<0.05	<0.05	-	-	-
Trichloroethylene	0.05 ug/g	-	<0.05	<0.05	-	-	-
Trichlorofluoromethane	0.05 ug/g	-	<0.05	<0.05	-	-	-
Vinyl chloride	0.02 ug/g	-	<0.02	<0.02	-	-	-
m,p-Xylenes	0.05 ug/g	-	<0.05	<0.05	-	-	-
o-Xylene	0.05 ug/g	-	<0.05	<0.05	-	-	-
Xylenes, total	0.05 ug/g	-	<0.05	<0.05	-	-	-
4-Bromofluorobenzene	Surrogate	-	114%	102%	-	-	-
Dibromofluoromethane	Surrogate	-	98.2%	82.8%	-	-	-
Toluene-d8	Surrogate	-	117%	111%	-	-	-
Hydrocarbons							

Certificate of Analysis

Report Date: 24-May-2024

Client: **LRL Associates Ltd.**

Order Date: 17-May-2024

Client PO:

Project Description: 240094

	Client ID:	BH1-SS1	BH1-SS3	BH2-SS1	BH2-SS2	-	-
	Sample Date:	16-May-24 09:00	16-May-24 09:00	16-May-24 09:00	16-May-24 09:00		
	Sample ID:	2420509-01	2420509-02	2420509-03	2420509-04		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Hydrocarbons							
F1 PHCs (C6-C10)	7 ug/g	-	<7	<7	-	-	-
F2 PHCs (C10-C16)	4 ug/g	-	<4	5	-	-	-
F3 PHCs (C16-C34)	8 ug/g	-	<8	25	-	-	-
F4 PHCs (C34-C50)	6 ug/g	-	<6	15	-	-	-
Semi-Volatiles							
Acenaphthene	0.02 ug/g	<0.02	-	-	<0.02	-	-
Acenaphthylene	0.02 ug/g	<0.02	-	-	<0.02	-	-
Anthracene	0.02 ug/g	<0.02	-	-	<0.02	-	-
Benzo [a] anthracene	0.02 ug/g	0.03	-	-	0.03	-	-
Benzo [a] pyrene	0.02 ug/g	0.03	-	-	0.02	-	-
Benzo [b] fluoranthene	0.02 ug/g	0.05	-	-	0.03	-	-
Benzo [g,h,i] perylene	0.02 ug/g	0.05	-	-	<0.02	-	-
Benzo [k] fluoranthene	0.02 ug/g	0.03	-	-	<0.02	-	-
Chrysene	0.02 ug/g	0.04	-	-	0.03	-	-
Dibenzo [a,h] anthracene	0.02 ug/g	<0.02	-	-	<0.02	-	-
Fluoranthene	0.02 ug/g	0.07	-	-	0.07	-	-
Fluorene	0.02 ug/g	<0.02	-	-	<0.02	-	-
Indeno [1,2,3-cd] pyrene	0.02 ug/g	0.03	-	-	<0.02	-	-
1-Methylnaphthalene	0.02 ug/g	<0.02	-	-	<0.02	-	-
2-Methylnaphthalene	0.02 ug/g	<0.02	-	-	<0.02	-	-
Methylnaphthalene (1&2)	0.04 ug/g	<0.04	-	-	<0.04	-	-
Naphthalene	0.01 ug/g	<0.01	-	-	<0.01	-	-
Phenanthrene	0.02 ug/g	0.02	-	-	0.05	-	-
Pyrene	0.02 ug/g	0.05	-	-	0.06	-	-
2-Fluorobiphenyl	Surrogate	64.3%	-	-	76.1%	-	-

