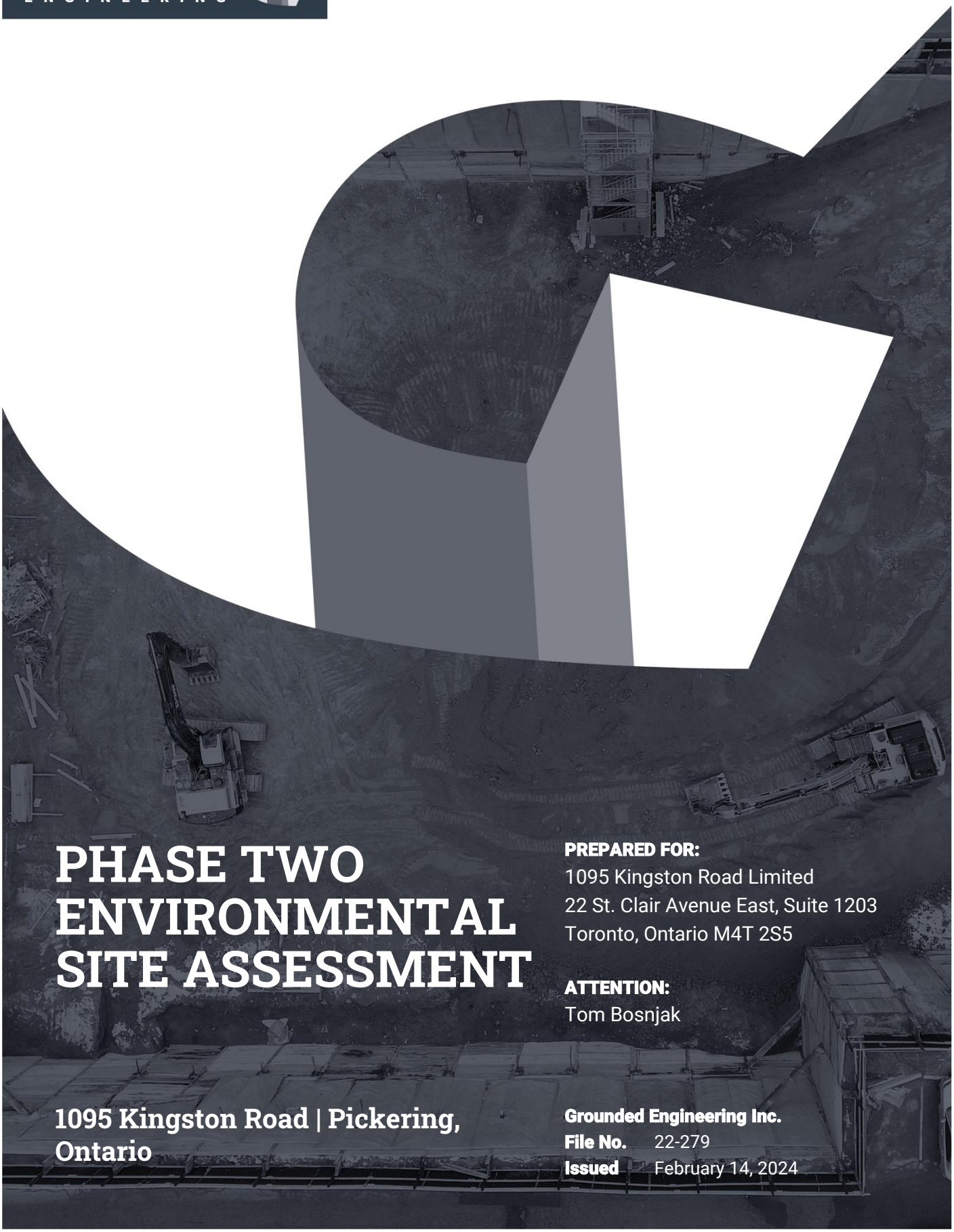

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

PREPARED FOR:
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1095 Kingston Road | Pickering, Ontario

Grounded Engineering Inc.
File No. 22-279
Issued February 14, 2024

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1 Executive Summary

1095 Kingston Road Limited retained Grounded Engineering Inc. to complete a Phase Two Environmental Site Assessment (ESA) of the property located at 1095 Kingston Road, Pickering, Ontario (Property). The Phase Two ESA was conducted to investigate the Areas of Potential Environmental Concern (APECs) that have been identified on the Property by the Phase One ESA.

The results of the Phase Two ESA are summarized below:

Applicable Site Condition Standards	MECP Table 2 RPI M/F

Soil Contaminants of Potential Concern (CoPCs) Investigated	The following parameters were investigated based on the CoPCs identified in the Phase One ESA:
	• Metals (M)
	• Hydride-forming Metals (H-M)
	  ○ Arsenic (As), Selenium (Se), Antimony (Sb)
	• Other Regulated Parameters (ORPs)
	  ○ B-HWS, CN-, EC, SAR, Cr(VI), Hg, pH
	• Polycyclic Aromatic Hydrocarbons (PAHs)
	• Petroleum Hydrocarbons (PHCs)
	• Volatile Organic Compounds II - Benzene, Toluene, Ethylbenzene, Xylene (BTEX)
	• Volatile Organic Compounds I (VOCs)

Groundwater CoPCs Investigated	Based on the depth to the stabilized groundwater table (beyond 5 mbgs) and potential surficial impacts from the identified potentially contaminating activities, the Phase One ESA only identified soil as media potentially impacted. However, the following parameters were analyzed for during this investigation for due diligence purposes only: • M • H-M • Other Regulated Parameters ○ Cr(VI), CN-, Hg, Cl-, pH • Sodium (Na) • PAHs • PHCs • BTEX • VOCs
Applicable Site Condition Standards Met for Soil? (Yes/No)	Yes

Applicable Site Condition Standards Met for Groundwater? (Yes/No)	Yes

A Record of Site Condition (RSC) can be filed for the Property at this time.

2 Introduction

2.1 Site Description

1095 Kingston Road Limited retained Grounded Engineering Inc. to complete a Phase Two Environmental Site Assessment (ESA) of the property located at 1095 Kingston Road, Pickering, Ontario (Property). The Phase Two ESA was conducted to investigate the Areas of Potential Environmental Concern (APECs) that have been identified on the Property. The site location is presented in Figure 1.

The Property is irregular in shape, with a total area of 2.09016 ha. The Property is bounded by Kingston Road to the west and Dixie Road to the east. The Property is currently developed with a slab-on-grade multi-tenant commercial building surrounded by an asphalt surface parking lot. The Property is considered to be in commercial land use as defined by the Ministry of the Environment, Conservation and Parks (MECP) Ontario Regulation (O.Reg.) 153/04.

2.2 Property Ownership

The Property information is provided below:

Municipal Address	1095 Kingston Road, Pickering, Ontario, L1V 1B5
Legal Description	PT LT 25 CON 1 PICKERING PTS 1, 2 & 3, 40R1860 EXCEPT PT 1, 40R2670 AND CO210581; S/T D486756, *S/T D19631* AS PARTIALLY RELEASED BY D314762; PICKERING. *ADDED 2000 03 13 BY T.CUTLER
PIN(s)	26317-0068 (LT)
Current Land Use	Commercial
Property Owner Information	1095 Kingston Road Ltd.

2.3 Current and Proposed Future Uses

The Property is considered to be in commercial land use as defined by the Ministry of the Environment, Conservation and Parks (MECP) Ontario Regulation (O.Reg.) 153/04.

It is understood that the Phase Two Property will be developed with three (3) new residential high-rise buildings with a 3-storey podium structure, constructed in two phases; Phase 1 comprising Towers 1 and 2 with a combined podium on the south side of the Property, and Phase 2 comprising Tower 3 with a separate podium structure on the north side of the Property. It is understood that consideration is being given to two (2) or three (3) levels of below grade parking beneath each of the phases (P2 or P3), or alternatively constructing the development on-grade with above-grade parking only. The Property will considered to be in residential land use by the O.Reg 153/04.

2.4 Applicable Site Condition Standard

The applicable site condition standard for the Property was determined to be the Table 2 Full Depth Generic Site Condition Standards for Use in a Potable Ground Water Condition for Residential/Parkland/Institutional for medium to fine-textured soil due to the following reasons:

Current Land Use	Commercial
Future Land Use	Residential
Soil Texture	Medium to fine based on grain size analysis performed on the soil. Based on the results of 7 grain size analyses, all soil samples contained 50 percent or more by mass of particles that are smaller than 75 micrometres in mean diameter. As such, the qualified person has determined that less than 1/3 of the soil at the property, measured by volume, consists of coarse textured soil, and therefore the qualified person has applied the standard for medium and fine textured soil.
Potable Water Source	Municipal service/municipal water supply is from s combination of regional groundwater supply wells and surface water sources.
Bedrock Depth	Bedrock is located at a depth of greater than 2 m.
Property located within 30 m of a surface water body (Yes/No)	No
Property located in or adjacent to a provincial park or an Area of Natural Significance (Yes/No)	No

3 Background Information

3.1 Physical Setting

The Ministry of Natural Resources and Forestry (MNRF) and Ministry of Energy, Northern Development and Mines (MENDM) database were searched to obtain topographic and geological maps of Ontario for review. The information obtained are summarized below:

Records	Information
Topographic Maps	The approximate elevation of the Property is 90 meters above sea level (masl). The Property is generally flat with a gentle slope towards the south.
Hydrology	The nearest surface water body is the Dunbarton Creek located approximately 93 m to the south (channelized section) and 180 m (open section) to the southeast of the Property. Frenchman's Bay is located approximately 300 m southeast of the Property.

Records	Information
	Surface water is expected to flow to the municipal roads located adjacent north and west of the Property. Catch basins exist to the northeast along Dixie Road, north/west along Kingston Road and on the paved areas of the Property. Groundwater is expected to flow locally south towards Dunbarton Creek, then southeast towards Frenchman's Bay.
Geological Maps	Overburden: Fine-textured glaciolacustrine deposits comprised of silt and clay, and minor sand and gravel. Bedrock: Collingwood Formation comprised of shale, limestone, dolostone, and siltstone. Depth to Bedrock: Based on MECP well records in the Study Area, bedrock was encountered at a depth of approximately 15.24 mbgs.

Maps from MNRF were reviewed to determine if water bodies were present on the Property and within the Study Area. The Ontario Ministry of Natural Resources National Heritage Information Centre database for Areas of Natural or Scientific Interest (ANSIs) was also reviewed as part of the Phase One ESA. The information is summarized below:

Water Bodies	Property: • No water bodies are located on the Property. Study Area: • Dunbarton Creek is located approximately 93 m to the south (channelized section) and 180 m southeast (open section) of the Property. • Frenchman's Bay is located approximately 300 m southeast to the Property.
Wetlands	Property: • No Provincially Significant, Non-Provincially Significant, and Unevaluated wetlands are located on the Property. Study Area: • A Provincially Significant wetland (Frenchman's Bay) is located approximately 300 m southeast to the Property.
ANSIs	Property: • None of the following ANSIs were located on the Property. Study Area: • None of the following ANSIs were located within the Study Area. List of ANSIs reviewed: ▪ An area reserved or set apart as a provincial park or conservation reserve under the Provincial Parks and Conservation Reserves Act, 2006. ▪ An area of natural and scientific interest (life science or earth science) identified by the Ministry of Natural Resources as having provincial significance.

	▪ A wetland identified by the Ministry of Natural Resources as having provincial significance. ▪ An area designated by a municipality in its official plan as environmentally significant, however expressed, including designations of areas as environmentally sensitive, as being of environmental concern and as being ecologically significant. ▪ An area designated as an escarpment natural area or an escarpment protection area by the Niagara Escarpment Plan under the Niagara Escarpment Planning and Development Act. ▪ An area identified by the Ministry of Natural Resources as significant habitat of a threatened or endangered species. ▪ An area which is habitat of a species that is classified under section 7 of the Endangered Species Act, 2007 as a threatened or endangered species. ▪ Property within an area designated as a natural core area or natural linkage area within the area to which the Oak Ridges Moraine Conservation Plan under the Oak Ridges Moraine Conservation Act, 2001 applies. ▪ An area set apart as a wilderness area under the Wilderness Areas Act.

The Areas of Natural Significances (ANSIs) and water bodies on or adjacent to the Property is shown in Figure 2, if present.

3.2 Past Investigations

The following environmental reports were provided for review for the Property. The findings of the reports are summarized below:

Title and File No.	Phase 1 Environmental Site Assessment 1095 Kingston Road, Pickering, ON (File No. 5947-01.01)
Report Date	December 2019
Prepared By	PGL Environmental Consultants
Prepared for	1585708 Ontario Ltd.

Description of Data, Analysis or Findings	• The Phase I ESA was completed for the purposes of due diligence for refinancing the Property.
	• The Phase I ESA was generally completed in accordance with CSA Standard Z768-01.
	• At the time of the site inspection completed on December 12, 2019, the Property was occupied by a two-storey multi-unit commercial building. The Property was reportedly heated by a natural gas-fired HVAC unit.
	• Hazardous materials such as motor oils, lubricants, hydraulic oil, and other various liquids used for vehicle maintenance were reportedly identified in the unit occupied by Part Source (an automotive parts retailer with retail area and storage room). However, no on-site vehicle maintenance was reportedly being completed at that time. As such, PGL considered these materials not to be an environmental risk as they were in packaging for retail use.
	• There were no significant potential environmental concerns reportedly identified in the report.
	• The report identified potential designated substances and special attention items to be considered prior to any renovation or demolition:
	  ○ Lead and asbestos in building materials
	  ○ PCBs in light ballasts

Title and File No.	Phase One Environmental Site Assessment 1095 Kingston Road, Pickering, Ontario. (File No. 22-279)
Report Date	January 16, 2024 (Rev. 1.0)
Prepared By	Grounded Engineering Inc.
Prepared for	1095 Kingston Road Ltd.

Description of Data, Analysis or Findings	• The Phase One ESA was completed for the purposes of due diligence during acquisition of the Property.
	• The Phase One ESA was completed in accordance with Ontario Regulation 153/04.
	• At the time of inspections in November 2022 and January 2024, the Property was occupied by a slab-on-grade multi-tenant commercial building (End of the Roll, Parts Source, Treehouse Club, Tasco Appliances, and Tile House) with an asphalt surface parking lot surrounding the building, reportedly built in 1975.
	  ○ Part Source was observed to not have any on-site vehicle maintenance operations and was limited to commercial retail of automotive parts and supplies only.
	  ○ Interviews completed for the Phase One ESA indicated that no onsite vehicle maintenance was ever completed by this tenant historically.
	• The commercial building was reportedly heated by a natural gas-fired HVAC unit.
	• Due to the age and construction of the building, the presence of asbestos and lead-based paints were suspected.

	• The Phase One ESA identified two (2) Areas of Potential Environmental Concern (APECs).
	  ○ APEC 1 (Entire Phase One Property): associated with importation of fill material of unknown quality during the development of the Property.
	  ○ APEC 2 (Entire Phase One Property): associated with de-icing activities on the Property.
	• Based on the Phase One ESA, a Phase Two ESA was required to investigate the APECs identified prior to submission for a Record of Site Condition (RSC).

4 Scope of the Investigation

4.1 Overview of Site Investigation

The scope of the Phase Two ESA is as follow:

Boreholes and Monitoring Wells	**Grounded Drilling Investigation (November 2022):** • Advancing of three (3) boreholes (BH1-BH3) to depths of 15.7 to 19.4 m below ground surface (m bgs) • Installation of three (3) monitoring wells (BH1-BH3) **Grounded Drilling Investigation (December 2022):** • Five (5) shallow boreholes (BH1A, BH1B and BH2A-BH2C) to depths of 1.5 to 3.0 mbgs to confirm soil quality: ○ BH1A and BH1B were advanced to confirm pH quality at this location see Section 4.3.3). • BH2A to BH2C were advanced to confirm PHC (F1-F4) concentrations at this location in the fill as this location had initially had the detectable (*but not exceeding*) concentrations for PHC F3 onsite, likely due to sampling error. All additional samples reported non-detectable or concentrations well below the standards.

Parameters Investigated for Soil	The following parameters were investigated based on the CoPCs identified in the Phase One ESA:
	Grounded Drilling Investigation (November 2022):
	• M
	• H-M
	  ○ Sb, As, Se
	• ORPs
	  ○ B-HWS, CN-, EC, SAR, Cr(VI), Hg, pH
	• PAHs
	• PHCs
	• BTEX
	• VOC
	Grounded Drilling Investigation (December 2022):

	• ORPs (pH only) • PHCs

Parameters Investigated for Groundwater	Based on the depth to the stabilized groundwater table (beyond 5 mbgs) and potential surficial impacts from the identified potentially contaminating activities, the Phase One ESA only identified soil as media potentially impacted.
	However, the following parameters were analyzed for during this investigation for due diligence purposes only:
	• M
	• H-M
	  ○ Sb, As, Se
	• ORPs
	  ○ Cr(VI), CN-, Hg, Cl-, pH
	• Sodium (Na)
	• PAHs
	• PHCs
	• BTEX
	• VOC

• 7 soil samples were submitted for grain size analysis and soil classification. • All boreholes and monitoring wells were surveyed using a Sokkia survey system. • All new monitoring wells were developed prior to sampling. • Groundwater level measurements were conducted in all accessible monitoring wells to determine groundwater elevation on the Property.	

4.2 Media Investigated

4.2.1 Rationale for Exclusion and Inclusion of Media

Media	Included/Excluded	Rationale
Soil	Included	Based on the Phase One ESA, soil sampling was required to investigate the CoPCs related to the identified APECs.
Sediment	Excluded	Surface water bodies were not presented on the Property. No sediment sampling was conducted during the Phase Two ESA.
Groundwater	Included	Based on the depth to the stabilized groundwater table (beyond 5 mbgs) and potential surficial impacts from the identified potentially contaminating activities, the Phase One ESA only identified soil as media potentially impacted. However, the groundwater was assessed for due diligence purposes only.

Media	Included/Excluded	Rationale
Surface Water	Excluded	Surface water bodies were not presented on the Property. No surface water sampling was conducted during the Phase Two ESA.

4.2.2 Overview of Field Investigation of Media

Soil sampling was conducted during the drilling investigation for the CoPCs identified in the Phase One ESA. Groundwater sampling was conducted from the new monitoring wells installed on the Property for due diligence purposes.

4.3 Phase One Conceptual Site Model

The Phase One Conceptual Site Model (CSM) prepared as part of the Phase One ESA report is provided in Appendix A.

4.4 Deviations From Sampling and Analysis Plan

No deviations from the sampling and analysis plan were observed. The Sampling and Analysis Plan is provided in Appendix B.

4.5 Impediments

No impediments were encountered during the Phase Two ESA.

5 Investigation Method

5.1 General

The Phase Two ESA followed the methods outlined in the Ontario Ministry of the Environment, Conservation, and Parks "Guidance *on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario"* (December 1996).

The methods used in the Phase Two ESA did not differ from the associated standard operating procedures. The Standard Field Investigation Protocol is provided in Appendix C.

5.2 Drilling

The Phase Two ESA drilling information is provided below:

Boreholes	BH1 to BH3	BH1A and BH1B BH2A to BH2C
Date of Work	November 14th – 17th, 2022	December 16th, 2022
Name of the Contractor(s)	3D Drilling Inc.	Kodiak Drilling
Equipment Used	CME 55 drill rig, Mud rotary, 50mm sampling spoon	Minimole drill rig, Dual tube direct push, Probe liner
Measures for Cross-contamination Prevention	The sampling device was washed between each sample to prevent potential cross-contamination.	A new probe liner was replaced between each sample to prevent potential cross-contamination.
Sampling Frequency	Please refer to the borehole logs in Appendix D for the sampling frequency.	

5.3 The borehole locations are provided in Figure 4. Soil – Sampling

5.3.1 Equipment Used

Below is the equipment used during the soil sampling.

- Sampling containers supplied by the laboratories
- Nitrile gloves
- Cooler with ice
- RKI EAGLE 2 gas monitor

5.3.2 Geological Description

The borehole logs in Appendix D provide an overall geological description of each soil sample collected during the Grounded investigation.

5.4 Soil – Field Screening Measurements

Hydrocarbon vapour concentrations were screened in each soil sampling, using an RKI Eagle 2 gas monitor. The monitor is calibrated to *n*-hexane prior to field screening as per the calibration procedure outlined by RKI Instruments in *"Eagle 2 Operator's Manual, Part Number:71-0154RK"* released March 12, 2019. The monitor has a range of 0 to 40,000 parts per million (ppm) and an accuracy of +/- 5%.

Based on field screening measurements and visual and olfactory examination of all soil samples, selected samples were submitted for petroleum hydrocarbon (PHCs) and volatile organic

compounds (VOCs) laboratory analysis. Complete field screening readings are provided on the borehole logs in Appendix D.

5.5 Groundwater – Field Measurement of Water Quality Parameters

Groundwater quality parameters including temperature, pH, specific conductivity, total dissolved solids were measured using a Hanna Instruments portable meter prior to sampling.

5.6 Groundwater – Monitoring Well Installation

The Phase Two ESA monitoring well installation information is provided below:

Monitoring Wells	BH1 to BH3
Date of Work	November 14th – 17th, 2022
Name of the Contractor(s)	3D Drilling Inc.
Equipment Used	CME 55 drill rig, Mud rotary, 50mm sampling spoon
Measures for Cross-contamination Prevention	New well materials were used during install and drilling technicians donned new nitrile gloves to handle well materials prior to install.
Sampling Frequency	No groundwater samples were collected during drilling event.
Well Construction	The wells were constructed with 50 mm (2 in.) ID PVC screens and risers. Filter sand was placed around the well screen to approximately 0.6 m above the top of the screen. The wells were then backfilled with bentonite to approximately 0.3 m below ground surface (mbgs), the wells were finished with flush mounts.
Well Development	The monitoring wells were developed on November 18th, 2022. Well development was conducted with a Low-Density Polyethylene (LDPE) tubing and foot valve. A total volume of 440 L of water was removed during the well development. Stabilization of parameters (pH, conductivity, temperature, etc.) of the purged water was monitored before a sample to ensure the samples are representative of the formation water.

The monitoring well locations are provided in Figure 4.

5.7 Groundwater – Sampling

The monitoring well was purged and sampled using a bladder pump. The groundwater was purged before sampling to ensure extraction of representative formation groundwater. Stabilization of water quality parameters of the purged water was monitored before a sample was taken to maintain the equilibrium with the surrounding formation water and produce samples that are representative of the formation water.

Sampling methodology from the Ontario Ministry of the Environment, Conservation and Parks (MECP) *"Guidance on Sampling and Analytical Methods for Use at Contaminated Sites In Ontario"*, MECP *"Guide for Completing Phase Two Environmental Site Assessments under Ontario regulation 153/04"* and MECP *"Protocol for Analytical Methods Used in the Assessment of Properties under Par XV.1 of the Environmental Protection Act"* were followed in the collection of the groundwater samples.

5.8 Sediment – Sampling

No sediment sampling was conducted as part of this investigation.

5.9 Analytical Testing

Analytical testing of all soil and groundwater samples was conducted by SGS Canada Inc.

5.10 Residue Management Procedures

Residues from the field investigation were managed accordingly as provided below:

Residues	Management Procedures
Soil Cuttings	Soil cuttings generated during the drilling activities were placed in drums and removed from the Property by a licensed contractor.
Groundwater	The purged water generated during the well development and groundwater sampling events was disposed of in drums and removed from the Property by a licensed contractor.
Fluids from Equipment Cleaning	The fluids from cleaning were removed from the Property and disposed by the drilling contractor.

5.11 Elevation Surveying

The elevation of the boreholes on the Property were surveyed using a Sokkia survey system. The Sokkia survey system is a differential global positioning system (GPS) which involves the cooperation of a receiver and tablet. The elevation of each borehole on the Property is presented on the borehole logs in Appendix D.

5.12 Quality Assurance and Quality Control Measures

5.12.1 Containers, Preservation, Labelling, Handling and Chain of Custody

The following laboratory supplied sample containers were used for all sampling conducted on the Property.

Parameter/Group	Containers	
	Soil	Groundwater
Inorganic Parameters: Chromium hexavalent (CrVI), cyanide (CN-), pH, electrical conductivity (EC) Soil only: boron, hot water soluble (B-HWS), sodium adsorption ratio (SAR) Water only: chloride	250 g soil jar	500 mL PET 60 mL plastic (CrVI) 120 mL plastic (CN-)
Metals		250 mL HDPE (Metals)
Mercury (Hg)		60 mL amber glass (Hg)
Volatile Organic Compounds (VOCs) including benzene, toluene, ethylbenzene, xylene (BTEX) and trihalomethanes (THMs)	100 g soil jar 2 x 40 mL pre-weighed methanol 5 g soil plug	2 x 40 mL amber vial (zero headspace)
Petroleum hydrocarbons (PHCs) F1/ BTEX		
PHCs (F2-F4)	100 g soil jar	2 x 100 mL bottles fill to top of label
Polycyclic aromatic hydrocarbons (PAHs)		
Toxicity characteristic leaching procedure (TCLP)	250 g soil jar	-

All sampling containers were equipped with laboratory supplied labels. The labels indicated the following information:

- Sample ID
- Company name
- Date
- Project number

Samples were placed in coolers with ice after collection for transportation to the laboratory. Sample hold times were met for all submitted soil and groundwater samples. Laboratory supplied Chain of Custody forms were completed for all samples submitted for analysis.

5.12.2 Equipment Cleaning Procedures

Equipment	Cleaning Procedures
Soil sampling	Split spoon sampling device was washed between samples to prevent potential cross-contamination.
Groundwater sampling	Water level meter/ water quality monitoring meter was cleaned between monitoring wells.

All other dedicated equipment (nitrile gloves, terracores samplers, tubing) were changed between each sample to avoid cross-contamination.

5.12.3 Field Quality Control Measures and Deviations

For quality control purpose, the following actions were taken:

- At least one (1) duplicate sample is submitted for laboratory analysis for every ten (10) samples submitted for laboratory analysis for each sampled medium.
- Daily calibration of field instruments prior to sampling
- Groundwater trip blanks are used for Quality Assurance purposes for sampling of Volatile Organic Compounds.

No deviations from the quality assurance and quality control measures had occurred.

6 Review and Evaluation

6.1 Geology

Detailed geological information for the Property is presented on the borehole logs in Appendix D. The geology at the Property is summarized below.

Geological Unit Thickness (Estimate)	
Borehole	BH1 to BH3
	Thickness Range (m)
Surficial Materials	0 to 0.2
Earth Fill	0.2 to 4.6
Sand and Silt to Sandy Silt (Glacial Till)	1.1 to 10.7

Geological Unit Thickness (Estimate)	
Borehole	**BH1 to BH3**
	Thickness Range (m)
Sand to Silty Sand (Sand unit)	9.1 to 16.8
Clayey Silt	16.8 to 18.3
Bedrock	13.7 to 18.8

Geological Unit Elevations		
Borehole	**BH1 to BH3**	
	Elev. Top Range (masl)	**Elev. Bottom Range (masl)**
Surficial Materials	88.5 to 87.4	88.3 to 87.2
Earth Fill	88.3 to 87.2	87.4 to 83.1
Sand and Silt to Sandy Silt (Glacial Till)	87.4 to 83.1	79.1 to 73.7
Sand to Silty Sand (Sand unit)	79.1 to 73.7	75.5 to 71.7
Clayey Silt	71.7	70.2
Bedrock	74.0	N/A

6.1.1 Material in Geological Units

Geological Units	Description
Surficial Materials	All boreholes encountered a pavement structure consisting of 150 mm asphaltic concrete.
Earth Fill	Earth fill was encountered at all borehole locations and underlying the pavement structure. The earth fill extended to a depth of 1.1 to 4.6 mbgs (Elev. 87.4 to 83.1 masl). The earth fill generally consisted of clayey silt with some sand and trace-some amount of gravel. The earth fill was typically brown and moist.

Geological Units	Description
Sand and Silt to Sandy Silt (Glacial Till)	Underlying the fill materials, sand and silt to sandy silt tills were encountered. The sand and silt to sandy silt tills extended to a depth of 9.1 to 10.7 m (Elev. 79.1 to 77.0 m). The sand and silt to sandy silt till generally consisted of clayey to some clay, trace gravel and rock fragments. It was generally grey and moist.
Sand to Silty Sand (Sand unit)	Underlying the silts, sand to silty sand was encountered at all borehole locations. The sand to silty sand extended to a depth of 12.2 to 16.8 m (Elev. 75.5 to 71.7 m). The sand to silty sand generally consisted of trace amounts of clay, gravel and rock fragments. It was generally grey and wet.
Clayey Silt	Underlying the sands, clayey silt was encountered at BH3. The clayey silt extended to a depth of 16.8 to 18.3 m (Elev. 71.7 to 70.2 m). The clayey silt generally consisted some sand with trace gravel, and shale fragments. It was generally grey and moist.
Bedrock	Bedrock was encountered at a depth of 13.7 mbgs (Elev. 74.0 m).

6.1.2 Properties of Aquifers and Aquitards

Aquifers/Aquitards	Description
Earth Fill	The Earth Fill on the Property is considered to be an unconfined aquifer. The earth fill likely drains into the catch basins onsite or storm water systems adjacent to the Property.
Sand and Silt to Sandy Silt (Glacial Till)	The glacial till deposit with a silt and sand matrix is considered to be an unconfined aquifer with high permeability. The groundwater table at the Property is present within this aquifer.
Sand to Silty Sand (Sand unit)	The sands are considered to be an unconfined aquifer due to their high permeability and that during the field investigation they were noted to be wet. This unit is hydraulically connected to the overlying Glacial Till unit
Clayey Silt	The clayey silt is considered to be an aquitard due to its low permeability. This unit appeared to be discontinuous across the Property.
Bedrock	Bedrock likely contains groundwater within cracks and fissures and is hydraulically connected to the unconfined aquifer in the overburden.

6.1.3 Rationale for Choice of Aquifers and Aquitards Investigated

The sand unit was chosen for investigation. This stratum was chosen for investigation because:

- Possibility of free groundwater present, based on field observation of moisture content i.e., wet soils
- The possible location of mobile contamination within the native overburden and lower units
- The likelihood of horizontal migration of groundwater across the site

6.2 Groundwater: Elevations and Flow Direction

A total of three (3) monitoring wells have been installed by Grounded. Screened intervals of the monitoring wells were selected for the collection of groundwater samples within the desired strata based on moisture contents observed during the field investigation.

Three groundwater level measurements were conducted by Grounded in the newly installed monitoring wells using a Solinst interface probe on the following dates:

- November 23, 2022
- January 12, 2024
- January 16, 2024

To calculate the groundwater elevation in the monitoring well, the following calculation was completed:

- *Geodetic Ground Elevation (masl) – Measured Depth to Water Table (m) + Stick up of Well (m) = Groundwater Elevation (masl)*

No light non-aqueous phase liquids (LNAPL) or dense non-aqueous phase liquids (DNAPL) or free-flowing products were detected on the Property. The groundwater levels are presented in Table 1 and Figure 5.

Based on the groundwater elevations measured on the Property, a single unconfined aquifer is present within the lower glacial till extending into the underlying sand unit. The shallowest groundwater depth was measured at 4.9 mbgs (82.5 masl) in BH1 on January 16, 2024. The groundwater flow in the aquifer was determined to flow locally to the west. Regional groundwater flow is expected to flow to the south towards Frenchman's Bay. Groundwater contours are presented in Figure 5.

Additional groundwater data will be required to assess seasonal variability in groundwater quantity and flow direction; however, it based on the groundwater levels from 2022 to 2024, variability is expected to be limited.

6.3 Groundwater: Hydraulic Gradients

Horizontal Hydraulic Gradients	The horizontal hydraulic gradient at the Property was determined to be approximately 0.002 m/m based on the groundwater levels in boreholes BH1 & BH2.
Vertical Hydraulic Gradients	Based on the location and depths of the installed monitoring wells, the vertical gradient could not be calculated.
Hydraulic Conductivity	Earth fill – 1.0×10^{-6} m/s (published literature values in Freeze and Cherry, 1979) Sand and Silt to Sandy Silt (Glacial Till) - 9.09×10^{-7} (based on in-situ single well response test) Sand to Silty Sand – 5.43×10^{-5} to 9.61×10^{-5} (based on in-situ single well response test)

	Clayey Silt – 1.0 x 10^{-8} to 1.0 x 10^{-10} (published literature values in Freeze and Cherry, 1979)

6.4 Fine-Medium Soil Texture

Grain size analysis were completed for selected soil samples from the boreholes at the Property. The grain size analysis is provided in Appendix E.

Based on the results of the grain size analyses, all soil samples contained 50 per cent or more by mass of particles that are smaller than 75 micrometres in mean diameter. As such, the qualified person has determined that less than 1/3 of the soil at the property, measured by volume, consists of coarse textured soil, and therefore the qualified person has applied the standard for medium and fine textured soil.

6.5 Soil – Field Screening

Based on field screening measurements and visual and olfactory examination of all soil samples, selected samples were submitted for petroleum hydrocarbon (PHCs) and volatile organic compounds (VOCs) laboratory analysis. Complete field screening readings are provided on the borehole logs in Appendix D. No anomalous organic vapour readings were identified to indicate the presence of any volatile contaminants.

6.6 Soil – Quality

6.6.1 Location and Depth of Samples

Sample ID	Depth		Strata	APEC Assessed	M/ H-M	ORPs *	PAHs	PHCs	BTEX	VOCs
	mbgs	masl								
Grounded Drilling Investigation (November 2022)										
BH1 SS1	0.2 - 0.8	87.3 - 86.7	Fill	1,2	✓	✓				
BH1 SS2	0.8 - 1.4	86.7 - 86.1	Fill	1			✓			
BH1 SS4	2.3 - 2.9	85.1 - 84.5	Fill	1,2	✓	✓	✓	✓	✓	✓
BH1 SS10	10.7 - 11.3	76.8 - 76.1	Sand and Silt	1				✓	✓	✓
BH2 SS1	0.2 - 0.8	87.5 - 86.9	Fill	1,2	✓	✓				
BH2 SS2	0.8 - 1.4	86.9 - 86.3	Fill	1			✓	✓	✓	✓
BH2 SS3	1.5 - 2.1	86.2 - 85.6	Fill	1,2	✓	✓	✓			

Sample ID	Depth		Strata	APEC Assessed	M/ H-M	ORPs *	PAHs	PHCs	BTEX	VOCs
	mbgs	masl								
BH2 SS6	4.6 - 5.2	83.1 - 82.5	Sand and Silt Till	1				✓	✓	
BH2 SS9	9.1 - 9.8	78.6 - 77.9	Sand and Silt Till	1				✓	✓	✓
BH3 SS1	0.2 - 0.8	88.3 - 87.7	Fill	1,2	✓	✓				
BH3 SS2	0.8 - 1.4	87.7 - 87.1	Sand and Silt Till	1			✓	✓	✓	✓
BH3 SS3	1.5 - 2.1	86.9 - 86.3	Sand and Silt Till	1,2	✓	✓				
BH3 SS4	2.3 - 2.9	86.2 - 85.6	Sand and Silt Till	1			✓			
BH3 SS9A	9.1 - 9.4	79.3 - 79.0	Sand and Silt Till	1				✓	✓	✓
Grounded Drilling Investigation (December 2022)										
BH1A SS1	0.3 - 0.9	87.1 - 86.5	Fill	1		✓ (pH)				
BH1A SS2	0.9 - 1.5	86.5 - 85.9	Fill	1		✓ (pH)				
BH1B SS1	0.3 - 0.9	87.1 - 86.5	Fill	1		✓ (pH)				
BH1B SS2	0.9 - 1.5	86.5 - 85.9	Fill	1		✓ (pH)				
BH2A SS1	0.6 - 1.2	87.1 - 86.5	Fill	1				✓		
BH2B SS1	0.6 - 1.2	87.1 - 86.5	Fill	1				✓		
BH2C SS1	0.6 - 1.2	87.1 - 86.5	Fill	1				✓		

*Soil samples were submitted for the following select ORPs: Cyanide (CN-), Mercury (Hg), Hexavalent Chromium (Cr(VI)), low or high pH, Boron Hot-Water Soluble, EC, SAR

6.6.2 Comparison to Applicable Standards

Selected soil samples were analyzed for the following Contaminants of Potential Concern (CoPCs) identified in the Phase One ESA:

- M
- H-M
    - Sb, As, Se

- Select ORPs
    - B-HWS, CN-, EC, SAR, Cr(VI), Hg, pH
- PAHs
- PHCs
- BTEX
- VOCs

The results of the analysis were compared to the applicable Site Condition Standard for the Phase Two Property (Table 2 RPI M/F). The laboratory certificates of analysis are provided in Appendix F, and the results of the soil chemical analysis are provided in Table Tables 2.1 to 2.4 and presented on Figures 6 to 9.

Comparison Table (Table 2 RPI M/F Standard)		
Parameter Analyzed	**Exceed/Meet**	**Note:**
Metals	Meet	None
Hydride-forming Metals	Meet	None
ORPs	Meet	*None. Refer to section 6.6.2.1*
PAHs	Meet	None
PHC	Meet	None
BTEX	Meet	None
VOC	Meet	None

6.6.2.1 Exemption of Salt Related Exceedances (O.Reg. 153/04 Sec 49.1 (1))

Chemical analysis of the soil indicates that there are exceedances of the MECP Table 2 RPI Standards for Electrical Conductivity and Sodium Adsorption Ratio (salt related compound) within the upper soils in BH2 and BH3.

The Property is bound by municipal roadways to the east (Dixie Road) and west (Kingston Road). The roadways have public sidewalks between the road and the Property boundary. The Property features construction vehicle traffic and car parking. The roadways, sidewalks, and parking area are all salted during the winter months for safety purposes.

The Qualified Person has determined, based on the Phase One Environmental Site Assessment and the Phase Two Environmental Site Assessment, that a substance (salt) has been applied to surfaces of the roadway, sidewalks, driveway, and parking area for the safety of vehicular and pedestrian traffic under conditions of snow or ice or both.

The applicable site condition standard is exceeded at the Property solely because of the reason as stated above (application of salt for safety purposes during winter months). As per O.Reg. 153/04 49.1 the applicable site condition standard is deemed not to be exceeded for the purpose of Part XV.1 of the Act.

6.6.2.2 Additional pH sampling

The drilling program conducted by Grounded collected a soil sample in BH1 between 0.2 to 0.8 m depth (BH1/SS1) that had an elevated pH level of 9.12 pH units. On December 16, 2022, Grounded advanced 2 additional boreholes (BH1A and BH1B) within 1 m laterally of BH1 to a maximum depth of 1.5 m below existing grade. Four samples (BH1A/SS1, BH1A/SS2, BH1B/SS1, BH1B/SS2) plus one duplicate were collected at depths of 0.3 to 0.9 mbgs (SS1) and 0.9 to 1.5 mbgs (SS2), respectively. The laboratory results indicated that all samples were within the applicable range of 7.00 to 9.00 pH units for surface soil, as indicated below:

Sample Name	Units	MECP Table 2 RPI	RDL	BH1 SS1	BH1A SS1	DUP-2 (BH1A SS1)	BH1B SS1	BH1A SS2	BH1B SS2
Date				11-Nov-22	16-Dec-22	16-Dec-22	16-Dec-22	16-Dec-22	16-Dec-22
Depth of Sample (m)				0.2 - 0.8	0.3 - 0.9	0.3 - 0.9	0.3 - 0.9	0.9 - 1.5	0.9 - 1.5
Elev. of Sample (masl)				87.3 - 86.7	87.1 - 86.5	87.1 - 86.5	87.1 - 86.5	86.5 - 85.9	86.5 - 85.9
pH	unitless	5 to 9	-	9.12	8.13	8.01	8.1	8.07	8.04
Average Result of soils 0.2-0.9 mbgs (SS1)*				***8.26***					

*Results were averaged with the original sample and soil sample points taken within 1 metre of and same depth within the same soil horizon as the original exceedance.

The Qualified Person has determined that the original sample in BH1-SS1 is anomalous, likely due to concrete or lime dust included in the original sample. As per Section 48 (2) of O.Reg. 153/04, an average of the original sample (BH1/SS1) and additional samples within 1 m of the original sample from BH1A and BH1B and at 0.3 to 0.9 m depth (BH1A/SS1 and BH1B/SS1) was used to determine the representative pH value of the surface soils in this location. This average pH value of 8.26 was calculated as follows:

i. converting the pH value of the original samples and additional auger hole samples to their corresponding hydrogen ion (H+) concentrations
ii. calculating the average H+ concentration, and
iii. converting the average H+ concentration back to its corresponding pH value.

The QP has determined through additional sampling, that the elevated pH reading in BH1/SS1 was likely due to concrete and/or lime dust included in the sample. This average pH value of additional samples taken at this depth of 8.26 is within the applicable range of 7.00 to 9.00 pH units for surface soils and therefore, all surface soil at the Property is within the applicable range for pH.

6.6.3 Contaminants of Concern

No Contaminants of Concern were identified within the earth fill and native soil on the Property.

6.6.4 Contamination Impact on Other Media

No Contaminants of Concern were identified within the earth fill and native soil on the Property. It is unlikely that other media on the Property will be impacted.

6.6.5 Chemical or Biological Transformations

No chemical or biological transformations are likely to occur since no Contaminants of Concern were identified in the soil on the Property.

6.6.6 Presence of Light or Dense Non-Aqueous Phase Liquids

No light non-aqueous phase liquids (LNAPL) or dense non-aqueous phase liquids (DNAPL) were detected in the soil on the Property.

6.7 Groundwater Quality

6.7.1 Location and Depth of Samples

Sample ID	Screen Depth		Screen Strata	APEC Assessed	Metals, H-Metals & ORPs	PAHs	PHCs/ BTEX	VOCs
	mbgs	masl						
	mbgs	masl						
Grounded Drilling Investigation (November 2022)								
BH1	10.7 - 13.7	76.8 - 73.7	Sand and Silt Till/Sand	Due Diligence	✓	✓	✓	✓
BH2	9.1 - 12.2	78.6 - 75.5	Sand and Silt Till/Silty Sand	Due Diligence	✓	✓	✓	✓
BH3	12.2 - 15.2	76.3 - 73.2	Sand	Due Diligence	✓	✓	✓	✓

*Groundwater samples were submitted for the following select ORPs: Cyanide (CN-), Mercury (Hg), Hexavalent Chromium (Cr(VI)), low or high pH, Chloride (Cl)

Field filtering as per the requirements of the MECP *"Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act"* July 2011, was completed.

6.7.2 Comparison to Applicable Standards

Selected groundwater samples were analyzed for the following parameters for due diligence purposes:

- M
- H-M
  - Sb, As, Se
- Select ORPs
  - Cr(VI), CN-, Hg, Cl-, pH
- Na
- PAHs
- PHCs
- BTEX
- VOCs

The results of the analysis were compared to the applicable Site Condition Standard for the Phase Two Property (Table 2 RPI). The laboratory certificates of analysis are provided in Appendix F, and the results of the groundwater chemical analysis are provided in Tables 3.1 to 3.4 and presented on Figures 7 to 9.

Comparison Table (Table 2 RPI Standard)		
Parameter Analyzed	**Exceed/Meet**	**Note:**
Metals	Meet	None
H-Metals	Meet	None
ORPs	Meet	None
Na	Meet	None
PAHs	Meet	None
PHCs	Meet	None
BTEX	Meet	None
VOCs	Meet	None

6.7.3 Contaminants of Concern

No Contaminants of Concern were identified in the groundwater on the Property.

6.7.4 Contamination Impact on Other Media

No Contaminants of Concern were identified with the groundwater on the Property. It is unlikely that other media on the Property will be impacted.

6.7.5 Chemical or Biological Transformations

No chemical or biological transformations are likely to occur since no Contaminants of Concern were identified in the groundwater on the Property.

6.7.6 Presence of Light or Dense Non-Aqueous Phase Liquids

No light non-aqueous phase liquids (LNAPL) or dense non-aqueous phase liquids (DNAPL) were detected in the soil on the Property.

6.8 Sediment – Quality

Sediment was not present at the Property thus was not investigated as part of the Phase Two ESA.

6.9 Quality Assurance and Quality Control Results

Quality Assurance (QA) and Quality Control (QC) were maintained as per described in Section 5.12 above. In addition, laboratory results were compared to MECP standards for QA/QC under Ontario Regulation 153/04 which requires laboratory results to meet specific method detection limit (MDL) conditions. The sampling and analysis performed conformed with the following guidelines:

1. Ministry of the Environment, Conservation and Parks Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario.
2. Protocol of Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act of Ontario.

Duplicated samples were submitted at a rate of 10% for both soil and groundwater samples.

All the samples collected and submitted for analysis adhered to the holding times, preservation methods, storage requirement and container type as specified by the guidelines listed above.

6.9.1 Subsection 47 (3) of the Regulation

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. All certificates of analysis or analytical reports received have been in full in Appendix F.

6.9.2 Laboratory Qualification of Results

The laboratory did not make any significant comments that changed the outcome of the analytical results regarding the soil and groundwater samples.

6.9.3 Overall Quality of Field Data

Decision-making related to the quality of field data of the Property was not affected. The overall quality of the field data was considered by the Qualified Person to meet the objectives of the investigation and assessment.

6.10 Phase Two Conceptual Site Model

Phase Two Conceptual Site Model (CSM) is prepared for the Property and is provided in Appendix G.

7 Conclusions

The location and concentration of contamination is provided below:

Land	No exceedances of the applicable Site Condition Standards were identified in the soil on the Property.
Groundwater	No exceedances of the applicable Site Condition Standards were identified in the groundwater on the Property.

No exceedances of the applicable Site Condition Standards were identified for the soil and groundwater on the Property. As such, no remediation or a risk assessment (RA) will be required. A Record of Site Condition (RSC) can be filed for the Property.

Whether applicable Site Condition Standards and standards specified in a risk assessment for contaminants on, in or under the phase two property were met as of the certification date is provided below:

Soil	**Earth Fill**	The applicable Site Condition Standards were **met** in the earth fill located on the Property.
	Native	The applicable Site Condition Standards were **met** in the native soils located on the Property.
Groundwater		The applicable Site Condition Standards were **met** in the groundwater located on the Property.

7.1 Signatures

The Phase Two ESA has been completed in accordance with O. Reg. 153/04 by Vivi Tran, EIT under the direction and supervision of Suvish Melanta, P.Eng., QP_{ESA} and Matthew Bielaski, P.Eng., $QP_{RA\text{-}ESA}$. The findings and conclusions presented in this report have been determined based on the information that was obtained and reviewed from previous investigations provided and on the current investigation for the Phase Two Property.

We trust that this report meets your requirements at present.

For and on behalf of our team,

GROUNDED ENGINEERING

Vivi Tran, EIT
Project Coordinator

Suvish Melanta, P.Eng., QP_{ESA}
Associate

Matthew Bielaski, P.Eng., $QP_{RA\text{-}ESA}$
Principal

8 References

1. Grounded Engineering Inc. Phase One Environmental Site Assessment 1095 Kingston Road | Pickering, Ontario. File No. 22-279 (Rev. 1.0). January 16, 2024.
2. Ontario Ministry of the Environment, December 1996. *Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario.*
3. Ontario Ministry of the Environment, April 2011. *Soil, Ground Water and Sediment Standards for use under Part XV. 1*
4. Ontario Ministry of the Environment, June 2011. *Guide for Completing Phase Two Environmental Site Assessments under Ontario Regulation 153/04.*
5. Ontario Ministry of the Environment, July 2011. *Protocol for Analytical Methods Used in the Assessment of Properties under Part XV. 1 of the Environmental Protection Act.*
6. PGL Environmental Consultants. *Phase 1 Environmental Site Assessment 1095 Kingston Road, Pickering, ON.* File No. 5947-01.01. December, 2019.