	Client ID:	BH1-SS1	BH1-SS3	BH2-SS1	BH2-SS2		
	Sample Date:	16-May-24 09:00	16-May-24 09:00	16-May-24 09:00	16-May-24 09:00	-	-
	Sample ID:	2420509-01	2420509-02	2420509-03	2420509-04		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Semi-Volatiles							
Terphenyl-d14	Surrogate	67.1%	-	-	86.6%	-	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics								
Conductivity	ND	5	uS/cm					
Cyanide, free	ND	0.03	ug/g					
Hydrocarbons								
F1 PHCs (C6-C10)	ND	7	ug/g					
F2 PHCs (C10-C16)	ND	4	ug/g					
F3 PHCs (C16-C34)	ND	8	ug/g					
F4 PHCs (C34-C50)	ND	6	ug/g					
Metals								
Antimony	ND	1.0	ug/g					
Arsenic	ND	1.0	ug/g					
Barium	ND	1.0	ug/g					
Beryllium	ND	0.5	ug/g					
Boron, available	ND	0.5	ug/g					
Boron	ND	5.0	ug/g					
Cadmium	ND	0.5	ug/g					
Chromium (VI)	ND	0.2	ug/g					
Chromium	ND	5.0	ug/g					
Cobalt	ND	1.0	ug/g					
Copper	ND	5.0	ug/g					
Lead	ND	1.0	ug/g					
Mercury	ND	0.1	ug/g					
Molybdenum	ND	1.0	ug/g					
Nickel	ND	5.0	ug/g					
Selenium	ND	1.0	ug/g					
Silver	ND	0.3	ug/g					
Thallium	ND	1.0	ug/g					
Uranium	ND	1.0	ug/g					
Vanadium	ND	10.0	ug/g					
Zinc	ND	20.0	ug/g					
Semi-Volatiles								
Acenaphthene	ND	0.02	ug/g					
Acenaphthylene	ND	0.02	ug/g					

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
Anthracene	ND	0.02	ug/g					
Benzo [a] anthracene	ND	0.02	ug/g					
Benzo [a] pyrene	ND	0.02	ug/g					
Benzo [b] fluoranthene	ND	0.02	ug/g					
Benzo [g,h,i] perylene	ND	0.02	ug/g					
Benzo [k] fluoranthene	ND	0.02	ug/g					
Chrysene	ND	0.02	ug/g					
Dibenzo [a,h] anthracene	ND	0.02	ug/g					
Fluoranthene	ND	0.02	ug/g					
Fluorene	ND	0.02	ug/g					
Indeno [1,2,3-cd] pyrene	ND	0.02	ug/g					
1-Methylnaphthalene	ND	0.02	ug/g					
2-Methylnaphthalene	ND	0.02	ug/g					
Methylnaphthalene (1&2)	ND	0.04	ug/g					
Naphthalene	ND	0.01	ug/g					
Phenanthrene	ND	0.02	ug/g					
Pyrene	ND	0.02	ug/g					
Surrogate: 2-Fluorobiphenyl	*0.852*		*%*	*63.9*	*50-140*			
Surrogate: Terphenyl-d14	*1.05*		*%*	*78.9*	*50-140*			
Volatiles								
Acetone	ND	0.50	ug/g					
Benzene	ND	0.02	ug/g					
Bromodichloromethane	ND	0.05	ug/g					
Bromoform	ND	0.05	ug/g					
Bromomethane	ND	0.05	ug/g					
Carbon Tetrachloride	ND	0.05	ug/g					
Chlorobenzene	ND	0.05	ug/g					
Chloroform	ND	0.05	ug/g					
Dibromochloromethane	ND	0.05	ug/g					
Dichlorodifluoromethane	ND	0.05	ug/g					
1,2-Dichlorobenzene	ND	0.05	ug/g					
1,3-Dichlorobenzene	ND	0.05	ug/g					

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
1,4-Dichlorobenzene	ND	0.05	ug/g					
1,1-Dichloroethane	ND	0.05	ug/g					
1,2-Dichloroethane	ND	0.05	ug/g					
1,1-Dichloroethylene	ND	0.05	ug/g					
cis-1,2-Dichloroethylene	ND	0.05	ug/g					
trans-1,2-Dichloroethylene	ND	0.05	ug/g					
1,2-Dichloropropane	ND	0.05	ug/g					
cis-1,3-Dichloropropylene	ND	0.05	ug/g					
trans-1,3-Dichloropropylene	ND	0.05	ug/g					
1,3-Dichloropropene, total	ND	0.05	ug/g					
Ethylbenzene	ND	0.05	ug/g					
Ethylene dibromide (dibromoethane, 1,2-)	ND	0.05	ug/g					
Hexane	ND	0.05	ug/g					
Methyl Ethyl Ketone (2-Butanone)	ND	0.50	ug/g					
Methyl Isobutyl Ketone	ND	0.50	ug/g					
Methyl tert-butyl ether	ND	0.05	ug/g					
Methylene Chloride	ND	0.05	ug/g					
Styrene	ND	0.05	ug/g					
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g					
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g					
Tetrachloroethylene	ND	0.05	ug/g					
Toluene	ND	0.05	ug/g					
1,1,1-Trichloroethane	ND	0.05	ug/g					
1,1,2-Trichloroethane	ND	0.05	ug/g					
Trichloroethylene	ND	0.05	ug/g					
Trichlorofluoromethane	ND	0.05	ug/g					
Vinyl chloride	ND	0.02	ug/g					
m,p-Xylenes	ND	0.05	ug/g					
o-Xylene	ND	0.05	ug/g					
Xylenes, total	ND	0.05	ug/g					
Surrogate: 4-Bromofluorobenzene	*9.27*		*%*	*116*	*50-140*			
Surrogate: Dibromofluoromethane	*7.14*		*%*	*89.2*	*50-140*			