9 Limitations and Restrictions

The Phase Two ESA report was prepared for the purpose of identifying potential environmental concerns, including an assessment of the likelihood that the environmental quality of the soil and groundwater at the Property may have been adversely affected by past or present practices at the Property, and/or those of the adjacent properties prior to development of the Property. Any use of which a third party makes of this report, or any reliance on or decision to be made based on it, are the responsibility of such third parties. Grounded Engineering Inc. does not assume any responsibility for errors, omissions, damages or other limitation pertaining to third parties.

The information presented in this report is based on information collected during the completion of the subsurface investigation conducted by Grounded Engineering Inc. It is based on conditions at the Property at the time of the inspection. The subsurface conditions were assessed based on information collected at specific borehole and monitoring well locations. The actual subsurface conditions between sampling points may be different.

The conclusions presented in this report are based on work undertaken by trained professional and technical staff and are the product of professional care and competence. The report cannot be construed as legal advice or as an absolute guarantee.

If new information regarding the environmental condition of the Phase Two Property is identified during future work, or outstanding responses from regulatory agencies indicate outstanding issues on file with respect to the Phase Two Property, Grounded Engineering Inc. should be notified so that we may re-evaluate the findings of this assessment and provide amendments.

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FIGURES

GROUNDED ENGINEERING
1 BANIGAN DRIVE, TORONTO, ONT., M4H 1G3
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LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- RAILWAY TRACKS
- REGULATED WATERBOLDIES

Note

Reference

ArcGIS Map 2022

Project

1095 KINGSTON ROAD PICKERING, ONTARIO

Figure Title

SITE LOCATION

North

PROJECT

Date

FEBRUARY 2024

Scale

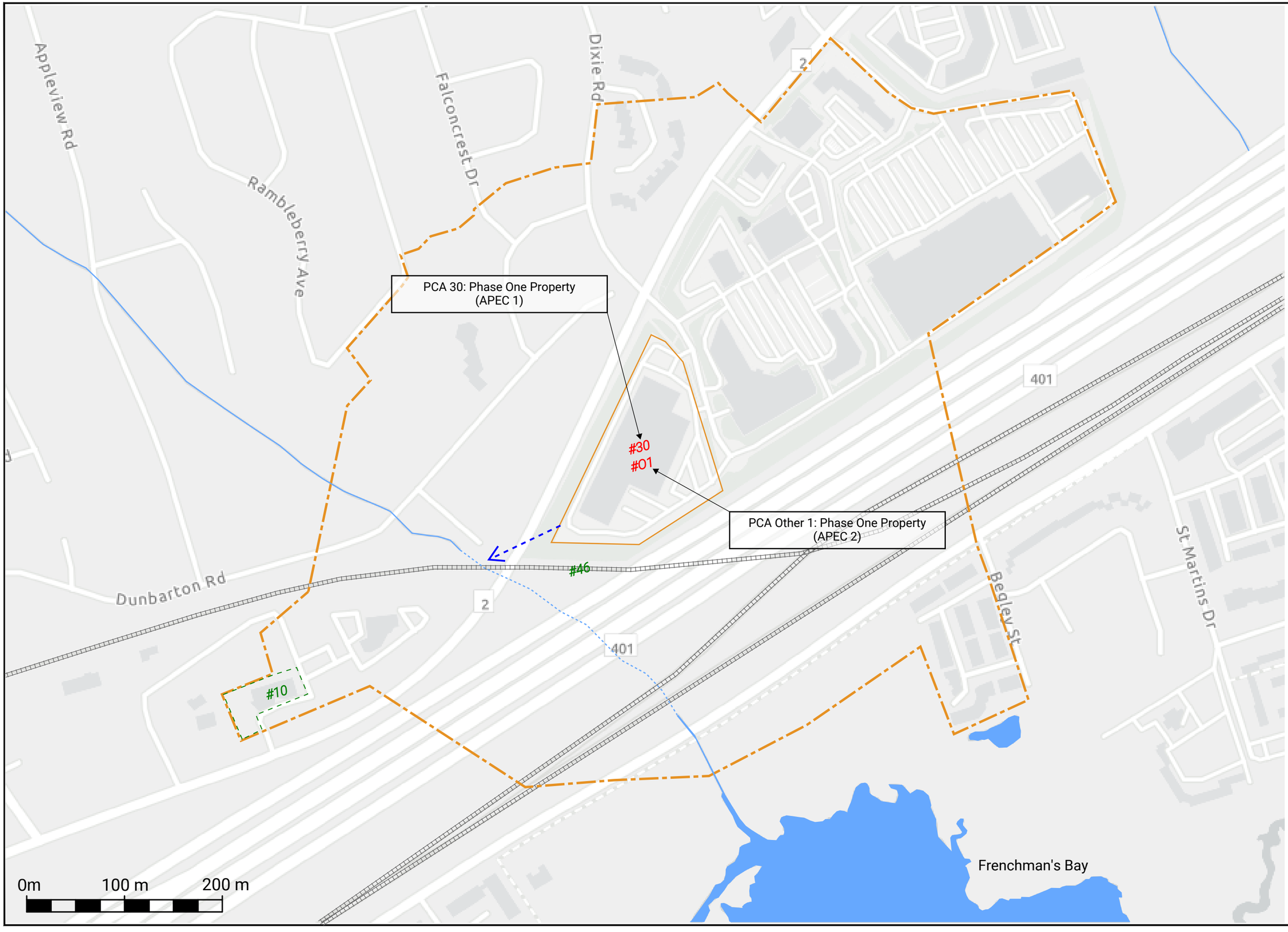
AS INDICATED

Job No

22-279

Figure No

FIGURE 1



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LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- STUDY AREA (250 m RADIUS)
- RAILWAY TRACKS
- REGULATED WATERBOLDIES
- ASSUMED GROUNDWATER FLOW DIRECTION BASED ON PHASE ONE ESA

Note

GREEN - PCA NOT CAUSING APEC
RED - PCA CAUSING APEC

Reference

ArcGIS Map 2022

Project

1095 KINGSTON ROAD PICKERING, ONTARIO

Figure Title

PCA LOCATIONS

North

PROJECT

Date

FEBRUARY 2024

Scale

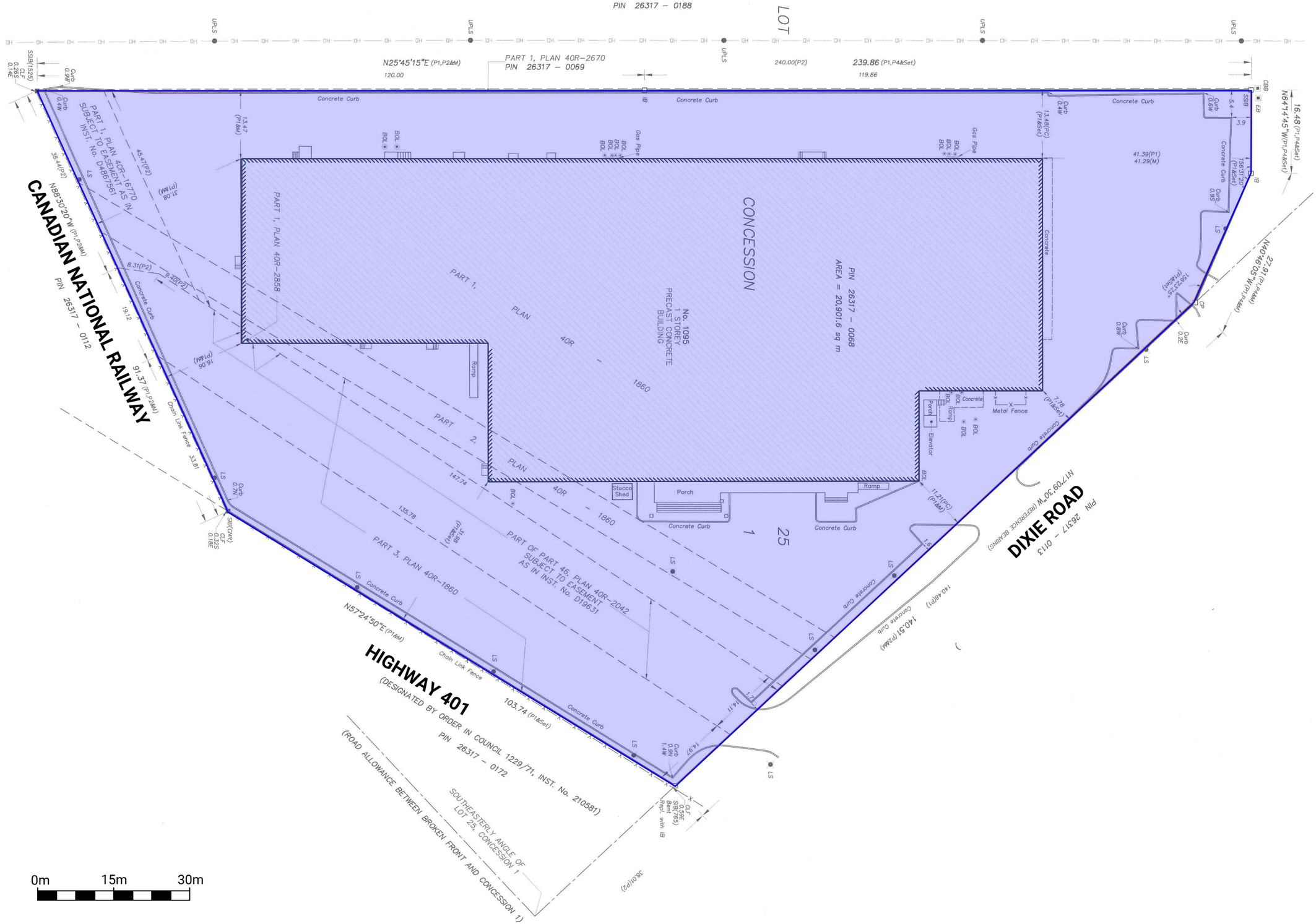
AS INDICATED

Job No

22-279

Figure No

FIGURE 2



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LEGEND

- PROPERTY BOUNDARY
- EXISTING BUILDING STRUCTURE
- APEC 1, 2

Note

Reference

Ertl Surveyors., "Plan of Survey of Part of Lot 25 Concession 1, Geographic Township of Pickering, City of Pickering, Regional Municipality of Durham"; Job No. 2108245, dated June 23, 2020.

Project

1095 KINGSTON ROAD PICKERING, ONTARIO

Figure Title

APEC LOCATIONS

North

Date

FEBRUARY 2024

Scale

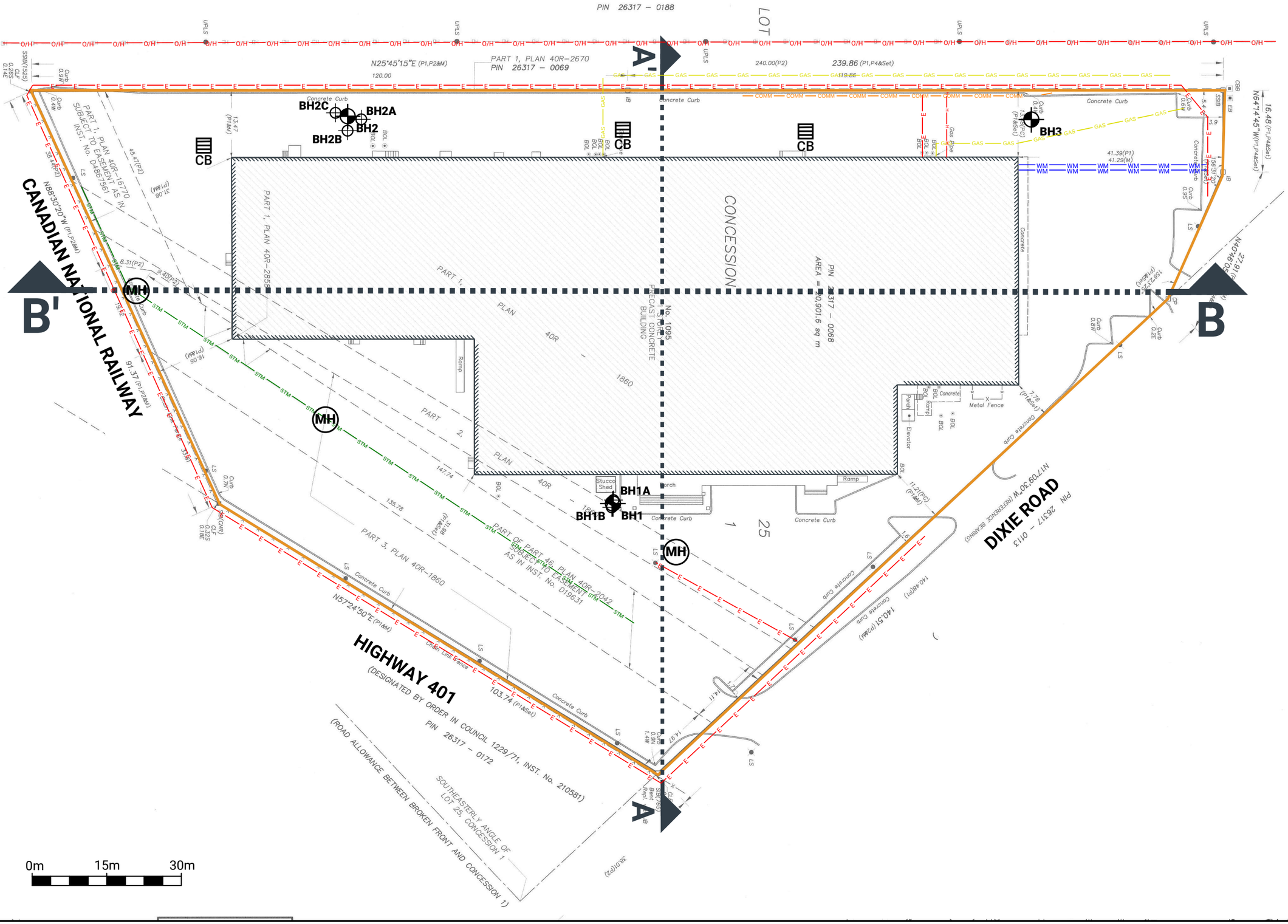
AS INDICATED

Job No

22-279

Figure No

FIGURE 3



GROUNDED ENGINEERING

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LEGEND

- PROPERTY BOUNDARY
- EXISTING BUILDING STRUCTURE
- CROSS SECTION LINE
- MONITORING WELL/BOREHOLE BY GROUNDED
- GAS — GAS
- E — ELECTRICAL
- H — BURIED HYDRO
- O/H — OVERHEAD HYDRO
- WM — WATER
- COMM — COMMUNICATION
- SAN — SANITARY
- STM — STORM
- MH — MANHOLE
- CB — CATCH BASIN

Note
Utilities shown on this figure are shown for informational purposes only for the Phase One ESA, as outlined by O.Reg. 153/04. This is not an official locate and the information presented should not be relied upon.

Reference
Ertl Surveyors., "Plan of Survey of Part of Lot 25 Concession 1, Geographic Township of Pickering, City of Pickering, Regional Municipality of Durham"; Job No. 2108245, dated June 23, 2020.

Project
1095 KINGSTON ROAD PICKERING, ONTARIO

Figure Title
BOREHOLES LOCATION PLAN

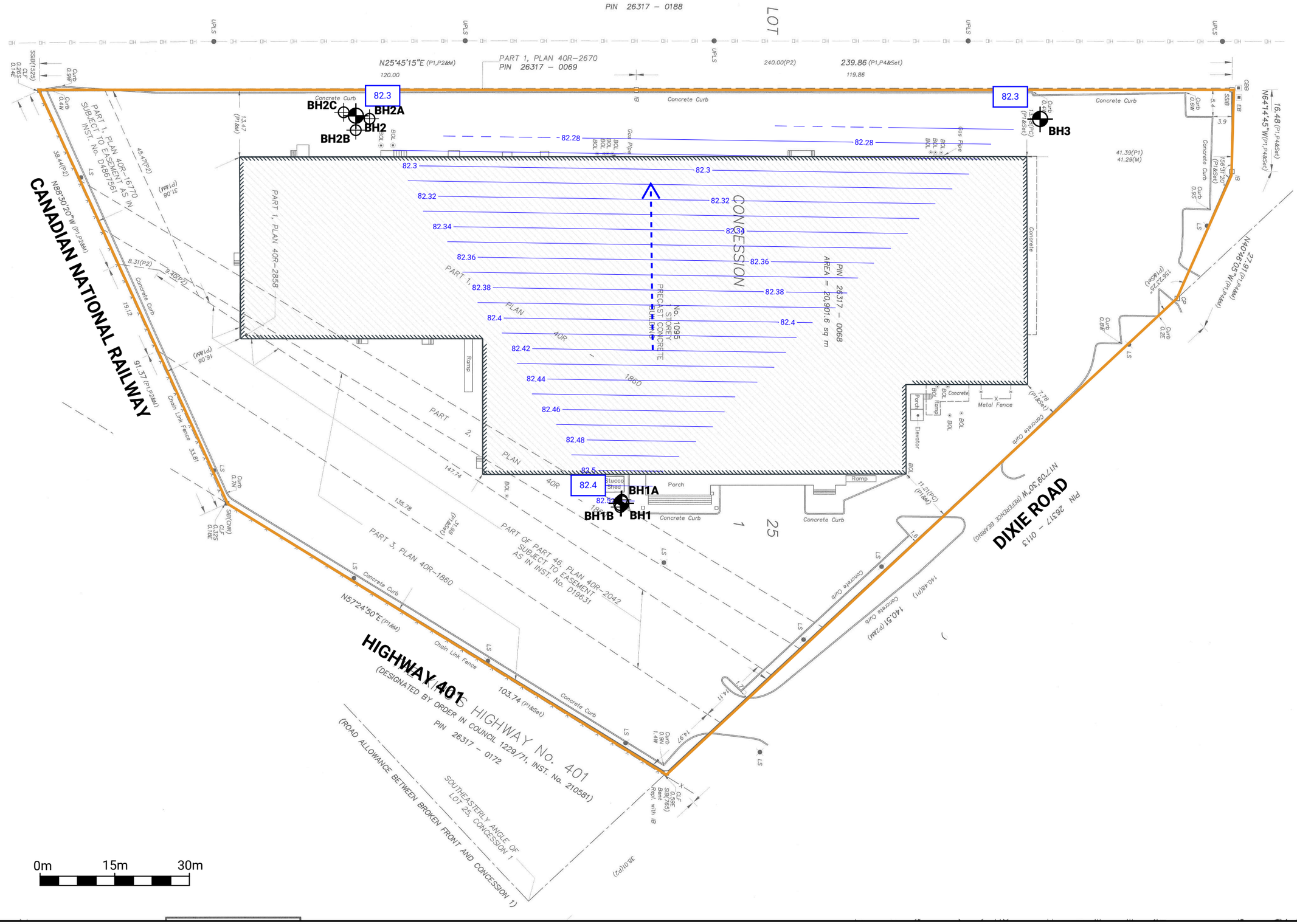
North

Date
FEBRUARY 2024

Scale
AS INDICATED

Job No
22-279

Figure No
FIGURE 4



GROUNDED ENGINEERING
1 BANIGAN DRIVE, TORONTO, ONT., M4H 1G3
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LEGEND

- PROPERTY BOUNDARY
- EXISTING BUILDING STRUCTURE
- MONITORING WELL/BOREHOLE BY GROUNDED
- 119.4 GROUNDWATER ELEVATIONS (masl)
- 119.4 GROUNDWATER CONTOURS (masl)
- APPROXIMATE GROUNDWATER FLOW DIRECTION

Note

Groundwater elevation data used was collected during the January 16, 2024 monitoring event.

Reference

Ertl Surveyors., "Plan of Survey of Part of Lot 25 Concession 1, Geographic Township of Pickering, City of Pickering, Regional Municipality of Durham"; Job No. 2108245, dated June 23, 2020.

Project

1095 KINGSTON ROAD PICKERING, ONTARIO

Figure Title

GROUNDWATER ELEVATIONS AND CONTOURS

North

PROJECT

Date

FEBRUARY 2024

Scale

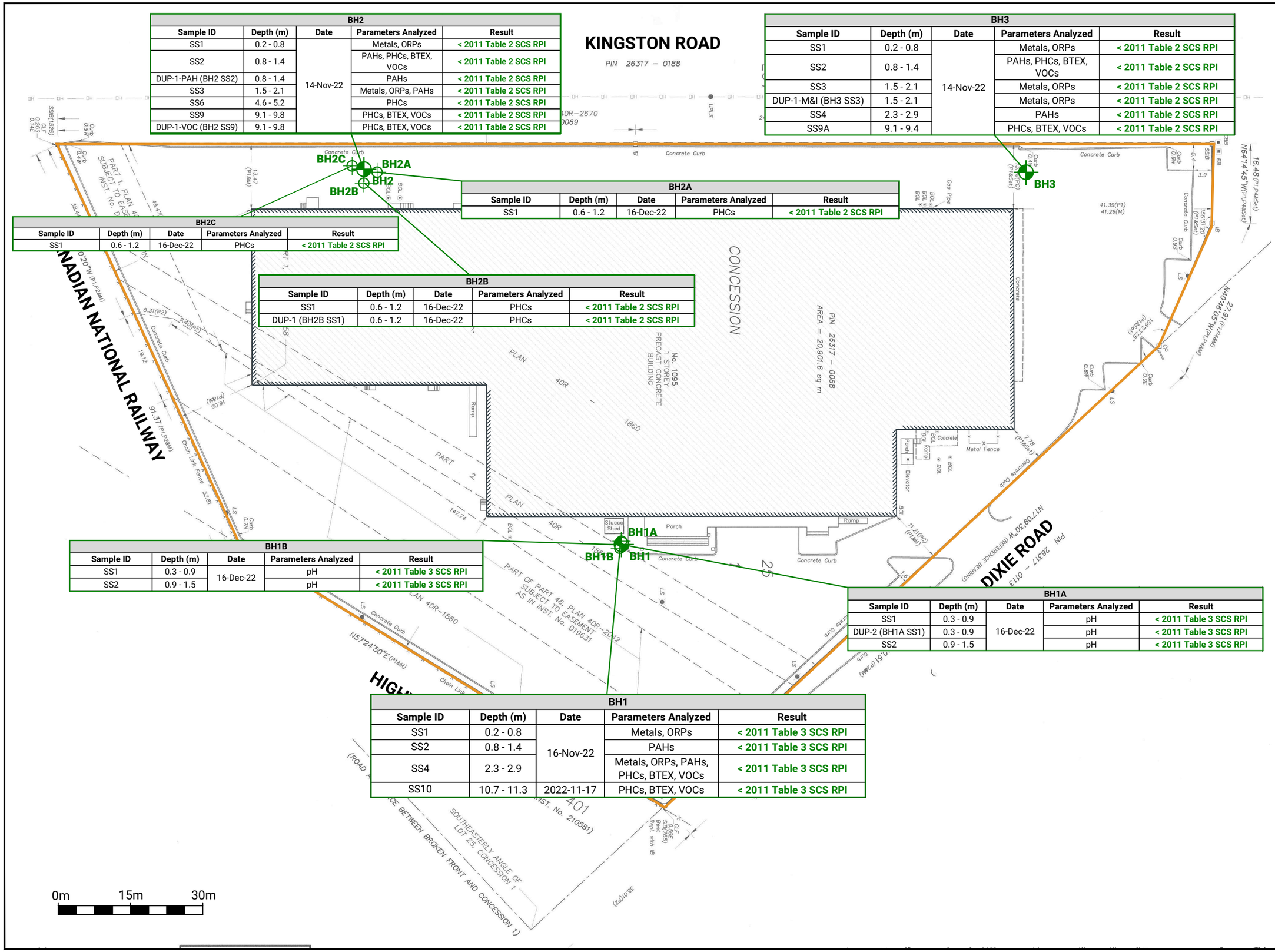
AS INDICATED

Job No

22-279

Figure No

FIGURE 5



BH2

Sample ID	Depth (m)	Date	Parameters Analyzed	Result
SS1	0.2 - 0.8	14-Nov-22	Metals, ORPs	< 2011 Table 2 SCS RPI
SS2	0.8 - 1.4		PAHs, PHCs, BTEX, VOCs	< 2011 Table 2 SCS RPI
DUP-1-PAH (BH2 SS2)	0.8 - 1.4		PAHs	< 2011 Table 2 SCS RPI
SS3	1.5 - 2.1		Metals, ORPs, PAHs	< 2011 Table 2 SCS RPI
SS6	4.6 - 5.2		PHCs	< 2011 Table 2 SCS RPI
SS9	9.1 - 9.8		PHCs, BTEX, VOCs	< 2011 Table 2 SCS RPI
DUP-1-VOC (BH2 SS9)	9.1 - 9.8		PHCs, BTEX, VOCs	< 2011 Table 2 SCS RPI

BH3

Sample ID	Depth (m)	Date	Parameters Analyzed	Result
SS1	0.2 - 0.8	14-Nov-22	Metals, ORPs	< 2011 Table 2 SCS RPI
SS2	0.8 - 1.4		PAHs, PHCs, BTEX, VOCs	< 2011 Table 2 SCS RPI
SS3	1.5 - 2.1		Metals, ORPs	< 2011 Table 2 SCS RPI
DUP-1-M&I (BH3 SS3)	1.5 - 2.1		Metals, ORPs	< 2011 Table 2 SCS RPI
SS4	2.3 - 2.9		PAHs	< 2011 Table 2 SCS RPI
SS9A	9.1 - 9.4		PHCs, BTEX, VOCs	< 2011 Table 2 SCS RPI

BH2A

Sample ID	Depth (m)	Date	Parameters Analyzed	Result
SS1	0.6 - 1.2	16-Dec-22	PHCs	< 2011 Table 2 SCS RPI

BH2C

Sample ID	Depth (m)	Date	Parameters Analyzed	Result
SS1	0.6 - 1.2	16-Dec-22	PHCs	< 2011 Table 2 SCS RPI

BH2B

Sample ID	Depth (m)	Date	Parameters Analyzed	Result
SS1	0.6 - 1.2	16-Dec-22	PHCs	< 2011 Table 2 SCS RPI
DUP-1 (BH2B SS1)	0.6 - 1.2	16-Dec-22	PHCs	< 2011 Table 2 SCS RPI

BH1B

Sample ID	Depth (m)	Date	Parameters Analyzed	Result
SS1	0.3 - 0.9	16-Dec-22	pH	< 2011 Table 3 SCS RPI
SS2	0.9 - 1.5		pH	< 2011 Table 3 SCS RPI

BH1A

Sample ID	Depth (m)	Date	Parameters Analyzed	Result
SS1	0.3 - 0.9	16-Dec-22	pH	< 2011 Table 3 SCS RPI
DUP-2 (BH1A SS1)	0.3 - 0.9		pH	< 2011 Table 3 SCS RPI
SS2	0.9 - 1.5		pH	< 2011 Table 3 SCS RPI

BH1

Sample ID	Depth (m)	Date	Parameters Analyzed	Result
SS1	0.2 - 0.8	16-Nov-22	Metals, ORPs	< 2011 Table 3 SCS RPI
SS2	0.8 - 1.4		PAHs	< 2011 Table 3 SCS RPI
SS4	2.3 - 2.9		Metals, ORPs, PAHs, PHCs, BTEX, VOCs	< 2011 Table 3 SCS RPI
SS10	10.7 - 11.3	2022-11-17	PHCs, BTEX, VOCs	< 2011 Table 3 SCS RPI

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LEGEND

- PROPERTY BOUNDARY
- EXISTING BUILDING STRUCTURE
- MONITORING WELL/BOREHOLE BY GROUNDED
- SAMPLE MEETS STANDARDS
- SAMPLE EXCEEDS STANDARDS
- LOCATION NOT TESTED
- APPROXIMATE EXTENT OF CONTAMINATION

Note

Soil samples were submitted for the following **select ORPs**: Cyanide (CN-), Mercury (Hg), Hexavalent Chromium (Cr(VI)), pH, Boron Hot-Water Soluble, EC, SAR, **unless otherwise specified.**

Reference

Ertl Surveyors., "Plan of Survey of Part of Lot 25 Concession 1, Geographic Township of Pickering, City of Pickering, Regional Municipality of Durham"; Job No. 2108245, dated June 23, 2020.

Project

1095 KINGSTON ROAD PICKERING, ONTARIO

Figure Title

SOIL SAMPLING LOCATIONS

North

Date

FEBRUARY 2024

Scale

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Job No

22-279

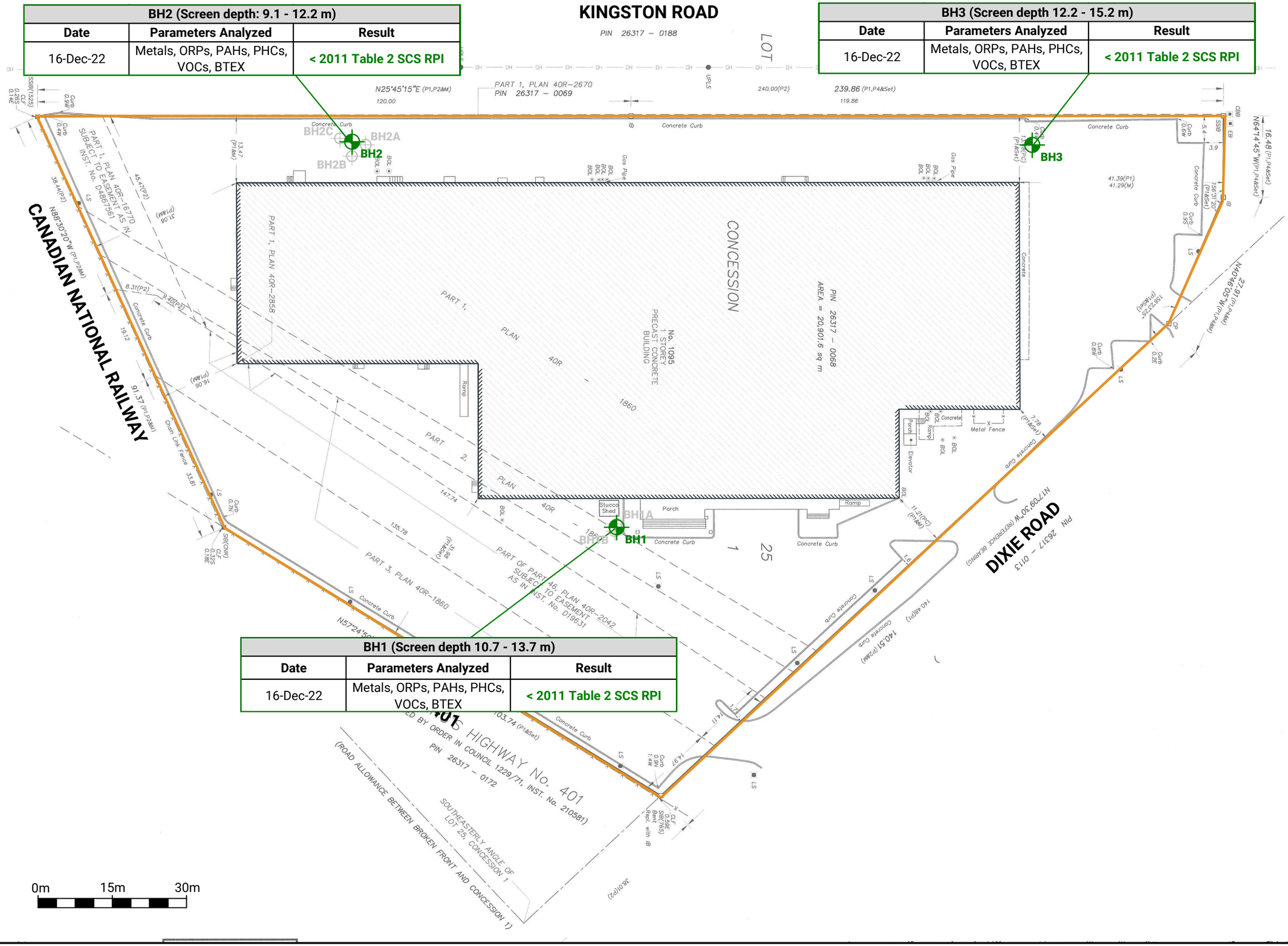
Figure No

FIGURE 6

BH2 (Screen depth: 9.1 - 12.2 m)		
Date	**Parameters Analyzed**	**Result**
16-Dec-22	Metals, ORPs, PAHs, PHCs, VOCs, BTEX	**< 2011 Table 2 SCS RPI**

BH3 (Screen depth 12.2 - 15.2 m)		
Date	**Parameters Analyzed**	**Result**
16-Dec-22	Metals, ORPs, PAHs, PHCs, VOCs, BTEX	**< 2011 Table 2 SCS RPI**

BH1 (Screen depth 10.7 - 13.7 m)		
Date	**Parameters Analyzed**	**Result**
16-Dec-22	Metals, ORPs, PAHs, PHCs, VOCs, BTEX	**< 2011 Table 2 SCS RPI**



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LEGEND

- PROPERTY BOUNDARY
- EXISTING BUILDING STRUCTURE
- MONITORING WELL/BOREHOLE BY GROUNDED
- SAMPLE MEETS STANDARDS
- SAMPLE EXCEEDS STANDARDS
- LOCATION NOT TESTED
- APPROXIMATE EXTENT OF CONTAMINATION

Note
Groundwater samples were submitted for the following **select ORPs**: Cyanide (CN-), Mercury (Hg), Hexavalent Chromium (Cr(VI)), I pH, Chloride (Cl). These samples also submitted for sodium.

Reference
Ertl Surveyors., "Plan of Survey of Part of Lot 25 Concession 1, Geographic Township of Pickering, City of Pickering, Regional Municipality of Durham"; Job No. 2108245, dated June 23, 2020.

Project
1095 KINGSTON ROAD PICKERING, ONTARIO

Figure Title
GROUNDWATER SAMPLING LOCATIONS

North

Date
FEBRUARY 2024

Scale
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Job No
22-279

Figure No
FIGURE 7

E-W

BH1				
Sample ID	Depth (m)	Date	Parameters Analyzed	Result
SS1	0.2 - 0.8	16-Nov-22	Metals, ORPs	< 2011 Table 3 SCS RPI
SS2	0.8 - 1.4		PAHs	< 2011 Table 3 SCS RPI
SS4	2.3 - 2.9		Metals, ORPs, PAHs, PHCs, BTEX, VOCs	< 2011 Table 3 SCS RPI
SS10	10.7 - 11.3	2022-11-17	PHCs, BTEX, VOCs	< 2011 Table 3 SCS RPI

BH2				
Sample ID	Depth (m)	Date	Parameters Analyzed	Result
SS1	0.2 - 0.8	14-Nov-22	Metals, ORPs	< 2011 Table 2 SCS RPI
SS2	0.8 - 1.4		PAHs, PHCs, BTEX, VOCs	< 2011 Table 2 SCS RPI
DUP-1-PAH (BH2 SS2)	0.8 - 1.4		PAHs	< 2011 Table 2 SCS RPI
SS3	1.5 - 2.1		Metals, ORPs, PAHs	< 2011 Table 2 SCS RPI
SS6	4.6 - 5.2		PHCs	< 2011 Table 2 SCS RPI
SS9	9.1 - 9.8		PHCs, BTEX, VOCs	< 2011 Table 2 SCS RPI
DUP-1-VOC (BH2 SS9)	9.1 - 9.8		PHCs, BTEX, VOCs	< 2011 Table 2 SCS RPI

BH2C				
Sample ID	Depth (m)	Date	Parameters Analyzed	Result
SS1	0.6 - 1.2	16-Dec-22	PHCs	< 2011 Table 2 SCS RPI

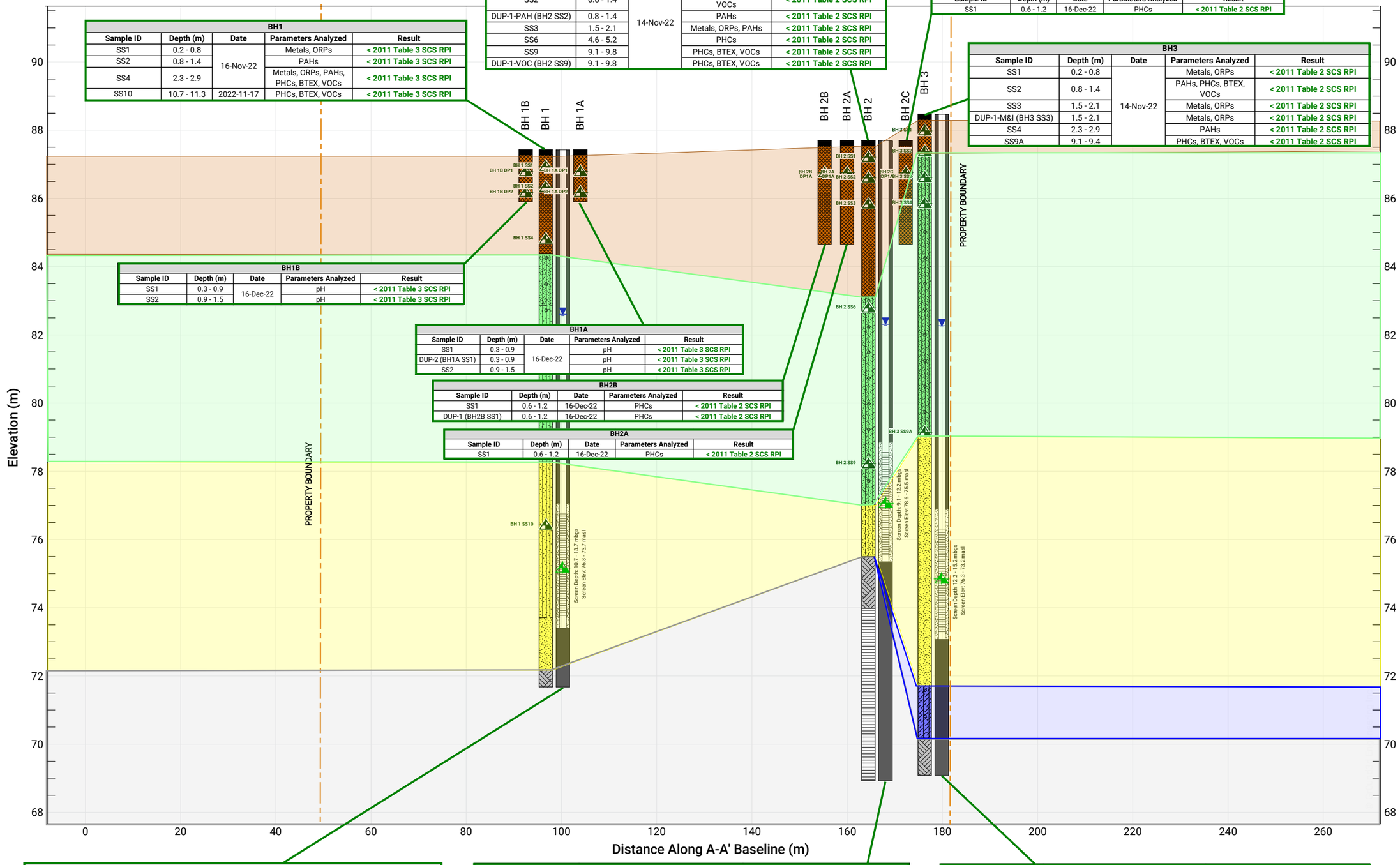
BH3				
Sample ID	Depth (m)	Date	Parameters Analyzed	Result
SS1	0.2 - 0.8	14-Nov-22	Metals, ORPs	< 2011 Table 2 SCS RPI
SS2	0.8 - 1.4		PAHs, PHCs, BTEX, VOCs	< 2011 Table 2 SCS RPI
SS3	1.5 - 2.1		Metals, ORPs	< 2011 Table 2 SCS RPI
DUP-1-M&I (BH3 SS3)	1.5 - 2.1		Metals, ORPs	< 2011 Table 2 SCS RPI
SS4	2.3 - 2.9		PAHs	< 2011 Table 2 SCS RPI
SS9A	9.1 - 9.4		PHCs, BTEX, VOCs	< 2011 Table 2 SCS RPI

BH1B				
Sample ID	Depth (m)	Date	Parameters Analyzed	Result
SS1	0.3 - 0.9	16-Dec-22	pH	< 2011 Table 3 SCS RPI
SS2	0.9 - 1.5		pH	< 2011 Table 3 SCS RPI

BH1A				
Sample ID	Depth (m)	Date	Parameters Analyzed	Result
SS1	0.3 - 0.9	16-Dec-22	pH	< 2011 Table 3 SCS RPI
DUP-2 (BH1A SS1)	0.3 - 0.9		pH	< 2011 Table 3 SCS RPI
SS2	0.9 - 1.5		pH	< 2011 Table 3 SCS RPI

BH2B				
Sample ID	Depth (m)	Date	Parameters Analyzed	Result
SS1	0.6 - 1.2	16-Dec-22	PHCs	< 2011 Table 2 SCS RPI
DUP-1 (BH2B SS1)	0.6 - 1.2	16-Dec-22	PHCs	< 2011 Table 2 SCS RPI

BH2A				
Sample ID	Depth (m)	Date	Parameters Analyzed	Result
SS1	0.6 - 1.2	16-Dec-22	PHCs	< 2011 Table 2 SCS RPI



BH1 (Screen depth 10.7 - 13.7 m)		
Date	Parameters Analyzed	Result
16-Dec-22	Metals, ORPs, PAHs, PHCs, VOCs, BTEX	< 2011 Table 2 SCS RPI

BH3 (Screen depth 12.2 - 15.2 m)		
Date	Parameters Analyzed	Result
16-Dec-22	Metals, ORPs, PAHs, PHCs, VOCs, BTEX	< 2011 Table 2 SCS RPI

BH2 (Screen depth: 9.1 - 12.2 m)		
Date	Parameters Analyzed	Result
16-Dec-22	Metals, ORPs, PAHs, PHCs, VOCs, BTEX	< 2011 Table 2 SCS RPI

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LEGEND

- FILL
- SILT TO SAND (not till)
- COHESIONLESS TILLS
- COHESIVE SOILS (clayey silt to clay, incl. tills)
- WHITBY FORMATION BEDROCK
- SS1 — SOIL SAMPLE LOCATION MEETS STANDARD
- SS1 — SOIL SAMPLE LOCATION EXCEEDS STANDARD
- water level, stabilized

Note

- Soil samples were submitted for the following **select ORPs**: Cyanide (CN-), Mercury (Hg), Hexavalent Chromium (Cr(VI)), pH, Boron Hot-Water Soluble, EC, SAR, **unless otherwise specified.**

- Groundwater samples were submitted for the following **select ORP**s: Cyanide (CN-), Mercury (Hg), Hexavalent Chromium (Cr(VI)), I pH, Chloride (Cl). These samples also submitted for sodium.

- The soil/rock stratigraphy shown on the cross section between borehole locations is interpreted. The actual soil/rock conditions may vary.

Reference

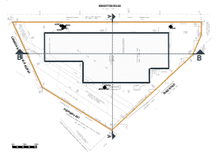
Project

1095 KINGSTON ROAD PICKERING, ONTARIO

Figure Title

SOIL AND GROUNDWATER SAMPLING LOCATIONS - SECTION A-A'

North



Date

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Job No

22-279

Figure No

FIGURE 8

N-S

BH3				
Sample ID	Depth (m)	Date	Parameters Analyzed	Result
SS1	0.2 - 0.8	14-Nov-22	Metals, ORPs	< 2011 Table 2 SCS RPI
SS2	0.8 - 1.4		PAHs, PHCs, BTEX, VOCs	< 2011 Table 2 SCS RPI
SS3	1.5 - 2.1		Metals, ORPs	< 2011 Table 2 SCS RPI
DUP-1-M&I (BH3 SS3)	1.5 - 2.1		Metals, ORPs	< 2011 Table 2 SCS RPI
SS4	2.3 - 2.9		PAHs	< 2011 Table 2 SCS RPI
SS9A	9.1 - 9.4		PHCs, BTEX, VOCs	< 2011 Table 2 SCS RPI

BH2B				
Sample ID	Depth (m)	Date	Parameters Analyzed	Result
SS1	0.6 - 1.2	16-Dec-22	PHCs	< 2011 Table 2 SCS RPI
DUP-1 (BH2B SS1)	0.6 - 1.2	16-Dec-22	PHCs	< 2011 Table 2 SCS RPI

BH2A				
Sample ID	Depth (m)	Date	Parameters Analyzed	Result
SS1	0.6 - 1.2	16-Dec-22	PHCs	< 2011 Table 2 SCS RPI

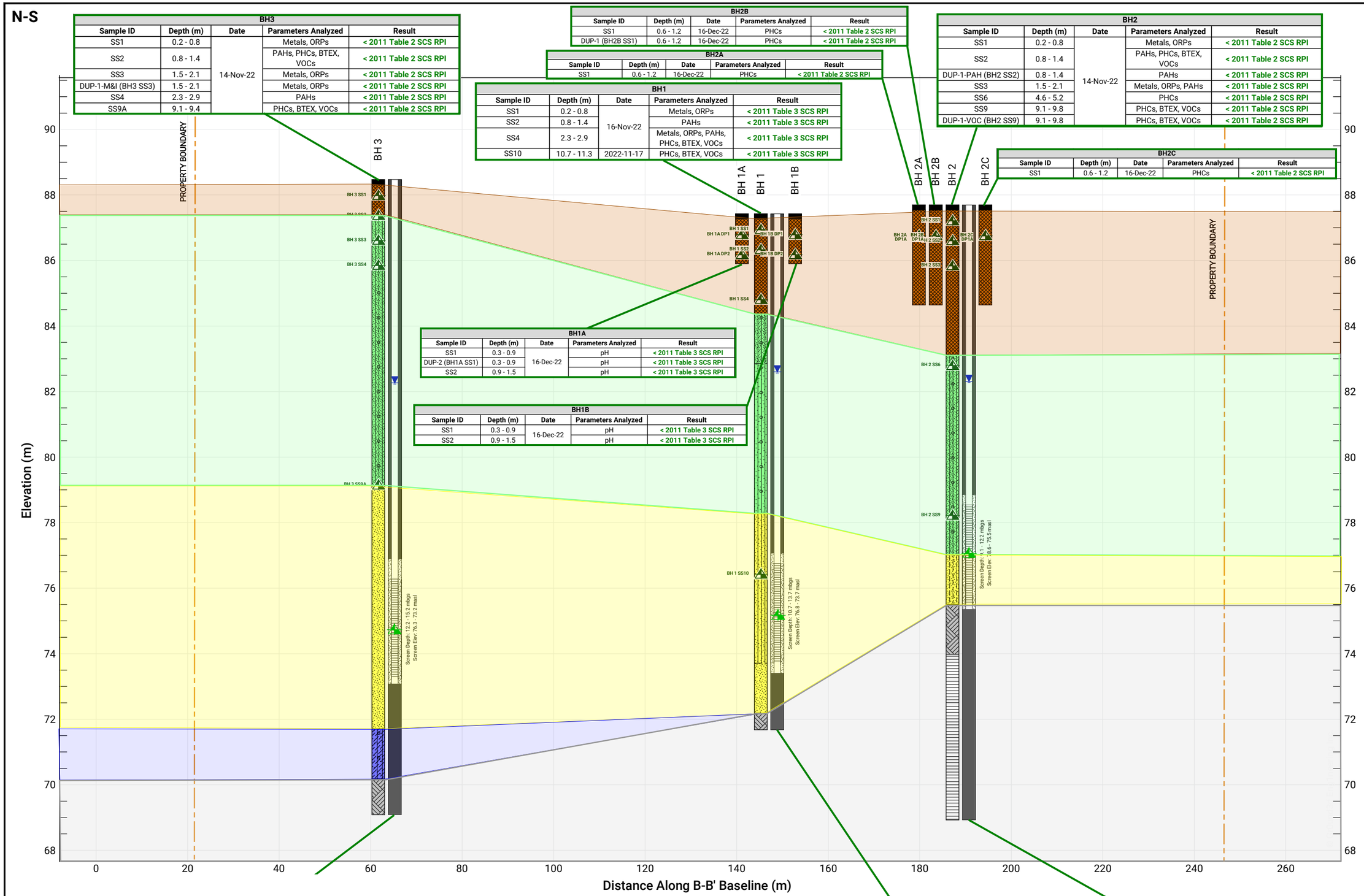
BH1				
Sample ID	Depth (m)	Date	Parameters Analyzed	Result
SS1	0.2 - 0.8	16-Nov-22	Metals, ORPs	< 2011 Table 3 SCS RPI
SS2	0.8 - 1.4		PAHs	< 2011 Table 3 SCS RPI
SS4	2.3 - 2.9		Metals, ORPs, PAHs, PHCs, BTEX, VOCs	< 2011 Table 3 SCS RPI
SS10	10.7 - 11.3	2022-11-17	PHCs, BTEX, VOCs	< 2011 Table 3 SCS RPI

BH2				
Sample ID	Depth (m)	Date	Parameters Analyzed	Result
SS1	0.2 - 0.8	14-Nov-22	Metals, ORPs	< 2011 Table 2 SCS RPI
SS2	0.8 - 1.4		PAHs, PHCs, BTEX, VOCs	< 2011 Table 2 SCS RPI
DUP-1-PAH (BH2 SS2)	0.8 - 1.4		PAHs	< 2011 Table 2 SCS RPI
SS3	1.5 - 2.1		Metals, ORPs, PAHs	< 2011 Table 2 SCS RPI
SS6	4.6 - 5.2		PHCs	< 2011 Table 2 SCS RPI
SS9	9.1 - 9.8		PHCs, BTEX, VOCs	< 2011 Table 2 SCS RPI
DUP-1-VOC (BH2 SS9)	9.1 - 9.8		PHCs, BTEX, VOCs	< 2011 Table 2 SCS RPI

BH2C				
Sample ID	Depth (m)	Date	Parameters Analyzed	Result
SS1	0.6 - 1.2	16-Dec-22	PHCs	< 2011 Table 2 SCS RPI

BH1A				
Sample ID	Depth (m)	Date	Parameters Analyzed	Result
SS1	0.3 - 0.9	16-Dec-22	pH	< 2011 Table 3 SCS RPI
DUP-2 (BH1A SS1)	0.3 - 0.9		pH	< 2011 Table 3 SCS RPI
SS2	0.9 - 1.5		pH	< 2011 Table 3 SCS RPI

BH1B				
Sample ID	Depth (m)	Date	Parameters Analyzed	Result
SS1	0.3 - 0.9	16-Dec-22	pH	< 2011 Table 3 SCS RPI
SS2	0.9 - 1.5		pH	< 2011 Table 3 SCS RPI



BH3 (Screen depth 12.2 - 15.2 m)		
Date	Parameters Analyzed	Result
16-Dec-22	Metals, ORPs, PAHs, PHCs, VOCs, BTEX	< 2011 Table 2 SCS RPI

BH1 (Screen depth 10.7 - 13.7 m)		
Date	Parameters Analyzed	Result
16-Dec-22	Metals, ORPs, PAHs, PHCs, VOCs, BTEX	< 2011 Table 2 SCS RPI

BH2 (Screen depth: 9.1 - 12.2 m)		
Date	Parameters Analyzed	Result
16-Dec-22	Metals, ORPs, PAHs, PHCs, VOCs, BTEX	< 2011 Table 2 SCS RPI

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LEGEND

- FILL
- SILT TO SAND (not till)
- COHESIONLESS TILLS
- COHESIVE SOILS (clayey silt to clay, incl. tills)
- WHITBY FORMATION BEDROCK
- SS1 SOIL SAMPLE LOCATION MEETS STANDARD
- SS1 SOIL SAMPLE LOCATION EXCEEDS STANDARD
- water level, stabilized

Note
- Soil samples were submitted for the following **select ORPs**: Cyanide (CN-), Mercury (Hg), Hexavalent Chromium (Cr(VI)), pH, Boron Hot-Water Soluble, EC, SAR, **unless otherwise specified.**

- Groundwater samples were submitted for the following **select ORPs**: Cyanide (CN-), Mercury (Hg), Hexavalent Chromium (Cr(VI)), I pH, Chloride (Cl). These samples also submitted for sodium.

- The soil/rock stratigraphy shown on the cross section between borehole locations is interpreted. The actual soil/rock conditions may vary.

Reference

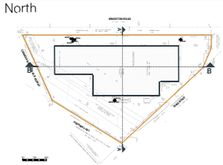
Project

1095 KINGSTON ROAD PICKERING, ONTARIO

Figure Title

SOIL AND GROUNDWATER SAMPLING LOCATIONS - SECTION B-B'

North



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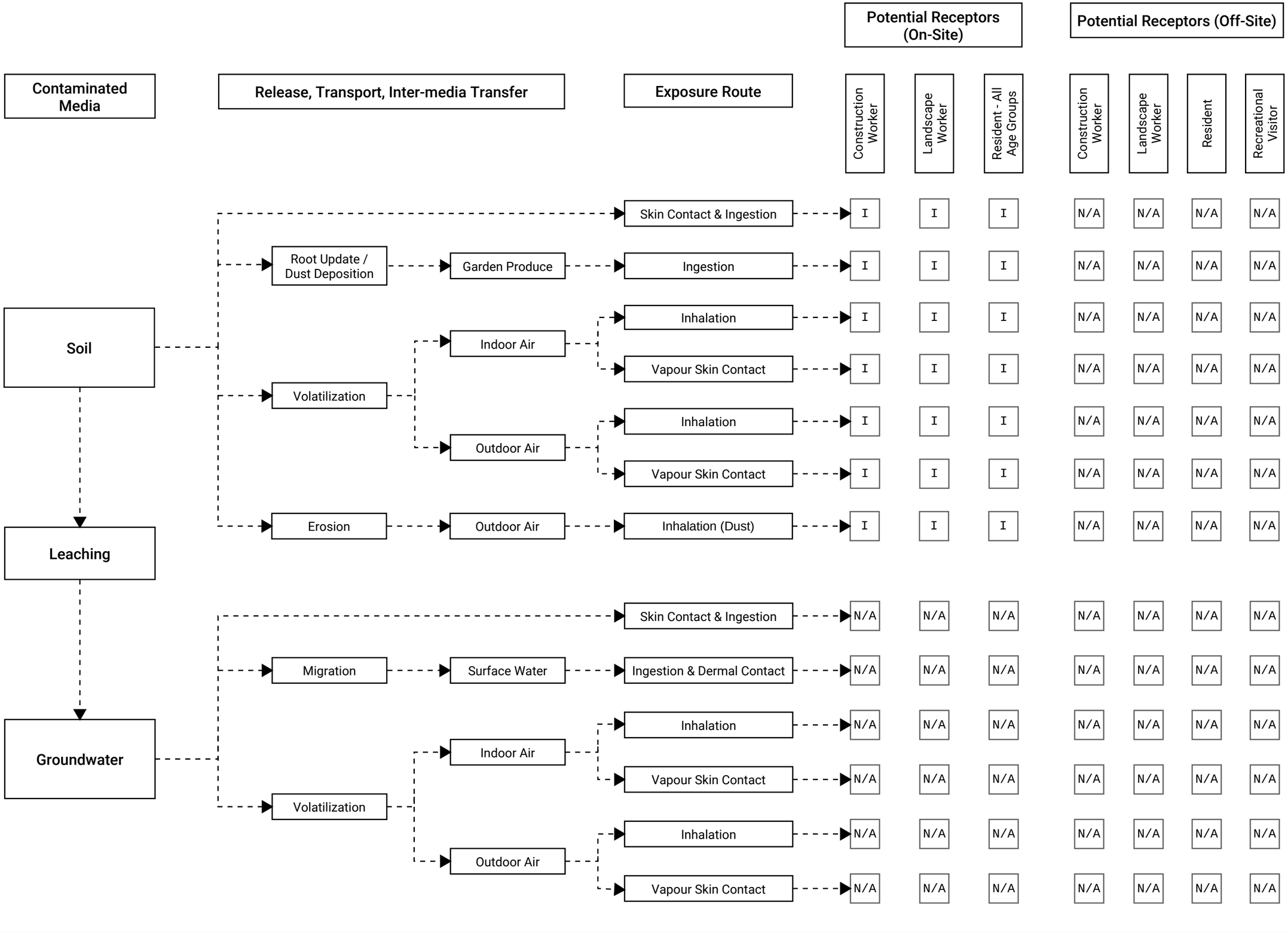
Job No

22-279

Figure No

FIGURE 9



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LEGEND

- C — Pathway Complete
- I — Pathway Incomplete
- X — Pathway Blocked
- N/A — Pathway Not Applicable for Receptor
- Pathway Completed
- Pathway Incompleted

Note
1. Constructions Workers are considered protective of Utility Workers
2.Landscape Workers are considered protective of Trespassers
3. Residents are considered protective of Long Term Workers, Short Term Works and Site Visitors

Project
1095 KINGSTON ROAD PICKERING, ONTARIO, L1V 1B5

Figure Title
HUMAN HEALTH CSM

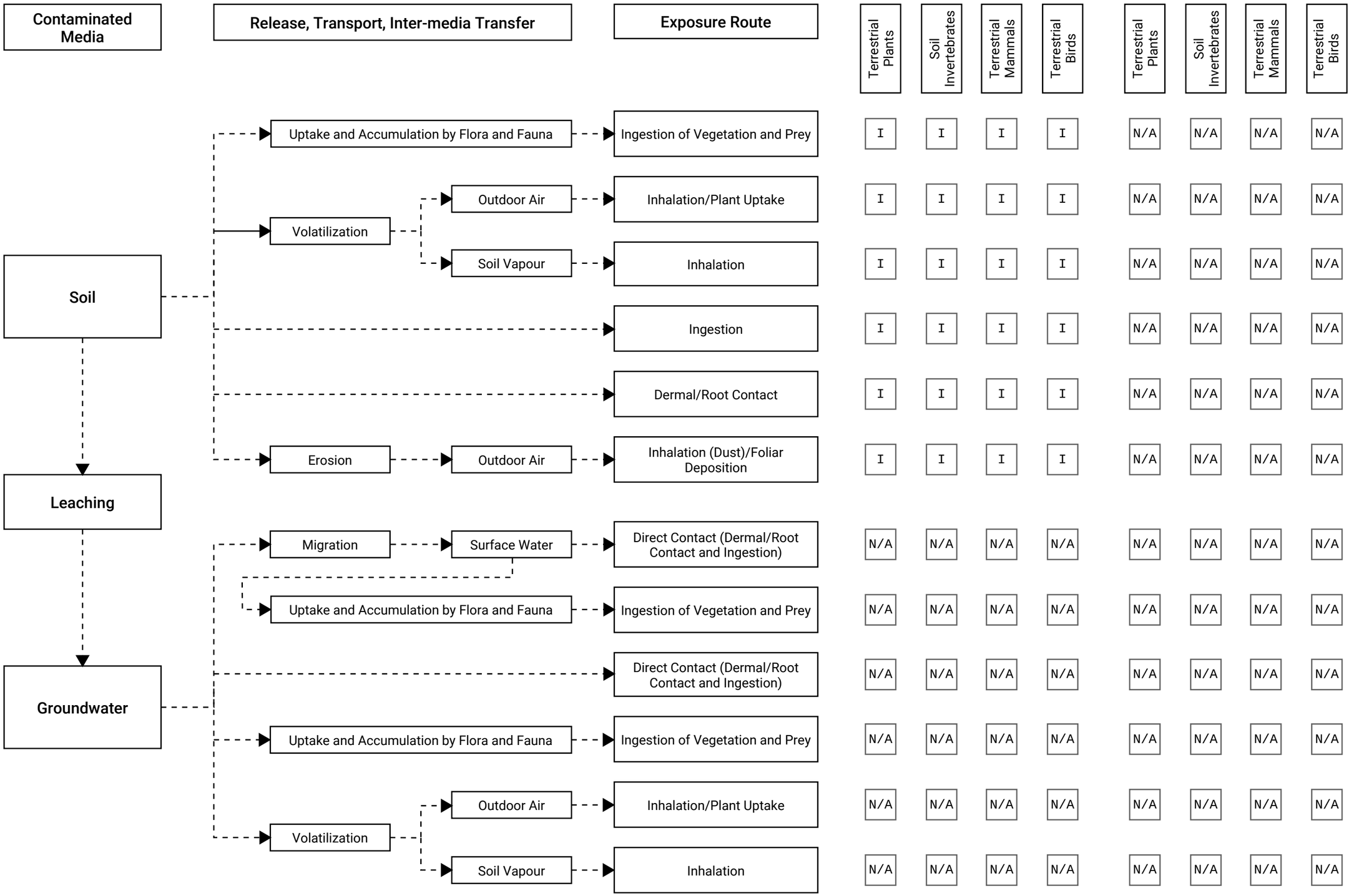
Reference

Date
FEBRUARY 2024

Scale
N/A

Job No
22-279

Figure No
FIGURE 10



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LEGEND

- C — Pathway Complete
- I — Pathway Incomplete
- X — Pathway Blocked
- N/A — Pathway Not Applicable for Receptor
- Pathway Completed
- Pathway Incompleted

Note

1. Constructions Workers are considered protective of Utility Workers
2. Landscape Workers are considered protective of Trespassers
3. Residents are considered protective of Long Term Workers, Short Term Works and Site Visitors

Project

1095 KINGSTON ROAD PICKERING, ONTARIO, L1V 1B5

Figure Title

ECOLOGICAL CSM

Reference

Date

FEBRUARY 2024

Scale

N/A

Job No

22-279

Figure No

FIGURE 11

TABLES

TABLE 1
GROUNDWATER LEVEL MONITORING SUMMARY
1095 KINGSTON ROAD
PICKERING, ON
PROJECT #22-279

Well ID	Ground Surface Elevation (masl)	Screen Interval (mbgs)	Screen Interval (masl)	Soil Strata	Grounded Engineering						Minimum Elev. (Lowest)		Maximum Elev. (Highest)		Seasonal Fluctuation
					November 23, 2022		January 12, 2024		January 16, 2024						
					(mbgs)	(masl)	(mbgs)	(masl)	(mbgs)	(masl)	(mbgs)	(masl)	(mbgs)	(masl)	(±m)
BH1	87.4	10.7 - 13.7	76.8 - 73.7	Sand and Silt Till/Sand	5.3	82.1	5.0	82.4	4.9	82.5	5.3	82.1	4.9	82.5	0.22
BH2	87.7	9.1 - 12.2	78.6 - 75.5	Sand and Silt Till/Silty Sand	5.8	81.9	5.3	82.4	5.4	82.3	5.8	81.9	5.3	82.4	0.23
BH3	88.5	12.2 - 15.2	76.3 - 73.2	Sand	6.5	82.0	6.2	82.3	6.2	82.3	6.5	82.0	6.2	82.3	0.16

mbgs = metres below existing ground surface
masl = metres above sea level
* = unstabilized groundwater level
NA = not available: unable to access monitoring well

Table 2.1: Summary of Soil Quality Results
Metals and Other Regulated Parameters
1095 Kingston Road, Pickering

Sample ID Sample Note Sample Depth (m) Sample Elevation (mASL/mAAD) Lab Job # Sampling Date	Table 2 SCS RPI Med/Fine	Units	Maximum Concentration	Maximum Concentration Sample ID	BH1 SS1 0.2 - 0.8 87.3 - 86.7 CA40233-NOV22 2022-11-16	BH1 SS4 2.3 - 2.9 85.1 - 84.5 CA40233-NOV22 2022-11-16	BH1A SS1 0.3 - 0.9 87.1 - 86.5 CA40183-DEC22 2022-12-16	DUP-2 dup of BH1A SS1 0.3 - 0.9 87.1 - 86.5 CA40183-DEC22 2022-12-16	BH1A SS2 0.9 - 1.5 86.5 - 85.9 CA40183-DEC22 2022-12-16	BH1B SS1 0.3 - 0.9 87.1 - 86.5 CA40183-DEC22 2022-12-16	BH1B SS2 0.9 - 1.5 86.5 - 85.9 CA40183-DEC22 2022-12-16	BH2 SS1 0.2 - 0.8 87.5 - 86.9 CA40212-NOV22 2022-11-14	BH2 SS3 1.5 - 2.1 86.2 - 85.6 CA40212-NOV22 2022-11-14
Site Sensitivity (pH)													
pH (surface soil, <1.5m)	5 to 9	unitless	8-11	DUP-2/BH1 SS1	**9**		**8**	**8**	**8**	**8**	**8**	**8**	
pH (subsurface soil, >1.5m)	5 to 11	unitless	8-8	JP-1-M&I/BH1 S		**8**							**8**
Metals													
Barium	390	µg/g	260	BH2 SS1	86	65						260	98
Beryllium	5	µg/g	0.45	BH1 SS1	0.45	0.28						0.18	0.41
Boron (total)	120	µg/g	18	BH1 SS4	17	18						4	7
Cadmium	1.2	µg/g	0.13	BH1 SS4	0.11	0.13						<0.05	0.05
Chromium (total)	160	µg/g	16	Multiple	16	9.3						5.9	16
Cobalt	22	µg/g	6.2	BH2 SS3	4.3	6						2.7	6.2
Copper	180	µg/g	14	BH2 SS3	13	12						6.2	14
Lead	120	µg/g	15	BH1 SS1	15	8.6						12	7.2
Molybdenum	6.9	µg/g	1	BH1 SS1	1	0.5						0.6	0.2
Nickel	130	µg/g	15	BH1 SS4	11	15						8.8	14
Silver	25	µg/g	<0.05	Multiple	<0.05	<0.05						<0.05	<0.05
Thallium	1	µg/g	0.18	BH2 SS1	0.09	0.16						0.18	0.17
Uranium	23	µg/g	0.84	BH2 SS3	0.65	0.53						0.54	0.84
Vanadium	86	µg/g	23	BH2 SS3	20	13						6	23
Zinc	340	µg/g	40	BH1 SS1	40	32						10	33
Hydride-forming Metals													
Antimony	7.5	µg/g	<0.8	Multiple	<0.8	<0.8						<0.8	<0.8
Arsenic	18	µg/g	2.7	BH1 SS1	2.7	2.2						2	2.4
Selenium	2.4	µg/g	<0.7	Multiple	<0.7	<0.7						<0.7	<0.7
Petroleum Hydrocarbons F4+F4g	5600	µg/g	2833	BH2 SS2									
ORPs - Other Regulated Parameters													
Boron (Hot Water Soluble)	1.5	µg/g	<0.5	Multiple	<0.5	<0.5						<0.5	<0.5
Chromium VI	10	µg/g	0.2	Multiple	0.2	<0.2						<0.2	<0.2
Cyanide (CN-)	0.051	µg/g	<0.05	Multiple	<0.05	<0.05						<0.05	<0.05
Electrical Conductivity (EC)	0.7	mS/cm	1.8	BH1 SS1	1.8	0.73						0.6	0.48
Mercury	1.8	µg/g	<0.05	Multiple	<0.05	<0.05						<0.05	<0.05
Sodium Adsorption Ratio (SAR)	5	unitless	11.3	BH1 SS4	1.3	11.3						5.3	1.4

Notes:

Blanks indicate not analysed.

'NV ' : No Standard established

Table 2 SCS RPI Med/Fine means Table 2: Full Depth Generic Site Condition Standards for Soil for Residential/ Parkland/ Institutional Property Uses. Medium to fine soil texture. Per Ontario Ministry of the Environment document "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, " March 2004, amended July 1, 2011.

#N/A

100 (shaded fill)	Exceeds Table 2 SCS RPI Med/Fine
100 (shade fill)	The QP deemed the parameter to be met as per the O.Reg. 153/04 Sec 49.1
100 (underlined)	Detection Limit Exceeds Table 2 SCS RPI Med/Fine
100 (italicized)	#N/A

Table 2.1: Summary of Soil Quality Results
Metals and Other Regulated Parameters
1095 Kingston Road, Pickering

Sample ID Sample Note Sample Depth (m) Sample Elevation (mASL/mAAD) Lab Job # Sampling Date	Table 2 SCS RPI Med/Fine	Units	Maximum Concentration	Maximum Concentration Sample ID	BH3 SS1 0.2 - 0.8 88.3 - 87.7 CA40212-NOV22 2022-11-14	BH3 SS3 1.5 - 2.1 86.9 - 86.3 CA40212-NOV22 2022-11-14	DUP-1-M&I dup of BH3 SS3 1.5 - 2.1 86.9 - 86.3 CA40212-NOV22 2022-11-14
Site Sensitivity (pH)							
pH (surface soil, <1.5m)	5 to 9	unitless	8-11	DUP-2/BH1 SS1	**8**		
pH (subsurface soil, >1.5m)	5 to 11	unitless	8-8	JP-1-M&I/BH1 S		**8**	**8**
Metals							
Barium	390	µg/g	260	BH2 SS1	24	54	52
Beryllium	5	µg/g	0.45	BH1 SS1	0.23	0.26	0.27
Boron (total)	120	µg/g	18	BH1 SS4	7	5	5
Cadmium	1.2	µg/g	0.13	BH1 SS4	0.05	<0.05	<0.05
Chromium (total)	160	µg/g	16	Multiple	7.8	11	11
Cobalt	22	µg/g	6.2	BH2 SS3	3.4	3.7	3.8
Copper	180	µg/g	14	BH2 SS3	6.9	8.3	8.6
Lead	120	µg/g	15	BH1 SS1	6.7	4.1	4.2
Molybdenum	6.9	µg/g	1	BH1 SS1	0.3	0.2	0.1
Nickel	130	µg/g	15	BH1 SS4	8	8.5	8.3
Silver	25	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05
Thallium	1	µg/g	0.18	BH2 SS1	0.1	0.1	0.09
Uranium	23	µg/g	0.84	BH2 SS3	0.5	0.67	0.72
Vanadium	86	µg/g	23	BH2 SS3	9	17	17
Zinc	340	µg/g	40	BH1 SS1	16	21	23
Hydride-forming Metals							
Antimony	7.5	µg/g	<0.8	Multiple	<0.8	<0.8	<0.8
Arsenic	18	µg/g	2.7	BH1 SS1	1.9	1.1	1.1
Selenium	2.4	µg/g	<0.7	Multiple	<0.7	<0.7	<0.7
Petroleum Hydrocarbons F4+F4g	5600	µg/g	2833	BH2 SS2			
ORPs - Other Regulated Parameters							
Boron (Hot Water Soluble)	1.5	µg/g	<0.5	Multiple	<0.5	<0.5	<0.5
Chromium VI	10	µg/g	0.2	Multiple	<0.2	<0.2	<0.2
Cyanide (CN-)	0.051	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05
Electrical Conductivity (EC)	0.7	mS/cm	1.8	BH1 SS1	1	0.62	0.52
Mercury	1.8	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05
Sodium Adsorption Ratio (SAR)	5	unitless	11.3	BH1 SS4	7.1	5.1	5.3

Notes:
Blanks indicate not analysed.
'NV ' : No Standard established
Table 2 SCS RPI Med/Fine means Table 2: Full Depth Generic Site Condition Standards for Soil for Residential/ Parkland/ Institutional Property Uses. Medium to fine soil texture. Per Ontario Ministry of the Environment document "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, " March 2004, amended July 1, 2011.
#N/A

100 (shaded fill)	Exceeds Table 2 SCS RPI Med/Fine
100 (shade fill)	The QP deemed the parameter to be met as per the O.Reg.
100 (underlined)	Detection Limit Exceeds Table 2 SCS RPI Med/Fine
100 (italicized)	#N/A

Table 2.2: Summary of Soil Quality Results
Polycyclic Aromatic Hydrocarbons
1095 Kingston Road, Pickering

Sample ID Sample Note Sample Depth (m) Sample Elevation (mASL/mAAD) Lab Job # Sampling Date	Table 2 SCS RPI Med/Fine	Units	Maximum Concentration	Maximum Concentration Sample ID	BH1 SS2 0.8 - 1.4 86.7 - 86.1 CA40233-NOV22 2022-11-16	BH1 SS4 2.3 - 2.9 85.1 - 84.5 CA40233-NOV22 2022-11-16	BH2 SS2 0.8 - 1.4 86.9 - 86.3 CA40212-NOV22 2022-11-14	DUP-1-PAH dup of BH2 SS2 0.8 - 1.4 86.9 - 86.3 CA40212-NOV22 2022-11-14	BH2 SS3 1.5 - 2.1 86.2 - 85.6 CA40212-NOV22 2022-11-14	BH3 SS2 0.8 - 1.4 87.7 - 87.1 CA40212-NOV22 2022-11-14	BH3 SS4 2.3 - 2.9 86.2 - 85.6 CA40212-NOV22 2022-11-14
PAHs - Polycyclic Aromatic Hydrocarbons											
Acenaphthene	29	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	0.17	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	0.74	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benz[a]anthracene	0.63	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[a]pyrene	0.3	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[b]fluoranthene	0.78	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[ghi]perylene	7.8	µg/g	<0.1	Multiple	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo[k]fluoranthene	0.78	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	7.8	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz[a,h]anthracene	0.1	µg/g	<0.06	Multiple	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
Fluoranthene	0.69	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	69	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno[1,2,3-cd]pyrene	0.48	µg/g	<0.1	Multiple	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methlynaphthalene, 2-(1-)	3.4	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylnaphthalene, 1-	NV	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylnaphthalene, 2-	NV	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Naphthalene	0.75	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	7.8	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	78	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Notes:
Blanks indicate not analysed.
'NV ' : No Standard established
Table 2 SCS RPI Med/Fine means Table 2: Full Depth Generic Site Condition Standards for Soil for Residential/ Parkland/ Institutional Property Uses. Medium to fine soil texture. Per Ontario Ministry of the Environment document "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, " March 2004, amended July 1,
#N/A

100 (shaded fill)	Exceeds Table 2 SCS RPI Med/Fine
100 (bolded)	#N/A
100 (underlined)	Detection Limit Exceeds Table 2 SCS RPI Med/Fine
100 (italicized)	#N/A

Table 2.3: Summary of Soil Quality Results
Petroleum Hydrocarbons and BTEX
1095 Kingston Road, Pickering

Sample ID Sample Note Sample Depth (m) Sample Elevation (mASL/mAAD) Lab Job # Sampling Date	Table 2 SCS RPI Med/Fine	Units	Maximum Concentration	Maximum Concentration Sample ID	BH1 SS4 2.3 - 2.9 85.1 - 84.5 CA40233-NOV22 2022-11-16	BH1 SS10 10.7 - 11.3 76.8 - 76.1 CA40233-NOV22 2022-11-17	BH2 SS2 0.8 - 1.4 86.9 - 86.3 CA40212-NOV22 2022-11-14	BH2 SS6 4.6 - 5.2 83.1 - 82.5 CA14017-DEC22 2022-11-14	BH2 SS9 9.1 - 9.8 78.6 - 77.9 CA40212-NOV22 2022-11-14	DUP-1-VOC dup of BH2 SS9 9.1 - 9.8 78.6 - 77.9 CA40212-NOV22 2022-11-14	BH2A SS1 0.6 - 1.2 87.1 - 86.5 CA40184-DEC22 2022-12-16	BH2B SS1 0.6 - 1.2 87.1 - 86.5 CA40184-DEC22 2022-12-16	DUP-1 dup of BH2B SS1 0.6 - 1.2 87.1 - 86.5 CA40184-DEC22 2022-12-16
BTEX - Benzene, Toluene, Ethylbenzene, Xylene													
Benzene	0.17	µg/g	<0.02	Multiple	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02			
Ethylbenzene	1.6	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
Toluene	6	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
Xylene Mixture	25	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
Xylene, m- & p-	NV	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
Xylene, o-	NV	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
PHCs - Petroleum Hydrocarbons													
Petroleum Hydrocarbons F1-BTEX	NV	µg/g	<10	Multiple	<10	<10	<10	<10	<10	<10	<10	<10	<10
Petroleum Hydrocarbons F1	65	µg/g	<10	Multiple	<10	<10	<10	<10	<10	<10	<10	<10	<10
Petroleum Hydrocarbons F2	150	µg/g	18	BH1 SS10	<10	18	<10	<10	<10	<10	<10	<10	<10
Petroleum Hydrocarbons F3	1300	µg/g	331	BH2 SS2	<50	90	331	<50	<50	<50	<50	63	<50
Petroleum Hydrocarbons F4	5600	µg/g	673	BH2 SS2	53	<50	673	<50	<50	<50	<50	77	<50

Notes:
Blanks indicate not analysed.
'NV ' : No Standard established
Table 2 SCS RPI Med/Fine means Table 2: Full Depth Generic Site Condition Standards for Soil for Residential/ Parkland/ Institutional Property Uses. Medium to fine soil texture. Per Ontario Ministry of the Environment document "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, " March 2004, amended July 1,
#N/A

100 (shaded fill)	Exceeds Table 2 SCS RPI Med/Fine
100 (bolded)	#N/A
100 (underlined)	Detection Limit Exceeds Table 2 SCS RPI Med/Fine
100 (italicized)	#N/A

Table 2.3: Summary of Soil Quality Results
Petroleum Hydrocarbons and BTEX
1095 Kingston Road, Pickering

Sample ID Sample Note Sample Depth (m) Sample Elevation (mASL/mAAD) Lab Job # Sampling Date	Table 2 SCS RPI Med/Fine	Units	Maximum Concentration	Maximum Concentration Sample ID	BH2C SS1 0.6 - 1.2 87.1 - 86.5 CA40184-DEC22 2022-12-16	BH3 SS2 0.8 - 1.4 87.7 - 87.1 CA40212-NOV22 2022-11-14	BH3 SS9A 9.1 - 9.4 79.3 - 79.0 CA40212-NOV22 2022-11-14
BTEX - Benzene, Toluene, Ethylbenzene, Xylene							
Benzene	0.17	µg/g	<0.02	Multiple		<0.02	<0.02
Ethylbenzene	1.6	µg/g	<0.05	Multiple		<0.05	<0.05
Toluene	6	µg/g	<0.05	Multiple		<0.05	<0.05
Xylene Mixture	25	µg/g	<0.05	Multiple		<0.05	<0.05
Xylene, m- & p-	NV	µg/g	<0.05	Multiple		<0.05	<0.05
Xylene, o-	NV	µg/g	<0.05	Multiple		<0.05	<0.05
PHCs - Petroleum Hydrocarbons							
Petroleum Hydrocarbons F1-BTEX	NV	µg/g	<10	Multiple	<10	<10	<10
Petroleum Hydrocarbons F1	65	µg/g	<10	Multiple	<10	<10	<10
Petroleum Hydrocarbons F2	150	µg/g	18	BH1 SS10	<10	<10	<10
Petroleum Hydrocarbons F3	1300	µg/g	331	BH2 SS2	54	<50	<50
Petroleum Hydrocarbons F4	5600	µg/g	673	BH2 SS2	<50	<50	<50

Notes:
Blanks indicate not analysed.
'NV ' : No Standard established
Table 2 SCS RPI Med/Fine means Table 2: Full Depth Generic Site Condition Standards for Soil for Residential/ Parkland/ Institutional Property Uses. Medium to fine soil texture. Per Ontario Ministry of the Environment document "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, " March 2004, amended July 1,
#N/A

100 (shaded fill)	Exceeds Table 2 SCS RPI Med/Fine
100 (bolded)	#N/A
100 (underlined)	Detection Limit Exceeds Table 2 SCS RPI Med/Fine
100 (italicized)	#N/A

Table 2.4: Summary of Soil Quality Results
Volatile Organic Compounds and Trihalomethanes
1095 Kingston Road, Pickering

Sample ID Sample Note Sample Depth (m) Sample Elevation (mASL/mAAD) Lab Job #	Table 2 SCS RPI Med/Fine	Units	Maximum Concentration	Maximum Concentration Sample ID	BH1 SS4 2.3 - 2.9 85.1 - 84.5 CA40233-NOV22	BH1 SS10 10.7 - 11.3 76.8 - 76.1 CA40233-NOV22	BH2 SS2 0.8 - 1.4 86.9 - 86.3 CA40212-NOV22	BH2 SS9 9.1 - 9.8 78.6 - 77.9 CA40212-NOV22	DUP-1-VOC dup of BH2 SS9 9.1 - 9.8 78.6 - 77.9 CA40212-NOV22	BH3 SS2 0.8 - 1.4 87.7 - 87.1 CA40212-NOV22	BH3 SS9A 9.1 - 9.4 79.3 - 79.0 CA40212-NOV22
THMs - Trihalomethanes											
Bromodichloromethane	1.9	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bromoform	0.26	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromochloromethane	2.9	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
VOCs - Volatile Organic Compounds											
Acetone	28	µg/g	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromomethane	0.05	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	0.12	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorobenzene	2.7	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chloroform	0.18	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,2-	1.7	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,3-	6	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,4-	0.097	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorodifluoromethane	25	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloroethane, 1,1-	0.6	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloroethane, 1,2-	0.05	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloroethylene, 1,1-	0.05	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloroethylene, 1,2-cis-	2.5	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloroethylene, 1,2-trans-	0.75	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloropropane, 1,2-	0.085	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloropropene, 1,3-	0.081	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloropropylene, cis-1,3-	NV	µg/g	<0.03	Multiple	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Dichloropropylene, trans-1,3-	NV	µg/g	<0.03	Multiple	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Ethylene dibromide	0.05	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Hexane (n)	34	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl Ethyl Ketone	44	µg/g	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Methyl Isobutyl Ketone	4.3	µg/g	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Methyl tert-Butyl Ether (MTBE)	1.4	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	0.96	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Styrene	2.2	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Tetrachloroethane, 1,1,1,2-	0.05	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Tetrachloroethane, 1,1,2,2-	0.05	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Tetrachloroethylene	2.3	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichloroethane, 1,1,1-	3.4	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichloroethane, 1,1,2-	0.05	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichloroethylene	0.52	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	5.8	µg/g	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	0.022	µg/g	<0.02	Multiple	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

Notes:
Blanks indicate not analysed.
'NV ' : No Standard established
Table 2 SCS RPI Med/Fine means Table 2: Full Depth Generic Site Condition Standards for Soil for Residential/ Parkland/ Institutional Property Uses. Medium to fine soil texture. Per Ontario Ministry of the Environment document "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, " March 2004, amended July 1, 2011.
#N/A

100 (shaded fill)	Exceeds Table 2 SCS RPI Med/Fine
100 (bolded)	#N/A
100 (underlined)	Detection Limit Exceeds Table 2 SCS RPI Med/Fine
100 (italicized)	#N/A

Table 3.1: Summary of Ground Water Quality Results
Metals and Other Regulated Parameters
1095 Kingston Road, Pickering

Sample ID Sample Note Screened Depth (m) Screened Interval (mASL/mAAD) Lab Job # Sampling Date	O.Reg.153/04 Table 2	UNITS	Max. Sample Conc.	Max. Conc. Sample ID	BH1 10.7 - 13.7 76.8 - 73.7 CA40185-DEC22 2022-12-16	DUP-1 Duplicate of BH1 10.7 - 13.7 76.8 - 73.7 CA40185-DEC22 2022-12-16	BH2 9.1 - 12.2 78.6 - 75.5 CA40185-DEC22 2022-12-16	BH3 12.2 - 15.2 76.3 - 73.2 CA40185-DEC22 2022-12-16
Metals								
Barium (Ba)	1000	µg/L	216	BH1	216	213	66.8	184
Beryllium (Be)	4	µg/L	<0.007	Multiple	<0.007	<0.007	<0.007	<0.007
Boron (B)	5000	µg/L	419	DUP-1	376	419	325	193
Cadmium (Cd)	2.7	µg/L	0.006	BH2	0.004	0.003	0.006	<0.003
Chromium (Cr)	50	µg/L	0.16	Multiple	0.11	0.12	0.16	0.16
Cobalt (Co)	3.8	µg/L	0.152	BH2	0.098	0.064	0.152	0.069
Copper (Cu)	87	µg/L	6.9	BH1	6.9	0.2	0.3	3.6
Lead (Pb)	10	µg/L	0.57	BH3	0.12	<0.09	<0.09	0.57
Mercury (Hg)	0.29	µg/L	<0.01	Multiple	<0.01	<0.01	<0.01	<0.01
Molybdenum (Mo)	70	µg/L	13.7	BH2	3.07	3.76	13.7	0.93
Nickel (Ni)	100	µg/L	1	BH1	1	0.3	0.7	0.4
Silver (Ag)	1.5	µg/L	<0.05	Multiple	<0.05	<0.05	<0.05	<0.05
Thallium (Tl)	2	µg/L	0.015	BH2	0.005	<0.005	0.015	<0.005
Thorium (Th)	NV	µg/L	2.72	BH2	0.212	0.072	2.72	0.072
Tin (Sn)	NV	µg/L	1.82	BH2	0.21	0.25	1.82	0.25
Titanium (Ti)	NV	µg/L	6	Multiple	4	6	<2	6
Uranium (U)	20	µg/L	2.72	BH2	0.212	0.214	2.72	0.072
Vanadium (V)	6.2	µg/L	1.82	BH2	0.21	0.22	1.82	0.25
Zinc (Zn)	1100	µg/L	6	BH3	4	<2	<2	6
Hydride-forming Metals								
Antimony (Sb)	6	µg/L	1.4	BH2	<0.9	<0.9	1.4	<0.9
Arsenic (As)	25	µg/L	3.5	BH2	2.4	2.3	3.5	0.6
Selenium (Se)	10	µg/L	0.48	BH2	0.14	0.12	0.48	<0.04
ORPs - Other Regulated Parameters								
Chloride (Cl-)	790000	µg/L	70000	Multiple	70000	70000	53000	32000
Chromium VI	25	µg/L	<0.2	Multiple	<0.2	<0.2	<0.2	<0.2
Cyanide (CN-)	66	µg/L	<2	Multiple	<2	<2	<2	<2

Notes:

Blanks indicate not analysed.

'NV ' : No Standard established

O.Reg.153/04 Table 2 means O.Reg.153/04 Table 2 means: Table 2 Full Depth Generic Site Condition Standards for Ground Water for All Types of Property Uses. Coarse-textured soil. Per Ontario Ministry of the Environment, Conservation and Parks document "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, " March 2004, as amended. (O.Reg.153/04).

#N/A

100 (shaded fill)	Exceeds O.Reg.153/04 Table 2
100 (bolded)	#N/A
<u><100 (underlined)</u>	Detection Limit Exceeds O.Reg.153/04 Table 2
<100 (italicized)	#N/A

Table 3.2: Summary of Ground Water Quality Results
Polycyclic Aromatic Hydrocarbons
1095 Kingston Road, Pickering

Sample ID Sample Note Screened Depth (m) Screened Interval (mASL/mAAD) Lab Job # Sampling Date	O.Reg.153/04 Table 2	UNITS	Max. Sample Conc.	Max. Conc. Sample ID	BH1 10.7 - 13.7 76.8 - 73.7 CA40185-DEC22 2022-12-16	DUP-1 Duplicate of BH1 10.7 - 13.7 76.8 - 73.7 CA40185-DEC22 2022-12-16	BH2 9.1 - 12.2 78.6 - 75.5 CA40185-DEC22 2022-12-16	BH3 12.2 - 15.2 76.3 - 73.2 CA40185-DEC22 2022-12-16
PAHs - Polycyclic Aromatic Hydrocarbons								
Acenaphthene	4.1	µg/L	<0.1	Multiple	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	1	µg/L	<0.1	Multiple	<0.1	<0.1	<0.1	<0.1
Anthracene	2.4	µg/L	<0.1	Multiple	<0.1	<0.1	<0.1	<0.1
Benz[a]anthracene	1	µg/L	<0.1	Multiple	<0.1	<0.1	<0.1	<0.1
Benzo[a]pyrene	0.01	µg/L	<0.01	Multiple	<0.01	<0.01	<0.01	<0.01
Benzo[b]fluoranthene	0.1	µg/L	<0.1	Multiple	<0.1	<0.1	<0.1	<0.1
Benzo[ghi]perylene	0.2	µg/L	<0.2	Multiple	<0.2	<0.2	<0.2	<0.2
Benzo[k]fluoranthene	0.1	µg/L	<0.1	Multiple	<0.1	<0.1	<0.1	<0.1
Chloronaphthalene, 1-	NV	µg/L	<0.1	Multiple	<0.1	<0.1	<0.1	<0.1
Chloronaphthalene, 2-	NV	µg/L	<0.1	Multiple	<0.1	<0.1	<0.1	<0.1
Chrysene	0.1	µg/L	<0.1	Multiple	<0.1	<0.1	<0.1	<0.1
Dibenz[a,h]anthracene	0.2	µg/L	<0.1	Multiple	<0.1	<0.1	<0.1	<0.1
Fluoranthene	0.41	µg/L	<0.1	Multiple	<0.1	<0.1	<0.1	<0.1
Fluorene	120	µg/L	<0.1	Multiple	<0.1	<0.1	<0.1	<0.1
Indeno[1,2,3-cd]pyrene	0.2	µg/L	<0.2	Multiple	<0.2	<0.2	<0.2	<0.2
Methlynaphthalene, 2-(1-)	3.2	µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Methylnaphthalene, 1-	NV	µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Methylnaphthalene, 2-	NV	µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Naphthalene	11	µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Perylene	NV	µg/L	<0.1	Multiple	<0.1	<0.1	<0.1	<0.1
Phenanthrene	1	µg/L	<0.1	Multiple	<0.1	<0.1	<0.1	<0.1
Pyrene	4.1	µg/L	<0.1	Multiple	<0.1	<0.1	<0.1	<0.1

Notes:

Blanks indicate not analysed.

'NV ' : No Standard established

O.Reg.153/04 Table 2 means O.Reg.153/04 Table 2 Full Depth Generic Site Condition Standards for Ground Water for All Types of Property Uses. Coarse-textured soil. Per Ontario Ministry of the Environment, Conservation and Parks document "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, " March 2004, as amended. (O.Reg.153/04).

#N/A

100 (shaded fill)	Exceeds O.Reg.153/04 Table 2
100 (bolded)	#N/A
<u><100 (underlined)</u>	Detection Limit Exceeds O.Reg.153/04 Table 2
<100 (italicized)	#N/A

Table 3.3: Summary of Ground Water Quality Results
Petroleum Hydrocarbons and BTEX
1095 Kingston Road, Pickering

Sample ID Sample Note Screened Depth (m) Screened Interval (mASL/mAAD) Lab Job # Sampling Date	O.Reg.153/04 Table 2	UNITS	Max. Sample Conc.	Max. Conc. Sample ID	BH1 10.7 - 13.7 76.8 - 73.7 CA40185-DEC22 2022-12-16	DUP-1 Duplicate of BH1 10.7 - 13.7 76.8 - 73.7 CA40185-DEC22 2022-12-16	BH2 9.1 - 12.2 78.6 - 75.5 CA40185-DEC22 2022-12-16	BH3 12.2 - 15.2 76.3 - 73.2 CA40185-DEC22 2022-12-16
BTEX - Benzene, Toluene, Ethylbenzene, Xylene								
Benzene	5	µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	2.4	µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Toluene	24	µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Xylene Mixture	300	µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Xylene, m- & p-	NV	µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Xylene, o-	NV	µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
PHCs - Petroleum Hydrocarbons								
Petroleum Hydrocarbons F1	750	µg/L	<25	Multiple	<25	<25	<25	<25
Petroleum Hydrocarbons F1-BTEX	750	µg/L	<25	Multiple	<25	<25	<25	<25
Petroleum Hydrocarbons F2	150	µg/L	<100	Multiple	<100	<100	<100	<100
Petroleum Hydrocarbons F3	500	µg/L	<200	Multiple	<200	<200	<200	<200
Petroleum Hydrocarbons F4	500	µg/L	<200	Multiple	<200	<200	<200	<200

Notes:

Blanks indicate not analysed.

'NV ' : No Standard established

O.Reg.153/04 Table 2 means O.Reg.153/04 Table 2 means: Table 2 Full Depth Generic Site Condition Standards for Ground Water for All Types of Property Uses. Coarse-textured soil. Per Ontario Ministry of the Environment, Conservation and Parks document "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, " March 2004, as amended. (O.Reg.153/04).

#N/A

100 (shaded fill)	Exceeds O.Reg.153/04 Table 2
100 (bolded)	#N/A
<u>≤100 (underlined)</u>	Detection Limit Exceeds O.Reg.153/04 Table 2
<100 (italicized)	#N/A

Table 3.4: Summary of Ground Water Quality Results
Volatile Organic Compounds and Trihalomethanes
1095 Kingston Road, Pickering

Sample ID Sample Note Screened Depth (m) Screened Interval (mASL/mAAD) Lab Job # Sampling Date	O.Reg.153/04 Table 2	#N/A	UNITS	Max. Sample Conc.	Max. Conc. Sample ID	BH1 10.7 - 13.7 76.8 - 73.7 CA40185-DEC22 2022-12-16	DUP-1 Duplicate of BH1 10.7 - 13.7 76.8 - 73.7 CA40185-DEC22 2022-12-16	BH2 9.1 - 12.2 78.6 - 75.5 CA40185-DEC22 2022-12-16	BH3 12.2 - 15.2 76.3 - 73.2 CA40185-DEC22 2022-12-16
VOCs - Volatile Organic Compounds									
Acetone	2700		µg/L	<30	Multiple	<30	<30	<30	<30
Bromodichloromethane	16		µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Bromoform	25		µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Bromomethane	0.89		µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	0.79		µg/L	<0.2	Multiple	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	30		µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Chloroform	2.4		µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	25		µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Ethylene dibromide	0.2		µg/L	<0.2	Multiple	<0.2	<0.2	<0.2	<0.2
Dichlorobenzene, 1,2-	3		µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene, 1,3-	59		µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene, 1,4-	1		µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	590		µg/L	<2	Multiple	<2	<2	<2	<2
Dichloroethane, 1,1-	5		µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Dichloroethane, 1,2-	1.6		µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Dichloroethylene, 1,1-	1.6		µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Dichloroethylene, 1,2-cis-	1.6		µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Dichloroethylene, 1,2-trans-	1.6		µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Dichloropropane, 1,2-	5		µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Hexane (n)	51		µg/L	<1	Multiple	<1	<1	<1	<1
Methyl Ethyl Ketone	1800		µg/L	<20	Multiple	<20	<20	<20	<20
Methyl Isobutyl Ketone	640		µg/L	<20	Multiple	<20	<20	<20	<20
Methyl tert-Butyl Ether (MTBE)	15		µg/L	<2	Multiple	<2	<2	<2	<2
Methylene Chloride	NV		µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Styrene	5.4		µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,1,2-	1.1		µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,2,2-	1		µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Tetrachloroethylene	1.6		µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,1-	200		µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,2-	4.7		µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Trichloroethylene	1.6		µg/L	<0.5	Multiple	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	150		µg/L	<5	Multiple	<5	<5	<5	<5
Vinyl Chloride	0.5		µg/L	<0.2	Multiple	<0.2	<0.2	<0.2	<0.2

Notes:

Blanks indicate not analysed.

'NV ' : No Standard established

O.Reg.153/04 Table 2 means O.Reg.153/04 Table 2 Full Depth Generic Site Condition Standards for Ground Water for All Types of Property Uses. Coarse-textured soil. Per Ontario Ministry of the Environment, Conservation and Parks document "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, " March 2004, as amended. (O.Reg.153/04).