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
Surrogate: Toluene-d8	*8.49*		*%*	*106*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics									
SAR	1.37	0.01	N/A	1.11			21.0	30	
Conductivity	182	5	uS/cm	186			2.2	5	
Cyanide, free	ND	0.03	ug/g	ND			NC	35	
pH	6.93	0.05	pH Units	6.96			0.4	2.3	
Hydrocarbons									
F1 PHCs (C6-C10)	ND	7	ug/g	ND			NC	40	
F2 PHCs (C10-C16)	ND	4	ug/g	ND			NC	30	
F3 PHCs (C16-C34)	ND	8	ug/g	ND			NC	30	
F4 PHCs (C34-C50)	ND	6	ug/g	ND			NC	30	
Metals									
Antimony	ND	1.0	ug/g	ND			NC	30	
Arsenic	1.4	1.0	ug/g	1.5			5.5	30	
Barium	42.4	1.0	ug/g	48.0			12.4	30	
Beryllium	ND	0.5	ug/g	ND			NC	30	
Boron, available	ND	0.5	ug/g	ND			NC	35	
Boron	6.4	5.0	ug/g	6.4			0.6	30	
Cadmium	ND	0.5	ug/g	ND			NC	30	
Chromium (VI)	ND	0.2	ug/g	0.3			NC	35	
Chromium	12.5	5.0	ug/g	11.8			6.3	30	
Cobalt	3.4	1.0	ug/g	3.3			2.4	30	
Copper	7.6	5.0	ug/g	7.2			4.9	30	
Lead	4.4	1.0	ug/g	4.4			0.5	30	
Mercury	ND	0.1	ug/g	ND			NC	30	
Molybdenum	ND	1.0	ug/g	ND			NC	30	
Nickel	7.2	5.0	ug/g	7.0			2.5	30	
Selenium	ND	1.0	ug/g	ND			NC	30	
Silver	ND	0.3	ug/g	ND			NC	30	
Thallium	ND	1.0	ug/g	ND			NC	30	
Uranium	ND	1.0	ug/g	ND			NC	30	
Vanadium	17.7	10.0	ug/g	17.0			4.0	30	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Zinc	ND	20.0	ug/g	ND			NC	30	
Physical Characteristics									
% Solids	90.8	0.1	% by Wt.	89.4			1.6	25	
Semi-Volatiles									
Acenaphthene	ND	0.02	ug/g	ND			NC	40	
Acenaphthylene	ND	0.02	ug/g	ND			NC	40	
Anthracene	ND	0.02	ug/g	ND			NC	40	
Benzo [a] anthracene	ND	0.02	ug/g	ND			NC	40	
Benzo [a] pyrene	ND	0.02	ug/g	ND			NC	40	
Benzo [b] fluoranthene	ND	0.02	ug/g	ND			NC	40	
Benzo [g,h,i] perylene	ND	0.02	ug/g	ND			NC	40	
Benzo [k] fluoranthene	ND	0.02	ug/g	ND			NC	40	
Chrysene	ND	0.02	ug/g	ND			NC	40	
Dibenzo [a,h] anthracene	ND	0.02	ug/g	ND			NC	40	
Fluoranthene	ND	0.02	ug/g	ND			NC	40	
Fluorene	ND	0.02	ug/g	ND			NC	40	
Indeno [1,2,3-cd] pyrene	ND	0.02	ug/g	ND			NC	40	
1-Methylnaphthalene	ND	0.02	ug/g	ND			NC	40	
2-Methylnaphthalene	ND	0.02	ug/g	ND			NC	40	
Naphthalene	ND	0.01	ug/g	ND			NC	40	
Phenanthrene	ND	0.02	ug/g	ND			NC	40	
Pyrene	ND	0.02	ug/g	ND			NC	40	
Surrogate: 2-Fluorobiphenyl	*1.05*		*%*		*62.8*	*50-140*			
Surrogate: Terphenyl-d14	*1.26*		*%*		*75.6*	*50-140*			
Volatiles									
Acetone	ND	0.50	ug/g	ND			NC	50	
Benzene	ND	0.02	ug/g	ND			NC	50	
Bromodichloromethane	ND	0.05	ug/g	ND			NC	50	
Bromoform	ND	0.05	ug/g	ND			NC	50	
Bromomethane	ND	0.05	ug/g	ND			NC	50	
Carbon Tetrachloride	ND	0.05	ug/g	ND			NC	50	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Chlorobenzene	ND	0.05	ug/g	ND			NC	50	
Chloroform	ND	0.05	ug/g	ND			NC	50	
Dibromochloromethane	ND	0.05	ug/g	ND			NC	50	
Dichlorodifluoromethane	ND	0.05	ug/g	ND			NC	50	
1,2-Dichlorobenzene	ND	0.05	ug/g	ND			NC	50	
1,3-Dichlorobenzene	ND	0.05	ug/g	ND			NC	50	
1,4-Dichlorobenzene	ND	0.05	ug/g	ND			NC	50	
1,1-Dichloroethane	ND	0.05	ug/g	ND			NC	50	
1,2-Dichloroethane	ND	0.05	ug/g	ND			NC	50	
1,1-Dichloroethylene	ND	0.05	ug/g	ND			NC	50	
cis-1,2-Dichloroethylene	ND	0.05	ug/g	ND			NC	50	
trans-1,2-Dichloroethylene	ND	0.05	ug/g	ND			NC	50	
1,2-Dichloropropane	ND	0.05	ug/g	ND			NC	50	
cis-1,3-Dichloropropylene	ND	0.05	ug/g	ND			NC	50	
trans-1,3-Dichloropropylene	ND	0.05	ug/g	ND			NC	50	
Ethylbenzene	ND	0.05	ug/g	ND			NC	50	
Ethylene dibromide (dibromoethane, 1,2-)	ND	0.05	ug/g	ND			NC	50	
Hexane	ND	0.05	ug/g	ND			NC	50	
Methyl Ethyl Ketone (2-Butanone)	ND	0.50	ug/g	ND			NC	50	
Methyl Isobutyl Ketone	ND	0.50	ug/g	ND			NC	50	
Methyl tert-butyl ether	ND	0.05	ug/g	ND			NC	50	
Methylene Chloride	ND	0.05	ug/g	ND			NC	50	
Styrene	ND	0.05	ug/g	ND			NC	50	
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g	ND			NC	50	
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g	ND			NC	50	
Tetrachloroethylene	ND	0.05	ug/g	ND			NC	50	
Toluene	ND	0.05	ug/g	ND			NC	50	
1,1,1-Trichloroethane	ND	0.05	ug/g	ND			NC	50	
1,1,2-Trichloroethane	ND	0.05	ug/g	ND			NC	50	
Trichloroethylene	ND	0.05	ug/g	ND			NC	50	
Trichlorofluoromethane	ND	0.05	ug/g	ND			NC	50	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Vinyl chloride	ND	0.02	ug/g	ND			NC	50	
m,p-Xylenes	ND	0.05	ug/g	ND			NC	50	
o-Xylene	ND	0.05	ug/g	ND			NC	50	
Surrogate: 4-Bromofluorobenzene	*11.6*		*%*		*112*	*50-140*			
Surrogate: Dibromofluoromethane	*9.49*		*%*		*91.3*	*50-140*			
Surrogate: Toluene-d8	*12.4*		*%*		*119*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics									
Cyanide, free	0.242	0.03	ug/g	ND	78.3	50-150			
Hydrocarbons									
F1 PHCs (C6-C10)	187	7	ug/g	ND	93.6	85-115			
F2 PHCs (C10-C16)	104	4	ug/g	ND	101	60-140			
F3 PHCs (C16-C34)	245	8	ug/g	ND	97.4	60-140			
F4 PHCs (C34-C50)	162	6	ug/g	ND	102	60-140			
Metals									
Arsenic	62.1	1.0	ug/g	ND	123	70-130			
Barium	81.0	1.0	ug/g	19.2	124	70-130			
Beryllium	63.7	0.5	ug/g	ND	127	70-130			
Boron, available	3.58	0.5	ug/g	ND	71.5	70-122			
Boron	65.2	5.0	ug/g	ND	125	70-130			
Cadmium	61.0	0.5	ug/g	ND	122	70-130			
Chromium (VI)	0.2	0.2	ug/g	ND	76.0	70-130			
Chromium	70.8	5.0	ug/g	17.1	107	70-130			
Cobalt	66.3	1.0	ug/g	1.3	130	70-130			
Copper	61.6	5.0	ug/g	ND	118	70-130			
Lead	59.2	1.0	ug/g	1.8	115	70-130			
Mercury	1.44	0.1	ug/g	ND	96.1	70-130			
Molybdenum	61.2	1.0	ug/g	ND	122	70-130			
Nickel	66.0	5.0	ug/g	ND	126	70-130			
Selenium	57.3	1.0	ug/g	ND	114	70-130			
Silver	48.5	0.3	ug/g	ND	97.0	70-130			
Thallium	58.6	1.0	ug/g	ND	117	70-130			
Uranium	60.4	1.0	ug/g	ND	121	70-130			
Vanadium	68.3	10.0	ug/g	14.8	107	70-130			
Zinc	63.8	20.0	ug/g	ND	116	70-130			
Semi-Volatiles									
Acenaphthene	0.191	0.02	ug/g	ND	91.5	50-140			
Acenaphthylene	0.199	0.02	ug/g	ND	95.5	50-140			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anthracene	0.224	0.02	ug/g	ND	107	50-140			
Benzo [a] anthracene	0.164	0.02	ug/g	ND	78.6	50-140			
Benzo [a] pyrene	0.137	0.02	ug/g	ND	65.7	50-140			
Benzo [b] fluoranthene	0.146	0.02	ug/g	ND	69.9	50-140			
Benzo [g,h,i] perylene	0.140	0.02	ug/g	ND	66.8	50-140			
Benzo [k] fluoranthene	0.168	0.02	ug/g	ND	80.3	50-140			
Chrysene	0.190	0.02	ug/g	ND	90.8	50-140			
Dibenzo [a,h] anthracene	0.132	0.02	ug/g	ND	63.0	50-140			
Fluoranthene	0.195	0.02	ug/g	ND	93.1	50-140			
Fluorene	0.171	0.02	ug/g	ND	81.8	50-140			
Indeno [1,2,3-cd] pyrene	0.162	0.02	ug/g	ND	77.6	50-140			
1-Methylnaphthalene	0.194	0.02	ug/g	ND	93.0	50-140			
2-Methylnaphthalene	0.170	0.02	ug/g	ND	81.2	50-140			
Naphthalene	0.197	0.01	ug/g	ND	94.2	50-140			
Phenanthrene	0.187	0.02	ug/g	ND	89.7	50-140			
Pyrene	0.208	0.02	ug/g	ND	99.7	50-140			
Surrogate: 2-Fluorobiphenyl	*1.41*		*%*		*84.5*	*50-140*			
Surrogate: Terphenyl-d14	*1.76*		*%*		*105*	*50-140*			
Volatiles									
Acetone	6.23	0.50	ug/g	ND	62.3	50-140			
Benzene	3.00	0.02	ug/g	ND	74.9	60-130			
Bromodichloromethane	3.50	0.05	ug/g	ND	87.5	60-130			
Bromoform	2.79	0.05	ug/g	ND	69.9	60-130			
Bromomethane	4.09	0.05	ug/g	ND	102	50-140			
Carbon Tetrachloride	2.96	0.05	ug/g	ND	74.1	60-130			
Chlorobenzene	3.17	0.05	ug/g	ND	79.2	60-130			
Chloroform	2.65	0.05	ug/g	ND	66.3	60-130			
Dibromochloromethane	2.78	0.05	ug/g	ND	69.5	60-130			
Dichlorodifluoromethane	4.89	0.05	ug/g	ND	122	50-140			
1,2-Dichlorobenzene	3.25	0.05	ug/g	ND	81.3	60-130			
1,3-Dichlorobenzene	3.25	0.05	ug/g	ND	81.2	60-130			