#N/A

100 (shaded fill)	Exceeds O.Reg.153/04 Table 2
100 (bolded)	#N/A
<u><100 (underlined)</u>	Detection Limit Exceeds O.Reg.153/04 Table 2
<100 (italicized)	#N/A

APPENDIX A

File No. 22-279 (Rev 1.0)
January 16, 2024

Phase One Environmental Conceptual Site Model

1095 Kingston Road, Pickering, Ontario

Phase One ESA including Figures of the Phase One Study Area, which identify the following:	Phase One ESA Information:
Existing buildings and structures	Existing building and structures are presented in Figure 2.
Water bodies located in whole or in part on the Phase One Study Area	All water bodies on the Phase One Property and Phase One Study Area are shown on Figure 3.
Areas of Natural Significance located in whole or in part on the Phase One Study Area	None of the following ANSIs were located on the Property and within the Study Area. <u>List of ANSIs reviewed:</u> ▪ An area reserved or set apart as a provincial park or conservation reserve under the Provincial Parks and Conservation Reserves Act, 2006. ▪ An area of natural and scientific interest (life science or earth science) identified by the Ministry of Natural Resources as having provincial significance. ▪ A wetland identified by the Ministry of Natural Resources as having provincial significance. ▪ An area designated by a municipality in its official plan as environmentally significant, however expressed, including designations of areas as environmentally sensitive, as being of environmental concern and as being ecologically significant. ▪ An area designated as an escarpment natural area or an escarpment protection area by the Niagara Escarpment Plan under the Niagara Escarpment Planning and Development Act. ▪ An area identified by the Ministry of Natural Resources as significant habitat of a threatened or endangered species. ▪ An area which is habitat of a species that is classified under section 7 of the Endangered Species Act, 2007 as a threatened or endangered species. ▪ Property within an area designated as a natural core area or natural linkage area within the area to which the Oak Ridges Moraine Conservation Plan under the Oak Ridges Moraine Conservation Act, 2001 applies.

	▪ An area set apart as a wilderness area under the Wilderness Areas Act.
Roads (including names) within the Phase One Study Area	All roads within the Phase One Study Area are shown on Figure 3.
Use of properties adjacent to the Phase One Property	The land use of properties adjacent to the Phase One Property is shown on Figure 3.
Location of drinking water wells on the Phase One Property	No drinking water wells were present on the Phase One Property.
Areas where any PCA has occurred, and locations of tanks in the Phase One Study Area	The location of PCAs and tanks, if any, is shown on Figure 4.
APECs on the Phase One Property	The location of APECs on the Phase One Property is shown on Figure 5.
Narrative Description and Assessments	
Any areas where Potentially Contaminating Activity (PCAs) on, or potentially affecting, the Phase One Property have occurred	<u>On-site PCAs Associated with **APEC 1**</u>: • #30 – Importation of Fill Material of Unknown Quality <u>On-site PCAs Associated with **APEC 2**</u>: • Other 1 – De-icing Activities
Any Contaminants of Potential Concerns (CoPCs)	<u>CoPCs Associated with **APEC 1**</u>: • Metals, As, Sb, Se, CN-, Cr(VI), Hg, PAHs, BTEX, PHCs and VOCs in soil • B-HWS in soil <u>CoPCs Associated with **APEC 2**</u>: • EC and SAR in soil
The potential of underground utilities (if any present) to affect contaminant distribution and transport	Buried hydro, gas, communication, water and electrical all run through the Property. Based on these observations, there is the potential for underground utilities to affect the distribution and transportation of contaminants underneath the Property.
Available regional or site specific geological and hydrogeological information	<u>Topography:</u> • The approximate elevation of the Property is 90 m above sea level (masl) and is relatively flat, with a slight slope towards the south. <u>Hydrology:</u> • The nearest surface water body is the Dunbarton Creek located approximately 93 m to the west (channelized section) and 180 m (open section) to

	the south of the Property. Frenchman's Bay is located approximately 300 m southwest of the Property. • Surface water flow is expected to flow to the municipal catch basins located on the Property or the adjacent roadways. Groundwater is expected to flow locally south towards Dunbarton Creek, then southeast towards Frenchman's Bay. <u>Overburden:</u> • Fine-textured glaciolacustrine deposits comprised of silt and clay, and minor sand and gravel. <u>Bedrock:</u> • Collingwood Formation comprised of shale, limestone, dolostone, and siltstone. • Based on MECP well records in the Study Area, bedrock was encountered at a depth of 15.24 mbgs.
Any uncertainty or absence of information obtained in the Phase One ESA that could affect the validity of the CSM	No uncertainty or absence of information obtained in the Phase One ESA is identified to have an affect on the validity of the CSM.

Figure 1 – Site Location Plan
Figure 2 – Phase One Property
Figure 3 – Phase One Study Area
Figure 4 – PCA Locations
Figure 5 – APEC Locations

GROUNDED ENGINEERING

1 BANIGAN DRIVE, TORONTO, ONT., M4H 1G3
www.groundedeng.ca

LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- RAILWAY TRACKS
- REGULATED WATERBOLDIES

Note

Reference

ArcGIS Map 2022

Project

1095 KINGSTON ROAD PICKERING, ONTARIO

Figure Title

SITE LOCATION

North

PROJECT

Date

JANUARY 2024

Scale

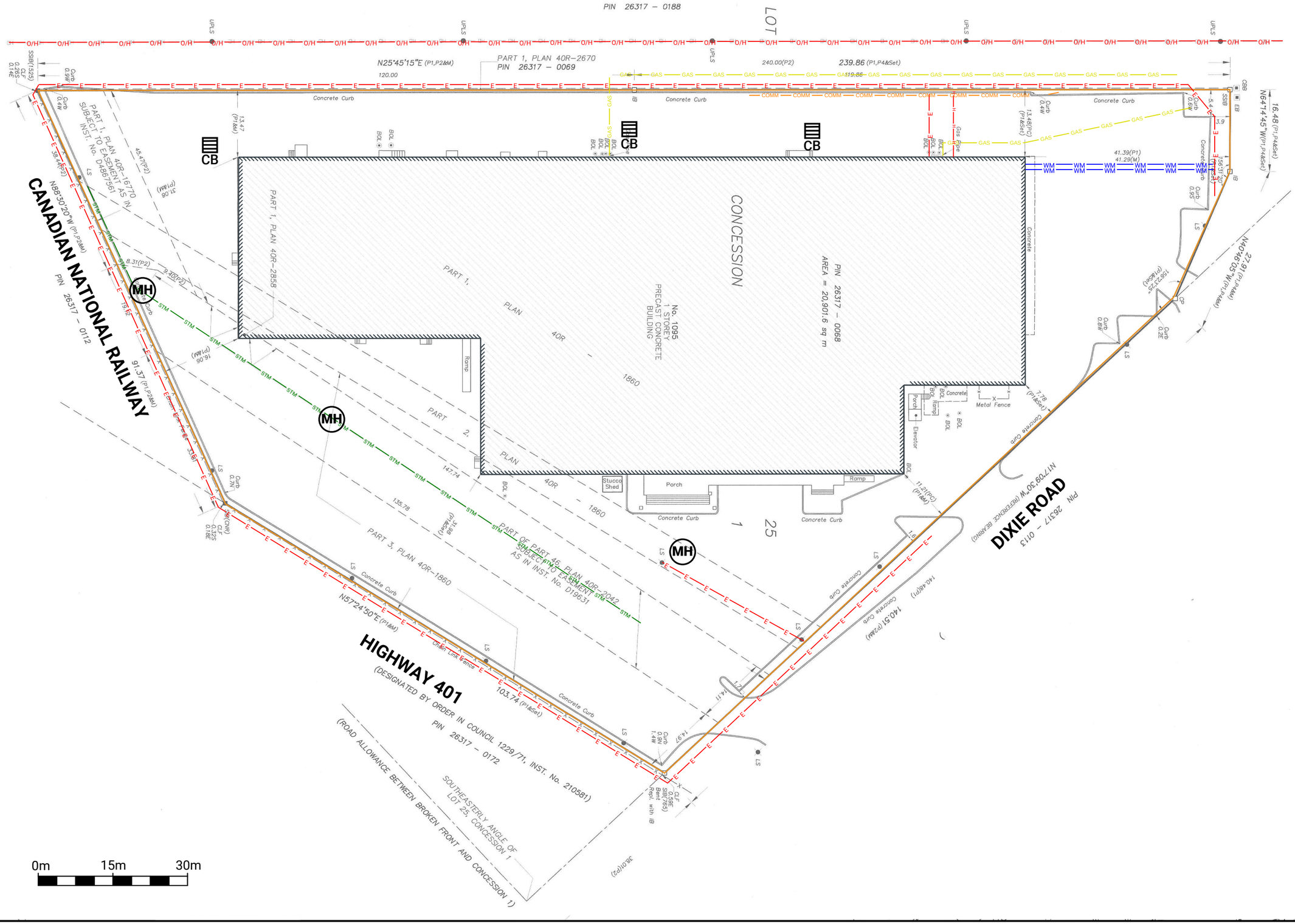
AS INDICATED

Job No

22-279

Figure No

FIGURE 1



GROUNDED ENGINEERING

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LEGEND

- PROPERTY BOUNDARY
- EXISTING BUILDING STRUCTURE
- GAS — GAS
- E — ELECTRICAL
- H — BURIED HYDRO
- O/H — OVERHEAD HYDRO
- WM — WATER
- COMM — COMMUNICATION
- SAN — SANITARY
- STM — STORM
- MH — MANHOLE
- CB — CATCH BASIN

Note

Utilities shown on this figure are shown for informational purposes only for the Phase One ESA, as outlined by O.Reg. 153/04. This is not an official locate and the information presented should not be relied upon.

Reference

Ertl Surveyors., "Plan of Survey of Part of Lot 25 Concession 1, Geographic Township of Pickering, City of Pickering, Regional Municipality of Durham"; Job No. 2108245, dated June 23, 2020.

Project

1095 KINGSTON ROAD PICKERING, ONTARIO

Figure Title

PHASE ONE PROPERTY

North

PROJECT

Date

JANUARY 2024

Scale

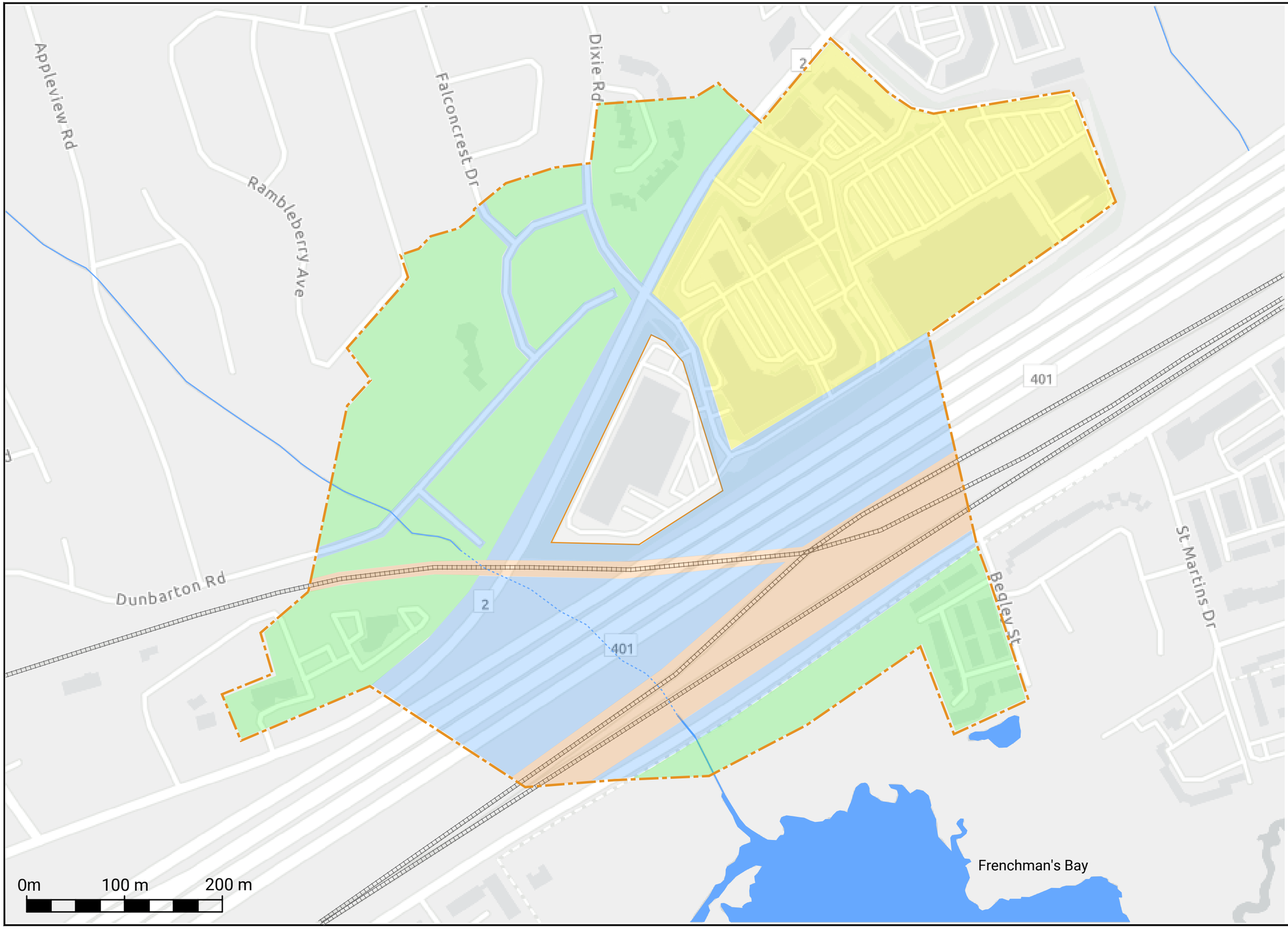
AS INDICATED

Job No

22-279

Figure No

FIGURE 2



GROUNDED ENGINEERING

1 BANIGAN DRIVE, TORONTO, ONT., M4H 1G3
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LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- STUDY AREA (250 m RADIUS)
- RAILWAY TRACKS
- REGULATED WATERBOLDIES
- COMMERCIAL LAND USE
- COMMUNITY LAND USE
- INDUSTRIAL LAND USE
- RESIDENTIAL, PARKLAND, AND INSTITUTIONAL LAND USE

Note

Reference

ArcGIS Map 2022

Project

1095 KINGSTON ROAD PICKERING, ONTARIO

Figure Title

PHASE ONE STUDY AREA

North

PROJECT

Date

JANUARY 2024

Scale

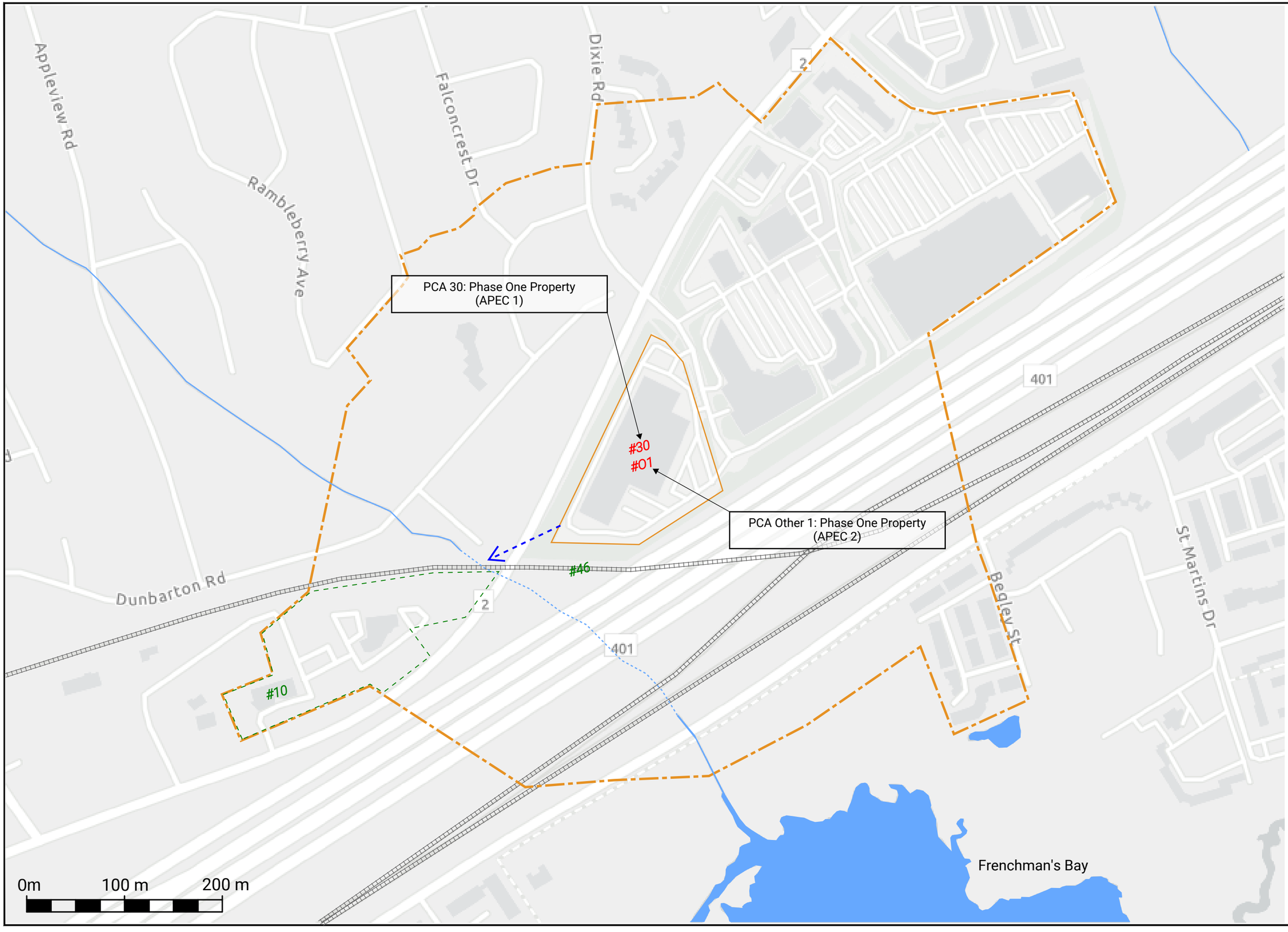
AS INDICATED

Job No

22-279

Figure No

FIGURE 3



GROUNDED ENGINEERING

1 BANIGAN DRIVE, TORONTO, ONT., M4H 1G3
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LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- STUDY AREA (250 m RADIUS)
- RAILWAY TRACKS
- REGULATED WATERBOLDIES
- ASSUMED GROUNDWATER FLOW DIRECTION BASED ON PHASE ONE ESA

Note

GREEN - PCA NOT CAUSING APEC
RED - PCA CAUSING APEC

Reference

ArcGIS Map 2022

Project

1095 KINGSTON ROAD PICKERING, ONTARIO

Figure Title

PCA LOCATIONS

North

PROJECT

Date

JANUARY 2024

Scale

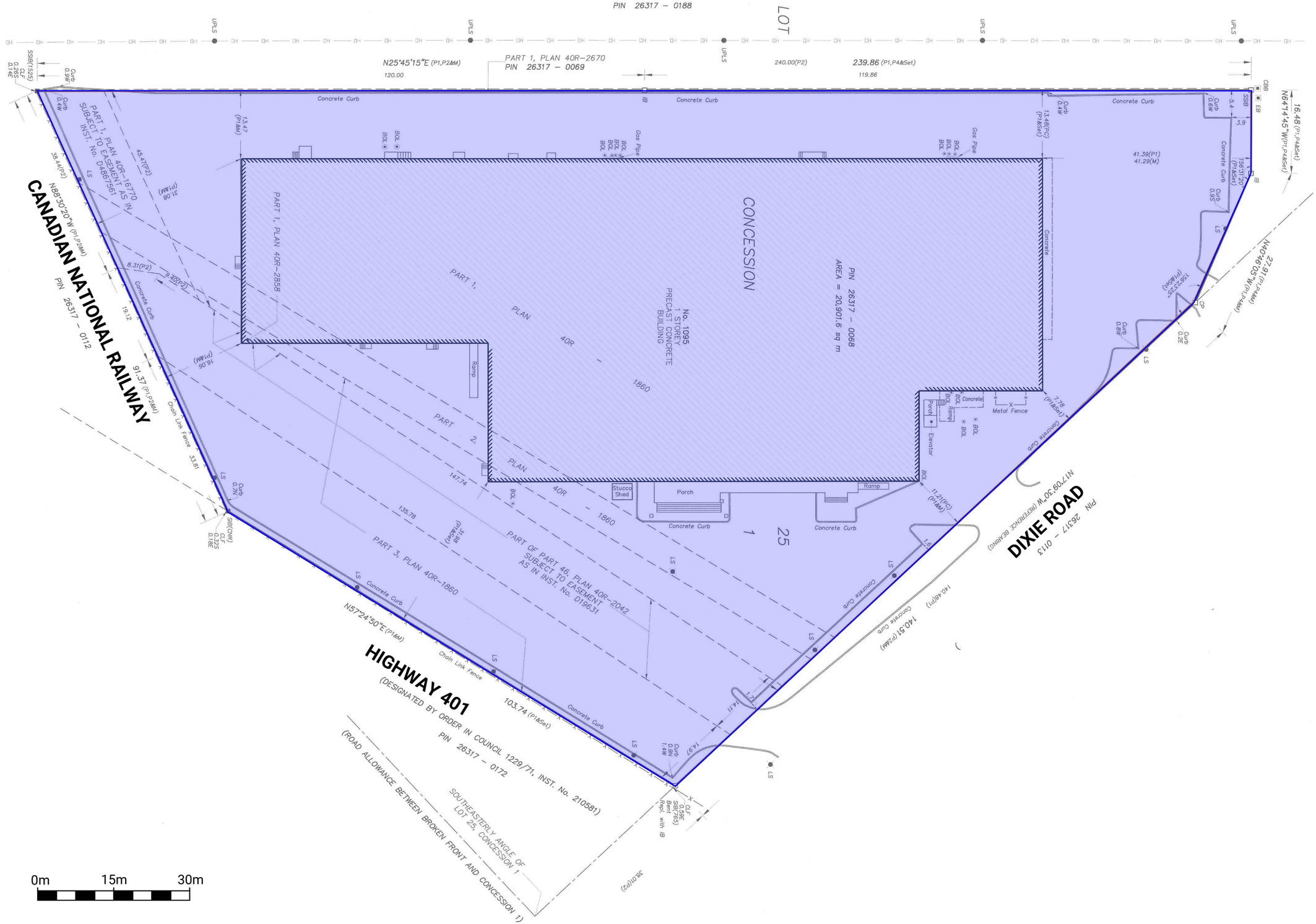
AS INDICATED

Job No

22-279

Figure No

FIGURE 4



GROUNDED ENGINEERING

1 BANIGAN DRIVE, TORONTO, ONT., M4H 1G3
www.groundedeng.ca

LEGEND

- PROPERTY BOUNDARY
- EXISTING BUILDING STRUCTURE
- APEC 1, 2

Note

Reference

Ertl Surveyors., "Plan of Survey of Part of Lot 25 Concession 1, Geographic Township of Pickering, City of Pickering, Regional Municipality of Durham"; Job No. 2108245, dated June 23, 2020.

Project

1095 KINGSTON ROAD PICKERING, ONTARIO

Figure Title

APEC LOCATIONS

North

Date

JANUARY 2024

Scale

AS INDICATED

Job No

22-279

Figure No

FIGURE 5

APPENDIX B

Appendix B: Sampling and Analysis Plan

Areas of Potential Environmental Concern (APECs) & Location	Potentially Contaminating Activities (PCAs)	Contaminants of Potential Concern (CoPCs)	Media Potentially Impacted (Groundwater, soil and/or sediment)	Borehole or Monitoring Well Associated	Rationale
APEC 1 (Entire Property)	#30 - Importation of Fill Material of Unknown Quality	Metals As, Sb, Se B-HWS CN- Hg Cr(VI) PAHs PHCs VOCs BTEX	Soil	BH1 – 3	• To assess if the soil within the APEC was impacted due to historical use of fill of unknown quality. • To determine depth to groundwater and direction of flow.
APEC 2 (Entire Property)	Other 1 - De-icing Activities	EC SAR	Soil	BH1 – 3	• To assess if the soil within the APEC was impacted due to de-icing activities.

APPENDIX C

STANDARD OPERATING PROCEDURE
FIELD SCREENING

1 Introduction

Field screening using the RKI Eagle 2 Multi Gas Detector provides real time vapour measurements in soil samples. Before use, the gastech must be calibrated (refer to Gastech Calibration Manual) and noted in the provided logbook. Soil headspace vapour screening measures relative concentrations of volatile organic compounds in the headspaces of soil sample containers as an indicator of volatile contaminants in the soil sample. After the headspace screening is complete, the relative concentrations are evaluated for indications of possible impacts and to provide guidance on which soil samples are to be submitted to an analytical laboratory.

2 Equipment Required

- Nitrile gloves
- Gastech/Eagle 2
- Slider bags
- Sampling plan from Project Manager
- Field notebook/field forms
- Garbage bags
- First Aid Kit

3 Procedure

3.1 Before Going to Site

1. Review locations and sampling depths
2. Carry out site specific health and safety plan
3. Coordinate site access with PM/client

3.2 On-Site Activities

Generally, the readings must be collected as quickly as feasible and directly from the samples. Field screening are used to decide which samples will be submitted for analysis, but all potential samples must be immediately chemically preserved.

1. Calibrate the field screening equipment and record details in logbook.
2. Put on clean disposable gloves and change between every sample
3. Assemble the appropriate equipment required prior to the soil sample being retrieved
4. Retrieve soil samples from the borehole or test pit or stockpile
5. Disturb 2 mm to 4 mm of the soil sample using a clean spatula or other suitable tool and immediately record vapour readings
6. Place remaining soil sampling in a slider bag/jar and insert tip in small opening and record the vapour reading
7. Samples selected for laboratory analysis should be based on the highest vapour readings for the sample interval.
8. Reset the field screening equipment between each sample reading.

STANDARD OPERATING PROCEDURE
SOIL SAMPLING

1 Introduction

Subsurface investigations typically involve the sampling of subsurface soils at various depths and locations of interest. There are several methods which can be utilized to obtain a soil sample. Depending on the nature of the investigations, several methods may be implemented. This SOP will focus on the techniques and process of collecting samples from boreholes, test pits, hand augers, and stockpiles.

During sampling, field screening of soil samples may be performed to better indicate the presence of potential contaminants of concern (i.e. VOCs and PHCs). Refer to the SOP Field Screening for the complete process.

2 Equipment Required

- Nitrile gloves
- Alconox
- RKI Eagle2 Gastech
- Slider bags
- Lab sample bottles/jars
- Terracores or coring device (sampler)
- Sampling plan from Project Manager
- Ice and cooler
- Field notebook/field forms
- Garbage bags
- First Aid Kit

3 Procedure

3.1 Before Going to Site

1. Review sampling locations and sampling depths
2. Carry out site specific health and safety plan
3. Coordinate site access with PM/client

3.2 On-Site Activities

When soil sampling, special care must be taken NOT to contaminate samples through cross contamination. A clean pair of new, non-powdered, disposable gloves are to be worn each time a different sample is handled or collected. Gravel, concrete, asphalt, and granular material present at surface should be removed prior to sampling.

1. Put on clean disposable gloves and ensure to change between every sample.
2. Assemble the appropriate lab supplied jars/vials.
3. Label the appropriate lab supplied jars/vials with the Location ID, Sample ID, Date, PM, and analysis to be completed.
4. Collect the samples to be analyzed.
    a. **Borehole** – Standard split spoon is stainless steel, 2” in diameter and 18”–24” in length. Used for surface, shallow, and deep soil sampling.
        i. Split spoon must be decontaminated prior to sample collection, usually using a soapy mixture supplied by the drillers.
        ii. Split spoon is driven to sampling depth to retrieve soil sample.
        iii. Gravel, concrete, asphalt, and granular material present at surface should be removed prior to sampling.
        iv. Top several inches of soil in the spoon may be discarded due to slight cave in the borehole.
        v. Sample directly from split spoon using a coring device and fill vials with appropriate weight for VOCs/PHCs parameters.
        vi. Use appropriate lab supplied jars to preserve sample for all other parameters.
        vii. When collecting a field duplicate sample be sure split the sample evenly between parent and duplicate sample bottles/jars.

    b. **Test Pit** – Excavator or backhoe used to excavate/sample in-situ soil. Only sample from inside the test pit if safe to enter (Refer to Health & Safety Sheet), otherwise collect sample from excavator bucket. Used for surface and shallow (3 m - 4 m) soil sampling at specific depths.
        i. The bucket must be decontaminated prior to sample collection.
        ii. Use the excavation sampling field form to note:
            a. General location and orientation of the test pit
            b. The size of the excavation (length, width, depth below ground surface)
            c. The stability of the excavation walls (e.g. stable, collapsing, sloughing)
            d. An accurate description of the nature, depth and thickness of each stratigraphic unit and inferred contamination
            e. The nature, depth, thickness and extent of any staining, odours and debris
            f. The depth of water seepage and depth at which sloughing occurs

g. The depth and nature of fil material and native soils
h. The depth and type f bedrock where applicable

iii. Sample directly from walls/base of the test pit IF safe to enter. Otherwise sample directly from the bucket when safe to do so. If sampling from the bucket, use a trowel to expose and ensure samples are collected from central portion of the excavated soils.
iv. Sample VOCs/PHCs immediately using a coring device and fill vials with appropriate weight.
v. Use appropriate lab supplied jars for all contaminants of concern.
vi. When collecting a field duplicate sample be sure split the sample evenly between parent and duplicate sample bottles/jars.

c. **Hand Auger** – Steel auger used to manually dig by simultaneously pushing and turning using the attached handle. Used for surface and shallow (1 m – 2 m) soil sampling.
   i. The auger must be decontaminated prior to each sample collection.
   ii. Top several inches of soil in the auger may be discarded due to slight cave in the hole.
   iii. Sample directly from the auger while ensuring no smearing or caving introduced at desired depth.
   iv. Sample VOCs/PHCs immediately using a coring device and fill vials with appropriate weight.
   v. Use appropriate lab supplied jars for all contaminants of concern. When collecting a field duplicate sample be sure split the sample evenly between parent and duplicate sample bottles/jars.

d. **Stockpile** – Excavator, backhoe or shovel used to sample at various locations and depths depending on size of stockpile. Refer to stockpile sampling frequency guideline.
   i. Sampling locations must be chosen to ensure uniformly distributed and representative sampling collection throughout the stockpile.
   ii. Samples must not be collected from the surface of a stockpile.
   iii. Sample directly from the bucket or shovel while ensuring no smearing or caving introduced at desired depth/location.
   iv. Sample VOCs/PHCs immediately using a coring device and fill vials with appropriate weight.
   v. Use appropriate lab supplied jars for all contaminants of concern. When collecting a field duplicate sample be sure split the sample evenly between parent and duplicate sample bottles/jars.

4 Reference

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

STANDARD OPERATING PROCEDURE
WELL DEVELOPMENT

1 Introduction

Monitoring well development is necessary to ensure that complete hydraulic connection is made – and maintained – between the well and the aquifer material surrounding the well screen and filter pack. The appropriate development method should be selected for each project based on the circumstances, lithology, objectives, and requirements of that project. If drilling muds are used during well installation, well development should occur within 24 hours following well installation so that the drilling mud does not settle in the well screen. Generally, a phased process is used to develop wells, starting with a gentle bailing phase to remove sand, followed by a surging phase, and then a pumping phase after the well begins to clear up.

2 Equipment Required

- Interface meter *or* water level meter
- Waterra
- Foot valves
- Surge blocks
- Waterra cutters
- Well keys/Ratchet set/Allen keys
- Deionized or distilled water/Alconox (for cleaning probe in between wells)
- Field notebook/field forms
- Nitrile gloves
- Graduated bucket
- Garbage bags
- Batteries (9 V)
- First Aid Kit
- Purge Drums (as necessary for contaminated sites)

3 Procedure

3.1 Before Going to Site

1. Review monitoring well locations and BH logs to determine well screen depths and screened strata
2. Carry out site specific health and safety plan
3. Coordinate site access with PM/client

3.2 On-Site Activities

When developing a well, be aware of the drilling method used (e.g., drilling mud) and the local soil conditions (potential recharge rate) as this can dramatically influence the well development methods.

1. Remove well lock or well cap casing, and well pipe cap (e.g., J-plug).
2. Using notebook/field forms, note project name and number, well ID, date, time, and weather.
3. Record water level, well depth, and well stick-up (refer to water level SOP).
4. Calculate casing volume of well (refer to casing volume SOP).
5. Use the calculated casing volume to determine total volume of water to be purged:
    - For initial (new) well development, when **FLUID** is used, purge ten (10) casing volumes, or purge until the well is dry.
    - For initial (new) well development, when **NO FLUID**, purge five (5) casing volumes, or purge until the well is dry.
    - For well development of **a previous consultants' well**, purge five (5) casing volumes, or purge until the well is dry.
    - For **subsequent well development**, purge three (3) casing volumes for redevelopment, or purge until the well is dry.
6. Attach foot valve to the bottom end of the waterra. Slowly lower the bottom of the waterra into the well. Once the foot valve touches the bottom, leave extra waterra above ground so you can pump water from the well.
7. If surging the monitoring well is required, complete the following:
    - Remove the waterra from the well. Remove foot valve from bottom of the waterra.
    - Slide a surge block onto the bottom of the waterra. Reconnect the foot valve to the waterra. Fasten the surge block to the foot valve.
    - Lower the waterra into the monitoring well until well screen is reached. You should be able to feel the well screen with the surge block attached.
    - Lift the waterra up and down along the screen for 5 to10 minutes.
8. Remove the pre-determined number of casing volumes from the monitoring well or until the well is dry (*see step 5*).
    - If well goes dry during development: remove waterra from well, drain remaining fluid in waterra, and reinstall waterra in the well.
9. Record field observations regarding the purge water. (i.e., total volume purged, clarity, appearance, odour)
10. Discard purge water into drums if contamination of the property is known or suspected (discuss with PM). Otherwise, dispose of water at least 5 metres away from the well in a best management approach and as noted in the field package.
11. See Groundwater Stabilization SOP before collecting groundwater samples from wells.

STANDARD OPERATING PROCEDURE
MEASURING A WATER LEVEL

1 Introduction

An electrical sounder (interface meter/water level meter) is one of several different methods used to determine the depth of water in a well. It consists of a weighted probe suspended on stranded insulated wire with marked tape/line that is fitted on a reel with a grounding cable attached. Current that is supplied by a 9 V battery flows through the circuit when the end of the probe contacts a water surface, activating a loud buzzer and a light. The depth of the water level can then be determined by taking a reading from the tape at the top of the well. The use of an interface meter or water level meter is widely considered to be the most practical method used for measuring well water levels in the field.

2 Equipment Required

- Interface meter *or* water level meter (Solinst Operating instructions attached)
    - Interface meter (IM) – detects both water & free product
    - Water level meter (WLM) – detects water only
- Deionized or distilled water/Alconox (for cleaning probe between wells)
- Batteries (9V)
- Nitrile gloves
- Field notebook/field forms
- Well keys/Ratchet set/Allen keys
- Wire coat hanger or bucket handle (for pulling waterra from well casing)
- Garbage bags
- First Aid Kit

3 Procedure

3.1 Before Going to Site

1. Review monitoring well locations and BH logs to determine well screen depths and screened strata
2. Carry out site specific health and safety plan
3. Coordinate site access with PM/client

3.2 On-Site Activities

When measuring a water level/well depth, be certain to establish a measuring reference point (typically top of well casing or top of pipe). Document the distance between ground surface and the measuring point (aka stick-up). All water level measurements should be conducted before removing/adding any water in the well or pulling waterra from the well.

1. Remove well lock or well cap casing, and well pipe cap (e.g., J-plug)
2. Using notebook/field forms, note project name and number, well ID, date, time, and weather
3. Test probe by activating the test (ON/OFF) switch
    a. If loud buzzer/light is not activated during the test, replace the 9V battery in the WLM/IM
4. Measure the stick-up/depth of the measuring point
5. Attach grounding cable clamp to well flushmount/monument (needs to be conductive material)
6. Take a water level reading from the measuring point by slowly lowering probe into the well until contact with the water surface is indicated. Repeat measurement one (1) minute later to ensure initial reading is static
    a. When using IM, also measure the depth/thickness of any free product encountered, which includes both light (floating) non-aqueous phase liquids (LNAPL), and dense (sinking) non-aqueous phase liquids (DNAPL). If free product is encountered, repeat depth measurements to verify results
        i. When a product interface is detected, the IM will have a steady light and buzzer tone
        ii. When a water interface is detected, the IM will have an intermittent light and buzzer tone
    b. If no water is detected within the well, note that the well is “dry”
7. Turn off probe and measure the well depth by slowly lowering the probe into the well until the tip of the probe is touching the bottom of the well (point right after the tape/line is no longer taught from the weight of the probe)
    a. Be sure that probe is not stuck along the side of the well pipe prior to reading the measurement. Repeat well depth measurement to verify results
8. Remove probe slowly from well while being careful that tape is not scraping sides of the well pipe
9. Remove grounding cable from grounding point (e.g., flushmount, monument)
10. Place/tighten well cap (e.g., J-plug) back on top of well pipe
11. Secure flushmount/monument using appropriate tooling or close lock
12. Decontaminate the probe/tape with Alconox and deionized or distilled water. Place probe in holder and tighten reel once complete

4 References

1) ASTM International. Designation: D4750-87 (Reapproved 2001); Standard Test Method for Determining Subsurface Liquid Levels in a Borehole or Monitoring Well (Observation Well).

STANDARD OPERATING PROCEDURE
BLADDER PUMP SAMPLING

1 Introduction

Low flow purging and sampling involves extracting groundwater at rates comparable to ambient groundwater flow (typically less than 500 mL/min), so that the drawdown of the water level is minimized, and the mixing of stagnant water, with water from the screened intake area in a well is reduced.

Stabilization parameters of the purged water are monitored before a sample is taken, thus low flow methods facilitate equilibrium with the surrounding formation water and produces samples that are representative of the formation water.

Bladder pump sampling causes the least amount of alteration in sample integrity as compared to other sample retrieval methods. Fluid enters the pump through the fluid inlet check valve at the bottom of the pump body via hydrostatic pressure. The pump MUST be submerged to operate. The bladder then fills with fluid. Compressed air enters the space between the bladder and the interior of the pump housing. The intake check valve closes, and the discharge check valve (top) opens. Compressed air squeezes the bladder, pushing the fluid to the surface. The discharge check valve prevents back flow from the discharge tubing. Air does not contact the sample. The bladder prevents contact between the pump driven air and the sample. All wetted pump parts are 316 Grade stainless steel to ensure the purity of the sample is maintained. Water comes into contact with the inside of the bladder (Teflon) and sample tubing. One bladder (Teflon) is dedicated to each well and the pump is cleaned thoroughly after every well.

2 Equipment Required

- Interface or water level meter
- Batteries (9 V)
- Bladder Pump (appropriate size for MW)
- Controller Unit and Battery with charger
- Bladders (enough for all MWs)
- Waterra (appropriate size for air/water connections)
- Hanna Pen/YSI/Horiba
- Lab Sampling Bottles and Ice
- String/Rope for safety loop
- Deionized or distilled water/Alconox (cleaning probe between wells)
- Nitrile gloves
- Stopwatch

- Bucket
- Graduated Cylinder
- Field notebook/field forms
- Well keys/Ratchet set/Allen keys
- Garbage bags
- First Aid Kit
- Field package and access agreements as needed

3 Procedure

3.1 Before Going to Site

1. Review monitoring well locations and BH logs to determine well depth and screen locations
2. Carry out site specific health and safety plan
3. Coordinate site access with PM/client

3.2 On-Site Activities

When sampling using a bladder pump be sure to place the pump in the middle to upper screen. This ensures formation water is entering the pump and reducing the mix of stagnant water into the sample

1. Decontaminate all non disposable field equipment with Alconox and deionized or distilled water
2. Remove lock or well cap casing and casing cap
3. Using notebook/field forms to note project #, well ID, date and time
4. Record water level (refer to water level SOP)
5. Start sampling at the least contaminated monitoring well based on previous sampling events or olfactory/visual observations during well development
6. Before deploying the sampling pump, secure a safety cable from an anchoring point at or near the wellhead to the top of the pump
7. Attach waterra (usually ¼") to the air line fitting and water (discharge) fitting.
8. Carefully lower the bladder pump into the well using the reverse coil method to avoid kinking, until the desired depth is achieved.
9. Attach power supply and turn on the pump. Purge well until field parameters have stabilized. (refer to Hanna Meter – GW Stabilization SOP).

   *Note - When field parameters are measured record the measurements, the elapsed time, the flow rate and the water level in the monitoring well. Do not allow the pump to run dry. If the pumping rate exceeds the well recharge rate, decrease the fill/discharge time. Only lower the pump further into the well screen if needed, and continue pumping

- If the calculated purge volume is small, the measurements should be taken frequently to provide enough measurements to evaluate stability (every 15-30 seconds). If the purge volume is large, measurements taken every 3-5 minutes may be sufficient
- Stabilization occurs when:
    - Temperature is within (3%)
    - pH (+/- 0.1 unit)
    - Conductivity is within (3%)

10. Collect and dispose of purge water as specified in the site specific sampling plan
11. Assemble the appropriate lab supplied bottles
12. Turn pump on, increase the cycle time and reduce the pressure to the minimum that will allow the sample to come to the surface and not induce significant drawdown
13. Collect samples in the lab supplied bottles
14. Cap the sample bottle tightly and place labeled sample container in cooler
15. On completion, remove the pump/tubing from the well and clean the pump thoroughly with de-ionized water and alconox solution prior to moving to the next well
16. Replace the tubing and bladder with new dedicated tubing and bladder for each well
17. Package samples and complete necessary paperwork
18. Decontaminate all non disposable field equipment with de-ionized water and alconox solution prior to moving to the next well
19. Replace the well cap and secure casing

4 References

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

APPENDIX D

BOREHOLE LOG TERMINOLOGY

GROUNDED ENGINEERING

SAMPLING/TESTING METHODS

SS: split spoon sample

AS: auger sample

GS: grab sample

FV: shear vane

DP: direct push

PMT: pressuremeter test

ST: shelby tube

CORE: soil coring

RUN: rock coring

SYMBOLS & ABBREVIATIONS

MC: moisture content

LL: liquid limit

PL: plastic limit

PI: plasticity index

γ: soil unit weight (bulk)

G_s: specific gravity

S_u: undrained shear strength

▽ unstabilized water level

▼ 1st water level measurement

▼ 2nd water level measurement most recent

▼ water level measurement

ENVIRONMENTAL SAMPLES

M&I: metals and inorganic parameters

PAH: polycyclic aromatic hydrocarbon

PCB: polychlorinated biphenyl

VOC: volatile organic compound

PHC: petroleum hydrocarbon

BTEX: benzene, toluene, ethylbenzene and xylene

PPM: parts per million

FIELD MOISTURE (based on tactile inspection)

DRY: no observable pore water

MOIST: inferred pore water, not observable (i.e. grey, cool, etc.)

WET: visible pore water

COHESIONLESS

Relative Density	N-Value
Very Loose	<4
Loose	4 - 10
Compact	10 - 30
Dense	30 - 50
Very Dense	>50

COHESIVE

Consistency	N-Value	Su (kPa)
Very Soft	<2	<12
Soft	2 - 4	12 - 25
Firm	4 - 8	25 - 50
Stiff	8 - 15	50 - 100
Very Stiff	15 - 30	100 - 200
Hard	>30	>200

COMPOSITION

Term	% by weight
trace silt	<10
some silt	10 - 20
silt***y***	20 - 35
sand ***and*** silt	>35

ASTM STANDARDS

ASTM D1586 Standard Penetration Test (SPT)
Driving a 51 mm O.D. split-barrel sampler ("split spoon") into soil with a 63.5 kg weight free falling 760 mm. The blows required to drive the split spoon 300 mm ("bpf") after an initial penetration of 150 mm is referred to as the N-Value.

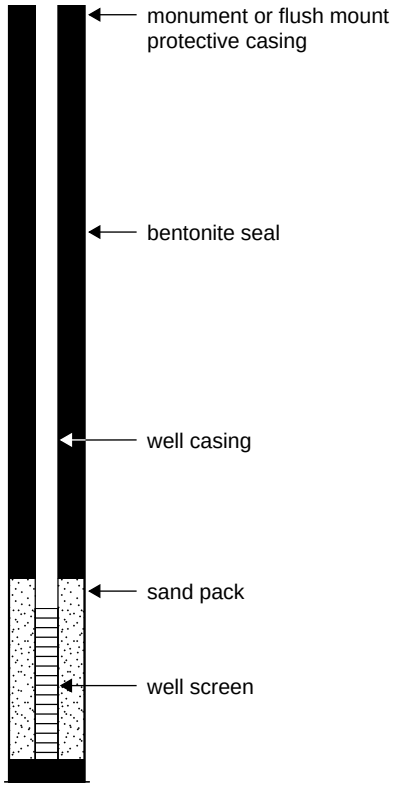
ASTM D3441 Cone Penetration Test (CPT)
Pushing an internal still rod with a outer hollow rod ("sleeve") tipped with a cone with an apex angle of 60° and a cross-sectional area of 1000 mm^2 into soil. The resistance is measured in the sleeve and at the tip to determine the skin friction and the tip resistance.

ASTM D2573 Field Vane Test (FVT)
Pushing a four blade vane into soil and rotating it from the surface to determine the torque required to shear a cylindrical surface with the vane. The torque is converted to the shear strength of the soil using a limit equilibrium analysis.

ASTM D1587 Shelby Tubes (ST)
Pushing a thin-walled metal tube into the in-situ soil at the bottom of a borehole, removing the tube and sealing the ends to prevent soil movement or changes in moisture content for the purposes of extracting a relatively undisturbed sample.

ASTM D4719 Pressuremeter Test (PMT)
Place an inflatable cylindrical probe into a pre-drilled hole and expanding it while measuring the change in volume and pressure in the probe. It is inflated under either equal pressure increments or equal volume increments. This provides the stress-strain response of the soil.

WELL LEGEND



ROCK CORE TERMINOLOGY (MTO SHALE)

TCR **Total Core Recovery** the total length of recovery (soil or rock) per run, as a percentage of the drilled length
SCR **Solid Core Recovery** the total length of sound full-diameter rock core pieces per run, as a percentage of the drilled length
RQD **Rock Quality Designation** the sum of all pieces of sound rock core in a run which are 10 cm or greater in length, as a percentage of the drilled length

Natural Fracture Frequency (typically per 0.3 m) The number of natural discontinuities (joints, faults, etc.) which are present per 0.3m. Ignores mechanical or drill-induced breaks, and closed discontinuities (e.g. bedding planes).

LOGGING DISCONTINUITIES

Discontinuity Type

BP bedding parting
CL cleavage
CS crushed seam
FZ fracture zone
MB mechanical break
IS infilled seam
JT Joint
SS shear surface
SZ shear zone
VN vein
VO void

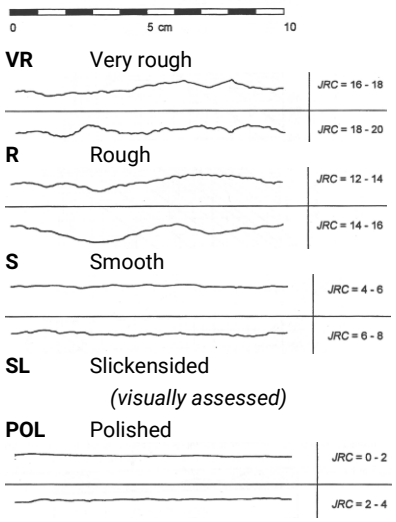
Coating

CN Clean
SN Stained
OX Oxidized
VN Veneer
CT Coating (>1 mm)

Dip Inclination

H	horizontal/flat	0 - 20°
D	dipping	20 - 50°
SV	sub-vertical	50 - 90°
V	vertical	90±°

Roughness (Barton et al.)



Spacing in Discontinuity Sets (*ISRM 1981*)

VC	very close	< 60 mm
C	close	60 – 200 mm
M	mod. close	0.2 to 0.6 m
W	wide	0.6 to 2 m
VW	very wide	> 2 m

Aperture Size

T	closed / tight	< 0.5 mm
GA	gapped	0.5 to 10 mm
OP	open	> 10 mm

Planarity

PR	Planar
UN	Undulating
ST	Stepped
IR	Irregular
DIS	Discontinuous
CU	Curved

GENERAL

Degree of Weathering (*after MTO, RR229 Evaluation of Shales for Construction Projects*)

Zone	Degree	Description
Z1	unweathered	shale, regular jointing
Z2	partially weathered	angular blocks of unweathered shale, no matrix, with chemically weathered but intact shale
Z3		soil-like matrix with frequent angular shale fragments < 25mm diameter
Z4a		soil-like matrix with occasional shale fragments < 3mm diameter
Z4b	fully weathered	soil-like matrix only

Strength classification (*after Marinos and Hoek, 2001; ISRM 1981b*)

Grade		UCS (MPa)	Field Estimate (Description)
R6	extremely strong	> 250	can only be chipped by geological hammer
R5	very strong	100 - 250	requires many blows from geological hammer
R4	strong	50 - 100	requires more than one blow from geological hammer
R3	medium strong	25 - 50	can't be scraped, breaks under one blow from geological hammer
R2	weak	5 - 25	can be peeled / scraped with knife with difficulty
R1	very weak	1 - 5	easily scraped / peeled, crumbles under firm blow of geo. hammer
R0	extremely weak	< 1	indented by thumbnail

Bedding Thickness (*Q. J. Eng. Geology, Vol 3, 1970*)

Very thickly bedded	> 2 m
Thickly bedded	0.6 – 2m
Medium bedded	200 – 600mm
Thinly bedded	60 – 200mm
Very thinly bedded	20 – 60mm
Laminated	6 – 20mm
Thinly Laminated	< 6mm

BOREHOLE LOG 1

Date Started : Nov 17, 2022
Position : E: 652908, N: 4854420 (UTM 17T)
Elev. Datum : Geodetic

File No. : 22-279 **Project** : 1095 Kingston Rd., Pickering **Client** : Plaza Partners

drill method : CME 55

elev depth (m)	description	stratigraphy	number	type	SPT N-value	lab data and comments
87.4	**GROUND SURFACE**					
	150mm **ASPHALT**					
	FILL, clayey silt, sandy, some gravel, trace rock fragments, trace construction debris, trace wood fragments, trace asphalt, compact, brown, moist		1	SS	18	
	...at 0.8 m, light grey silt partings		2	SS	14	
			3	SS	13	
	...at 2.3 m, trace orange staining, trace cinders, loose		4	SS	7	
84.4						
3.0	**SAND AND SILT**, some clay, trace rock fragments, trace gravel, compact, grey, moist (GLACIAL TILL)		5	SS	17	
82.8						
4.6	**SANDY SILT**, clayey, trace gravel, compact, grey, moist (GLACIAL TILL)		6	SS	27	
			7	SS	26	
	...at 7.6 m, dense		8	SS	31	
78.3						
9.1	**SAND AND SILT**, trace clay, trace gravel, very dense, grey, wet		9	SS	64	
			10	SS	53	
	...at 12.2 m, trace rock fragments, compact		11	SS	29	
73.7						
13.7	**SAND**, trace silt, trace gravel, trace rock fragments, trace shale fragments, very dense, grey, wet		12	SS	96	
72.2						
15.2	**INFERRED BEDROCK**		13	SS	100 / 75mm	
71.7						
15.7			14	SS	80 / 50mm	

hollow stem augers OD=215 mm

mud rotary lg OD=135 mm

unstabilized water level

depth scale (m) | well details | elevation (m)

0 87 | 1 86 | 2 85 | 3 84 | 4 83 | 5 82 | 6 81 | 7 80 | 8 79 | 9 78 | 10 77 | 11 76 | 12 75 | 13 74 | 14 73 | 15 72

undrained shear strength (kPa)
○ unconfined + field vane
● pocket penetrometer ■ Lab Vane
40 80 120 160

SPT N-values (bpf)
× dynamic cone
10 20 30 40

headspace vapour (ppm)
× hexane □ isobutylene
⊠ methane
100 200 300

moisture / plasticity
PL MC LL
10 20 30

grain size distribution (%) (MIT)
GR SA SI CL

SS1: H-Ms, Metals, ORPs
18 23 32 27

SS2: PAHs

SS4: BTEX, H-Ms, Metals, ORPs, PAHs, PHCs, VOCs

5 49 39 7

SS10: BTEX, PHCs, VOCs

14.6m: Auger grinding (1 min)

15.2m: Auger grinding (10min) **to 15.7m**

15.7m: Auger refusal

END OF BOREHOLE
Refusal on inferred bedrock

Borehole was filled with drill water upon completion of drilling.

50 mm dia. monitoring well installed.
No. 10 screen

GROUNDWATER LEVELS

date	depth (m)	elevation (m)
Nov 23, 2022	5.3	82.1
Jan 12, 2024	5.0	82.4
Jan 16, 2024	4.9	82.5

file: 22-279 gint-2022-12-13.gpj

Tech : AK | **PM** : SB/VT | **Rev** : MD

GROUNDED ENGINEERING

Date Started : Dec 16, 2022
Position : E: 652908, N: 4854421 (UTM 17T)
Elev. Datum : Geodetic

BOREHOLE LOG 1A

File No. : 22-279 **Project** : 1095 Kingston Rd., Pickering **Client** : Plaza Partners

drill method : *MiniProbe*

elev depth (m)	description	graphic log	samples: number	samples: type	samples: SPT N-value
87.4	**GROUND SURFACE**				
	150mm **ASPHALT**				
	FILL, clayey silt, sandy, some gravel, trace rock fragments, brown		1	DP	
			2	DP	
85.9					
1.5	**END OF BOREHOLE**				

Dual Tube Direct Push OD=50 mm

Borehole was dry upon completion of drilling.

depth scale (m): 0, 1

well details

elevation (m): 87, 86

undrained shear strength (kPa)
○ unconfined + field vane
● pocket penetrometer ■ Lab Vane
40 80 120 160

SPT N-values (bpf)
× dynamic cone
10 20 30 40

headspace vapour (ppm)
× hexane □ isobutylene
⊠ methane
100 200 300

moisture / plasticity
PL MC LL
10 20 30

unstabilized water level

lab data and comments

grain size distribution (%) (MIT)
GR SA SI CL

DP1: PH

DP2: PH

file: 22-279 gint-2022-12-13.gpj

Tech : VT | **PM** : SB/VT | **Rev** :

GROUNDED ENGINEERING

Date Started : Dec 16, 2022
Position : E: 652908, N: 4854419 (UTM 17T)
Elev. Datum : Geodetic

BOREHOLE LOG 1B

File No. : 22-279 **Project** : 1095 Kingston Rd., Pickering **Client** : Plaza Partners

drill method : *MiniProbe*

Dual Tube Direct Push OD=50 mm

elev depth (m)	description	graphic log	samples: number	samples: type	samples: SPT N-value
87.4	**GROUND SURFACE**				
	150mm **ASPHALT**				
	FILL, clayey silt, sandy, some gravel, trace rock fragments, brown		1	DP	
			2	DP	
85.9					
1.5	**END OF BOREHOLE**				

Borehole was dry upon completion of drilling.

depth scale (m): 0, 1

well details

elevation (m): 87, 86

undrained shear strength (kPa)
○ unconfined ● pocket penetrometer + field vane ■ Lab Vane
40 80 120 160

SPT N-values (bpf)
× dynamic cone
10 20 30 40

headspace vapour (ppm)
× hexane □ isobutylene ⊠ methane
100 200 300

moisture / plasticity
PL MC LL
10 20 30

unstabilized water level

lab data and comments

grain size distribution (%) (MIT)
GR SA SI CL

DP1: PH

DP2: PH

file: 22-279 gint-2022-12-13.gpj

Tech : VT | **PM** : SB/VT | **Rev** :

GROUNDED ENGINEERING

Date Started : Nov 16, 2022
Position : E: 652819, N: 4854413 (UTM 17T)
Elev. Datum : Geodetic

BOREHOLE LOG 2

File No. : 22-279 **Project** : 1095 Kingston Rd., Pickering **Client** : Plaza Partners

drill method : CME 55

elev depth (m)	description	graphic log	number	type	SPT N-value	lab data and comments
87.7	**GROUND SURFACE**					
	150mm **ASPHALT**					
	FILL, silt and clay, some sand, trace gravel, light grey silt partings, stiff to hard, brownish grey, moist		1	SS	14	
			2	SS	31	
			3	SS	39	
			4	SS	38	
	...at 3.0 m, trace sand		5	SS	46	
83.1						
4.6	**SAND AND SILT**, clayey, trace gravel, dense to very dense, grey, moist (GLACIAL TILL)		6	SS	70	
			7	SS	70	
			8	SS	46	
	...at 9.1 m, sandy silt, clayey, trace rock fragments		9	SS	31	4 33 42 21 SS9: BTEX, PHCs, VOCs
77.0						
10.7	**SILTY SAND**, trace clay, trace gravel, dense, grey, wet (GLACIAL TILL)		10	SS	30	
75.5						
12.2	**INFERRED BEDROCK**, shale fragments		11	SS	50 / 75mm	**12.2m:** auger grinding
74.0						
13.7	**WHITBY FORMATION** (See rock core log for details)		12	SS	100 / 75mm	**13.6 m:** spoon bouncing ...at 13.7 m, top of sound bedrock
			1	RUN		
			2	RUN		
			3	RUN		
			4	RUN		
68.9						
18.8	**END OF BOREHOLE**					

hollow stem augers OD=215 mm

mud rotary lg OD=135 mm

rock coring (HQ) OD=96 mm

depth scale (m) 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

well details

elevation (m) 87 86 85 84 83 82 81 80 79 78 77 76 75 74 73 72 71 70 69

undrained shear strength (kPa)
○ unconfined + field vane
● pocket penetrometer ■ Lab Vane
40 80 120 160

SPT N-values (bpf)
× dynamic cone
10 20 30 40

headspace vapour (ppm)
× hexane □ isobutylene
⊠ methane
100 200 300

moisture / plasticity
PL MC LL
10 20 30

unstabilized water level

grain size distribution (%) (MIT)
GR SA SI CL
10 11 49 30 SS1: H-Ms, Metals, ORPs
SS2: BTEX, PAHs, PHCs, VOCs
SS3: H-Ms, Metals, ORPs, PAHs
0 1 67 32 SS6: PHCs

Borehole was filled with drill water upon completion of drilling.

50 mm dia. monitoring well installed.
No. 10 screen

GROUNDWATER LEVELS

date	depth (m)	elevation (m)
Nov 23, 2022	5.8	81.9
Jan 12, 2024	5.3	82.4
Jan 16, 2024	5.4	82.3

file: 22-279 gint-2022-12-13.gpj

Tech : AK | **PM** : SB/VT | **Rev** : MD

ROCK CORE LOG 2

Date Started : Nov 16, 2022
Position : E: 652819, N: 4854413 (UTM 17T)
Elev. Datum : Geodetic

File No. : 22-279 **Project** : 1095 Kingston Rd., Pickering **Client** : Plaza Partners

depth (m)	stratigraphy	Run elev / depth (m)	recovery	elevation (m)	natural fracture frequency	laboratory testing	notes and comments
	Rock coring started at 13.7m below grade	**74.0**					
14	**WHITBY FORMATION** **Shale**, black, thinly bedded to medium bedded, weak to medium strong; joints are horizontal, closed, clean; *Overall shale: 100%, limestone: 0%* **... at 13.7 m (Elev. 74.0 m), transition to sound rock**	13.7 R1 72.5	TCR = **100**% SCR = **80**% RQD = **56**%		1 1 0 3	**El. 73.4m**: UCS = 14.7 MPa E = 4.20 GPa γ = 25.5 kN/m^3	**14.1 / 73.5 - 14.2 / 73.5m:** IS clay **14.6 / 73.1 - 14.7 / 73.0m:** IS clay **14.7 / 73.0 - 14.7 / 73.0m:** FC SV
15	Run 1 : 0% limestone 100% shale			73	1+RZ		**15.0 / 72.7 - 15.1 / 72.6m:** Rubbilized zone **15.1 / 72.6 - 15.1 / 72.6m:** IS clay
16	Run 2 : 0% limestone 100% shale	15.2 R2 71.0	TCR = **100**% SCR = **91**% RQD = **66**%	72	1 2 1 0 0		**16.0 / 71.7 - 16.1 / 71.6m:** clay seam
17	Run 3 : 0% limestone 100% shale	16.7 R3 69.6	TCR = **99**% SCR = **99**% RQD = **87**%	71	1 1 1 2 0		**17.8 / 69.9 - 17.8 / 69.9m:** IS clay
18	Run 4 : 0% limestone 100% shale	18.1 R4 68.9	TCR = **100**% SCR = **100**% RQD = **100**%	70	0 1		
	END OF COREHOLE	**18.8m**		69			

shale weathering zones: Z1 Z2 Z3 Z4

UCS (MPa) ● 5 25 50 100 250

estimated strength: R1 R2 R3 R4 R5 R6

Tech : AK | **PM** : SB/VT | **Rev** : MD

file: 22-279 gint-ge-lt-djx8wg3.gpj

GROUNDED ENGINEERING

Date Started : Dec 16, 2022
Position : E: 652820, N: 4854413 (UTM 17T)
Elev. Datum : Geodetic

BOREHOLE LOG 2A

File No. : 22-279 **Project** : 1095 Kingston Rd., Pickering **Client** : Plaza Partners

drill method : *MiniProbe*

elev depth (m)	description	graphic log	samples: number	samples: type	samples: SPT N-value
87.7	**GROUND SURFACE**				
	150mm **ASPHALT**				
	FILL, silt and clay, some sand, trace gravel, light grey silt partings, brownish grey, moist		1A	DP	
			1B	DP	
			2	DP	
			3	DP	
84.7					
3.0	**END OF BOREHOLE**				

Dual Tube Direct Push OD=50 mm

Borehole was dry upon completion of drilling.

depth scale (m): 0, 1, 2, 3

well details

elevation (m): 87, 86, 85

undrained shear strength (kPa): unconfined, field vane, pocket penetrometer, Lab Vane — 40, 80, 120, 160

SPT N-values (bpf): dynamic cone — 10, 20, 30, 40

headspace vapour (ppm): hexane, isobutylene, methane — 100, 200, 300

moisture / plasticity: PL, MC, LL — 10, 20, 30

unstabilized water level

lab data and comments

grain size distribution (%) (MIT): GR SA SI CL

DP1A: PHCs

file: 22-279 gint-2022-12-13.gpj

Tech : VT | **PM** : SB/VT | **Rev** :

GROUNDED ENGINEERING

Date Started : Dec 16, 2022
Position : E: 652819, N: 4854413 (UTM 17T)
Elev. Datum : Geodetic

BOREHOLE LOG 2B

File No. : 22-279 **Project** : 1095 Kingston Rd., Pickering **Client** : Plaza Partners

drill method : *MiniProbe*

elev depth (m)	description	graphic log	samples: number	samples: type	samples: SPT N-value
87.7	**GROUND SURFACE**				
	150mm **ASPHALT**				
	FILL, silt and clay, some sand, trace gravel, light grey silt partings, brownish grey, moist		1A	DP	
			1B	DP	
			2	DP	
			3	DP	
84.7					
3.0	**END OF BOREHOLE**				

Dual Tube Direct Push OD=50 mm

Borehole was dry upon completion of drilling.

depth scale (m): 0, 1, 2, 3

well details

elevation (m): 87, 86, 85

undrained shear strength (kPa)
○ unconfined + field vane
● pocket penetrometer ■ Lab Vane
40 80 120 160

SPT N-values (bpf)
× dynamic cone
10 20 30 40

headspace vapour (ppm)
× hexane □ isobutylene
▣ methane
100 200 300

moisture / plasticity
PL MC LL
10 20 30

unstabilized water level

lab data and comments

grain size distribution (%) (MIT)
GR SA SI CL

DP1A: PHCs

file: 22-279 gint-2022-12-13.gpj

Tech : VT | **PM** : SB/VT | **Rev** :

BOREHOLE LOG 2C

Date Started : Dec 16, 2022
Position : E: 652818, N: 4854414 (UTM 17T)
Elev. Datum : Geodetic

File No. : 22-279 **Project** : 1095 Kingston Rd., Pickering **Client** : Plaza Partners

drill method : *MiniProbe*

elev depth (m)	description	graphic log	sample number	sample type	SPT N-value
87.7	**GROUND SURFACE**				
	150mm **ASPHALT**				
	FILL, silt and clay, some sand, trace gravel, light grey silt partings, brownish grey, moist		1A	DP	
			1B	DP	
			2	DP	
			3	DP	
84.7					
3.0	**END OF BOREHOLE**				

Dual Tube Direct Push OD=50 mm

depth scale (m): 0, 1, 2, 3

well details

elevation (m): 87, 86, 85

undrained shear strength (kPa): unconfined, field vane, pocket penetrometer, Lab Vane; 40, 80, 120, 160

SPT N-values (bpf): dynamic cone; 10, 20, 30, 40

headspace vapour (ppm): hexane, isobutylene, methane; 100, 200, 300

moisture / plasticity: PL, MC, LL; 10, 20, 30

unstabilized water level

lab data and comments

grain size distribution (%) (MIT): GR SA SI CL

DP1A: PHCs

Borehole was dry upon completion of drilling.

file: 22-279 gint-2022-12-13.gpj

Tech : VT | **PM** : SB/VT | **Rev** :

BOREHOLE LOG 3

Date Started : Nov 14, 2022
Position : E: 652872, N: 4854527 (UTM 17T)
Elev. Datum : Geodetic

File No. : 22-279 **Project** : 1095 Kingston Rd., Pickering **Client** : Plaza Partners

drill method : CME 55

hollow stem augers OD=215 mm

mud rotary lg OD=135 mm

elev depth (m)	description	graphic log	number	type	SPT N-value
88.5	**GROUND SURFACE**				
	150mm **ASPHALT**		1	SS	10
87.4	**FILL**, clayey silt, sandy, some gravel, trace asphalt, orange staining, compact, brown, moist		2	SS	19
1.1	...at 0.8 m, sandy silt				
	SAND AND SILT, clayey, trace gravel, orange staining, dense to very dense, grey, moist (GLACIAL TILL)		3	SS	61
	...at 2.3 m, no staining		4	SS	44
			5	SS	48
			6	SS	86
			7	SS	50 / 125mm
			8	SS	36
79.1	...at 9.1 m, sandy		9A	SS	54
9.4	**SAND**, some silt, trace clay, trace gravel, very dense, grey, wet		9B	SS	
			10	SS	52
			11	SS	56
	...at 13.7 m, some gravel		12	SS	92
	...at 15.2 m, trace shale fragments		13	SS	50 / 150mm
71.7					
16.8	**CLAYEY SILT**, some sand, trace gravel, trace shale fragments, hard, grey, moist (GLACIAL TILL)		14	SS	50 / 75mm
70.2					
18.3	**INFERRED BEDROCK**		15	SS	65 / 50mm
69.1					
19.4			16	SS	80 / 75mm

depth scale (m): 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

well details

elevation (m): 88 87 86 85 84 83 82 81 80 79 78 77 76 75 74 73 72 71 70

undrained shear strength (kPa)
○ unconfined + field vane
● pocket penetrometer ■ Lab Vane
40 80 120 160

SPT N-values (bpf)
× dynamic cone
10 20 30 40

headspace vapour (ppm)
× hexane □ isobutylene
⊠ methane
100 200 300

moisture / plasticity
PL MC LL
10 20 30

unstabilized water level

lab data and comments

grain size distribution (%) (MIT)
GR SA SI CL

SS1: H-Ms, Metals, ORPs

SS2: BTEX, PAHs, PHCs, VOCs

SS3: H-Ms, Metals, ORPs
4 40 35 21

SS4: PAHs

SS9A: BTEX, PHCs, VOCs
2 84 11 3

16.8m: Auger refusal

17.7m: Auger grinding (15min) **to 18.3m**

18.3m: Auger grinding (20min) **to 19.3m**

19.3m: Auger refusal

END OF BOREHOLE
Refusal on inferred bedrock

Borehole was filled with drill water upon completion of drilling.

50 mm dia. monitoring well installed.
No. 10 screen

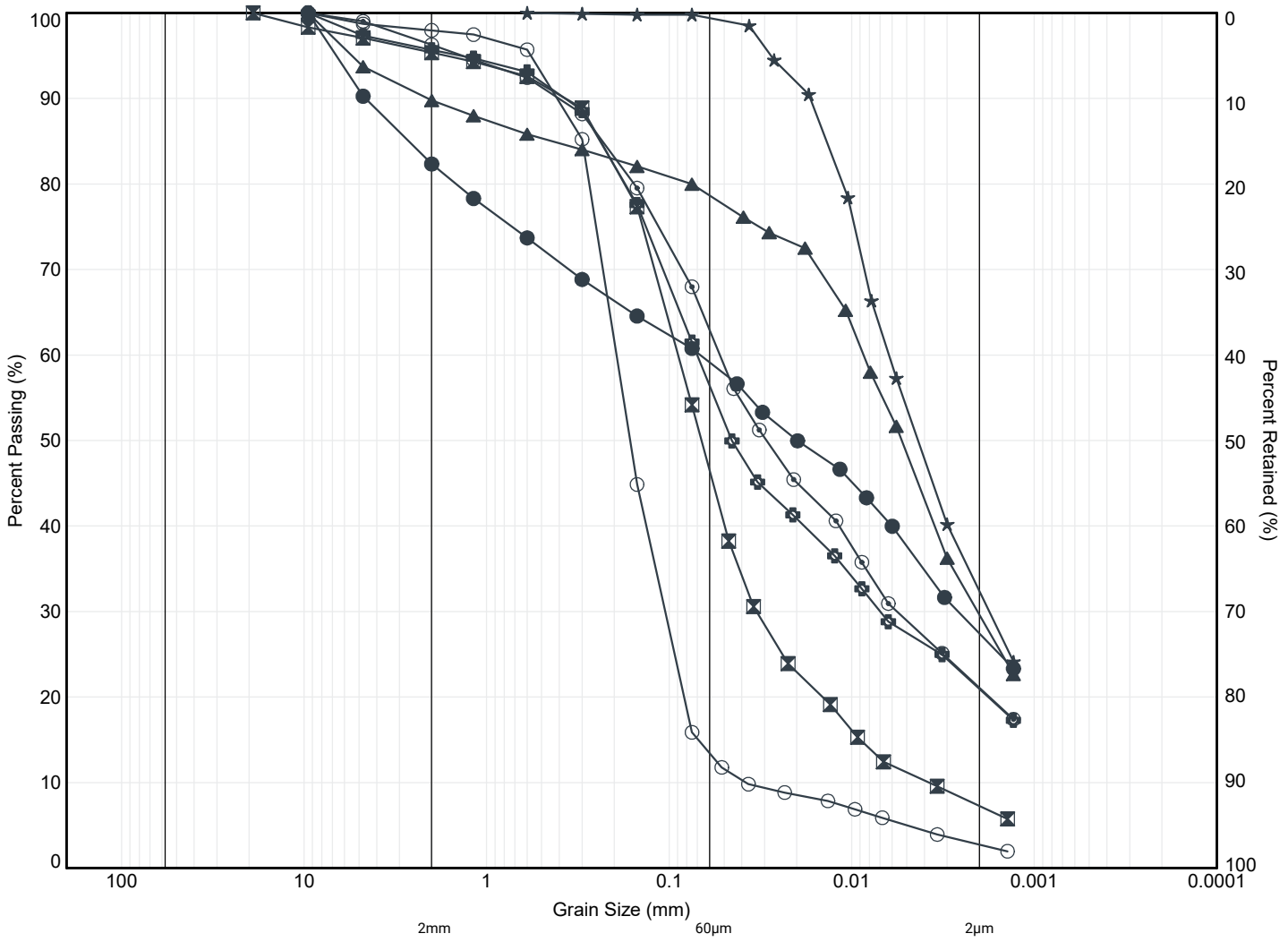
GROUNDWATER LEVELS

date	depth (m)	elevation (m)
Nov 30, 2022	6.5	82.0
Jan 12, 2024	6.2	82.3
Jan 16, 2024	6.2	82.3

file: 22-279 gint-2022-12-13.gpj

Tech : AK | **PM** : SB/VT | **Rev** : MD

APPENDIX E



MIT SYSTEM	COBBLES	GRAVEL			SAND			SILT	CLAY
		COARSE	MEDIUM	FINE	COARSE	MEDIUM	FINE		

MIT SYSTEM

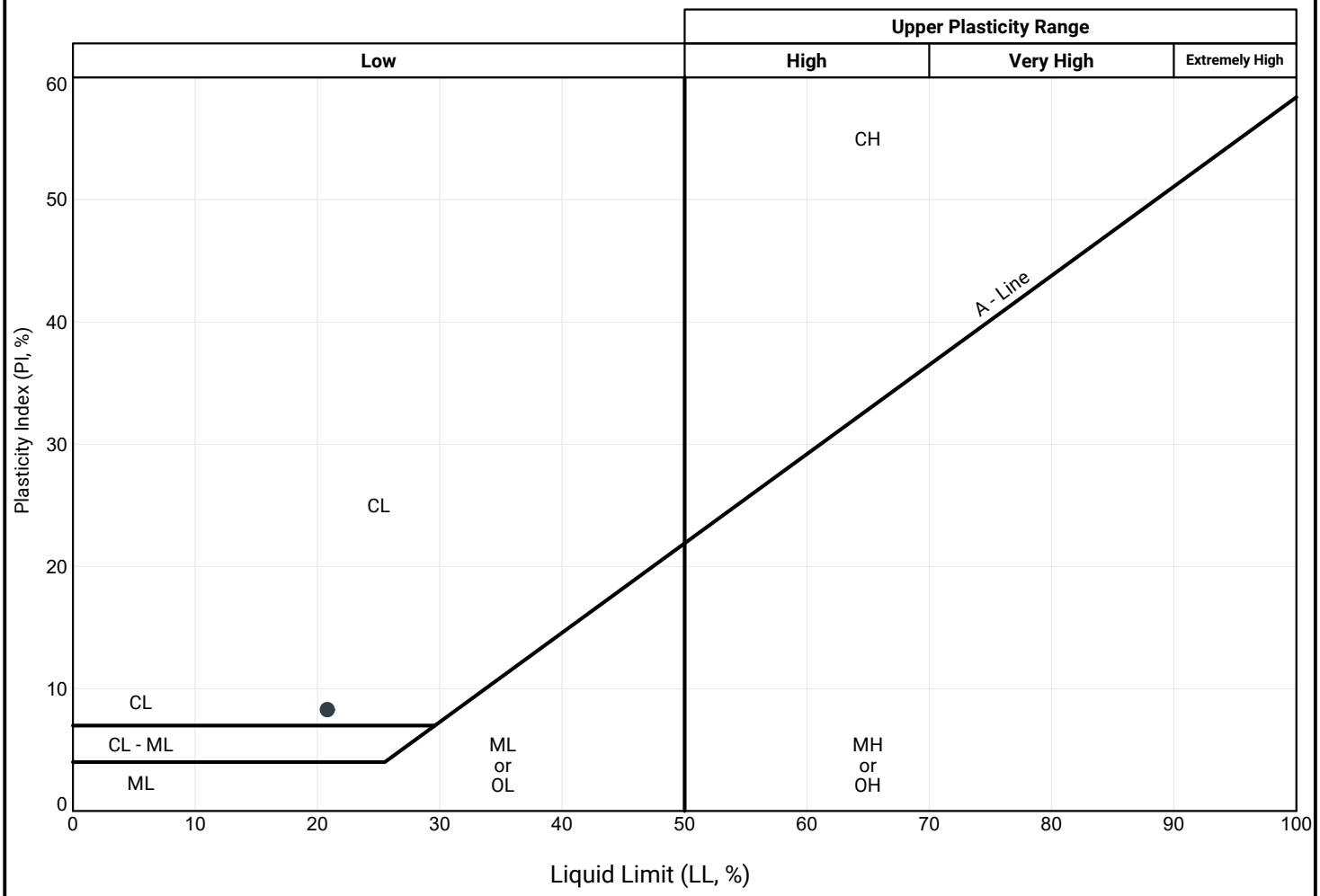
	Borehole	Sample	Depth (m)	Elev. (m)	Gravel (%)	Sand (%)	Silt (%)	Clay (%)
●	**1**	SS2	1.1	86.4	18	23	32	27
⊠	**1**	SS10	11.0	76.5	5	49	39	7
▲	**2**	SS1	0.5	87.2	10	11	49	30
★	**2**	SS5	3.4	84.3	0	1	67	32
⊙	**2**	SS9	9.4	78.2	4	33	42	21
✿	**3**	SS4	2.6	85.9	4	40	35	21
○	**3**	SS11	12.5	76.0	2	84	11	3

GROUNDED ENGINEERING

Title: **GRAIN SIZE DISTRIBUTION**

File No.: **22-279**

file: 22-279 gint-2022-12-13.gpj



	Borehole	Sample	Depth (m)	Elev. (m)	LL (%)	PL (%)	PI (%)
●	**3**	SS4	2.6	85.9	21	13	9

GROUNDED ENGINEERING

Title: **ATTERBERG LIMITS CHART**

File No.: **22-279**

file: 22-279 gint-ge-lt-djx8wg3.gpj

APPENDIX F

FINAL REPORT

CA40212-NOV22 R1

22-279-202, 1095 Kingston Rd, Pickering ON

Prepared for

Grounded Engineering Inc.

FINAL REPORT

First Page

CLIENT DETAILS		LABORATORY DETAILS	
Client	Grounded Engineering Inc.	Project Specialist	Maarit Wolfe, Hon.B.Sc
		Laboratory	SGS Canada Inc.
Address	1 Banigan Drive Toronto, Ontario M4H1G3. Canada	Address	185 Concession St., Lakefield ON, K0L 2H0
Contact	Vivi Tran	Telephone	705-652-2000
Telephone	647-264-7928	Facsimile	705-652-6365
Facsimile		Email	Maarit.Wolfe@sgs.com
Email	vtran@groundedeng.ca	SGS Reference	CA40212-NOV22
Project	22-279-202, 1095 Kingston Rd, Pickering ON	Received	11/16/2022
Order Number		Approved	11/23/2022
Samples	Soil (12)	Report Number	CA40212-NOV22 R1
		Date Reported	01/11/2024

COMMENTS

CCME Method Compliance: Analyses were conducted using analytical procedures that comply with the Reference Method for the CWS for Petroleum Hydrocarbons in Soil and have been validated for use at the SGS laboratory, Lakefield, ON site.

Quality Compliance: Instrument performance / calibration quality criteria were met and extraction and analysis limits for holding times were met.

nC6 and nC10 response factors within 30% of response factor for toluene: YES

nC10, nC16 and nC34 response factors within 10% of the average response for the three compounds: YES

C50 response factors within 70% of nC10 + nC16 + nC34 average: YES

Linearity is within 15%: YES

F4G - gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.
The results for F4 and F4G are both reported and the greater of the two values is to be used in application to the CWS PHC.

Hydrocarbon results are expressed on a dry weight basis.

Benzo(b)fluoranthene results for comparison to the standard are reported as benzo(b+j)fluoranthene. Benzo(b)fluoranthene and benzo(j)fluoranthene co-elute and cannot be reported individually by the analytical method used.

Temperature of Sample upon Receipt: 5 degrees C
Cooling Agent Present:Yes
Custody Seal Present:Yes

Chain of Custody Number:029850

Hexane Matrix Spike; Recovery is outside control limits; the overall quality control for this analysis has been assessed and was determined to be acceptable.

SIGNATORIES

Maarit Wolfe, Hon.B.Sc

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Client: Grounded Engineering Inc.
Project: 22-279-202, 1095 Kingston Rd, Pickering ON
Project Manager: Vivi Tran
Samplers: Andrew K

MATRIX: SOIL

L1 = REG153 / SOIL / FINE - TABLE 2 - Residential/Parkland - UNDEFINED

	Sample Number	6	7	8	9	10	11	12	13
	Sample Name	BH3 SS1	BH3 SS2	BH3 SS3	BH3 SS4	BH3 SS9A	DUP-1-M&I	BH2 SS1	BH2 SS2
	Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
	Sample Date	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
BTEX											
Benzene	µg/g	0.02	0.17	---	< 0.02	---	---	< 0.02	---	---	< 0.02
Ethylbenzene	µg/g	0.05	1.6	---	< 0.05	---	---	< 0.05	---	---	< 0.05
Toluene	µg/g	0.05	6	---	< 0.05	---	---	< 0.05	---	---	< 0.05
Xylene (total)	µg/g	0.05	25	---	< 0.05	---	---	< 0.05	---	---	< 0.05
m/p-xylene	µg/g	0.05		---	< 0.05	---	---	< 0.05	---	---	< 0.05
o-xylene	µg/g	0.05		---	< 0.05	---	---	< 0.05	---	---	< 0.05
Hydrides											
Antimony	µg/g	0.8	7.5	< 0.8	---	< 0.8	---	---	< 0.8	< 0.8	---
Arsenic	µg/g	0.5	18	1.9	---	1.1	---	---	1.1	2.0	---
Selenium	µg/g	0.7	2.4	< 0.7	---	< 0.7	---	---	< 0.7	< 0.7	---
Metals and Inorganics											
Moisture Content	%	no		10.1	8.3	6.8	6.4	9.7	7.2	7.3	10.1
Barium	µg/g	0.1	390	24	---	54	---	---	52	260	---
Beryllium	µg/g	0.02	5	0.23	---	0.26	---	---	0.27	0.18	---
Boron	µg/g	1	120	7	---	5	---	---	5	4	---
Cadmium	µg/g	0.05	1.2	0.05	---	< 0.05	---	---	< 0.05	< 0.05	---
Chromium	µg/g	0.5	160	7.8	---	11	---	---	11	5.9	---
Cobalt	µg/g	0.01	22	3.4	---	3.7	---	---	3.8	2.7	---
Copper	µg/g	0.1	180	6.9	---	8.3	---	---	8.6	6.2	---
Lead	µg/g	0.1	120	6.7	---	4.1	---	---	4.2	12	---
Molybdenum	µg/g	0.1	6.9	0.3	---	0.2	---	---	0.1	0.6	---

Client: Grounded Engineering Inc.
Project: 22-279-202, 1095 Kingston Rd, Pickering ON
Project Manager: Vivi Tran
Samplers: Andrew K

MATRIX: SOIL

L1 = REG153 / SOIL / FINE - TABLE 2 - Residential/Parkland - UNDEFINED

	Sample Number	6	7	8	9	10	11	12	13
	Sample Name	BH3 SS1	BH3 SS2	BH3 SS3	BH3 SS4	BH3 SS9A	DUP-1-M&I	BH2 SS1	BH2 SS2
	Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
	Sample Date	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Metals and Inorganics (continued)											
Nickel	µg/g	0.5	130	8.0	---	8.5	---	---	8.3	8.8	---
Silver	µg/g	0.05	25	< 0.05	---	< 0.05	---	---	< 0.05	< 0.05	---
Thallium	µg/g	0.02	1	0.10	---	0.10	---	---	0.09	0.18	---
Uranium	µg/g	0.002	23	0.50	---	0.67	---	---	0.72	0.54	---
Vanadium	µg/g	3	86	9	---	17	---	---	17	6	---
Zinc	µg/g	0.7	340	16	---	21	---	---	23	10	---
Water Soluble Boron	µg/g	0.5	1.5	< 0.5	---	< 0.5	---	---	< 0.5	< 0.5	---
Other (ORP)											
Mercury	ug/g	0.05	1.8	< 0.05	---	< 0.05	---	---	< 0.05	< 0.05	---
Sodium Adsorption Ratio	No unit	0.2	5	7.1	---	5.1	---	---	5.3	5.3	---
SAR Calcium	mg/L	0.2		16.4	---	15.6	---	---	10.9	13.8	---
SAR Magnesium	mg/L	0.3		3.8	---	3.5	---	---	2.6	2.6	---
SAR Sodium	mg/L	0.1		123	---	84.7	---	---	75.4	81.1	---
Conductivity	mS/cm	0.002	0.7	1.0	---	0.62	---	---	0.52	0.60	---
pH	pH Units	0.05		8.06	---	8.11	---	---	8.10	8.22	---
Chromium VI	µg/g	0.2	10	< 0.2	---	< 0.2	---	---	< 0.2	< 0.2	---
Free Cyanide	µg/g	0.05	0.051	< 0.05	---	< 0.05	---	---	< 0.05	< 0.05	---

Client: Grounded Engineering Inc.

Project: 22-279-202, 1095 Kingston Rd, Pickering ON

Project Manager: Vivi Tran

Samplers: Andrew K

MATRIX: SOIL

L1 = REG153 / SOIL / FINE - TABLE 2 - Residential/Parkland - UNDEFINED

	Sample Number	6	7	8	9	10	11	12	13
	Sample Name	BH3 SS1	BH3 SS2	BH3 SS3	BH3 SS4	BH3 SS9A	DUP-1-M&I	BH2 SS1	BH2 SS2
	Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
	Sample Date	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
PAHs											
Acenaphthene	µg/g	0.05	29	---	< 0.05	---	< 0.05	---	---	---	< 0.05
Acenaphthylene	µg/g	0.05	0.17	---	< 0.05	---	< 0.05	---	---	---	< 0.05
Anthracene	µg/g	0.05	0.74	---	< 0.05	---	< 0.05	---	---	---	< 0.05
Benzo(a)anthracene	µg/g	0.05	0.63	---	< 0.05	---	< 0.05	---	---	---	< 0.05
Benzo(a)pyrene	µg/g	0.05	0.3	---	< 0.05	---	< 0.05	---	---	---	< 0.05
Benzo(b+j)fluoranthene	µg/g	0.05	0.78	---	< 0.05	---	< 0.05	---	---	---	< 0.05
Benzo(ghi)perylene	µg/g	0.1	7.8	---	< 0.1	---	< 0.1	---	---	---	< 0.1
Benzo(k)fluoranthene	µg/g	0.05	0.78	---	< 0.05	---	< 0.05	---	---	---	< 0.05
Chrysene	µg/g	0.05	7.8	---	< 0.05	---	< 0.05	---	---	---	< 0.05
Dibenzo(a,h)anthracene	µg/g	0.06	0.1	---	< 0.06	---	< 0.06	---	---	---	< 0.06
Fluoranthene	µg/g	0.05	0.69	---	< 0.05	---	< 0.05	---	---	---	< 0.05
Fluorene	µg/g	0.05	69	---	< 0.05	---	< 0.05	---	---	---	< 0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.1	0.48	---	< 0.1	---	< 0.1	---	---	---	< 0.1
1-Methylnaphthalene	µg/g	0.05		---	< 0.05	---	< 0.05	---	---	---	< 0.05
2-Methylnaphthalene	µg/g	0.05		---	< 0.05	---	< 0.05	---	---	---	< 0.05
Methylnaphthalene, 2-(1-)	µg/g	0.05	3.4	---	< 0.05	---	< 0.05	---	---	---	< 0.05
Naphthalene	µg/g	0.05	0.75	---	< 0.05	---	< 0.05	---	---	---	< 0.05
Phenanthrene	µg/g	0.05	7.8	---	< 0.05	---	< 0.05	---	---	---	< 0.05
Pyrene	µg/g	0.05	78	---	< 0.05	---	< 0.05	---	---	---	< 0.05

Client: Grounded Engineering Inc.
Project: 22-279-202, 1095 Kingston Rd, Pickering ON
Project Manager: Vivi Tran
Samplers: Andrew K

MATRIX: SOIL

L1 = REG153 / SOIL / FINE - TABLE 2 - Residential/Parkland - UNDEFINED

	Sample Number	6	7	8	9	10	11	12	13
	Sample Name	BH3 SS1	BH3 SS2	BH3 SS3	BH3 SS4	BH3 SS9A	DUP-1-M&I	BH2 SS1	BH2 SS2
	Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
	Sample Date	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
PHCs											
F1 (C6-C10)	µg/g	10	65	---	< 10	---	---	< 10	---	---	< 10
F1-BTEX (C6-C10)	µg/g	10	65	---	< 10	---	---	< 10	---	---	< 10
F2 (C10-C16)	µg/g	10	150	---	< 10	---	---	< 10	---	---	< 10
F3 (C16-C34)	µg/g	50	1300	---	< 50	---	---	< 50	---	---	331
F4 (C34-C50)	µg/g	50	5600	---	< 50	---	---	< 50	---	---	673
F4G-sg (GHH)	µg/g	200	5600	---	---	---	---	---	---	---	2160
Chromatogram returned to baseline at nC50	Yes / No	no		---	YES	---	---	YES	---	---	NO
SVOC Surrogates											
Surr 2-Fluorobiphenyl	Surr Rec %	no		---	96	---	98	---	---	---	93
Surr 4-Terphenyl-d14	Surr Rec %	no		---	101	---	103	---	---	---	95
Surr 2-Methylnaphthalene-D10	Surr Rec %	no		---	93	---	94	---	---	---	89
Surr Fluoranthene-D10	Surr Rec %	no		---	97	---	95	---	---	---	94
THMs (VOC)											
Bromodichloromethane	µg/g	0.05	1.9	---	< 0.05	---	---	< 0.05	---	---	< 0.05
Bromoform	µg/g	0.05	0.26	---	< 0.05	---	---	< 0.05	---	---	< 0.05
Dibromochloromethane	µg/g	0.05	2.9	---	< 0.05	---	---	< 0.05	---	---	< 0.05

Client: Grounded Engineering Inc.
Project: 22-279-202, 1095 Kingston Rd, Pickering ON
Project Manager: Vivi Tran
Samplers: Andrew K

MATRIX: SOIL

L1 = REG153 / SOIL / FINE - TABLE 2 - Residential/Parkland - UNDEFINED

				Sample Number	6	7	8	9	10	11	12	13
				Sample Name	BH3 SS1	BH3 SS2	BH3 SS3	BH3 SS4	BH3 SS9A	DUP-1-M&I	BH2 SS1	BH2 SS2
				Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
				Sample Date	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Parameter		**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOC Surrogates												
Surr 1,2-Dichloroethane-d4		Surr Rec %	no		---	98	---	---	99	---	---	98
Surr 4-Bromofluorobenzene		Surr Rec %	no		---	92	---	---	90	---	---	89
Surr 2-Bromo-1-Chloropropane		Surr Rec %	no		---	81	---	---	84	---	---	78
VOCs												
Acetone		µg/g	0.5	28	---	< 0.5	---	---	< 0.5	---	---	< 0.5
Bromomethane		µg/g	0.05	0.05	---	< 0.05	---	---	< 0.05	---	---	< 0.05
Carbon tetrachloride		µg/g	0.05	0.12	---	< 0.05	---	---	< 0.05	---	---	< 0.05
Chlorobenzene		µg/g	0.05	2.7	---	< 0.05	---	---	< 0.05	---	---	< 0.05
Chloroform		µg/g	0.05	0.18	---	< 0.05	---	---	< 0.05	---	---	< 0.05
1,2-Dichlorobenzene		µg/g	0.05	1.7	---	< 0.05	---	---	< 0.05	---	---	< 0.05
1,3-Dichlorobenzene		µg/g	0.05	6	---	< 0.05	---	---	< 0.05	---	---	< 0.05
1,4-Dichlorobenzene		µg/g	0.05	0.097	---	< 0.05	---	---	< 0.05	---	---	< 0.05
Dichlorodifluoromethane		µg/g	0.05	25	---	< 0.05	---	---	< 0.05	---	---	< 0.05
1,1-Dichloroethane		µg/g	0.05	0.6	---	< 0.05	---	---	< 0.05	---	---	< 0.05
1,2-Dichloroethane		µg/g	0.05	0.05	---	< 0.05	---	---	< 0.05	---	---	< 0.05
1,1-Dichloroethylene		µg/g	0.05	0.05	---	< 0.05	---	---	< 0.05	---	---	< 0.05
trans-1,2-Dichloroethylene		µg/g	0.05	0.75	---	< 0.05	---	---	< 0.05	---	---	< 0.05
cis-1,2-Dichloroethylene		µg/g	0.05	2.5	---	< 0.05	---	---	< 0.05	---	---	< 0.05
1,2-Dichloropropane		µg/g	0.05	0.085	---	< 0.05	---	---	< 0.05	---	---	< 0.05
cis-1,3-dichloropropene		µg/g	0.03		---	< 0.03	---	---	< 0.03	---	---	< 0.03
trans-1,3-dichloropropene		µg/g	0.03		---	< 0.03	---	---	< 0.03	---	---	< 0.03
1,3-dichloropropene (total)		µg/g	0.05	0.081	---	< 0.05	---	---	< 0.05	---	---	< 0.05

Client: Grounded Engineering Inc.
Project: 22-279-202, 1095 Kingston Rd, Pickering ON
Project Manager: Vivi Tran
Samplers: Andrew K

MATRIX: SOIL

L1 = REG153 / SOIL / FINE - TABLE 2 - Residential/Parkland - UNDEFINED

	Sample Number	6	7	8	9	10	11	12	13
	Sample Name	BH3 SS1	BH3 SS2	BH3 SS3	BH3 SS4	BH3 SS9A	DUP-1-M&I	BH2 SS1	BH2 SS2
	Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
	Sample Date	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022	14/11/2022
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOCs (continued)											
Ethylenedibromide	µg/g	0.05	0.05	---	< 0.05	---	---	< 0.05	---	---	< 0.05
n-Hexane	µg/g	0.05	34	---	< 0.05	---	---	< 0.05	---	---	< 0.05
Methyl ethyl ketone	µg/g	0.5	44	---	< 0.5	---	---	< 0.5	---	---	< 0.5
Methyl isobutyl ketone	µg/g	0.5	4.3	---	< 0.5	---	---	< 0.5	---	---	< 0.5
Methyl-t-butyl Ether	µg/g	0.05	1.4	---	< 0.05	---	---	< 0.05	---	---	< 0.05
Methylene Chloride	µg/g	0.05	0.96	---	< 0.05	---	---	< 0.05	---	---	< 0.05
Styrene	µg/g	0.05	2.2	---	< 0.05	---	---	< 0.05	---	---	< 0.05
Tetrachloroethylene	µg/g	0.05	2.3	---	< 0.05	---	---	< 0.05	---	---	< 0.05
1,1,1,2-Tetrachloroethane	µg/g	0.05	0.05	---	< 0.05	---	---	< 0.05	---	---	< 0.05
1,1,2,2-Tetrachloroethane	µg/g	0.05	0.05	---	< 0.05	---	---	< 0.05	---	---	< 0.05
1,1,1-Trichloroethane	µg/g	0.05	3.4	---	< 0.05	---	---	< 0.05	---	---	< 0.05
1,1,2-Trichloroethane	µg/g	0.05	0.05	---	< 0.05	---	---	< 0.05	---	---	< 0.05
Trichloroethylene	µg/g	0.05	0.52	---	< 0.05	---	---	< 0.05	---	---	< 0.05
Trichlorofluoromethane	µg/g	0.05	5.8	---	< 0.05	---	---	< 0.05	---	---	< 0.05
Vinyl Chloride	µg/g	0.02	0.022	---	< 0.02	---	---	< 0.02	---	---	< 0.02