Certificate of Analysis

Report Date: 24-May-2024

Client: **LRL Associates Ltd.**

Order Date: 17-May-2024

Client PO:

Project Description: 240094

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
1,4-Dichlorobenzene	3.11	0.05	ug/g	ND	77.8	60-130			
1,1-Dichloroethane	2.86	0.05	ug/g	ND	71.5	60-130			
1,2-Dichloroethane	2.92	0.05	ug/g	ND	73.0	60-130			
1,1-Dichloroethylene	3.46	0.05	ug/g	ND	86.6	60-130			
cis-1,2-Dichloroethylene	2.71	0.05	ug/g	ND	67.8	60-130			
trans-1,2-Dichloroethylene	2.96	0.05	ug/g	ND	74.0	60-130			
1,2-Dichloropropane	2.79	0.05	ug/g	ND	69.6	60-130			
cis-1,3-Dichloropropylene	4.03	0.05	ug/g	ND	101	60-130			
trans-1,3-Dichloropropylene	2.64	0.05	ug/g	ND	66.0	60-130			
Ethylbenzene	3.38	0.05	ug/g	ND	84.4	60-130			
Ethylene dibromide (dibromoethane, 1,2-)	3.56	0.05	ug/g	ND	89.0	60-130			
Hexane	3.26	0.05	ug/g	ND	81.5	60-130			
Methyl Ethyl Ketone (2-Butanone)	6.19	0.50	ug/g	ND	61.9	50-140			
Methyl Isobutyl Ketone	8.78	0.50	ug/g	ND	87.8	50-140			
Methyl tert-butyl ether	8.19	0.05	ug/g	ND	81.9	50-140			
Methylene Chloride	3.45	0.05	ug/g	ND	86.3	60-130			
Styrene	2.74	0.05	ug/g	ND	68.5	60-130			
1,1,1,2-Tetrachloroethane	2.95	0.05	ug/g	ND	73.9	60-130			
1,1,2,2-Tetrachloroethane	2.61	0.05	ug/g	ND	65.4	60-130			
Tetrachloroethylene	2.86	0.05	ug/g	ND	71.4	60-130			
Toluene	3.51	0.05	ug/g	ND	87.7	60-130			
1,1,1-Trichloroethane	2.84	0.05	ug/g	ND	70.9	60-130			
1,1,2-Trichloroethane	2.76	0.05	ug/g	ND	69.1	60-130			
Trichloroethylene	2.61	0.05	ug/g	ND	65.3	60-130			
Trichlorofluoromethane	4.09	0.05	ug/g	ND	102	50-140			
Vinyl chloride	4.86	0.02	ug/g	ND	122	50-140			
m,p-Xylenes	6.90	0.05	ug/g	ND	86.2	60-130			
o-Xylene	3.29	0.05	ug/g	ND	82.3	60-130			
Surrogate: 4-Bromofluorobenzene	*8.95*		*%*		*112*	*50-140*			
Surrogate: Dibromofluoromethane	*8.60*		*%*		*108*	*50-140*			
Surrogate: Toluene-d8	*8.36*		*%*		*104*	*50-140*			

Qualifier Notes:

Sample Data Revisions:

None

Work Order Revisions / Comments:

None

Other Report Notes:

n/a: not applicable

ND: Not Detected

MDL: Method Detection Limit

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

%REC: Percent recovery.

RPD: Relative percent difference.

NC: Not Calculated

Soil results are reported on a dry weight basis unlesss otherwise noted.

Where %Solids is reported, moisture loss includes the loss of volatile hydrocarbons.

CCME PHC additional information:

- The method for the analysis of PHCs complies with the Reference Method for the CWS PHC and is validated for use in the laboratory. All prescribed quality criteria identified in the method has been met.

- F1 range corrected for BTEX.

- F2 to F3 ranges corrected for appropriate PAHs where available.

- The gravimetric heavy hydrocarbons (F4G) are not to be added to C6 to C50 hydrocarbons.

- In the case where F4 and F4G are both reported, the greater of the two results is to be used for comparison to CWS PHC criteria.

- When reported, data for F4G has been processed using a silica gel cleanup.

Any use of these results implies your agreement that our total liabilty in connection with this work, however arising, shall be limited to the amount paid by you for this work, and that our employees or agents shall not under any circumstances be liable to you in connection with this work.

PARACEL LABORATORIES LTD

Paracel ID: 2420509

Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)
2420509	№ 73623

Client Name: LRL Engineering	Project Ref: 240094	Page 1 of 1
Contact Name: Jessica Arthurs	Quote #:	Turnaround Time
Address: 5430 Canotek Road Ottawa, Ontario K1J 9G2	PO #:	☐ 1 day ☐ 3 day ☐ 2 day ☒ Regular
Telephone: 613 842 3434	E-mail: Jarthurs@lrlca	Date Required:

☒ REG 153/04 ☐ REG 406/19

☐ Table 1 ☐ Res/Park ☐ Med/Fine
☒ Table 2 ☐ Ind/Comm ☐ Coarse
☐ Table 3 ☐ Agri/Other
☐ Table ___
For RSC: ☐ Yes ☒ No

Other Regulation: ☐ REG 558 ☐ PWQO ☐ CCME ☐ MISA ☐ SU - Sani ☐ SU - Storm ☐ Mun: ☐ Other:

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

	Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken: Date	Sample Taken: Time	Required Analysis: VOC	PHC	Reg 153 Metals	Inorganic + pH	PAH
1	BH1-SS1	S		1	May 16, 2024	PM			X	X	X
2	BH1-SS3	↓		2	↓	↓	X	X	X	X	
3	BH2-SS1			2			X	X	X	X	
4	BH2-SS2			1					X	X	X
5											
6											
7											
8											
9											
10											

Comments:

Method of Delivery: Walk In

Relinquished By (Sign):	Received at Depot:	Received at Lab:	Verified By: SS
Relinquished By (Print): Jessica Arthurs	Date/Time:	Date/Time: May 17/24 1546	Date/Time: 17 May 24 1629
Date/Time: May 16, 2024 1555	Temperature: °C	Temperature: 16.4 °C	pH Verified: ☐ By: NA