Client: Grounded Engineering Inc.
Project: 22-279-202, 1095 Kingston Rd, Pickering ON
Project Manager: Vivi Tran
Samplers: Andrew K

MATRIX: SOIL

L1 = REG153 / SOIL / FINE - TABLE 2 - Residential/Parkland - UNDEFINED

	Sample Number	14	15	16	17		
	Sample Name	BH2 SS3	DUP-1-PAH	BH2 SS9	DUP-1-VOC		
	Sample Matrix	Soil	Soil	Soil	Soil		
	Sample Date	14/11/2022	14/11/2022	14/11/2022	14/11/2022		
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
BTEX							
Benzene	µg/g	0.02	0.17	---	---	< 0.02	< 0.02
Ethylbenzene	µg/g	0.05	1.6	---	---	< 0.05	< 0.05
Toluene	µg/g	0.05	6	---	---	< 0.05	< 0.05
Xylene (total)	µg/g	0.05	25	---	---	< 0.05	< 0.05
m/p-xylene	µg/g	0.05		---	---	< 0.05	< 0.05
o-xylene	µg/g	0.05		---	---	< 0.05	< 0.05
Hydrides							
Antimony	µg/g	0.8	7.5	< 0.8	---	---	---
Arsenic	µg/g	0.5	18	2.4	---	---	---
Selenium	µg/g	0.7	2.4	< 0.7	---	---	---
Metals and Inorganics							
Moisture Content	%	no		13.1	11.9	10.0	9.7
Barium	µg/g	0.1	390	98	---	---	---
Beryllium	µg/g	0.02	5	0.41	---	---	---
Boron	µg/g	1	120	7	---	---	---
Cadmium	µg/g	0.05	1.2	0.05	---	---	---
Chromium	µg/g	0.5	160	16	---	---	---
Cobalt	µg/g	0.01	22	6.2	---	---	---
Copper	µg/g	0.1	180	14	---	---	---
Lead	µg/g	0.1	120	7.2	---	---	---
Molybdenum	µg/g	0.1	6.9	0.2	---	---	---

Client: Grounded Engineering Inc.
Project: 22-279-202, 1095 Kingston Rd, Pickering ON
Project Manager: Vivi Tran
Samplers: Andrew K

MATRIX: SOIL

L1 = REG153 / SOIL / FINE - TABLE 2 - Residential/Parkland - UNDEFINED

	Sample Number	14	15	16	17		
	Sample Name	BH2 SS3	DUP-1-PAH	BH2 SS9	DUP-1-VOC		
	Sample Matrix	Soil	Soil	Soil	Soil		
	Sample Date	14/11/2022	14/11/2022	14/11/2022	14/11/2022		
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
Metals and Inorganics (continued)							
Nickel	µg/g	0.5	130	14	---	---	---
Silver	µg/g	0.05	25	< 0.05	---	---	---
Thallium	µg/g	0.02	1	0.17	---	---	---
Uranium	µg/g	0.002	23	0.84	---	---	---
Vanadium	µg/g	3	86	23	---	---	---
Zinc	µg/g	0.7	340	33	---	---	---
Water Soluble Boron	µg/g	0.5	1.5	< 0.5	---	---	---
Other (ORP)							
Mercury	ug/g	0.05	1.8	< 0.05	---	---	---
Sodium Adsorption Ratio	No unit	0.2	5	1.4	---	---	---
SAR Calcium	mg/L	0.2		22.1	---	---	---
SAR Magnesium	mg/L	0.3		15.6	---	---	---
SAR Sodium	mg/L	0.1		34.7	---	---	---
Conductivity	mS/cm	0.002	0.7	0.48	---	---	---
pH	pH Units	0.05		8.18	---	---	---
Chromium VI	µg/g	0.2	10	< 0.2	---	---	---
Free Cyanide	µg/g	0.05	0.051	< 0.05	---	---	---

Client: Grounded Engineering Inc.
Project: 22-279-202, 1095 Kingston Rd, Pickering ON
Project Manager: Vivi Tran
Samplers: Andrew K

MATRIX: SOIL

L1 = REG153 / SOIL / FINE - TABLE 2 - Residential/Parkland - UNDEFINED

	Sample Number	14	15	16	17		
	Sample Name	BH2 SS3	DUP-1-PAH	BH2 SS9	DUP-1-VOC		
	Sample Matrix	Soil	Soil	Soil	Soil		
	Sample Date	14/11/2022	14/11/2022	14/11/2022	14/11/2022		
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
PAHs							
Acenaphthene	µg/g	0.05	29	< 0.05	< 0.05	---	---
Acenaphthylene	µg/g	0.05	0.17	< 0.05	< 0.05	---	---
Anthracene	µg/g	0.05	0.74	< 0.05	< 0.05	---	---
Benzo(a)anthracene	µg/g	0.05	0.63	< 0.05	< 0.05	---	---
Benzo(a)pyrene	µg/g	0.05	0.3	< 0.05	< 0.05	---	---
Benzo(b+j)fluoranthene	µg/g	0.05	0.78	< 0.05	< 0.05	---	---
Benzo(ghi)perylene	µg/g	0.1	7.8	< 0.1	< 0.1	---	---
Benzo(k)fluoranthene	µg/g	0.05	0.78	< 0.05	< 0.05	---	---
Chrysene	µg/g	0.05	7.8	< 0.05	< 0.05	---	---
Dibenzo(a,h)anthracene	µg/g	0.06	0.1	< 0.06	< 0.06	---	---
Fluoranthene	µg/g	0.05	0.69	< 0.05	< 0.05	---	---
Fluorene	µg/g	0.05	69	< 0.05	< 0.05	---	---
Indeno(1,2,3-cd)pyrene	µg/g	0.1	0.48	< 0.1	< 0.1	---	---
1-Methylnaphthalene	µg/g	0.05		< 0.05	< 0.05	---	---
2-Methylnaphthalene	µg/g	0.05		< 0.05	< 0.05	---	---
Methylnaphthalene, 2-(1-)	µg/g	0.05	3.4	< 0.05	< 0.05	---	---
Naphthalene	µg/g	0.05	0.75	< 0.05	< 0.05	---	---
Phenanthrene	µg/g	0.05	7.8	< 0.05	< 0.05	---	---
Pyrene	µg/g	0.05	78	< 0.05	< 0.05	---	---

Client: Grounded Engineering Inc.
Project: 22-279-202, 1095 Kingston Rd, Pickering ON
Project Manager: Vivi Tran
Samplers: Andrew K

MATRIX: SOIL

L1 = REG153 / SOIL / FINE - TABLE 2 - Residential/Parkland - UNDEFINED

	Sample Number	14	15	16	17		
	Sample Name	BH2 SS3	DUP-1-PAH	BH2 SS9	DUP-1-VOC		
	Sample Matrix	Soil	Soil	Soil	Soil		
	Sample Date	14/11/2022	14/11/2022	14/11/2022	14/11/2022		
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
PHCs							
F1 (C6-C10)	µg/g	10	65	---	---	< 10	< 10
F1-BTEX (C6-C10)	µg/g	10	65	---	---	< 10	< 10
F2 (C10-C16)	µg/g	10	150	---	---	< 10	< 10
F3 (C16-C34)	µg/g	50	1300	---	---	< 50	< 50
F4 (C34-C50)	µg/g	50	5600	---	---	< 50	< 50
Chromatogram returned to baseline at nC50	Yes / No	no		---	---	YES	YES
SVOC Surrogates							
Surr 2-Fluorobiphenyl	Surr Rec %	no		91	90	---	---
Surr 4-Terphenyl-d14	Surr Rec %	no		94	93	---	---
Surr 2-Methylnaphthalene-D10	Surr Rec %	no		89	87	---	---
Surr Fluoranthene-D10	Surr Rec %	no		95	92	---	---
THMs (VOC)							
Bromodichloromethane	µg/g	0.05	1.9	---	---	< 0.05	< 0.05
Bromoform	µg/g	0.05	0.26	---	---	< 0.05	< 0.05
Dibromochloromethane	µg/g	0.05	2.9	---	---	< 0.05	< 0.05

Client: Grounded Engineering Inc.
Project: 22-279-202, 1095 Kingston Rd, Pickering ON
Project Manager: Vivi Tran
Samplers: Andrew K

MATRIX: SOIL

L1 = REG153 / SOIL / FINE - TABLE 2 - Residential/Parkland - UNDEFINED

Sample Number				14	15	16	17
Sample Name				BH2 SS3	DUP-1-PAH	BH2 SS9	DUP-1-VOC
Sample Matrix				Soil	Soil	Soil	Soil
Sample Date				14/11/2022	14/11/2022	14/11/2022	14/11/2022
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
VOC Surrogates							
Surr 1,2-Dichloroethane-d4	Surr Rec %	no		---	---	98	99
Surr 4-Bromofluorobenzene	Surr Rec %	no		---	---	90	89
Surr 2-Bromo-1-Chloropropane	Surr Rec %	no		---	---	77	77
VOCs							
Acetone	µg/g	0.5	28	---	---	< 0.5	< 0.5
Bromomethane	µg/g	0.05	0.05	---	---	< 0.05	< 0.05
Carbon tetrachloride	µg/g	0.05	0.12	---	---	< 0.05	< 0.05
Chlorobenzene	µg/g	0.05	2.7	---	---	< 0.05	< 0.05
Chloroform	µg/g	0.05	0.18	---	---	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/g	0.05	1.7	---	---	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/g	0.05	6	---	---	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/g	0.05	0.097	---	---	< 0.05	< 0.05
Dichlorodifluoromethane	µg/g	0.05	25	---	---	< 0.05	< 0.05
1,1-Dichloroethane	µg/g	0.05	0.6	---	---	< 0.05	< 0.05
1,2-Dichloroethane	µg/g	0.05	0.05	---	---	< 0.05	< 0.05
1,1-Dichloroethylene	µg/g	0.05	0.05	---	---	< 0.05	< 0.05
trans-1,2-Dichloroethylene	µg/g	0.05	0.75	---	---	< 0.05	< 0.05
cis-1,2-Dichloroethylene	µg/g	0.05	2.5	---	---	< 0.05	< 0.05
1,2-Dichloropropane	µg/g	0.05	0.085	---	---	< 0.05	< 0.05
cis-1,3-dichloropropene	µg/g	0.03		---	---	< 0.03	< 0.03
trans-1,3-dichloropropene	µg/g	0.03		---	---	< 0.03	< 0.03
1,3-dichloropropene (total)	µg/g	0.05	0.081	---	---	< 0.05	< 0.05

Client: Grounded Engineering Inc.
Project: 22-279-202, 1095 Kingston Rd, Pickering ON
Project Manager: Vivi Tran
Samplers: Andrew K

MATRIX: SOIL

L1 = REG153 / SOIL / FINE - TABLE 2 - Residential/Parkland - UNDEFINED

	Sample Number	14	15	16	17		
	Sample Name	BH2 SS3	DUP-1-PAH	BH2 SS9	DUP-1-VOC		
	Sample Matrix	Soil	Soil	Soil	Soil		
	Sample Date	14/11/2022	14/11/2022	14/11/2022	14/11/2022		
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
VOCs (continued)							
Ethylenedibromide	µg/g	0.05	0.05	---	---	< 0.05	< 0.05
n-Hexane	µg/g	0.05	34	---	---	< 0.05	< 0.05
Methyl ethyl ketone	µg/g	0.5	44	---	---	< 0.5	< 0.5
Methyl isobutyl ketone	µg/g	0.5	4.3	---	---	< 0.5	< 0.5
Methyl-t-butyl Ether	µg/g	0.05	1.4	---	---	< 0.05	< 0.05
Methylene Chloride	µg/g	0.05	0.96	---	---	< 0.05	< 0.05
Styrene	µg/g	0.05	2.2	---	---	< 0.05	< 0.05
Tetrachloroethylene	µg/g	0.05	2.3	---	---	< 0.05	< 0.05
1,1,1,2-Tetrachloroethane	µg/g	0.05	0.05	---	---	< 0.05	< 0.05
1,1,2,2-Tetrachloroethane	µg/g	0.05	0.05	---	---	< 0.05	< 0.05
1,1,1-Trichloroethane	µg/g	0.05	3.4	---	---	< 0.05	< 0.05
1,1,2-Trichloroethane	µg/g	0.05	0.05	---	---	< 0.05	< 0.05
Trichloroethylene	µg/g	0.05	0.52	---	---	< 0.05	< 0.05
Trichlorofluoromethane	µg/g	0.05	5.8	---	---	< 0.05	< 0.05
Vinyl Chloride	µg/g	0.02	0.022	---	---	< 0.02	< 0.02

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	REG153 / SOIL / FINE - TABLE 2 - Residential/Parkland - UNDEFINED L1
BH3 SS1				
Conductivity	EPA 6010/SM 2510	mS/cm	1.0	0.7
Sodium Adsorption Ratio	MOE 4696e01/EPA 6010	No unit	7.1	5
BH3 SS3				
Sodium Adsorption Ratio	MOE 4696e01/EPA 6010	No unit	5.1	5
DUP-1-M&I				
Sodium Adsorption Ratio	MOE 4696e01/EPA 6010	No unit	5.3	5
BH2 SS1				
Sodium Adsorption Ratio	MOE 4696e01/EPA 6010	No unit	5.3	5

QC SUMMARY

Conductivity

Method: EPA 6010/SM 2510 I Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Conductivity	EWL0477-NOV22	mS/cm	0.002	<0.002	0	10	100	90	110	NA		

Cyanide by SFA

Method: SM 4500 I Internal ref.: ME-CA-IENVISFA-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Free Cyanide	SKA5080-NOV22	µg/g	0.05	<0.05	ND	20	95	80	120	107	75	125

Hexavalent Chromium by SFA

Method: EPA218.6/EPA3060A I Internal ref.: ME-CA-IENVISKA-LAK-AN-012

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Chromium VI	SKA5077-NOV22	ug/g	0.2	<0.2	ND	20	94	80	120	NV	75	125

QC SUMMARY

Mercury by CVAAS

Method: EPA 7471A/EPA 245 | Internal ref.: ME-CA-IENVISPE-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Mercury	EMS0178-NOV22	ug/g	0.05	<0.05	ND	20	100	80	120	97	70	130

Metals in aqueous samples - ICP-OES

Method: MOE 4696e01/EPA 6010 | Internal ref.: ME-CA-IENVISPE-LAK-AN-003

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
SAR Calcium	ESG0052-NOV22	mg/L	0.2	<0.09	2	20	96	80	120	92	70	130
SAR Magnesium	ESG0052-NOV22	mg/L	0.3	<0.02	12	20	96	80	120	92	70	130
SAR Sodium	ESG0052-NOV22	mg/L	0.1	<0.15	0	20	91	80	120	76	70	130

QC SUMMARY

Metals in Soil - Aqua-regia/ICP-MS

Method: EPA 3050/EPA 200.8 | Internal ref.: ME-CA-[ENVISPE-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver	EMS0178-NOV22	ug/g	0.05	<0.05	ND	20	NV	70	130	ND	70	130
Arsenic	EMS0178-NOV22	µg/g	0.5	<0.5	3	20	99	70	130	107	70	130
Barium	EMS0178-NOV22	ug/g	0.1	<0.1	3	20	101	70	130	116	70	130
Beryllium	EMS0178-NOV22	µg/g	0.02	<0.02	14	20	95	70	130	92	70	130
Boron	EMS0178-NOV22	µg/g	1	<1	15	20	92	70	130	87	70	130
Cadmium	EMS0178-NOV22	ug/g	0.05	<0.05	ND	20	101	70	130	104	70	130
Cobalt	EMS0178-NOV22	µg/g	0.01	<0.01	2	20	97	70	130	101	70	130
Chromium	EMS0178-NOV22	µg/g	0.5	<0.5	5	20	95	70	130	94	70	130
Copper	EMS0178-NOV22	µg/g	0.1	<0.1	3	20	94	70	130	106	70	130
Molybdenum	EMS0178-NOV22	µg/g	0.1	<0.1	15	20	95	70	130	95	70	130
Nickel	EMS0178-NOV22	ug/g	0.5	<0.5	4	20	98	70	130	101	70	130
Lead	EMS0178-NOV22	µg/g	0.1	<0.1	1	20	106	70	130	119	70	130
Antimony	EMS0178-NOV22	µg/g	0.8	<0.8	ND	20	106	70	130	97	70	130
Selenium	EMS0178-NOV22	µg/g	0.7	<0.7	ND	20	101	70	130	108	70	130
Thallium	EMS0178-NOV22	µg/g	0.02	<0.02	2	20	NV	70	130	118	70	130
Uranium	EMS0178-NOV22	µg/g	0.002	<0.002	5	20	94	70	130	NV	70	130
Vanadium	EMS0178-NOV22	µg/g	3	<3	4	20	93	70	130	95	70	130
Zinc	EMS0178-NOV22	µg/g	0.7	<0.7	1	20	97	70	130	95	70	130

QC SUMMARY

Petroleum Hydrocarbons (F1)

Method: CCME Tier 1 I Internal ref.: ME-CA-[ENV]GC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F1 (C6-C10)	GCM0369-NOV22	µg/g	10	<10	ND	30	92	80	120	95	60	140

Petroleum Hydrocarbons (F2-F4)

Method: CCME Tier 1 I Internal ref.: ME-CA-[ENV]GC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F2 (C10-C16)	GCM0375-NOV22	µg/g	10	<10	ND	30	107	80	120	106	60	140
F3 (C16-C34)	GCM0375-NOV22	µg/g	50	<50	ND	30	107	80	120	106	60	140
F4 (C34-C50)	GCM0375-NOV22	µg/g	50	<50	ND	30	107	80	120	106	60	140

QC SUMMARY

Petroleum Hydrocarbons (F4G)

Method: CCME Tier 1 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F4G-sg (GHH)	GCM0424-NOV22	µg/g	200	<200	NA	30	102	80	120	NA	60	140

pH

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	ARD0087-NOV22	pH Units	0.05		0	20	100	80	120			

QC SUMMARY

Semi-Volatile Organics

Method: EPA 3541/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1-Methylnaphthalene	GCM0367-NOV22	µg/g	0.05	< 0.05	ND	40	93	50	140	88	50	140
2-Methylnaphthalene	GCM0367-NOV22	µg/g	0.05	< 0.05	ND	40	90	50	140	85	50	140
Acenaphthene	GCM0367-NOV22	µg/g	0.05	< 0.05	ND	40	94	50	140	87	50	140
Acenaphthylene	GCM0367-NOV22	µg/g	0.05	< 0.05	ND	40	90	50	140	84	50	140
Anthracene	GCM0367-NOV22	µg/g	0.05	< 0.05	ND	40	87	50	140	80	50	140
Benzo(a)anthracene	GCM0367-NOV22	µg/g	0.05	< 0.05	ND	40	93	50	140	90	50	140
Benzo(a)pyrene	GCM0367-NOV22	µg/g	0.05	< 0.05	ND	40	85	50	140	80	50	140
Benzo(b+j)fluoranthene	GCM0367-NOV22	µg/g	0.05	< 0.05	ND	40	92	50	140	80	50	140
Benzo(ghi)perylene	GCM0367-NOV22	µg/g	0.1	< 0.1	ND	40	90	50	140	80	50	140
Benzo(k)fluoranthene	GCM0367-NOV22	µg/g	0.05	< 0.05	ND	40	85	50	140	78	50	140
Chrysene	GCM0367-NOV22	µg/g	0.05	< 0.05	ND	40	90	50	140	88	50	140
Dibenzo(a,h)anthracene	GCM0367-NOV22	µg/g	0.06	< 0.06	ND	40	78	50	140	86	50	140
Fluoranthene	GCM0367-NOV22	µg/g	0.05	< 0.05	ND	40	84	50	140	84	50	140
Fluorene	GCM0367-NOV22	µg/g	0.05	< 0.05	ND	40	91	50	140	87	50	140
Indeno(1,2,3-cd)pyrene	GCM0367-NOV22	µg/g	0.1	< 0.1	ND	40	77	50	140	76	50	140
Naphthalene	GCM0367-NOV22	µg/g	0.05	< 0.05	ND	40	93	50	140	83	50	140
Phenanthrene	GCM0367-NOV22	µg/g	0.05	< 0.05	ND	40	90	50	140	82	50	140
Pyrene	GCM0367-NOV22	µg/g	0.05	< 0.05	ND	40	95	50	140	84	50	140

QC SUMMARY

Volatile Organics

Method: EPA 5035A/5030B/8260C | Internal ref.: ME-CA-[ENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1,1,1,2-Tetrachloroethane	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	101	60	130	106	50	140
1,1,1-Trichloroethane	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	102	60	130	82	50	140
1,1,2,2-Tetrachloroethane	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	100	60	130	109	50	140
1,1,2-Trichloroethane	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	98	60	130	102	50	140
1,1-Dichloroethane	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	99	60	130	77	50	140
1,1-Dichloroethylene	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	99	60	130	70	50	140
1,2-Dichlorobenzene	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	100	60	130	102	50	140
1,2-Dichloroethane	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	98	60	130	82	50	140
1,2-Dichloropropane	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	98	60	130	96	50	140
1,3-Dichlorobenzene	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	100	60	130	101	50	140
1,4-Dichlorobenzene	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	98	60	130	99	50	140
Acetone	GCM0368-NOV22	µg/g	0.5	< 0.5	ND	50	91	50	140	73	50	140
Benzene	GCM0368-NOV22	µg/g	0.02	< 0.02	ND	50	100	60	130	83	50	140
Bromodichloromethane	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	100	60	130	96	50	140
Bromoform	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	93	60	130	109	50	140
Bromomethane	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	93	50	140	69	50	140
Carbon tetrachloride	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	101	60	130	83	50	140
Chlorobenzene	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	97	60	130	100	50	140
Chloroform	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	99	60	130	79	50	140
cis-1,2-Dichloroethylene	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	100	60	130	79	50	140

QC SUMMARY

Volatile Organics (continued)

Method: EPA 5035A/5030B/8260C | Internal ref.: ME-CA-[ENV]GC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
cis-1,3-dichloropropene	GCM0368-NOV22	µg/g	0.03	< 0.03	ND	50	104	60	130	93	50	140
Dibromochloromethane	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	100	60	130	103	50	140
Dichlorodifluoromethane	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	84	50	140	54	50	140
Ethylbenzene	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	99	60	130	94	50	140
Ethylenedibromide	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	101	60	130	101	50	140
n-Hexane	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	91	60	130	24	50	140
m/p-xylene	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	99	60	130	86	50	140
Methyl ethyl ketone	GCM0368-NOV22	µg/g	0.5	< 0.5	ND	50	94	50	140	84	50	140
Methyl isobutyl ketone	GCM0368-NOV22	µg/g	0.5	< 0.5	ND	50	100	50	140	108	50	140
Methyl-t-butyl Ether	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	99	60	130	86	50	140
Methylene Chloride	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	97	60	130	79	50	140
o-xylene	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	100	60	130	93	50	140
Styrene	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	101	60	130	103	50	140
Tetrachloroethylene	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	100	60	130	89	50	140
Toluene	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	99	60	130	90	50	140
trans-1,2-Dichloroethylene	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	98	60	130	78	50	140
trans-1,3-dichloropropene	GCM0368-NOV22	µg/g	0.03	< 0.03	ND	50	103	60	130	93	50	140
Trichloroethylene	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	100	60	130	94	50	140
Trichlorofluoromethane	GCM0368-NOV22	µg/g	0.05	< 0.05	ND	50	95	50	140	63	50	140
Vinyl Chloride	GCM0368-NOV22	µg/g	0.02	< 0.02	ND	50	92	50	140	72	50	140

QC SUMMARY

Water Soluble Boron

Method: O.Reg. 15 3/04 | Internal ref.: ME-CA-[ENV] SPE-LAK-AN-003

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Water Soluble Boron	ESG0051-NOV22	µg/g	0.5	<0.5	ND	20	109	80	120	100	70	130

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

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

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND

FOOTNOTES

NSS	Insufficient sample for analysis.
RL	Reporting Limit.
↑	Reporting limit raised.
↓	Reporting limit lowered.
NA	The sample was not analysed for this analyte
ND	Non Detect

Results relate only to the sample tested.
Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.
"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

This report supersedes all previous versions.

-- End of Analytical Report --

SGS

Request for Laboratory Services and CHAIN OF CUSTODY

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No: 029850

Page 1 of 1

Laboratory Information Section - Lab use only

Received By: Majeed Almaneadawi Received By (signature): Majeed Almaneadawi 1 Cp

Received Date: NOV 16 2022 (mm/dd/yy) Custody Seal Present: Yes ☐ No ☐ Cooling Agent Present: Yes ☐ No ☐ Type:

Received Time: 10:30 (hr : min) Custody Seal Intact: Yes ☐ No ☐ Temperature Upon Receipt (°C) 4.5 LAB LIMS #: EA40212-Nov22

REPORT INFORMATION	INVOICE INFORMATION
Company: Grounded Engineering	☒ (same as Report Information)
Contact: Vivi Tran	Company:
Address: 1 Banigan Dr Toronto, ON	Contact:
Phone:	Address:
Fax:	Phone:
Email: Vtran@groundedeng.ca	Email:

Quotation #: P.O. #:

Project #: 22-279-202 Site Location/ID: 1095 Kingston Rd Pickering, ON

TURNAROUND TIME (TAT) REQUIRED

☒ Regular TAT (5-7days) TAT's are quoted in business days (exclude statutory holidays & weekends). Samples received after 6pm or on weekends: TAT begins next business day

RUSH TAT (Additional Charges May Apply): ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days

PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION

Specify Due Date: *NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

REGULATIONS

☒ O.Reg 153/04 ☐ O.Reg 406/19

☐ Table 1 ☐ Res/Park Soil Texture: ☒ Coarse

☐ Table 2 ☐ Ind/Com ☒ Medium/Fine

☐ Table 3 ☐ Agri/Other

☒ Table 9 Appx.

Soil Volume ☐ <350m3 ☐ >350m3

Other Regulations: ☐ Reg 347/558 (3 Day min TAT) ☐ PWQO ☐ MMER ☐ CCME ☐ Other: ☐ MISA ☐ ODWS Not Reportable *See note

Sewer By-Law: ☐ Sanitary ☐ Storm Municipality:

RECORD OF SITE CONDITION (RSC) ☐ YES ☐ NO

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	Field Filtered (Y/N)	Metals & Inorganics incl CrVI, CN,Hg pH,(B(HWS),EC,SAR--soil) (Cl, Na-water)	Full Metals Suite ICP metals plus B(HWS-soil only) Hg, CrVI	ICP Metals only Sb,As,Ba,Be,B,Cd, Cr,Co,Cu,Pb,Mo,Ni,Se,Ag,Ti,U,V,Zn	PAHs only	SVOCs all incl PAHs, ABNs, CPs	PCBs Total ☐ Aroclor ☐	F1-F4 + BTEX	F1-F4 only no BTEX	VOCs all incl BTEX	BTEX only	Pesticides Organochlorine or specify other	Other (please specify)					Sewer Use: Specify pkg:	Water Characterization Pkg ☐ General ☐ Extended	SPLP Specify tests ☐ Metals ☐ VOC ☐ 1,4-Dioxane ☐ OCP ☐ ABN	TCLP Specify tests ☐ M&I ☐ VOC ☐ PCB ☐ B(a)P ☐ ABN ☐ Ignit.	COMMENTS:
1	BH3 SS1	14/11/22	4:00	1	SOIL		X																			
2	BH3 SS2			6						X			X		X											
3	BH3 SS3			1			X																			
4	BH3 SS4			1						X																
5	BH3 SS9A			6									X		X											
6	DUP-1-M&I			1			X																			
7	BH2 SS1			1			X																			
8	BH2 SS2			6						X			X		X											
9	BH2 SS3			2			X			X																
10	DUP-1-PAH			1						X																
11	BH2 SS9			6									X		X											
12	DUP-1-VOC			3									X		X											

Observations/Comments/Special Instructions

Sampled By (NAME): Andrew Kermerman	**Signature:**	Date: 11 / 15 / 22 (mm/dd/yy)	Pink Copy - Client
Relinquished by (NAME):	**Signature:**	Date: / / (mm/dd/yy)	Yellow & White Copy - SGS

FINAL REPORT

CA40233-NOV22 R1

22-279-202, 1095 Kingston Rd, Pickering

Prepared for

Grounded Engineering Inc.

FINAL REPORT

First Page

CLIENT DETAILS		LABORATORY DETAILS	
Client	Grounded Engineering Inc.	Project Specialist	Maarit Wolfe, Hon.B.Sc
		Laboratory	SGS Canada Inc.
Address	1 Banigan Drive Toronto, Ontario M4H1G3. Canada	Address	185 Concession St., Lakefield ON, K0L 2H0
Contact	Vivi Tran	Telephone	705-652-2000
Telephone	647-264-7928	Facsimile	705-652-6365
Facsimile		Email	Maarit.Wolfe@sgs.com
Email	vtran@groundedeng.ca	SGS Reference	CA40233-NOV22
Project	22-279-202, 1095 Kingston Rd, Pickering	Received	11/18/2022
Order Number		Approved	11/25/2022
Samples	Soil (4)	Report Number	CA40233-NOV22 R1
		Date Reported	01/11/2024

COMMENTS

CCME Method Compliance: Analyses were conducted using analytical procedures that comply with the Reference Method for the CWS for Petroleum Hydrocarbons in Soil and have been validated for use at the SGS laboratory, Lakefield, ON site.

Quality Compliance: Instrument performance / calibration quality criteria were met and extraction and analysis limits for holding times were met.

nC6 and nC10 response factors within 30% of response factor for toluene: YES

nC10, nC16 and nC34 response factors within 10% of the average response for the three compounds: YES

C50 response factors within 70% of nC10 + nC16 + nC34 average: YES

Linearity is within 15%: YES

F4G - gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.
The results for F4 and F4G are both reported and the greater of the two values is to be used in application to the CWS PHC.

Hydrocarbon results are expressed on a dry weight basis.

Benzo(b)fluoranthene results for comparison to the standard are reported as benzo(b+j)fluoranthene. Benzo(b)fluoranthene and benzo(j)fluoranthene co-elute and cannot be reported individually by the analytical method used.

Temperature of Sample upon Receipt: 8 degrees C
Cooling Agent Present: Yes
Custody Seal Present: Yes

Chain of Custody Number: 030000

SIGNATORIES

Maarit Wolfe, Hon.B.Sc

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Client: Grounded Engineering Inc.
Project: 22-279-202, 1095 Kingston Rd, Pickering
Project Manager: Vivi Tran
Samplers: Andrew Kernerman

MATRIX: SOIL

L1 = REG153 / SOIL / FINE - TABLE 2 - Residential/Parkland - UNDEFINED

	Sample Number	7	8	9	10		
	Sample Name	BH1 SS2	BH1 SS4	BH1 SS1	BH1 SS10		
	Sample Matrix	Soil	Soil	Soil	Soil		
	Sample Date	16/11/2022	16/11/2022	16/11/2022	17/11/2022		
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
BTEX							
Benzene	µg/g	0.02	0.17	---	< 0.02	---	< 0.02
Ethylbenzene	µg/g	0.05	1.6	---	< 0.05	---	< 0.05
Toluene	µg/g	0.05	6	---	< 0.05	---	< 0.05
Xylene (total)	µg/g	0.05	25	---	< 0.05	---	< 0.05
m/p-xylene	µg/g	0.05		---	< 0.05	---	< 0.05
o-xylene	µg/g	0.05		---	< 0.05	---	< 0.05
Hydrides							
Antimony	µg/g	0.8	7.5	---	< 0.8	< 0.8	---
Arsenic	µg/g	0.5	18	---	2.2	2.7	---
Selenium	µg/g	0.7	2.4	---	< 0.7	< 0.7	---
Metals and Inorganics							
Moisture Content	%	no		14.5	11.2	18.5	15.9
Barium	µg/g	0.1	390	---	65	86	---
Beryllium	µg/g	0.02	5	---	0.28	0.45	---
Boron	µg/g	1	120	---	18	17	---
Cadmium	µg/g	0.05	1.2	---	0.13	0.11	---
Chromium	µg/g	0.5	160	---	9.3	16	---
Cobalt	µg/g	0.01	22	---	6.0	4.3	---
Copper	µg/g	0.1	180	---	12	13	---
Lead	µg/g	0.1	120	---	8.6	15	---
Molybdenum	µg/g	0.1	6.9	---	0.5	1.0	---

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	Sample Matrix	Soil	Soil	Soil	Soil		
	Sample Date	16/11/2022	16/11/2022	16/11/2022	17/11/2022		
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
Metals and Inorganics (continued)							
Nickel	µg/g	0.5	130	---	15	11	---
Silver	µg/g	0.05	25	---	< 0.05	< 0.05	---
Thallium	µg/g	0.02	1	---	0.16	0.09	---
Uranium	µg/g	0.002	23	---	0.53	0.65	---
Vanadium	µg/g	3	86	---	13	20	---
Zinc	µg/g	0.7	340	---	32	40	---
Water Soluble Boron	µg/g	0.5	1.5	---	< 0.5	< 0.5	---
Other (ORP)							
Mercury	ug/g	0.05	1.8	---	< 0.05	< 0.05	---
Sodium Adsorption Ratio	No unit	0.2	5	---	11.3	1.3	---
SAR Calcium	mg/L	0.2		---	9.6	302	---
SAR Magnesium	mg/L	0.3		---	0.9	< 0.3	---
SAR Sodium	mg/L	0.1		---	136	81.9	---
Conductivity	mS/cm	0.002	0.7	---	0.73	1.8	---
pH	pH Units	0.05		---	8.34	9.12	---
Chromium VI	µg/g	0.2	10	---	< 0.2	0.2	---
Free Cyanide	µg/g	0.05	0.051	---	< 0.05	< 0.05	---

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Sample Number				7	8	9	10
Sample Name				BH1 SS2	BH1 SS4	BH1 SS1	BH1 SS10
Sample Matrix				Soil	Soil	Soil	Soil
Sample Date				16/11/2022	16/11/2022	16/11/2022	17/11/2022
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
PAHs							
Acenaphthene	µg/g	0.05	29	< 0.05	< 0.05	---	---
Acenaphthylene	µg/g	0.05	0.17	< 0.05	< 0.05	---	---
Anthracene	µg/g	0.05	0.74	< 0.05	< 0.05	---	---
Benzo(a)anthracene	µg/g	0.05	0.63	< 0.05	< 0.05	---	---
Benzo(a)pyrene	µg/g	0.05	0.3	< 0.05	< 0.05	---	---
Benzo(b+j)fluoranthene	µg/g	0.05	0.78	< 0.05	< 0.05	---	---
Benzo(ghi)perylene	µg/g	0.1	7.8	< 0.1	< 0.1	---	---
Benzo(k)fluoranthene	µg/g	0.05	0.78	< 0.05	< 0.05	---	---
Chrysene	µg/g	0.05	7.8	< 0.05	< 0.05	---	---
Dibenzo(a,h)anthracene	µg/g	0.06	0.1	< 0.06	< 0.06	---	---
Fluoranthene	µg/g	0.05	0.69	< 0.05	< 0.05	---	---
Fluorene	µg/g	0.05	69	< 0.05	< 0.05	---	---
Indeno(1,2,3-cd)pyrene	µg/g	0.1	0.48	< 0.1	< 0.1	---	---
1-Methylnaphthalene	µg/g	0.05		< 0.05	< 0.05	---	---
2-Methylnaphthalene	µg/g	0.05		< 0.05	< 0.05	---	---
Methylnaphthalene, 2-(1-)	µg/g	0.05	3.4	< 0.05	< 0.05	---	---
Naphthalene	µg/g	0.05	0.75	< 0.05	< 0.05	---	---
Phenanthrene	µg/g	0.05	7.8	< 0.05	< 0.05	---	---
Pyrene	µg/g	0.05	78	< 0.05	< 0.05	---	---

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	Sample Name	BH1 SS2	BH1 SS4	BH1 SS1	BH1 SS10		
	Sample Matrix	Soil	Soil	Soil	Soil		
	Sample Date	16/11/2022	16/11/2022	16/11/2022	17/11/2022		
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
PHCs							
F1 (C6-C10)	µg/g	10	65	---	< 10	---	< 10
F1-BTEX (C6-C10)	µg/g	10	65	---	< 10	---	< 10
F2 (C10-C16)	µg/g	10	150	---	< 10	---	18
F3 (C16-C34)	µg/g	50	1300	---	< 50	---	90
F4 (C34-C50)	µg/g	50	5600	---	53	---	< 50
Chromatogram returned to baseline at nC50	Yes / No	no		---	YES	---	YES
SVOC Surrogates							
Surr 2-Fluorobiphenyl	Surr Rec %	no		98	98	---	---
Surr 4-Terphenyl-d14	Surr Rec %	no		102	103	---	---
Surr 2-Methylnaphthalene-D10	Surr Rec %	no		96	97	---	---
Surr Fluoranthene-D10	Surr Rec %	no		94	93	---	---
THMs (VOC)							
Bromodichloromethane	µg/g	0.05	1.9	---	< 0.05	---	< 0.05
Bromoform	µg/g	0.05	0.26	---	< 0.05	---	< 0.05
Dibromochloromethane	µg/g	0.05	2.9	---	< 0.05	---	< 0.05

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Sample Number				7	8	9	10
Sample Name				BH1 SS2	BH1 SS4	BH1 SS1	BH1 SS10
Sample Matrix				Soil	Soil	Soil	Soil
Sample Date				16/11/2022	16/11/2022	16/11/2022	17/11/2022
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
VOC Surrogates							
Surr 1,2-Dichloroethane-d4	Surr Rec %	no		---	88	---	88
Surr 4-Bromofluorobenzene	Surr Rec %	no		---	94	---	93
Surr 2-Bromo-1-Chloropropane	Surr Rec %	no		---	74	---	74
VOCs							
Acetone	µg/g	0.5	28	---	< 0.5	---	< 0.5
Bromomethane	µg/g	0.05	0.05	---	< 0.05	---	< 0.05
Carbon tetrachloride	µg/g	0.05	0.12	---	< 0.05	---	< 0.05
Chlorobenzene	µg/g	0.05	2.7	---	< 0.05	---	< 0.05
Chloroform	µg/g	0.05	0.18	---	< 0.05	---	< 0.05
1,2-Dichlorobenzene	µg/g	0.05	1.7	---	< 0.05	---	< 0.05
1,3-Dichlorobenzene	µg/g	0.05	6	---	< 0.05	---	< 0.05
1,4-Dichlorobenzene	µg/g	0.05	0.097	---	< 0.05	---	< 0.05
Dichlorodifluoromethane	µg/g	0.05	25	---	< 0.05	---	< 0.05
1,1-Dichloroethane	µg/g	0.05	0.6	---	< 0.05	---	< 0.05
1,2-Dichloroethane	µg/g	0.05	0.05	---	< 0.05	---	< 0.05
1,1-Dichloroethylene	µg/g	0.05	0.05	---	< 0.05	---	< 0.05
trans-1,2-Dichloroethylene	µg/g	0.05	0.75	---	< 0.05	---	< 0.05
cis-1,2-Dichloroethylene	µg/g	0.05	2.5	---	< 0.05	---	< 0.05
1,2-Dichloropropane	µg/g	0.05	0.085	---	< 0.05	---	< 0.05
cis-1,3-dichloropropene	µg/g	0.03		---	< 0.03	---	< 0.03
trans-1,3-dichloropropene	µg/g	0.03		---	< 0.03	---	< 0.03
1,3-dichloropropene (total)	µg/g	0.05	0.081	---	< 0.05	---	< 0.05

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	Sample Number			7	8	9	10
	Sample Name			BH1 SS2	BH1 SS4	BH1 SS1	BH1 SS10
	Sample Matrix			Soil	Soil	Soil	Soil
	Sample Date			16/11/2022	16/11/2022	16/11/2022	17/11/2022
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
VOCs (continued)							
Ethylenedibromide	µg/g	0.05	0.05	---	< 0.05	---	< 0.05
n-Hexane	µg/g	0.05	34	---	< 0.05	---	< 0.05
Methyl ethyl ketone	µg/g	0.5	44	---	< 0.5	---	< 0.5
Methyl isobutyl ketone	µg/g	0.5	4.3	---	< 0.5	---	< 0.5
Methyl-t-butyl Ether	µg/g	0.05	1.4	---	< 0.05	---	< 0.05
Methylene Chloride	µg/g	0.05	0.96	---	< 0.05	---	< 0.05
Styrene	µg/g	0.05	2.2	---	< 0.05	---	< 0.05
Tetrachloroethylene	µg/g	0.05	2.3	---	< 0.05	---	< 0.05
1,1,1,2-Tetrachloroethane	µg/g	0.05	0.05	---	< 0.05	---	< 0.05
1,1,2,2-Tetrachloroethane	µg/g	0.05	0.05	---	< 0.05	---	< 0.05
1,1,1-Trichloroethane	µg/g	0.05	3.4	---	< 0.05	---	< 0.05
1,1,2-Trichloroethane	µg/g	0.05	0.05	---	< 0.05	---	< 0.05
Trichloroethylene	µg/g	0.05	0.52	---	< 0.05	---	< 0.05
Trichlorofluoromethane	µg/g	0.05	5.8	---	< 0.05	---	< 0.05
Vinyl Chloride	µg/g	0.02	0.022	---	< 0.02	---	< 0.02

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	REG153 / SOIL / FINE - TABLE 2 - Residential/Parkland - UNDEFINED L1
BH1 SS4				
Conductivity	EPA 6010/SM 2510	mS/cm	0.73	0.7
Sodium Adsorption Ratio	MOE 4696e01/EPA 6010	No unit	11.3	5
BH1 SS1				
Conductivity	EPA 6010/SM 2510	mS/cm	1.8	0.7

QC SUMMARY

Conductivity

Method: EPA 6010/SM 2510 I Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Conductivity	EWL0565-NOV22	mS/cm	0.002	<0.002	0	10	99	90	110	NA		

Cyanide by SFA

Method: SM 4500 I Internal ref.: ME-CA-IENVISFA-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Free Cyanide	SKA5082-NOV22	µg/g	0.05	<0.05	ND	20	104	80	120	87	75	125

Hexavalent Chromium by SFA

Method: EPA218.6/EPA3060A I Internal ref.: ME-CA-IENVISKA-LAK-AN-012

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Chromium VI	SKA5084-NOV22	ug/g	0.2	<0.2	2	20	111	80	120	96	75	125

QC SUMMARY

Mercury by CVAAS

Method: EPA 7471A/EPA 245 | Internal ref.: ME-CA-IENVISPE-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Mercury	EMS0205-NOV22	ug/g	0.05	<0.05	ND	20	101	80	120	98	70	130

Metals in aqueous samples - ICP-OES

Method: MOE 4696e01/EPA 6010 | Internal ref.: ME-CA-IENVISPE-LAK-AN-003

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
SAR Calcium	ESG0072-NOV22	mg/L	0.2	<0.09	10	20	103	80	120	90	70	130
SAR Magnesium	ESG0072-NOV22	mg/L	0.3	<0.02	10	20	102	80	120	92	70	130
SAR Sodium	ESG0072-NOV22	mg/L	0.1	<0.15	2	20	101	80	120	94	70	130

QC SUMMARY

Metals in Soil - Aqua-regia/ICP-MS

Method: EPA 3050/EPA 200.8 | Internal ref.: ME-CA-[ENV]SPE-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver	EMS0205-NOV22	ug/g	0.05	<0.05	ND	20	NV	70	130	101	70	130
Arsenic	EMS0205-NOV22	µg/g	0.5	<0.5	2	20	94	70	130	102	70	130
Barium	EMS0205-NOV22	ug/g	0.1	<0.1	3	20	93	70	130	115	70	130
Beryllium	EMS0205-NOV22	µg/g	0.02	<0.02	4	20	92	70	130	94	70	130
Boron	EMS0205-NOV22	µg/g	1	<1	4	20	98	70	130	96	70	130
Cadmium	EMS0205-NOV22	ug/g	0.05	<0.05	8	20	95	70	130	116	70	130
Cobalt	EMS0205-NOV22	µg/g	0.01	<0.01	6	20	97	70	130	102	70	130
Chromium	EMS0205-NOV22	µg/g	0.5	<0.5	2	20	99	70	130	95	70	130
Copper	EMS0205-NOV22	µg/g	0.1	<0.1	4	20	98	70	130	102	70	130
Molybdenum	EMS0205-NOV22	µg/g	0.1	<0.1	2	20	94	70	130	81	70	130
Nickel	EMS0205-NOV22	ug/g	0.5	<0.5	5	20	100	70	130	102	70	130
Lead	EMS0205-NOV22	µg/g	0.1	<0.1	1	20	94	70	130	109	70	130
Antimony	EMS0205-NOV22	µg/g	0.8	<0.8	ND	20	110	70	130	87	70	130
Selenium	EMS0205-NOV22	µg/g	0.7	<0.7	ND	20	100	70	130	106	70	130
Thallium	EMS0205-NOV22	µg/g	0.02	<0.02	2	20	NV	70	130	108	70	130
Uranium	EMS0205-NOV22	µg/g	0.002	<0.002	0	20	94	70	130	NV	70	130
Vanadium	EMS0205-NOV22	µg/g	3	<3	1	20	96	70	130	96	70	130
Zinc	EMS0205-NOV22	µg/g	0.7	<0.7	1	20	100	70	130	95	70	130

QC SUMMARY

Petroleum Hydrocarbons (F1)

Method: CCME Tier 1 I Internal ref.: ME-CA-[ENVIGC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F1 (C6-C10)	GCM0381-NOV22	µg/g	10	<10	ND	30	97	80	120	109	60	140

Petroleum Hydrocarbons (F2-F4)

Method: CCME Tier 1 I Internal ref.: ME-CA-[ENVIGC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F2 (C10-C16)	GCM0423-NOV22	µg/g	10	<10	ND	30	118	80	120	124	60	140
F3 (C16-C34)	GCM0423-NOV22	µg/g	50	<50	17	30	118	80	120	124	60	140
F4 (C34-C50)	GCM0423-NOV22	µg/g	50	<50	ND	30	118	80	120	124	60	140

QC SUMMARY

pH

Method: SM 4500 I Internal ref.: ME-CA-[ENV]EWL-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	ARD0101-NOV22	pH Units	0.05		0	20	100	80	120			

QC SUMMARY

Semi-Volatile Organics

Method: EPA 3541/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1-Methylnaphthalene	GCM0402-NOV22	µg/g	0.05	< 0.05	ND	40	101	50	140	72	50	140
2-Methylnaphthalene	GCM0402-NOV22	µg/g	0.05	< 0.05	ND	40	98	50	140	70	50	140
Acenaphthene	GCM0402-NOV22	µg/g	0.05	< 0.05	ND	40	103	50	140	73	50	140
Acenaphthylene	GCM0402-NOV22	µg/g	0.05	< 0.05	ND	40	98	50	140	69	50	140
Anthracene	GCM0402-NOV22	µg/g	0.05	< 0.05	ND	40	96	50	140	67	50	140
Benzo(a)anthracene	GCM0402-NOV22	µg/g	0.05	< 0.05	ND	40	101	50	140	74	50	140
Benzo(a)pyrene	GCM0402-NOV22	µg/g	0.05	< 0.05	ND	40	93	50	140	65	50	140
Benzo(b+j)fluoranthene	GCM0402-NOV22	µg/g	0.05	< 0.05	ND	40	102	50	140	70	50	140
Benzo(ghi)perylene	GCM0402-NOV22	µg/g	0.1	< 0.1	ND	40	108	50	140	65	50	140
Benzo(k)fluoranthene	GCM0402-NOV22	µg/g	0.05	< 0.05	ND	40	94	50	140	66	50	140
Chrysene	GCM0402-NOV22	µg/g	0.05	< 0.05	ND	40	100	50	140	70	50	140
Dibenzo(a,h)anthracene	GCM0402-NOV22	µg/g	0.06	< 0.06	ND	40	89	50	140	59	50	140
Fluoranthene	GCM0402-NOV22	µg/g	0.05	< 0.05	ND	40	92	50	140	64	50	140
Fluorene	GCM0402-NOV22	µg/g	0.05	< 0.05	ND	40	99	50	140	69	50	140
Indeno(1,2,3-cd)pyrene	GCM0402-NOV22	µg/g	0.1	< 0.1	ND	40	90	50	140	59	50	140
Naphthalene	GCM0402-NOV22	µg/g	0.05	< 0.05	ND	40	99	50	140	71	50	140
Phenanthrene	GCM0402-NOV22	µg/g	0.05	< 0.05	ND	40	100	50	140	68	50	140
Pyrene	GCM0402-NOV22	µg/g	0.05	< 0.05	ND	40	104	50	140	73	50	140

QC SUMMARY

Volatile Organics

Method: EPA 5035A/5030B/8260C | Internal ref.: ME-CA-IENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1,1,1,2-Tetrachloroethane	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	96	60	130	102	50	140
1,1,1-Trichloroethane	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	102	60	130	105	50	140
1,1,2,2-Tetrachloroethane	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	97	60	130	89	50	140
1,1,2-Trichloroethane	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	100	60	130	92	50	140
1,1-Dichloroethane	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	99	60	130	105	50	140
1,1-Dichloroethylene	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	102	60	130	106	50	140
1,2-Dichlorobenzene	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	96	60	130	101	50	140
1,2-Dichloroethane	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	99	60	130	90	50	140
1,2-Dichloropropane	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	99	60	130	100	50	140
1,3-Dichlorobenzene	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	102	60	130	105	50	140
1,4-Dichlorobenzene	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	100	60	130	101	50	140
Acetone	GCM0380-NOV22	µg/g	0.5	< 0.5	ND	50	89	50	140	81	50	140
Benzene	GCM0380-NOV22	µg/g	0.02	< 0.02	ND	50	103	60	130	106	50	140
Bromodichloromethane	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	99	60	130	93	50	140
Bromoform	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	91	60	130	81	50	140
Bromomethane	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	86	50	140	97	50	140
Carbon tetrachloride	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	103	60	130	101	50	140
Chlorobenzene	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	100	60	130	106	50	140
Chloroform	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	99	60	130	102	50	140
cis-1,2-Dichloroethylene	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	100	60	130	103	50	140

QC SUMMARY

Volatile Organics (continued)

Method: EPA 5035A/5030B/8260C | Internal ref.: ME-CA-[ENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
cis-1,3-dichloropropene	GCM0380-NOV22	µg/g	0.03	< 0.03	ND	50	104	60	130	94	50	140
Dibromochloromethane	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	100	60	130	87	50	140
Dichlorodifluoromethane	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	78	50	140	65	50	140
Ethylbenzene	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	98	60	130	110	50	140
Ethylenedibromide	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	99	60	130	89	50	140
n-Hexane	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	93	60	130	77	50	140
m/p-xylene	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	97	60	130	109	50	140
Methyl ethyl ketone	GCM0380-NOV22	µg/g	0.5	< 0.5	ND	50	94	50	140	81	50	140
Methyl isobutyl ketone	GCM0380-NOV22	µg/g	0.5	< 0.5	ND	50	96	50	140	84	50	140
Methyl-t-butyl Ether	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	94	60	130	85	50	140
Methylene Chloride	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	96	60	130	98	50	140
o-xylene	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	101	60	130	109	50	140
Styrene	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	102	60	130	107	50	140
Tetrachloroethylene	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	102	60	130	105	50	140
Toluene	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	101	60	130	105	50	140
trans-1,2-Dichloroethylene	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	98	60	130	105	50	140
trans-1,3-dichloropropene	GCM0380-NOV22	µg/g	0.03	< 0.03	ND	50	102	60	130	87	50	140
Trichloroethylene	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	100	60	130	107	50	140
Trichlorofluoromethane	GCM0380-NOV22	µg/g	0.05	< 0.05	ND	50	96	50	140	119	50	140
Vinyl Chloride	GCM0380-NOV22	µg/g	0.02	< 0.02	ND	50	89	50	140	92	50	140

QC SUMMARY

Water Soluble Boron

Method: O.Reg. 15 3/04 | Internal ref.: ME-CA-[ENV] SPE-LAK-AN-003

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Water Soluble Boron	ESG0058-NOV22	µg/g	0.5	<0.5	14	20	100	80	120	88	70	130

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

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

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND

FOOTNOTES

NSS	Insufficient sample for analysis.
RL	Reporting Limit.
↑	Reporting limit raised.
↓	Reporting limit lowered.
NA	The sample was not analysed for this analyte
ND	Non Detect

Results relate only to the sample tested.
Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.
"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

This report supersedes all previous versions.

-- End of Analytical Report --

Request for Laboratory Services and CHAIN OF CUSTODY

SGS Industries & Environment - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment
- London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

No: 030000 Page 1 of 1

Laboratory Information Section - Lab use only

Received By: Nicole Brigant
Received Date: Nov / 15 / 22 (mm/dd/yy)
Received Time: 10 : 30 (hr : min)
Received By (signature):
Custody Seal Present: Yes ☑ No ☐
Custody Seal Intact: Yes ☑ No ☐
Cooling Agent Present: Yes ☑ No ☐ Type: Ice Packs
Temperature Upon Receipt (°C) 4 . 8 8
LAB LIMS #: CA 40233 - Nov 22

REPORT INFORMATION

Company: Grounded ENGineering
Contact: Vivi TRAN
Address: 1 Bentgen Dr
Phone:
Fax:
Email: Vtran@groundedeng.ca

INVOICE INFORMATION

☑ (same as Report Information)
Company:
Contact:
Address:
Phone:
Email:

Quotation #:
P.O. #: NF
Project #: 22-279-202
Site Location/ID: 1095 Kingston Rd. Pickering

TURNAROUND TIME (TAT) REQUIRED

☒ Regular TAT (5-7days)
TAT's are quoted in business days (exclude statutory holidays & weekends).
Samples received after 6pm or on weekends: TAT begins next business day

RUSH TAT (Additional Charges May Apply): ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days
PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION

Specify Due Date:

*NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

REGULATIONS

☒ O.Reg 153/04 ☐ O.Reg 406/19
☐ Table 1 ☐ Res/Park Soil Texture: ☒ Coarse
☐ Table 2 ☐ Ind/Com ☒ Medium/Fine
☐ Table 3 ☐ Agri/Other
☒ Table 2 & 9 Appx.
Soil Volume ☐ <350m3 ☐ >350m3

Other Regulations:
☐ Reg 347/558 (3 Day min TAT)
☐ PWQO ☐ MMER
☐ CCME ☐ Other:
☐ MISA
☐ ODWS Not Reportable *See note

Sewer By-Law:
☐ Sanitary
☐ Storm
Municipality:

RECORD OF SITE CONDITION (RSC) ☐ YES ☐ NO

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	Field Filtered (Y/N)	M&I: Metals & Inorganics (incl CrVI, CN, Hg pH,(B(HWS),EC,SAR-soil) (Cl, Na-water))	M&I: Full Metals Suite (ICP metals plus B(HWS-soil only) Hg, CrVI	M&I: ICP Metals only Sb,As,Ba,Be,B,Cd, Cr,Co,Cu,Pb,Mo,Ni,Se,Ag,Tl,U,V,Zn	SVOC: PAHs only	SVOC: SVOCs all incl PAHs, ABNs, CPs	PCB: PCBs Total ☐ Aroclor ☐	PHC: F1-F4 + BTEX	PHC: F1-F4 only no BTEX	VOC: VOCs all incl BTEX	VOC: BTEX only	Pest: Pesticides Organochlorine or specify other	Other (please specify)	Other (please specify)	Other (please specify)	Other (please specify)	Other (please specify)	Sewer Use: Specify pkg:	Water Characterization Pkg General ☐ Extended ☐	SPLP: Specify tests ☐Metals ☐VOC ☐1,4-Dioxane ☐OCP ☐ABN	TCLP: Specify tests ☐M&I ☐VOC ☐PCB ☐B(a)P ☐ABN ☐Ignit.	COMMENTS:
1	BH 2 SS6	15/11/22	3:00	6	SOIL								X		X												ON Hold
2	BH 1 SS2	16/11/22	↓	1	↓	X				X																	
3	BH 1 SS4	↓		3 5			X			X			X		X												
4	BH 1 SS1	↓		1			X																				
5	BH 1 SS10	17/11/22	↓	3	↓								X		X												
6	BH 1 SS6	↓	↓	2	↓		X			X																	ON HOLd
7																											
8																											
9																											
10																											
11																											
12																											

Observations/Comments/Special Instructions: HOLD BH2 SS6, BH 1 SS6

Sampled By (NAME): Andrew Kernerman Signature: Date: 11 / 17 / 22 (mm/dd/yy)
Relinquished by (NAME): Andrew Kernerman Signature: Date: 11 / 17 / 22 (mm/dd/yy)

Pink Copy - Client
Yellow & White Copy - SGS

Revision #: 1.6
Date of Issue: 02 May 2022

FINAL REPORT

CA14017-DEC22 R1

22-279-202, 1095 Kingston Rd, Pickering

Prepared for

Grounded Engineering Inc.

FINAL REPORT

CA14017-DEC22 R1

First Page

CLIENT DETAILS		LABORATORY DETAILS	
Client	Grounded Engineering Inc.	Project Specialist	Jill Campbell, B.Sc.,GISAS
		Laboratory	SGS Canada Inc.
Address	1 Banigan Drive Toronto, Ontario M4H1G3. Canada	Address	185 Concession St., Lakefield ON, K0L 2H0
Contact	Vivi Tran	Telephone	2165
Telephone	647-264-7928	Facsimile	705-652-6365
Facsimile		Email	jill.campbell@sgs.com
Email	vtran@groundedeng.ca	SGS Reference	CA14017-DEC22
Project	22-279-202, 1095 Kingston Rd, Pickering	Received	12/01/2022
Order Number		Approved	12/07/2022
Samples	Soil (1)	Report Number	CA14017-DEC22 R1
		Date Reported	01/11/2024

COMMENTS

CCME Method Compliance: Analyses were conducted using analytical procedures that comply with the Reference Method for the CWS for Petroleum Hydrocarbons in Soil and have been validated for use at the SGS laboratory, Lakefield, ON site.

Quality Compliance: Instrument performance / calibration quality criteria were met and extraction and analysis limits for holding times were met.

nC6 and nC10 response factors within 30% of response factor for toluene: YES

nC10, nC16 and nC34 response factors within 10% of the average response for the three compounds: YES

C50 response factors within 70% of nC10 + nC16 + nC34 average: YES

Linearity is within 15%: YES

Hydrocarbon results are expressed on a dry weight basis.

Temperature of Sample upon Receipt: 8 degrees C
Cooling Agent Present: Yes
Custody Seal Present: Yes

Chain of Custody Number: 030000

SIGNATORIES

Jill Campbell, B.Sc.,GISAS

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Client: Grounded Engineering Inc.
Project: 22-279-202, 1095 Kingston Rd, Pickering
Project Manager: Vivi Tran
Samplers: Andrew Kernerman

MATRIX: SOIL

L1 = REG153 / SOIL / FINE - TABLE 2 - Residential/Parkland - UNDEFINED

Sample Number	6
Sample Name	BH2 SS6
Sample Matrix	Soil
Sample Date	15/11/2022

Parameter	Units	RL	L1	Result
BTEX				
Benzene	µg/g	0.02	0.17	< 0.02
Ethylbenzene	µg/g	0.05	1.6	< 0.05
Toluene	µg/g	0.05	6	< 0.05
Xylene (total)	µg/g	0.05	25	< 0.05
m/p-xylene	µg/g	0.05		< 0.05
o-xylene	µg/g	0.05		< 0.05
Metals and Inorganics				
Moisture Content	%	no		10.8
PHCs				
F1 (C6-C10)	µg/g	10	65	< 10
F1-BTEX (C6-C10)	µg/g	10	65	< 10
F2 (C10-C16)	µg/g	10	150	< 10
F3 (C16-C34)	µg/g	50	1300	< 50
F4 (C34-C50)	µg/g	50	5600	< 50
Chromatogram returned to baseline at nC50	Yes / No	no		YES

EXCEEDANCE SUMMARY

No exceedances are present above the regulatory limit(s) indicated

QC SUMMARY

Petroleum Hydrocarbons (F1)

Method: CCME Tier 1 I Internal ref.: ME-CA-[ENVIGC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F1 (C6-C10)	GCM0031-DEC22	µg/g	10	<10	ND	30	84	80	120	84	60	140

Petroleum Hydrocarbons (F2-F4)

Method: CCME Tier 1 I Internal ref.: ME-CA-[ENVIGC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F2 (C10-C16)	GCM0042-DEC22	µg/g	10	<10	ND	30	118	80	120	107	60	140
F3 (C16-C34)	GCM0042-DEC22	µg/g	50	<50	ND	30	118	80	120	107	60	140
F4 (C34-C50)	GCM0042-DEC22	µg/g	50	<50	ND	30	118	80	120	107	60	140

QC SUMMARY

Volatile Organics

Method: EPA 5035A/5030B/8260C | Internal ref.: ME-CA-[ENV]GC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Benzene	GCM0031-DEC22	µg/g	0.02	<0.02	ND	50	81	60	130	80	50	140
Ethylbenzene	GCM0031-DEC22	µg/g	0.05	<0.05	ND	50	78	60	130	83	50	140
m/p-xylene	GCM0031-DEC22	µg/g	0.05	<0.05	ND	50	77	60	130	81	50	140
o-xylene	GCM0031-DEC22	µg/g	0.05	<0.05	ND	50	78	60	130	83	50	140
Toluene	GCM0031-DEC22	µg/g	0.05	<0.05	ND	50	79	60	130	82	50	140

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.
Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.
LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.
Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.
RL: Reporting limit
RPD: Relative percent difference
AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.
Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.
Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

QC SUMMARY

LEGEND

FOOTNOTES

NSS	Insufficient sample for analysis.
RL	Reporting Limit.
↑	Reporting limit raised.
↓	Reporting limit lowered.
NA	The sample was not analysed for this analyte
ND	Non Detect

Results relate only to the sample tested.
Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.
"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

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This report supersedes all previous versions.

-- End of Analytical Report --

Request for Laboratory Services and CHAIN OF CUSTODY

SGS Industries & Environment - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment
- London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

No: 030000 Page 1 of 1

Laboratory Information Section - Lab use only

Received By: Nicole Brigham
Received Date: NOV / 18 / 22 (mm/dd/yy)
Received Time: 10 : 30 (hr : min)
Received By (signature):
Custody Seal Present: Yes ☑ No ☐
Custody Seal Intact: Yes ☑ No ☐
Cooling Agent Present: Yes ☑ No ☐ Type: Ice Packs
Temperature Upon Receipt (°C) 8.8
CA 14017-DEC22
LAB LIMS #: CA H0233 ~~H00022~~

REPORT INFORMATION	INVOICE INFORMATION
Company: Grounded ENGineering	☑ (same as Report Information)
Contact: JWI TRAN	Company:
Address: 1 Barnjan Dr	Contact:
	Address:
Phone:	
Fax:	Phone:
Email: Jtran@groundedeng.ca	Email:

Quotation #:
P.O. #: ~~NOT~~
Project #: 22-279-202
Site Location/ID: 1095 Kingston Rd. Pickering

TURNAROUND TIME (TAT) REQUIRED

☒ Regular TAT (5-7days)
TAT's are quoted in business days (exclude statutory holidays & weekends). Samples received after 6pm or on weekends: TAT begins next business day

RUSH TAT (Additional Charges May Apply): ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days
PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION

Specify Due Date:
*NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

REGULATIONS

☒ O.Reg 153/04 ☐ O.Reg 406/19
☐ Table 1 ☐ Res/Park Soil Texture: ☒ Coarse
☐ Table 2 ☐ Ind/Com ☒ Medium/Fine
☐ Table 3 ☐ Agri/Other
☒ Table 2 & 9 Appx.
Soil Volume ☐ <350m3 ☐ >350m3

Other Regulations: ☐ Reg 347/558 (3 Day min TAT) ☐ PWQO ☐ MMER ☐ CCME ☐ Other: ☐ MISA ☐ ODWS Not Reportable *See note

Sewer By-Law: ☐ Sanitary ☐ Storm Municipality:

RECORD OF SITE CONDITION (RSC) ☐ YES ☐ NO

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	Field Filtered (Y/N)	M&I: Metals & Inorganics (incl CrVI, CN,Hg pH,(B(HWS),EC,SAR-soil) (Cl, Na-water)	M&I: Full Metals Suite (ICP metals plus B(HWS-soil only) Hg, CrVI	M&I: ICP Metals only Sb,As,Ba,Be,B,Cd, Cr,Co,Cu,Pb,Mo,Ni,Se,Ag,Tl,U,V,Zn	SVOC: PAHs only	SVOC: SVOCs all incl PAHs, ABNs, CPs	PCB: PCBs Total ☐ Aroclor ☐	PHC: F1-F4 + BTEX	PHC: F1-F4 only no BTEX	VOC: VOCs all incl BTEX	VOC: BTEX only	Pest: Pesticides Organochlorine or specify other	Other (please specify)	SPLP: Specify tests	TCLP: Specify tests	COMMENTS:
1	BH 2 SS6	15/11/22	3:00	6	SOIL								X		X						ON Hold
2	~~BH 1 SS2~~	16/11/22	↓	1	↓	X				X											
3	~~BH 1 SS4~~	↓	↓	~~3~~ 5	↓		X			X			X		X						
4	~~BH 1 SS1~~	↓	↓	1	↓		X														
5	~~BH 1 SS10~~	17/11/22	↓	3	↓								X		X						
6	~~BH 1 SS6~~	↓	↓	2	↓		X			X											ON HOLD
7																					
8																					
9																					
10																					
11																					
12																					

Observations/Comments/Special Instructions: HOLD BH2 SS6, BH 1 SS6

Sampled By (NAME): Andrew Kernerman Signature: Date: 11 / 17 / 22 (mm/dd/yy)
Relinquished by (NAME): Andrew Kernerman Signature: Date: 11 / 17 / 22 (mm/dd/yy)

Pink Copy - Client
Yellow & White Copy - SGS

Revision #: 1.6
Date of Issue: 02 May 2022

FINAL REPORT

CA40183-DEC22 R1

22-279, 1095 Kingston Rd, Pickering

Prepared for

Grounded Engineering Inc.

FINAL REPORT

First Page

CLIENT DETAILS

Client	Grounded Engineering Inc.
Address	1 Banigan Drive Toronto, Ontario M4H1G3. Canada
Contact	Vivi Tran
Telephone	647-264-7928
Facsimile	
Email	vtran@groundedeng.ca
Project	22-279, 1095 Kingston Rd, Pickering
Order Number	
Samples	Soil (5)

LABORATORY DETAILS

Project Specialist	Jill Campbell, B.Sc.,GISAS
Laboratory	SGS Canada Inc.
Address	185 Concession St., Lakefield ON, K0L 2H0
Telephone	2165
Facsimile	705-652-6365
Email	jill.campbell@sgs.com
SGS Reference	CA40183-DEC22
Received	12/16/2022
Approved	12/20/2022
Report Number	CA40183-DEC22 R1
Date Reported	01/11/2024

COMMENTS

Temperature of Sample upon Receipt: 12 degrees C
Cooling Agent Present:Yes
Custody Seal Present:Yes

Chain of Custody Number:029987

SIGNATORIES

Jill Campbell, B.Sc.,GISAS

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Client: Grounded Engineering Inc.

Project: 22-279, 1095 Kingston Rd, Pickering

Project Manager: Vivi Tran

Samplers: Vivi Tran

MATRIX: SOIL

			Sample Number	8	9	10	11	12
			Sample Name	BH1A SS1	BH1A SS2	BH1B SS1	BH1B SS2	DUP-2
			Sample Matrix	Soil	Soil	Soil	Soil	Soil
			Sample Date	16/12/2022	16/12/2022	16/12/2022	16/12/2022	16/12/2022
Parameter	**Units**	**RL**		**Result**	**Result**	**Result**	**Result**	**Result**
Other (ORP)								
pH	pH Units	0.05		8.13	8.07	8.10	8.04	8.01

QC SUMMARY

pH

Method: SM 4500 I Internal ref.: ME-CA-[ENV]EWL-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	ARD0099-DEC22	pH Units	0.05		0	20	100	80	120			

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Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

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Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

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LEGEND

FOOTNOTES

NSS Insufficient sample for analysis.
RL Reporting Limit.
↑ Reporting limit raised.
↓ Reporting limit lowered.
NA The sample was not analysed for this analyte
ND Non Detect

Results relate only to the sample tested.
Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.
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-- End of Analytical Report --

Request for Laboratory Services and CHAIN OF CUSTODY

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- London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

No: 029987 Page 1 of 1

Laboratory Information Section - Lab use only

Received By: B. Cormier
Received Date: 12 / 16 / 22 (mm/dd/yy)
Received Time: 17 : 50 (hr : min)
Received By (signature): (2)
Custody Seal Present: Yes ☒ No ☐
Custody Seal Intact: Yes ☒ No ☐
Cooling Agent Present: Yes ☑ No ☐ Type: ICE PK.
Temperature Upon Receipt (°C) 12, 12, 12
LAB LIMS #: CA40183-DEC22

REPORT INFORMATION	INVOICE INFORMATION
Company: Grounded Engineering	☒ (same as Report Information)
Contact: Vivi Tran	Company:
Address: 1 Bangian Dr, Toronto, ON, M2H1G3	Contact:
Phone:	Address:
Fax:	Phone:
Email: vtran@groundedeng.ca	Email:

Quotation #: P.O. #:
Project #: 22-279 Site Location/ID: 1095 Kingston Rd, Pickering

TURNAROUND TIME (TAT) REQUIRED

☐ Regular TAT (5-7days)
TAT's are quoted in business days (exclude statutory holidays & weekends).
Samples received after 6pm or on weekends: TAT begins next business day

RUSH TAT (Additional Charges May Apply): ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days
PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION

Specify Due Date:

*NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

REGULATIONS

☐ O.Reg 153/04 ☐ O.Reg 406/19
☐ Table 1 ☒ Res/Park Soil Texture: ☒ Coarse
☐ Table 2 ☐ Ind/Com ☐ Medium/Fine
☒ Table 3 ☐ Agri/Other
☐ Table ____ Appx. ____
Soil Volume ☐ <350m3 ☐ >350m3

Other Regulations:
☐ Reg 347/558 (3 Day min TAT)
☐ PWQO ☐ MMER
☐ CCME ☐ Other:
☐ MISA
☐ ODWS Not Reportable *See note

Sewer By-Law:
☐ Sanitary
☐ Storm
Municipality:

RECORD OF SITE CONDITION (RSC) ☐ YES ☐ NO

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	Field Filtered (Y/N)	Metals & Inorganics incl CrVI, CN, Hg pH,(B(HWS),EC,SAR–soil) (Cl, Na-water)	Full Metals Suite ICP metals plus B(HWS-soil only) Hg, CrVI	ICP Metals only Sb,As,Ba,Be,B,Cd, Cr,Co,Cu,Pb,Mo,Ni,Se,Ag,Tl,U,V,Zn	PAHs only	SVOCs all incl PAHs, ABNs, CPs	PCBs ☐ Aroclor ☐ Total	F1-F4 + BTEX	F1-F4 only no BTEX	VOCs all incl BTEX	BTEX only	Pesticides Organochlorine or specify other	pH	Other (please specify)				Sewer Use: Specify pkg:	Water Characterization Pkg ☐ Extended ☐ General	SPLP Specify tests ☐ Metals ☐ VOC ☐ 1,4-Dioxane ☐ OCP ☐ ABN	TCLP Specify tests ☐ M&I ☐ VOC ☐ PCB ☐ B(a)P ☐ ABN ☐ Ignit.	COMMENTS:
1	BH1A SS1	12/16/22	16:00	1	Soil													X								
2	BH1A SS2																	X								
3	BH1B SS1																	X								
4	BH1B SS2																	X								
5	DUP - 2																	X								
6																										
7																										
8																										
9																										
10																										
11																										
12																										

Observations/Comments/Special Instructions

Sampled By (NAME): VIVI TRAN Signature: Vivi Tran Date: 12 / 16 / 22 (mm/dd/yy) Pink Copy - Client
Relinquished by (NAME): Andrew Tessman Signature: (2) Date: 12 / 16 / 22 (mm/dd/yy) Yellow & White Copy - SGS

Revision #: 1.6
Date of Issue: 02 May 2022

FINAL REPORT

CA40184-DEC22 R1

22-279, 1095 Kingston Rd, Pickering

Prepared for

Grounded Engineering Inc.

FINAL REPORT

First Page

CLIENT DETAILS

Client	Grounded Engineering Inc.
Address	1 Banigan Drive Toronto, Ontario M4H1G3. Canada
Contact	Vivi Tran
Telephone	647-264-7928
Facsimile	
Email	vtran@groundedeng.ca
Project	22-279, 1095 Kingston Rd, Pickering
Order Number	
Samples	Soil (10)

LABORATORY DETAILS

Project Specialist	Jill Campbell, B.Sc.,GISAS
Laboratory	SGS Canada Inc.
Address	185 Concession St., Lakefield ON, K0L 2H0
Telephone	2165
Facsimile	705-652-6365
Email	jill.campbell@sgs.com
SGS Reference	CA40184-DEC22
Received	12/16/2022
Approved	12/22/2022
Report Number	CA40184-DEC22 R1
Date Reported	01/11/2024

COMMENTS

CCME Method Compliance: Analyses were conducted using analytical procedures that comply with the Reference Method for the CWS for Petroleum Hydrocarbons in Soil and have been validated for use at the SGS laboratory, Lakefield, ON site.

Quality Compliance: Instrument performance / calibration quality criteria were met and extraction and analysis limits for holding times were met.

nC6 and nC10 response factors within 30% of response factor for toluene: YES

nC10, nC16 and nC34 response factors within 10% of the average response for the three compounds: YES

C50 response factors within 70% of nC10 + nC16 + nC34 average: YES

Linearity is within 15%: YES

Hydrocarbon results are expressed on a dry weight basis.

Temperature of Sample upon Receipt: 12 degrees C
Cooling Agent Present:Yes
Custody Seal Present:Yes

Chain of Custody Number:028523

SIGNATORIES

Jill Campbell, B.Sc.,GISAS

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Client: Grounded Engineering Inc.
Project: 22-279, 1095 Kingston Rd, Pickering
Project Manager: Vivi Tran
Samplers: Vivi Tran

MATRIX: SOIL

L1 = REG153 / SOIL / FINE - TABLE 2 - Residential/Parkland - UNDEFINED

				Sample Number	8	9	10	11	12	13	14	15
				Sample Name	BH2A - SS1	BH2A - SS2 ON HOLD	BH2A - SS3 ON HOLD	BH2B - SS1	BH2B - SS2 ON HOLD	BH2B - SS3 ON HOLD	BH2C - SS1	BH2C - SS2 ON HOLD
				Sample Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
				Sample Date	16/12/2022	16/12/2022	16/12/2022	16/12/2022	16/12/2022	16/12/2022	16/12/2022	16/12/2022
Parameter	**Units**	**RL**	**L1**		**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Metals and Inorganics												
Moisture Content	%	no			12.0	---	---	13.4	---	---	11.8	---
PHCs												
F1 (C6-C10)	µg/g	10	65		< 10	---	---	< 10	---	---	< 10	---
F1-BTEX (C6-C10)	µg/g	10	65		< 10	---	---	< 10	---	---	< 10	---
F2 (C10-C16)	µg/g	10	150		< 10	---	---	< 10	---	---	< 10	---
F3 (C16-C34)	µg/g	50	1300		< 50	---	---	63	---	---	54	---
F4 (C34-C50)	µg/g	50	5600		< 50	---	---	77	---	---	< 50	---
Chromatogram returned to baseline at nC50	Yes / No	no			YES	---	---	YES	---	---	YES	---

MATRIX: SOIL

				Sample Number	16	17
				Sample Name	BH2C - SS3 ON HOLD	DUP-1
				Sample Matrix	Soil	Soil
				Sample Date	16/12/2022	16/12/2022
Parameter	**Units**	**RL**	**L1**		**Result**	**Result**
Metals and Inorganics						
Moisture Content	%	no			---	13.3
PHCs						
F1 (C6-C10)	µg/g	10	65		---	< 10
F1-BTEX (C6-C10)	µg/g	10	65		---	< 10
F2 (C10-C16)	µg/g	10	150		---	< 10
F3 (C16-C34)	µg/g	50	1300		---	< 50

Client: Grounded Engineering Inc.
Project: 22-279, 1095 Kingston Rd, Pickering
Project Manager: Vivi Tran
Samplers: Vivi Tran

MATRIX: SOIL

Sample Number	16	17
Sample Name	BH2C - SS3 ON HOLD	DUP-1
Sample Matrix	Soil	Soil
Sample Date	16/12/2022	16/12/2022

Parameter	Units	RL		Result	Result
PHCs (continued)					
F4 (C34-C50)	µg/g	50	5600	---	< 50
Chromatogram returned to baseline at nC50	Yes / No	no		---	YES

EXCEEDANCE SUMMARY

No exceedances are present above the regulatory limit(s) indicated

QC SUMMARY

Petroleum Hydrocarbons (F1)

Method: CCME Tier 1 I Internal ref.: ME-CA-[ENVIGC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F1 (C6-C10)	GCM0266-DEC22	µg/g	10	<10	ND	30	90	80	120	82	60	140

Petroleum Hydrocarbons (F2-F4)

Method: CCME Tier 1 I Internal ref.: ME-CA-[ENVIGC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F2 (C10-C16)	GCM0253-DEC22	µg/g	10	<10	ND	30	113	80	120	113	60	140
F3 (C16-C34)	GCM0253-DEC22	µg/g	50	<50	ND	30	113	80	120	113	60	140
F4 (C34-C50)	GCM0253-DEC22	µg/g	50	<50	ND	30	113	80	120	113	60	140

QC SUMMARY

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

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

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND

FOOTNOTES

NSS	Insufficient sample for analysis.
RL	Reporting Limit.
↑	Reporting limit raised.
↓	Reporting limit lowered.
NA	The sample was not analysed for this analyte
ND	Non Detect

Results relate only to the sample tested.
Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.
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-- End of Analytical Report --

Request for Laboratory Services and CHAIN OF CUSTODY

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- London: 657 Consortium Court, London, ON N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

No: 028523 Page 1 of 1

Laboratory Information Section - Lab use only

Received By: B. Cunnen
Received By (signature):
Received Date: 12/16/22 (mm/dd/yy)
Received Time: 17:56 (hr : min)
Custody Seal Present: Yes ☐ No ☐
Custody Seal Intact: Yes ☐ No ☐
Cooling Agent Present: Yes ☑ No ☐ Type: ICE RV.
Temperature Upon Receipt (°C) 12, 12, 12
LAB LIMS #: CA4084-DEC22

REPORT INFORMATION

Company: Groundid Engineering
Contact: Vivi Tran
Address: 1 Bangian Dr, Toronto, M4H 1G3
Phone:
Fax:
Email: vtran@groundideng.ca

INVOICE INFORMATION

☒ (same as Report Information)
Company:
Contact:
Address:
Phone:
Email:

Quotation #:
P.O. #:
Project #: 22-279
Site Location/ID: 1095 Kingston Rd, Pickering

TURNAROUND TIME (TAT) REQUIRED

☒ Regular TAT (5-7days)
TAT's are quoted in business days (exclude statutory holidays & weekends).
Samples received after 6pm or on weekends: TAT begins next business day
RUSH TAT (Additional Charges May Apply): ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days
PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION
Specify Due Date:
*NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

REGULATIONS

☒ O.Reg 153/04 ☐ O.Reg 406/19
☐ Table 1 ☒ Res/Park Soil Texture: ☒ Coarse
☐ Table 2 ☐ Ind/Com ☒ Medium/Fine
☒ Table 3 ☐ Agri/Other
☐ Table ____ Appx. ____
Soil Volume ☐ <350m3 ☐ >350m3

Other Regulations: ☐ Reg 347/558 (3 Day min TAT) ☐ PWQO ☐ MMER ☐ CCME ☐ Other: ☐ MISA ☐ ODWS Not Reportable *See note

Sewer By-Law: ☐ Sanitary ☐ Storm Municipality:

RECORD OF SITE CONDITION (RSC) ☐ YES ☐ NO

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	Field Filtered (Y/N)	Metals & Inorganics incl CrVI, CN, Hg pH,(B(HWS),EC,SAR–soil) (Cl, Na-water)	Full Metals Suite ICP metals plus B(HWS-soil only) Hg, CrVI	ICP Metals only Sb,As,Ba,Be,B,Cd, Cr,Co,Cu,Pb,Mo,Ni,Se,Ag,Tl,U,V,Zn	PAHs only	SVOCs all incl PAHs, ABNs, CPs	PCBs Total ☐ Aroclor ☐	F1-F4 + BTEX	F1-F4 only no BTEX	VOCs all incl BTEX	BTEX only	Pesticides Organochlorine or specify other	Other (please specify)				Sewer Use: Specify pkg:	Water Characterization Pkg Extended ☐ General ☐	SPLP Specify tests ☐ Metals ☐ VOC ☐ 1,4-Dioxane ☐ OCP ☐ ABN	TCLP Specify tests ☐ M&I ☐ VOC ☐ PCB ☐ B(a)P ☐ ABN ☐ Ignit.	COMMENTS:
1	BH2A-SS1	12/16/22	16:00	3	Soil									X											
2	BH2A-SS2	↓	↓	↓	↓									X											on hold
3	BH2A-SS3													X											on hold
4	BH2B SS1													X											
5	BH2B SS2													X											on hold
6	BH2B SS3													X											on hold
7	BH2C SS1													X											
8	BH2C SS2													X											on hold
9	BH2C SS3													X											on hold
10	DUP-1													X											
11																									
12																									

Observations/Comments/Special Instructions

Sampled By (NAME): VIVI TRAN Signature: Date: 12/16/22 (mm/dd/yy) Pink Copy - Client
Relinquished by (NAME): Andrew Koernman Signature: Date: 12/16/22 (mm/dd/yy) Yellow & White Copy - SGS

Revision #: 1.6
Date of Issue: 02 May 2022

FINAL REPORT

CA40185-DEC22 R1

22-279, 1095 Kingston Rd, Pickering

Prepared for

Grounded Engineering Inc.

First Page

CLIENT DETAILS

Client	Grounded Engineering Inc.
Address	1 Banigan Drive Toronto, Ontario M4H1G3. Canada
Contact	Vivi Tran
Telephone	647-264-7928
Facsimile	
Email	vtran@groundedeng.ca
Project	22-279, 1095 Kingston Rd, Pickering
Order Number	
Samples	Ground Water (5)

LABORATORY DETAILS

Project Specialist	Brad Moore Hon. B.Sc
Laboratory	SGS Canada Inc.
Address	185 Concession St., Lakefield ON, K0L 2H0
Telephone	705-652-2143
Facsimile	705-652-6365
Email	brad.moore@sgs.com
SGS Reference	CA40185-DEC22
Received	12/16/2022
Approved	12/23/2022
Report Number	CA40185-DEC22 R1
Date Reported	01/11/2024

COMMENTS

CCME Method Compliance: Analyses were conducted using analytical procedures that comply with the Reference Method for the CWS for Petroleum Hydrocarbons in Soil and have been validated for use at the SGS laboratory, Lakefield, ON site.

Quality Compliance: Instrument performance / calibration quality criteria were met and extraction and analysis limits for holding times were met.

nC6 and nC10 response factors within 30% of response factor for toluene: YES

nC10, nC16 and nC34 response factors within 10% of the average response for the three compounds: YES

C50 response factors within 70% of nC10 + nC16 + nC34 average: YES

Linearity is within 15%: YES

F4G - gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.
The results for F4 and F4G are both reported and the greater of the two values is to be used in application to the CWS PHC.

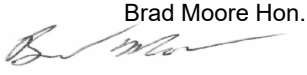
Benzo(b)fluoranthene results for comparison to the standard are reported as benzo(b+j)fluoranthene. Benzo(b)fluoranthene and benzo(j)fluoranthene co-elute and cannot be reported individually by the analytical method used.

Temperature of Sample upon Receipt: 4 degrees C
Cooling Agent Present: Yes
Custody Seal Present: Yes

Chain of Custody Number: 028522

SIGNATORIES

Brad Moore Hon. B.Sc



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Client: Grounded Engineering Inc.
Project: 22-279, 1095 Kingston Rd, Pickering
Project Manager: Vivi Tran
Samplers: Andrew Kernerman

MATRIX: WATER

L1 = REG153 / GROUND WATER / FINE - TABLE 2 - All Types of Property Uses - UNDEFINED

	Sample Number	7	8	9	10	11		
	Sample Name	BH1	BH2	BH3	DUP-1	Trip Blank		
	Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water		
	Sample Date	16/12/2022	16/12/2022	16/12/2022	16/12/2022	16/12/2022		
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	**Result**
BTEX								
Benzene	µg/L	0.5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	µg/L	0.5	2.4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	0.5	24	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Xylene (total)	µg/L	0.5	300	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
m/p-xylene	µg/L	0.5		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
o-xylene	µg/L	0.5		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Hydrides								
Antimony	µg/L	0.9	6	< 0.9	1.4	< 0.9	< 0.9	---
Arsenic	µg/L	0.2	25	2.4	3.5	0.6	2.3	---
Selenium	µg/L	0.04	10	0.14	0.48	< 0.04	0.12	---
Metals and Inorganics								
Barium	µg/L	0.08	1000	216	66.8	184	213	---
Beryllium	µg/L	0.007	4	< 0.007	< 0.007	< 0.007	< 0.007	---
Boron	µg/L	2	5000	376	325	193	419	---
Cadmium	µg/L	0.003	2.7	0.004	0.006	< 0.003	0.003	---
Chromium	µg/L	0.08	50	0.11	0.16	0.16	0.12	---
Cobalt	µg/L	0.004	3.8	0.098	0.152	0.069	0.064	---
Copper	µg/L	0.2	87	6.9	0.3	3.6	0.2	---
Lead	µg/L	0.09	10	0.12	< 0.09	0.57	< 0.09	---
Molybdenum	µg/L	0.04	70	3.07	13.7	0.93	3.76	---
Nickel	µg/L	0.1	100	1.0	0.7	0.4	0.3	---

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Sample Matrix			Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Sample Date			16/12/2022	16/12/2022	16/12/2022	16/12/2022	16/12/2022
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	**Result**
Metals and Inorganics (continued)							
Silver	µg/L	0.05	1.5	< 0.05	< 0.05	< 0.05	< 0.05	---
Thallium	µg/L	0.005	2	0.005	0.015	< 0.005	< 0.005	---
Uranium	µg/L	0.002	20	0.212	2.72	0.072	0.214	---
Vanadium	µg/L	0.01	6.2	0.21	1.82	0.25	0.22	---
Zinc	µg/L	2	1100	4	< 2	6	< 2	---
Na							
Sodium	µg/L	10	490000	76600	90100	29900	74700	---
Other (ORP)							
Mercury (total)	µg/L	0.01	1	< 0.01	< 0.01	< 0.01	< 0.01	---
pH	No unit	0.05		8.06	8.26	8.34	8.03	---
Chloride	µg/L	1000	790000	70000	53000	32000	70000	---
Chromium VI	µg/L	0.2	25	< 0.2	< 0.2	< 0.2	< 0.2	---
Cyanide (free)	µg/L	2	66	< 2	< 2	< 2	< 2	---

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	Sample Name	BH1	BH2	BH3	DUP-1	Trip Blank		
	Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water		
	Sample Date	16/12/2022	16/12/2022	16/12/2022	16/12/2022	16/12/2022		
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	**Result**
PAHs								
Acenaphthene	µg/L	0.1	4.1	< 0.1	< 0.1	< 0.1	< 0.1	---
Acenaphthylene	µg/L	0.1	1	< 0.1	< 0.1	< 0.1	< 0.1	---
Anthracene	µg/L	0.1	2.4	< 0.1	< 0.1	< 0.1	< 0.1	---
Benzo(a)anthracene	µg/L	0.1	1	< 0.1	< 0.1	< 0.1	< 0.1	---
Benzo(a)pyrene	µg/L	0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	---
Benzo(b+j)fluoranthene	µg/L	0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	---
Benzo(ghi)perylene	µg/L	0.2	0.2	< 0.2	< 0.2	< 0.2	< 0.2	---
Benzo(k)fluoranthene	µg/L	0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	---
Chrysene	µg/L	0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	---
Dibenzo(a,h)anthracene	µg/L	0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1	---
Fluoranthene	µg/L	0.1	0.41	< 0.1	< 0.1	< 0.1	< 0.1	---
Fluorene	µg/L	0.1	120	< 0.1	< 0.1	< 0.1	< 0.1	---
Indeno(1,2,3-cd)pyrene	µg/L	0.2	0.2	< 0.2	< 0.2	< 0.2	< 0.2	---
1-Methylnaphthalene	µg/L	0.5		< 0.5	< 0.5	< 0.5	< 0.5	---
2-Methylnaphthalene	µg/L	0.5		< 0.5	< 0.5	< 0.5	< 0.5	---
Methylnaphthalene, 2-(1-)	µg/L	0.5	3.2	< 0.5	< 0.5	< 0.5	< 0.5	---
Naphthalene	µg/L	0.5	11	< 0.5	< 0.5	< 0.5	< 0.5	---
Phenanthrene	µg/L	0.1	1	< 0.1	< 0.1	< 0.1	< 0.1	---
Pyrene	µg/L	0.1	4.1	< 0.1	< 0.1	< 0.1	< 0.1	---

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L1 = REG153 / GROUND WATER / FINE - TABLE 2 - All Types of Property Uses - UNDEFINED

	Sample Number			7	8	9	10	11	
	Sample Name			BH1	BH2	BH3	DUP-1	Trip Blank	
	Sample Matrix			Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	
	Sample Date			16/12/2022	16/12/2022	16/12/2022	16/12/2022	16/12/2022	
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	**Result**	
PHCs									
F1 (C6-C10)	µg/L	25	750	< 25	< 25	< 25	< 25	---	
F1-BTEX (C6-C10)	µg/L	25		< 25	< 25	< 25	< 25	---	
F2 (C10-C16)	µg/L	100	150	< 100	< 100	< 100	< 100	---	
F3 (C16-C34)	µg/L	200	500	< 200	< 200	< 200	< 200	---	
F4 (C34-C50)	µg/L	200	500	< 200	< 200	< 200	< 200	---	
Chromatogram returned to baseline at nC50	Yes / No	no		YES	YES	YES	YES	---	
SVOC Surrogates									
Surr 2-Methylnaphthalene-D10	Surr Rec %	no		NV	NV	91	89	---	
Surr Fluoranthene-D10	Surr Rec %	no		NV	NV	99	101	---	
Surr 2-Fluorobiphenyl	Surr Rec %	no		NV	NV	84	82	---	
Surr 4-Terphenyl-d14	Surr Rec %	no		NV	NV	103	110	---	
THMs (VOC)									
Bromodichloromethane	µg/L	0.5	16	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Bromoform	µg/L	0.5	25	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Dibromochloromethane	µg/L	0.5	25	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	

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				Sample Name	BH1	BH2	BH3	DUP-1	Trip Blank
				Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
				Sample Date	16/12/2022	16/12/2022	16/12/2022	16/12/2022	16/12/2022
Parameter		**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	**Result**
VOC Surrogates									
Surr 1,2-Dichloroethane-d4		Surr Rec %	no		101	103	102	102	102
Surr 2-Bromo-1-Chloropropane		Surr Rec %	no		83	86	86	87	85
Surr 4-Bromofluorobenzene		Surr Rec %	no		90	92	91	89	90
VOCs									
Acetone		µg/L	30	2700	< 30	< 30	< 30	< 30	< 30
Bromomethane		µg/L	0.5	0.89	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon tetrachloride		µg/L	0.2	5	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chlorobenzene		µg/L	0.5	30	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform		µg/L	0.5	22	< 0.5	2.0	< 0.5	< 0.5	< 0.5
1,2-Dichlorobenzene		µg/L	0.5	3	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,3-Dichlorobenzene		µg/L	0.5	59	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4-Dichlorobenzene		µg/L	0.5	1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichlorodifluoromethane		µg/L	2.0	590	< 2	< 2	< 2	< 2	< 2
1,1-Dichloroethane		µg/L	0.5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloroethane		µg/L	0.5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethylene		µg/L	0.5	14	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,2-Dichloroethene		µg/L	0.5	17	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,2-Dichloroethene		µg/L	0.5	17	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloropropane		µg/L	0.5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,3-Dichloropropene		µg/L	0.5		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,3-Dichloropropene		µg/L	0.5		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,3-dichloropropene (total)		µg/L	0.5	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

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	Sample Number	7	8	9	10	11		
	Sample Name	BH1	BH2	BH3	DUP-1	Trip Blank		
	Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water		
	Sample Date	16/12/2022	16/12/2022	16/12/2022	16/12/2022	16/12/2022		
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	**Result**
VOCs (continued)								
Ethylenedibromide	µg/L	0.2	0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
n-Hexane	µg/L	1.0	520	< 1	< 1	< 1	< 1	< 1
Methyl ethyl ketone	µg/L	20	1800	< 20	< 20	< 20	< 20	< 20
Methyl Isobutyl Ketone	µg/L	20	640	< 20	< 20	< 20	< 20	< 20
Methyl-t-butyl Ether	µg/L	2.0	15	< 2	< 2	< 2	< 2	< 2
Methylene Chloride	µg/L	0.5	50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	µg/L	0.5	5.4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethylene (perchloroethylene)	µg/L	0.5	17	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,1,2-Tetrachloroethane	µg/L	0.5	1.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2,2-Tetrachloroethane	µg/L	0.5	1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,1-Trichloroethane	µg/L	0.5	200	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	µg/L	0.5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	µg/L	0.5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	µg/L	5.0	150	< 5	< 5	< 5	< 5	< 5
Vinyl Chloride	µg/L	0.2	1.7	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2