APPENDIX C

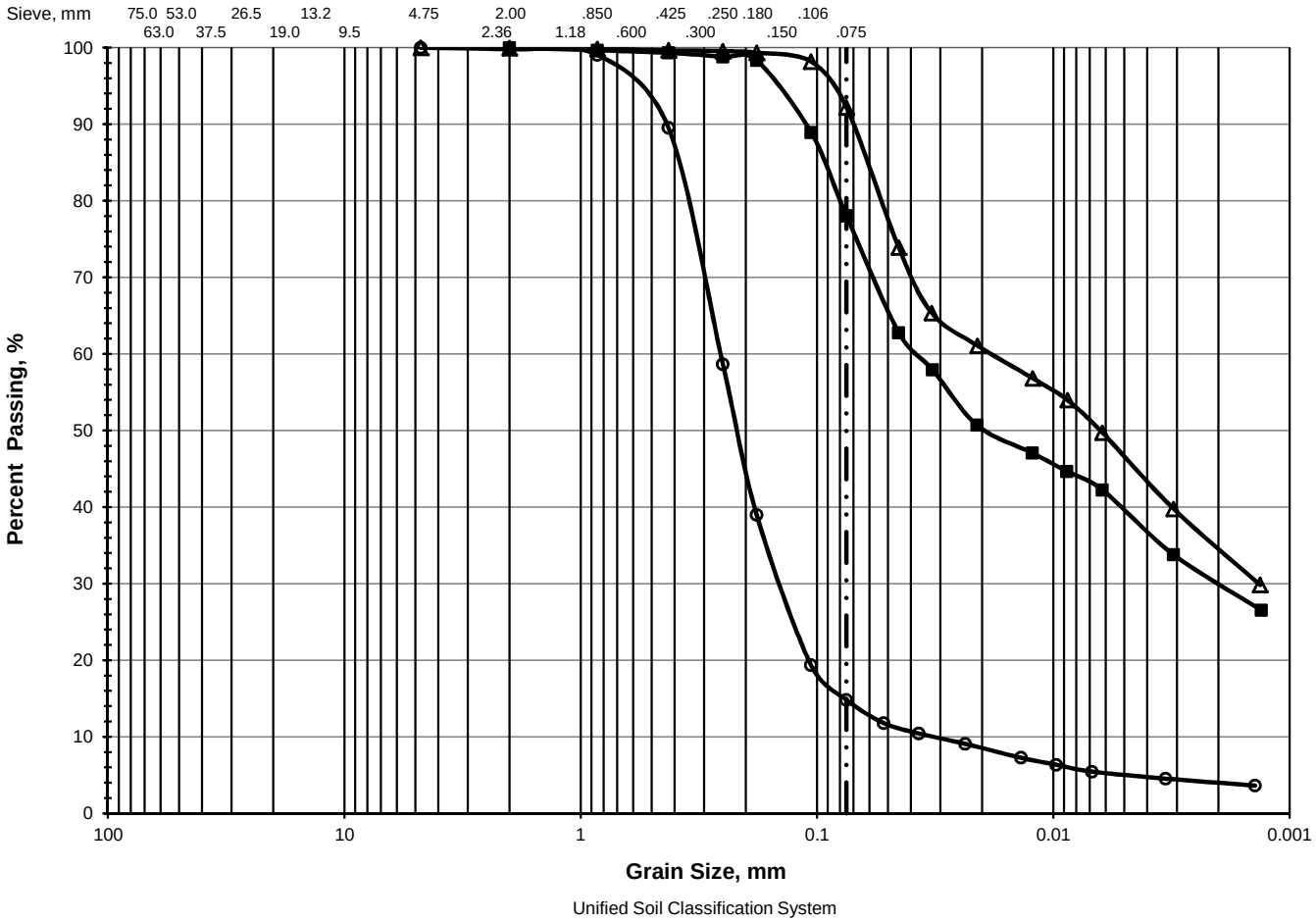
Gradation Laboratory Certificates of Analysis

LRL Associates Ltd.

Particle Size Analysis

ASTM D 422 / LS-702

Client:	2707120 Ontario Inc.	**File No.:**	240094
	Geotechnical Investigation	**Report No.:**	2
	193 Norice Street, Ottawa, ON.	**Date:**	May 16, 2024



Unified Soil Classification System

	> 75 mm	% GRAVEL		% SAND			% FINES	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
△	0.0	0.0	0.0	0.1	0.3	7.4	58.6	33.6
■	0.0	0.0	0.0	0.0	0.7	21.3	48.7	29.3
○	0.0	0.0	0.0	0.2	10.2	74.8	10.9	3.9

	Location	Sample	Depth, m	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
△	BH 1	SS-5	3.05 - 3.66	0.0187	0.0064	0.0014				
■	BH 2	SS-3	1.52 - 2.13	0.0378	0.0193	0.0022				
○	BH 2	SS-6	4.57 - 5.18	0.2577	0.2192	0.1460	0.0762	0.0327	2.5	7.9