EXCEEDANCE SUMMARY

No exceedances are present above the regulatory limit(s) indicated

HOLDING TIME SUMMARY

Sample Name	QC Batch Reference	Sample Number	Sampled	Received	Extracted/ Prepared	Analysed	Holding Time	Approved
Anions by discrete analyzer								
Method: US EPA 325.2 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-026								
BH1	DIO5087-DEC22	7	12/16/2022	12/16/2022	12/21/2022	12/21/2022	01/13/2023	12/22/2022
BH2	DIO5087-DEC22	8	12/16/2022	12/16/2022	12/21/2022	12/21/2022	01/13/2023	12/22/2022
BH3	DIO5087-DEC22	9	12/16/2022	12/16/2022	12/21/2022	12/21/2022	01/13/2023	12/22/2022
DUP-1	DIO5087-DEC22	10	12/16/2022	12/16/2022	12/21/2022	12/21/2022	01/13/2023	12/22/2022
Trip Blank		11	12/16/2022	12/16/2022	12/21/2022	12/21/2022	01/13/2023	12/22/2022
Cyanide by SFA								
Method: SM 4500 | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-005								
BH1	SKA0174-DEC22	7	12/16/2022	12/16/2022	12/19/2022	12/19/2022	12/30/2022	12/20/2022
BH2	SKA0174-DEC22	8	12/16/2022	12/16/2022	12/19/2022	12/19/2022	12/30/2022	12/20/2022
BH3	SKA0174-DEC22	9	12/16/2022	12/16/2022	12/19/2022	12/19/2022	12/30/2022	12/20/2022
DUP-1	SKA0174-DEC22	10	12/16/2022	12/16/2022	12/19/2022	12/19/2022	12/30/2022	12/20/2022
Trip Blank		11	12/16/2022	12/16/2022	12/19/2022	12/19/2022	12/30/2022	12/20/2022
Hexavalent Chromium by SFA								
Method: EPA218.6/EPA3060A | Internal ref.: ME-CA-[ENV]SKA-LAK-AN-012								
BH1	SKA0179-DEC22	7	12/16/2022	12/16/2022	12/19/2022	12/19/2022	12/30/2022	12/20/2022
BH2	SKA0179-DEC22	8	12/16/2022	12/16/2022	12/19/2022	12/19/2022	12/30/2022	12/20/2022
BH3	SKA0179-DEC22	9	12/16/2022	12/16/2022	12/19/2022	12/19/2022	12/30/2022	12/20/2022
DUP-1	SKA0179-DEC22	10	12/16/2022	12/16/2022	12/19/2022	12/19/2022	12/30/2022	12/20/2022
Trip Blank		11	12/16/2022	12/16/2022	12/19/2022	12/19/2022	12/30/2022	12/20/2022
Mercury by CVAAS								
Method: SM 3112/SM 3112B | Internal ref.: ME-CA-[ENV]SPE-LAK-AN-004								
BH1	EHG0039-DEC22	7	12/16/2022	12/16/2022	12/21/2022	12/21/2022	01/13/2023	12/21/2022
BH2	EHG0039-DEC22	8	12/16/2022	12/16/2022	12/21/2022	12/21/2022	01/13/2023	12/21/2022
BH3	EHG0039-DEC22	9	12/16/2022	12/16/2022	12/21/2022	12/21/2022	01/13/2023	12/21/2022
DUP-1	EHG0039-DEC22	10	12/16/2022	12/16/2022	12/21/2022	12/21/2022	01/13/2023	12/21/2022
Trip Blank		11	12/16/2022	12/16/2022	12/21/2022	12/21/2022	01/13/2023	12/21/2022
Metals in aqueous samples - ICP-MS								
Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-[ENV]SPE-LAK-AN-006								
BH1	EMS0152-DEC22	7	12/16/2022	12/16/2022	12/19/2022	12/22/2022	02/14/2023	12/22/2022
BH2	EMS0152-DEC22	8	12/16/2022	12/16/2022	12/19/2022	12/22/2022	02/14/2023	12/22/2022
BH3	EMS0152-DEC22	9	12/16/2022	12/16/2022	12/19/2022	12/22/2022	02/14/2023	12/22/2022
DUP-1	EMS0152-DEC22	10	12/16/2022	12/16/2022	12/19/2022	12/22/2022	02/14/2023	12/22/2022
Trip Blank		11	12/16/2022	12/16/2022	12/19/2022	12/22/2022	02/14/2023	12/22/2022
Petroleum Hydrocarbons (F1)								
Method: CCME Tier 1 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-010								
BH1	GCM0289-DEC22	7	12/16/2022	12/16/2022			12/30/2022	12/22/2022

HOLDING TIME SUMMARY

Sample Name	QC Batch Reference	Sample Number	Sampled	Received	Extracted/ Prepared	Analysed	Holding Time	Approved
Petroleum Hydrocarbons (F1) (continued)								
Method: CCME Tier 1 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-010								
BH2	GCM0289-DEC22	8	12/16/2022	12/16/2022			12/30/2022	12/22/2022
BH3	GCM0289-DEC22	9	12/16/2022	12/16/2022			12/30/2022	12/22/2022
DUP-1	GCM0289-DEC22	10	12/16/2022	12/16/2022			12/30/2022	12/22/2022
Trip Blank		11	12/16/2022	12/16/2022			12/30/2022	12/22/2022
Petroleum Hydrocarbons (F2-F4)								
Method: CCME Tier 1 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-010								
BH1	GCM0294-DEC22	7	12/16/2022	12/16/2022			12/30/2022	12/23/2022
BH2	GCM0294-DEC22	8	12/16/2022	12/16/2022			12/30/2022	12/23/2022
BH3	GCM0294-DEC22	9	12/16/2022	12/16/2022			12/30/2022	12/23/2022
DUP-1	GCM0294-DEC22	10	12/16/2022	12/16/2022			12/30/2022	12/23/2022
Trip Blank		11	12/16/2022	12/16/2022			12/30/2022	12/23/2022
pH								
Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006								
BH1	EWL0330-DEC22	7	12/16/2022	12/16/2022	12/19/2022	12/19/2022	12/23/2022	12/20/2022
BH2	EWL0330-DEC22	8	12/16/2022	12/16/2022	12/19/2022	12/19/2022	12/23/2022	12/20/2022
BH3	EWL0330-DEC22	9	12/16/2022	12/16/2022	12/19/2022	12/19/2022	12/23/2022	12/20/2022
DUP-1	EWL0330-DEC22	10	12/16/2022	12/16/2022	12/19/2022	12/19/2022	12/23/2022	12/20/2022
Trip Blank		11	12/16/2022	12/16/2022	12/19/2022	12/19/2022	12/23/2022	12/20/2022
Semi-Volatile Organics								
Method: EPA 3510C/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-005								
BH1	GCM0308-DEC22	7	12/16/2022	12/16/2022			12/30/2022	12/22/2022
BH2	GCM0308-DEC22	8	12/16/2022	12/16/2022			01/05/2023	12/22/2022
BH3	GCM0308-DEC22	9	12/16/2022	12/16/2022			01/05/2023	12/22/2022
DUP-1	GCM0308-DEC22	10	12/16/2022	12/16/2022			12/30/2022	12/22/2022
Trip Blank		11	12/16/2022	12/16/2022			12/30/2022	12/22/2022
Volatile Organics								
Method: EPA 5030B/8260C | Internal ref.: ME-CA-[ENV]GC-LAK-AN-004								
BH1	GCM0283-DEC22	7	12/16/2022	12/16/2022	12/20/2022	12/20/2022	12/30/2022	12/22/2022
BH2	GCM0283-DEC22	8	12/16/2022	12/16/2022	12/20/2022	12/20/2022	12/30/2022	12/22/2022
BH3	GCM0283-DEC22	9	12/16/2022	12/16/2022	12/20/2022	12/20/2022	12/30/2022	12/22/2022
DUP-1	GCM0283-DEC22	10	12/16/2022	12/16/2022	12/20/2022	12/20/2022	12/30/2022	12/22/2022
Trip Blank	GCM0283-DEC22	11	12/16/2022	12/16/2022	12/20/2022	12/20/2022	12/30/2022	12/22/2022

QC SUMMARY

Anions by discrete analyzer

Method: US EPA 325.2 I Internal ref.: ME-CA-IENVIEWL-LAK-AN-026

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Chloride	DIO5087-DEC22	ug/L	1000	<1000	ND	20	108	80	120	118	75	125

Cyanide by SFA

Method: SM 4500 I Internal ref.: ME-CA-IENVISFA-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Cyanide (free)	SKA0174-DEC22	µg/L	2	<2	ND	10	98	80	120	NV	75	125

Hexavalent Chromium by SFA

Method: EPA218.6/EPA3060A I Internal ref.: ME-CA-IENVISKA-LAK-AN-012

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Chromium VI	SKA0179-DEC22	ug/L	0.2	<0.2	2	20	98	80	120	NV	75	125

QC SUMMARY

Mercury by CVAAS

Method: SM 3112/SM 3112B | Internal ref.: ME-CA-[ENV]SPE-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Mercury (total)	EHG0039-DEC22	ug/L	0.01	< 0.01	0	20	90	80	120	123	70	130

QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver	EMS0152-DEC22	ug/L	0.05	<0.05	ND	20	99	90	110	91	70	130
Arsenic	EMS0152-DEC22	µg/L	0.2	<0.2	7	20	102	90	110	111	70	130
Barium	EMS0152-DEC22	ug/L	0.08	<0.02	15	20	99	90	110	93	70	130
Beryllium	EMS0152-DEC22	µg/L	0.007	<0.007	ND	20	100	90	110	93	70	130
Boron	EMS0152-DEC22	µg/L	2	<2	2	20	100	90	110	94	70	130
Cadmium	EMS0152-DEC22	µg/L	0.003	<0.003	11	20	98	90	110	102	70	130
Cobalt	EMS0152-DEC22	µg/L	0.004	<0.004	14	20	96	90	110	95	70	130
Chromium	EMS0152-DEC22	ug/L	0.08	<0.08	10	20	99	90	110	100	70	130
Copper	EMS0152-DEC22	ug/L	0.2	<0.2	3	20	95	90	110	105	70	130
Molybdenum	EMS0152-DEC22	ug/L	0.04	<0.04	0	20	98	90	110	106	70	130
Sodium	EMS0152-DEC22	ug/L	10	2	4	20	97	90	110	97	70	130
Nickel	EMS0152-DEC22	µg/L	0.1	<0.1	5	20	97	90	110	97	70	130
Lead	EMS0152-DEC22	ug/L	0.09	<0.01	ND	20	100	90	110	97	70	130
Antimony	EMS0152-DEC22	ug/L	0.9	<0.9	1	20	97	90	110	80	70	130
Selenium	EMS0152-DEC22	µg/L	0.04	<0.04	2	20	100	90	110	101	70	130
Thallium	EMS0152-DEC22	µg/L	0.005	<0.005	ND	20	97	90	110	96	70	130
Uranium	EMS0152-DEC22	µg/L	0.002	<0.002	1	20	91	90	110	84	70	130
Vanadium	EMS0152-DEC22	µg/L	0.01	-0.005	10	20	97	90	110	97	70	130
Zinc	EMS0152-DEC22	µg/L	2	0.007	ND	20	95	90	110	111	70	130

QC SUMMARY

Petroleum Hydrocarbons (F1)

Method: CCME Tier 1 I Internal ref.: ME-CA-[ENVIGC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F1 (C6-C10)	GCM0289-DEC22	µg/L	25	<25	ND	30	89	60	140	74	60	140

Petroleum Hydrocarbons (F2-F4)

Method: CCME Tier 1 I Internal ref.: ME-CA-[ENVIGC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F2 (C10-C16)	GCM0294-DEC22	µg/L	100	<100	ND	30	84	60	140	91	60	140
F3 (C16-C34)	GCM0294-DEC22	µg/L	200	<200	ND	30	84	60	140	91	60	140
F4 (C34-C50)	GCM0294-DEC22	µg/L	200	<200	ND	30	84	60	140	91	60	140

QC SUMMARY

pH

Method: SM 4500 I Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	EWL0330-DEC22	No unit	0.05	NA	2		102			NA		

QC SUMMARY

Semi-Volatile Organics

Method: EPA 3510C/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1-Methylnaphthalene	GCM0308-DEC22	µg/L	0.5	< 0.5	NSS	30	107	50	140	NSS	50	140
2-Methylnaphthalene	GCM0308-DEC22	µg/L	0.5	< 0.5	NSS	30	103	50	140	NSS	50	140
Acenaphthene	GCM0308-DEC22	µg/L	0.1	< 0.1	NSS	30	101	50	140	NSS	50	140
Acenaphthylene	GCM0308-DEC22	µg/L	0.1	< 0.1	NSS	30	99	50	140	NSS	50	140
Anthracene	GCM0308-DEC22	µg/L	0.1	< 0.1	NSS	30	89	50	140	NSS	50	140
Benzo(a)anthracene	GCM0308-DEC22	µg/L	0.1	< 0.1	NSS	30	95	50	140	NSS	50	140
Benzo(a)pyrene	GCM0308-DEC22	ug/L	0.01	< 0.01	NSS	30	92	50	140	NSS	50	140
Benzo(b+j)fluoranthene	GCM0308-DEC22	ug/L	0.1	< 0.1	NSS	30	92	50	140	NSS	50	140
Benzo(ghi)perylene	GCM0308-DEC22	µg/L	0.2	< 0.2	NSS	30	94	50	140	NSS	50	140
Benzo(k)fluoranthene	GCM0308-DEC22	µg/L	0.1	< 0.1	NSS	30	96	50	140	NSS	50	140
Chrysene	GCM0308-DEC22	µg/L	0.1	< 0.1	NSS	30	94	50	140	NSS	50	140
Dibenzo(a,h)anthracene	GCM0308-DEC22	µg/L	0.1	< 0.1	NSS	30	88	50	140	NSS	50	140
Fluoranthene	GCM0308-DEC22	ug/L	0.1	< 0.1	NSS	30	100	50	140	NSS	50	140
Fluorene	GCM0308-DEC22	µg/L	0.1	< 0.1	NSS	30	94	50	140	NSS	50	140
Indeno(1,2,3-cd)pyrene	GCM0308-DEC22	µg/L	0.2	< 0.2	NSS	30	87	50	140	NSS	50	140
Naphthalene	GCM0308-DEC22	µg/L	0.5	< 0.5	NSS	30	96	50	140	NSS	50	140
Phenanthrene	GCM0308-DEC22	µg/L	0.1	< 0.1	NSS	30	91	50	140	NSS	50	140
Pyrene	GCM0308-DEC22	µg/L	0.1	< 0.1	NSS	30	100	50	140	NSS	50	140

QC SUMMARY

Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-[ENV]GC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1,1,1,2-Tetrachloroethane	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	101	60	130	99	50	140
1,1,1-Trichloroethane	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	100	60	130	103	50	140
1,1,2,2-Tetrachloroethane	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	101	60	130	97	50	140
1,1,2-Trichloroethane	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	100	60	130	98	50	140
1,1-Dichloroethane	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	100	60	130	103	50	140
1,1-Dichloroethylene	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	107	60	130	108	50	140
1,2-Dichlorobenzene	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	101	60	130	102	50	140
1,2-Dichloroethane	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	100	60	130	98	50	140
1,2-Dichloropropane	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	98	60	130	100	50	140
1,3-Dichlorobenzene	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	103	60	130	103	50	140
1,4-Dichlorobenzene	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	102	60	130	101	50	140
Acetone	GCM0283-DEC22	ug/L	30	<30	ND	30	97	50	140	90	50	140
Benzene	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	102	60	130	104	50	140
Bromodichloromethane	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	101	60	130	100	50	140
Bromoform	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	97	60	130	94	50	140
Bromomethane	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	113	50	140	120	50	140
Carbon tetrachloride	GCM0283-DEC22	µg/L	0.2	<0.2	ND	30	100	60	130	102	50	140
Chlorobenzene	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	100	60	130	101	50	140
Chloroform	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	99	60	130	101	50	140
cis-1,2-Dichloroethene	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	100	60	130	101	50	140

QC SUMMARY

Volatile Organics (continued)

Method: EPA 5030B/8260C | Internal ref.: ME-CA-[ENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
cis-1,3-Dichloropropene	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	100	60	130	100	50	140
Dibromochloromethane	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	99	60	130	98	50	140
Dichlorodifluoromethane	GCM0283-DEC22	µg/L	2.0	<2	ND	30	138	50	140	126	50	140
Ethylbenzene	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	104	60	130	103	50	140
Ethylenedibromide	GCM0283-DEC22	µg/L	0.2	<0.2	ND	30	102	60	130	99	50	140
n-Hexane	GCM0283-DEC22	µg/L	1.0	<1	ND	30	99	60	130	101	50	140
m/p-xylene	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	103	60	130	103	50	140
Methyl ethyl ketone	GCM0283-DEC22	ug/L	20	<20	ND	30	101	60	130	95	50	140
Methyl Isobutyl Ketone	GCM0283-DEC22	µg/L	20	<20	ND	30	101	50	140	94	50	140
Methyl-t-butyl Ether	GCM0283-DEC22	µg/L	2.0	<2	ND	30	94	60	130	90	50	140
Methylene Chloride	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	102	60	130	102	50	140
o-xylene	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	103	60	130	103	50	140
Styrene	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	103	60	130	104	50	140
Tetrachloroethylene (perchloroethylene)	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	96	60	130	100	50	140
Toluene	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	100	60	130	103	50	140
trans-1,2-Dichloroethene	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	99	60	130	103	50	140
trans-1,3-Dichloropropene	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	102	60	130	100	50	140
Trichloroethylene	GCM0283-DEC22	µg/L	0.5	<0.5	ND	30	100	60	130	101	50	140
Trichlorofluoromethane	GCM0283-DEC22	µg/L	5.0	<5	ND	30	108	50	140	105	50	140
Vinyl Chloride	GCM0283-DEC22	µg/L	0.2	<0.2	ND	30	116	50	140	118	50	140

QC SUMMARY

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.
Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.
LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.
Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.
RL: Reporting limit
RPD: Relative percent difference
AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.
Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.
Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND

FOOTNOTES

NSS	Insufficient sample for analysis.
RL	Reporting Limit.
↑	Reporting limit raised.
↓	Reporting limit lowered.
NA	The sample was not analysed for this analyte
ND	Non Detect

Results relate only to the sample tested.
Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.
"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

This report supersedes all previous versions.

-- End of Analytical Report --

Request for Laboratory Services and CHAIN OF CUSTODY

SGS Industries & Environment - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment
- London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

No: 028522 Page 1 of 1

Laboratory Information Section - Lab use only

Received By: B. Cumming
Received Date: 12/16/22 (mm/dd/yy)
Received Time: 17:30 (hr : min)
Received By (signature):
Custody Seal Present: Yes ☑ No ☐
Custody Seal Intact: Yes ☑ No ☐
Cooling Agent Present: Yes ☑ No ☐ Type: ICE.
Temperature Upon Receipt (°C): 4.4
LAB LIMS #: CA40185-Dec 22

REPORT INFORMATION	INVOICE INFORMATION
Company: Grounded Engineering	☑ (same as Report Information)
Contact: VIVI TRAN	Company:
Address: 1 Banigan Dr	Contact:
	Address:
Phone:	
Fax:	Phone:
Email: Vtran@groundedeng.ca	Email:

Quotation #: P.O. #:
Project #: 22-279 Site Location/ID: 1095 Kingston Rd. Pickering

TURNAROUND TIME (TAT) REQUIRED

☑ Regular TAT (5-7days)
TAT's are quoted in business days (exclude statutory holidays & weekends). Samples received after 6pm or on weekends: TAT begins next business day

RUSH TAT (Additional Charges May Apply): ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days
PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION

Specify Due Date:

*NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

REGULATIONS

☐ O.Reg 153/04 ☒ O.Reg 406/19
☐ Table 1 ☒ Res/Park Soil Texture:
☐ Table 2 ☐ Ind/Com ☐ Coarse
☒ Table 3 ☐ Agri/Other ☐ Medium/Fine
☐ Table ____ Appx. ____
Soil Volume ☐ <350m3 ☐ >350m3

Other Regulations:
☐ Reg 347/558 (3 Day min TAT)
☐ PWQO ☐ MMER
☐ CCME ☐ Other:
☐ MISA
☐ ODWS Not Reportable *See note

Sewer By-Law:
☐ Sanitary
☐ Storm
Municipality:

RECORD OF SITE CONDITION (RSC) ☑ YES ☐ NO

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	M & I: Field Filtered (Y/N)	M & I: Metals & Inorganics (incl CrVI, CN, Hg pH,(B(HWS),EC,SAR–soil) (Cl, Na-water)	M & I: Full Metals Suite (ICP metals plus B(HWS-soil only) Hg, CrVI	M & I: ICP Metals only Sb,As,Ba,Be,B,Cd, Cr,Co,Cu,Pb,Mo,Ni,Se,Ag,Tl,U,V,Zn	SVOC: PAHs only	SVOC: SVOCs all incl PAHs, ABNs, CPs	PCB: PCBs Total ☐ Aroclor ☐	PHC: F1-F4 + BTEX	PHC: F1-F4 only no BTEX	VOC: VOCs all incl BTEX	VOC: BTEX only	Pest: Pesticides Organochlorine or specify other	Other (please specify)	Sewer Use: Specify pkg:	Water Characterization Pkg: General ☐ Extended ☐	SPLP: Specify tests	TCLP: Specify tests	COMMENTS:
1	BH 1	12/16/22	12:00	10	GW	Y	X			X			X		X								
2	BH 2	↓	1:00	10	GW	Y	X			X			X		X								
3	BH 3		2:00	10	GW	Y	X			X			X		X								
4	DUP-1		12:00	10			X			X			X		X		>	analysis as per client-kw					
5	TRIP Blank														X								
6																							
7																							
8																							
9																							
10																							
11																							
12																							

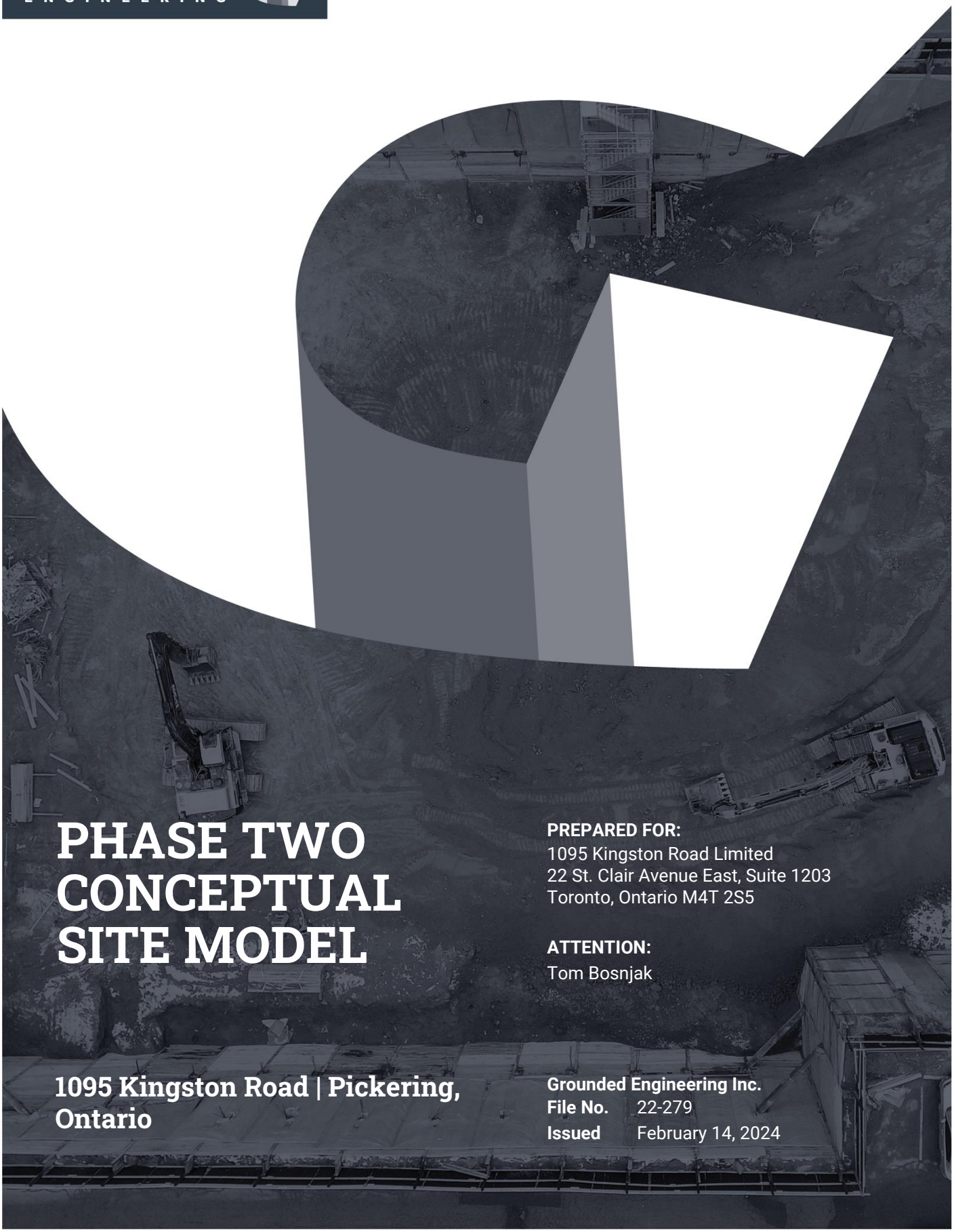
Observations/Comments/Special Instructions

Sampled By (NAME): Andrew Kesnerman Signature: Date: 12/16/22 (mm/dd/yy)
Relinquished by (NAME): Andrew Kesnerman Signature: Date: 12/16/22 (mm/dd/yy)

Pink Copy - Client
Yellow & White Copy - SGS

Revision #: 1.6
Date of Issue: 02 May 2022

APPENDIX G



PHASE TWO CONCEPTUAL SITE MODEL

PREPARED FOR:
1095 Kingston Road Limited
22 St. Clair Avenue East, Suite 1203
Toronto, Ontario M4T 2S5

ATTENTION:
Tom Bosnjak

1095 Kingston Road | Pickering, Ontario

Grounded Engineering Inc.
File No. 22-279
Issued February 14, 2024

1 Banigan Drive, Toronto ON M4H 1G3 | (647) 264-7909 | groundedeng.ca | Grounded Engineering

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1 Introduction

1.1 Site Description

The Phase Two Property is located at the municipal address of 1095 Kingston Road, Pickering, Ontario (the Property). The site location is presented in Figure 1.

The Property is irregular in shape, with a total area of 2.09016 ha. The Property is bounded by Kingston Road to the west and Dixie Road to the east. The Property is currently developed with a slab-on-grade multi-tenant commercial building surrounded by an asphalt surface parking lot. The Property is considered to be in commercial land use as defined by the Ministry of the Environment, Conservation and Parks (MECP) Ontario Regulation (O.Reg.) 153/04.

It is understood that the Phase Two Property will be developed with three (3) new residential high-rise buildings with a 3-storey podium structure, constructed in two phases; Phase 1 comprising Towers 1 and 2 with a combined podium on the south side of the Property, and Phase 2 comprising Tower 3 with a separate podium structure on the north side of the Property. It is understood that consideration is being given to two (2) or three (3) levels of below grade parking beneath each of the phases (P2 or P3), or alternatively constructing the development on-grade with above-grade parking only. Under O.Reg. 153/04, the future land use of the Property would be considered residential.

1.2 Property Ownership

The Property information is provided below:

Municipal Address	1095 Kingston Road, Pickering, Ontario, L1V 1B5
Legal Description	PT LT 25 CON 1 PICKERING PTS 1, 2 & 3, 40R1860 EXCEPT PT 1, 40R2670 AND CO210581; S/T D486756, *S/T D19631* AS PARTIALLY RELEASED BY D314762; PICKERING. *ADDED 2000 03 13 BY T.CUTLER
PIN(s)	26317-0068 (LT)
Assessment Roll Number	1801010 01821300
Area	2.09016 ha
Zone Northing Easting	17 T 4854442.54 N 652876.22 E
Property Owner Information	1095 Kingston Road Ltd.

1.3 Summary of Previous Investigations

The following environmental reports were provided for review for the Property. The findings of the reports are summarized below:

Title and File No.	Phase 1 Environmental Site Assessment 1095 Kingston Road, Pickering, ON (File No. 5947-01.01)
Report Date	December 2019
Prepared By	PGL Environmental Consultants
Prepared for	1585708 Ontario Ltd.

Description of Data, Analysis or Findings	• The Phase I ESA was completed for the purposes of due diligence for refinancing the Property.
	• The Phase I ESA was generally completed in accordance with CSA Standard Z768-01.
	• At the time of the site inspection completed on December 12, 2019, the Property was occupied by a two-storey multi-unit commercial building. The Property was reportedly heated by a natural gas-fired HVAC unit.
	• Hazardous materials such as motor oils, lubricants, hydraulic oil, and other various liquids used for vehicle maintenance were reportedly identified in the unit occupied by Part Source (an automotive parts retailer with retail area and storage room). However, no on-site vehicle maintenance was reportedly being completed at that time. As such, PGL considered these materials not to be an environmental risk as they were in packaging for retail use.
	• There were no significant potential environmental concerns reportedly identified in the report.
	• The report identified potential designated substances and special attention items to be considered prior to any renovation or demolition:
	  ○ Lead and asbestos in building materials
	  ○ PCBs in light ballasts

Title and File No.	Phase One Environmental Site Assessment 1095 Kingston Road, Pickering, Ontario. (File No. 22-279)
Report Date	January 16, 2024 (Rev. 1.0)
Prepared By	Grounded Engineering Inc.
Prepared for	1095 Kingston Road Ltd.

Description of Data, Analysis or Findings	• The Phase One ESA was completed for the purposes of due diligence during acquisition of the Property.
	• The Phase One ESA was completed in accordance with Ontario Regulation 153/04.
	• At the time of inspections in November 2022 and January 2024, the Property was occupied by a slab-on-grade multi-tenant commercial building (End of the Roll, Parts Source, Treehouse Club, Tasco Appliances, and Tile House) with an asphalt surface parking lot surrounding the building, reportedly built in 1975.
	  ○ Part Source was observed to not have any on-site vehicle maintenance operations and was limited to commercial retail of automotive parts and supplies only.
	  ○ Interviews completed for the Phase One ESA indicated that no onsite vehicle maintenance was ever completed by this tenant historically.
	• The commercial building was reportedly heated by a natural gas-fired HVAC unit.
	• Due to the age and construction of the building, the presence of asbestos and lead-based paints were suspected.
	• The Phase One ESA identified two (2) Areas of Potential Environmental Concern (APECs).
	  ○ APEC 1 (Entire Phase One Property): associated with importation of fill material of unknown quality during the development of the Property.
	  ○ APEC 2 (Entire Phase One Property): associated with de-icing activities on the Property.
	• Based on the Phase One ESA, a Phase Two ESA was required to investigate the APECs identified prior to submission for a Record of Site Condition (RSC).

2 Information from the Phase One Environmental Site Assessment

2.1 Areas Where Potential Contaminating Activity Has Occurred

Potential Contaminating Activity (PCAs) were identified in the Phase One ESA completed for the Property. The information regarding whether the PCAs have the potential to cause Areas of Potential Environmental Concerns (APECs) is provided below. It is noted that the groundwater flow in the Phase One ESA was assumed to be south/southwest towards the nearby creek.

Location of PCA	PCA	APEC (Yes/No)	Rationalization
Entire Property	#30 – Importation of Fill of Unknown Quality	Yes (APEC 1)	Fill of unknown quality was likely imported and used at the Property for minor backfilling, grading, etc. during the construction of the commercial building in 1975. The PCA is likely to cause an APEC.

Location of PCA	PCA	APEC (Yes/No)	Rationalization
Entire Property	Other 1 – De-icing Activities	Yes (APEC 2)	The Property is bounded by Kingston Road to the west and Dixie Road to the northeast, each with accompanying sidewalks. Surface parking spots and walkways were also observed on the Property. During the winter months, a de-icing substance (salt) may have been applied to the parking spots, surrounding asphalt where the commercial building exists, surrounding roads and sidewalks for safety purposes. The application of salts on the Property has the potential to cause an APEC at the Property.
No address 28 m South	#46 – Rail Yards, Tracks and Spurs	No	Canadian National Railway tracks (elevated above ground) was observed in aerials and during the site reconnaissance. Based on the down/cross-gradient location from the Phase One Property and the clayey silt overburden soils in the area, potential groundwater contamination from this PCA is unlikely to impact the Property. It is the opinion of the QP that this PCA is unlikely to cause an APEC on the Property.
980 Kingston Road 300 m Southwest	#10 – Commercial Autobody Shops	No	Based on the city directory search, a historical auto garage (Saturn Saab Isuzu of Pickering) operated on the site in 1995 - 2000. Based on the distance from the Phase One Property, potential groundwater contamination is unlikely to impact the Property. It is the opinion of the QP that this PCA is unlikely to cause an APEC on the Property.

The locations of the PCAs and APECs are shown on Figure 2. The PCAs that were deemed to cause APECs are listed in Section 2.2 below.

2.2 Areas of Potential Environmental Concern

The following APECs resulting from PCAs were identified on the Property and shown on Figure 2.

Areas of Potential Environmental Concern (APECs)	Location of APECs on Phase One Property	PCA	Contaminants of Potential Concern (CoPCs)	Media Potentially Impacted (Groundwater, soil and/or sediment) **
APEC 1	Entire Property	#30 - Importation of Fill Material of Unknown Quality	Metals As, Sb, Se B-HWS CN-	Soil Soil Soil Soil

Areas of Potential Environmental Concern (APECs)	Location of APECs on Phase One Property	PCA	Contaminants of Potential Concern (CoPCs)	Media Potentially Impacted (Groundwater, soil and/or sediment) **
			Hg Cr(VI) PAHs PHCs VOCs BTEX	Soil Soil Soil Soil Soil Soil
APEC 2	Entire Property	Other 1 - De-icing Activities	EC SAR	Soil Soil
***Based on well records reviewed in the Phase One ESA, the depth of groundwater was beyond 10 m bgs. Therefore, groundwater was not considered a media of concern.*				

2.3 Subsurface Structures and Utilities

The site inspection of the Property and utility locates conducted as part of the Phase One ESA found the following information regarding utilities and services at the Property:

- Buried hydro enters the Property via west from Kingston Road
- Gas line enters the Property via west from Kingston Road
- Buried communication line enters the Property via west from Kingston Road
- Buried electrical line runs from the west side of the building to Kingston Road and via west of Dixie Road

It is possible that the bedding materials for the underground utilities could serve as preferential pathways for the migration of CoPCs; however, as the stabilized groundwater levels reported in well records to be beyond 5 m below ground surface, it is unlikely that the utilities will intersect the groundwater table.

3 Physical Setting of the Phase Two Property

3.1 Stratigraphy

Detailed geological information for the Property is presented on the geologic cross sections shown in Figures 8 and 9. The geology at the Property is summarized below.

3.1.1 Geological Unit Thickness

Geological Unit Thickness (Estimate)	
Borehole	**BH1 to BH3**
	Thickness Range (m)
Surficial Materials	0 to 0.2
Earth Fill	0.2 to 4.6
Sand and Silt to Sandy Silt (Glacial Till)	1.1 to 10.7
Sand to Silty Sand (Sand unit)	9.1 to 16.8
Clayey Silt	16.8 to 18.3
Bedrock	13.7 to 18.8

3.1.2 Elevations of Geological Units

Geological Unit Elevations		
Borehole	**BH1 to BH3**	
	Elev. Top Range (masl)	**Elev. Bottom Range (masl)**
Surficial Materials	88.5 to 87.4	88.3 to 87.2
Earth Fill	88.3 to 87.2	87.4 to 83.1
Sand and Silt to Sandy Silt (Glacial Till)	87.4 to 83.1	79.1 to 73.7
Sand to Silty Sand (Sand unit)	79.1 to 73.7	75.5 to 71.7
Clayey Silt	71.7	70.2
Bedrock	74.0	N/A

3.1.3 Material in Geological Units

Geological Units	Description
Surficial Materials	All boreholes encountered a pavement structure consisting of 150 mm asphaltic concrete.
Earth Fill	Earth fill was encountered at all borehole locations and underlying the pavement structure. The earth fill extended to a depth of 1.1 to 4.6 mbgs (Elev. 87.4 to 83.1 masl). The earth fill generally consisted of clayey silt with some sand and trace-some amount of gravel. The earth fill was typically brown and moist.
Sand and Silt to Sandy Silt (Glacial Till)	Underlying the fill materials, sand and silt to sandy silt tills were encountered. The sand and silt to sandy silt tills extended to a depth of 9.1 to 10.7 m (Elev. 79.1 to 77.0 m). The sand and silt to sandy silt till generally consisted of clayey to some clay, trace gravel and rock fragments. It was generally grey and moist.
Sand to Silty Sand (Sand unit)	Underlying the silts, sand to silty sand was encountered at all borehole locations. The sand to silty sand extended to a depth of 12.2 to 16.8 m (Elev. 75.5 to 71.7 m). The sand to silty sand generally consisted of trace amounts of clay, gravel and rock fragments. It was generally grey and wet.
Clayey Silt	Underlying the sands, clayey silt was encountered at BH3. The clayey silt extended to a depth of 16.8 to 18.3 m (Elev. 71.7 to 70.2 m). The clayey silt generally consisted some sand with trace gravel, and shale fragments. It was generally grey and moist.
Bedrock	Bedrock was encountered at a depth of 13.7 mbgs (Elev. 74.0 m).

3.2 Approximate Depth to Water Table

A total of three (3) monitoring wells have been installed by Grounded. Screened intervals of the monitoring wells were selected for the collection of groundwater samples within the desired strata based on moisture contents observed during the field investigation.

Three groundwater level measurements were conducted by Grounded in the newly installed monitoring wells using a Solinst interface probe on the following dates:

- November 23, 2022
- January 12, 2024
- January 16, 2024

To calculate the groundwater elevation in the monitoring well, the following calculation was completed:

- *Geodetic Ground Elevation (masl) – Measured Depth to Water Table (m) + Stick up of Well (m) = Groundwater Elevation (masl)*

No light non-aqueous phase liquids (LNAPL) or dense non-aqueous phase liquids (DNAPL) or free-flowing products were detected on the Property. The groundwater levels are presented in Table 1 and Figure 5.

Based on the groundwater elevations measured on the Property, a single unconfined aquifer is present within the lower glacial till extending into the underlying sand unit. The shallowest groundwater depth was measured at 4.9 mbgs (82.5 masl) in BH1 on January 16, 2024. The groundwater flow in the aquifer was determined to flow locally to the west. Regional groundwater flow is expected to flow to the south towards Frenchman's Bay. Groundwater contours are presented in Figure 5.

Additional groundwater data will be required to assess seasonal variability in groundwater quantity and flow direction; however, it based on the groundwater levels from 2022 to 2024, variability is expected to be limited.

3.3 Site Hydrogeological Characteristics

Horizontal Hydraulic Gradients	The horizontal hydraulic gradient at the Property was determined to be approximately 0.002 m/m based on the groundwater levels in boreholes BH1 & BH2.
Vertical Hydraulic Gradients	Based on the location and depths of the installed monitoring wells, the vertical gradient could not be calculated.
Hydraulic Conductivity	Earth fill – 1.0 x 10^{-6} m/s (published literature values in Freeze and Cherry, 1979) Sand and Silt to Sandy Silt (Glacial Till) - 9.09 × 10^{-7} (based on in-situ single well response test) Sand to Silty Sand – 5.43 × 10^{-5} to 9.61 × 10^{-5} (based on in-situ single well response test) Clayey Silt – 1.0 x 10^{-8} to 1.0 x 10^{-10} (published literature values in Freeze and Cherry, 1979)

3.4 Approximate Depth to Bedrock

Based on the subsurface investigation, bedrock was encountered at a depth of 13.7 mbgs (Elev. 74.0 m).

3.5 O.Reg. 153/04 Section 35

Section 35(2) of the Regulation does not apply to the Phase Two Property based on the following rationale:

- The Property, and all other properties located, in whole or in part, within 250 metres of the boundaries of the property, are supplied by a municipal drinking water system, as defined in the Safe Drinking Water Act, 2002.
    - However, municipal water supply is from regional groundwater supply wells as well as surface water sources.

- The record of site condition does not specify agricultural or other use as the type of property use for which the record of site condition is filed.
- The Property is not located in an area designated in the municipal official plan as a well-head protection area or other designation identified by the municipality for the protection of groundwater.
- Neither the Property nor any of the properties in the Phase One study area has a well used or intended for use as a source of water for human consumption or agriculture.

3.6 O.Reg. 153/04 Section 41

Section 41 of the Regulation does not apply to the Phase Two Property based on the following rationale:

- The Property is not located within an area of natural significance;
- The Property does not include or is not adjacent to an area of natural significance or part of such an area;
- The Property does not include land that is within 30 m of an area of natural significance or part of such an area;
- The surface soil at the Property has a pH value that is not less than 5 or greater than 9; and
- The sub-surface soil at the Property has a pH value that is not less than 5 or greater than 11.

3.7 O.Reg. 153/04 Section 43.1

Section 43.1 of the Regulation does not apply to the Phase Two Property based on the following rationale:

- The Property is not considered a shallow soil property; or
- The Property does not include all or part of a water body and is not adjacent to a water body and does not include land that is within 30 m of a water body.

3.8 Areas On, In or Under the Phase Two Property Where Excess Soil is Finally Placed

No excess soils have been imported or place on, in or under the Phase Two Property since the site reconnaissance completed for the Phase One ESA in November 11, 2022 and January 12, 2024.

3.9 Proposed Buildings

It is understood that the Property will be developed with three (3) new residential high-rise buildings with a 3-storey podium structure, constructed in two phases; Phase 1 comprising Towers 1 and 2 with a combined podium on the south side of the Property, and Phase 2 comprising Tower 3 with a separate podium structure on the north side of the Property. It is understood that consideration is being given to two (2) or three (3) levels of below grade parking beneath each of the phases (P2 or P3), or alternatively constructing the development on-grade with above-grade parking only.

4 Contamination In or Under the Phase Two Property

4.1 Applicable Site Condition Standard

The applicable site condition standard for the Property was determined to be the Table 2 Full Depth Generic Site Condition Standards for Use in a Potable Ground Water Condition for Residential/Parkland/Institutional for medium to fine-textured soil due to the following reasons:

Current Land Use	Commercial
Future Land Use	Residential
Soil Texture	Medium to fine based on grain size analysis performed on the soil. Based on the results of 7 grain size analyses, all soil samples contained 50 percent or more by mass of particles that are smaller than 75 micrometres in mean diameter. As such, the qualified person has determined that less than 1/3 of the soil at the property, measured by volume, consists of coarse textured soil, and therefore the qualified person has applied the standard for medium and fine textured soil.
Potable Water Source	Municipal service/municipal water supply is from s combination of regional groundwater supply wells and surface water sources.
Bedrock Depth	Bedrock is located at a depth of greater than 2 m.
Property located within 30 m of a surface water body (Yes/No)	No
Property located in or adjacent to a provincial park or an Area of Natural Significance (Yes/No)	No

4.2 Media Investigated

Grounded conducted the following specific subsurface work at the Property:

Boreholes and Monitoring Wells	**Grounded Drilling Investigation (November 2022):**
	• Advancing of three (3) boreholes (BH1-BH3) to depths of 15.7 to 19.4 m below ground surface (m bgs)
	• Installation of three (3) monitoring wells (BH1-BH3)
	Grounded Drilling Investigation (December 2022):
	• Five (5) shallow boreholes (BH1A, BH1B and BH2A-BH2C) to depths of 1.5 to 3.0 mbgs to confirm soil quality:
	  ○ BH1A and BH1B were advanced to confirm pH quality at this location see Section 4.3.3).
	  ○ BH2A to BH2C were advanced to confirm PHC (F1-F4) concentrations at this location in the fill as this location had initially had the detectable (*but not exceeding*) concentrations for PHC F3 onsite, likely due to sampling error. All additional samples reported non-detectable or concentrations well below the standards.

Parameters Investigated for Soil	The following parameters were investigated based on the CoPCs identified in the Phase One ESA:
	Grounded Drilling Investigation (November 2022):
	• M
	• H-M
	  ○ Sb, As, Se
	• ORPs
	  ○ B-HWS, CN-, EC, SAR, Cr(VI), Hg, pH
	• PAHs
	• PHCs
	• BTEX
	• VOC
	Grounded Drilling Investigation (December 2022):
	• ORPs (pH only)
	• PHCs

Parameters Investigated for Groundwater	Based on the depth to the stabilized groundwater table (beyond 5 mbgs) and potential surficial impacts from the identified potentially contaminating activities, the Phase One ESA only identified soil as media potentially impacted. However, the following parameters were analyzed for during this investigation for due diligence purposes only: • M • H-M ○ Sb, As, Se • ORPs

	○ Cr(VI), CN-, Hg, Cl-, pH • Sodium (Na) • PAHs • PHCs • BTEX • VOC
• 7 soil samples were submitted for grain size analysis and soil classification. • All boreholes and monitoring wells were surveyed using a Sokkia survey system. • All new monitoring wells were developed prior to sampling. • Groundwater level measurements were conducted in all accessible monitoring wells to determine groundwater elevation on the Property.	

4.3 Sampling Rationale and Areas Where Contaminants are Present

The table below identified all APECs listed in the Phase One ESA as well as the boreholes that were used to evaluate each APEC. The findings with respect to any contaminant noted are also presented.

Areas of Potential Environmental Concern (APECs)	Location of APECs on Phase One Property	Potentially Contaminating Activities (PCAs)	Contaminants of Potential Concern (CoPCs)	Media Potentially Impacted (Groundwater, soil and/or sediment)	Borehole or Monitoring Well Associated	Exceedances
APEC 1	Entire Property	#30 - Importation of Fill Material of Unknown Quality	Metals As, Sb, Se B-HWS CN- Hg Cr(VI) PAHs PHCs VOCs BTEX	Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil Soil	BH1 – 3	*Soil:* None *Groundwater:* *N/A*
APEC 2	Entire Property	Other 1 - De-icing Activities	EC SAR	Soil Soil	BH1 – 3	*Soil:* None *Groundwater:* *N/A*

No exceedances were identified in the potential media of impact i.e., soil identified in the Phase One ESA. The groundwater was also assessed for due diligence purposes in this study and no exceedances were identified.

4.3.1 Location and Depth of Soil Samples

Sample ID	Depth		Strata	APEC Assessed	M/ H-M	ORPs *	PAHs	PHCs	BTEX	VOCs
	mbgs	masl								
Grounded Drilling Investigation (November 2022)										
BH1 SS1	0.2 - 0.8	87.3 - 86.7	Fill	1,2	✓	✓				
BH1 SS2	0.8 - 1.4	86.7 - 86.1	Fill	1			✓			
BH1 SS4	2.3 - 2.9	85.1 - 84.5	Fill	1,2	✓	✓	✓	✓	✓	✓
BH1 SS10	10.7 - 11.3	76.8 - 76.1	Sand and Silt	1				✓	✓	✓
BH2 SS1	0.2 - 0.8	87.5 - 86.9	Fill	1,2	✓	✓				
BH2 SS2	0.8 - 1.4	86.9 - 86.3	Fill	1			✓	✓	✓	✓
BH2 SS3	1.5 - 2.1	86.2 - 85.6	Fill	1,2	✓	✓	✓			
BH2 SS6	4.6 - 5.2	83.1 - 82.5	Sand and Silt Till	1				✓	✓	
BH2 SS9	9.1 - 9.8	78.6 - 77.9	Sand and Silt Till	1				✓	✓	✓
BH3 SS1	0.2 - 0.8	88.3 - 87.7	Fill	1,2	✓	✓				
BH3 SS2	0.8 - 1.4	87.7 - 87.1	Sand and Silt Till	1			✓	✓	✓	✓
BH3 SS3	1.5 - 2.1	86.9 - 86.3	Sand and Silt Till	1,2	✓	✓				
BH3 SS4	2.3 - 2.9	86.2 - 85.6	Sand and Silt Till	1			✓			
BH3 SS9A	9.1 - 9.4	79.3 - 79.0	Sand and Silt Till	1				✓	✓	✓
Grounded Drilling Investigation (December 2022)										
BH1A SS1	0.3 - 0.9	87.1 - 86.5	Fill	1		✓ (pH)				
BH1A SS2	0.9 - 1.5	86.5 - 85.9	Fill	1		✓ (pH)				
BH1B SS1	0.3 - 0.9	87.1 - 86.5	Fill	1		✓ (pH)				
BH1B SS2	0.9 - 1.5	86.5 - 85.9	Fill	1		✓ (pH)				

Sample ID	Depth		Strata	APEC Assessed	M/ H-M	ORPs *	PAHs	PHCs	BTEX	VOCs
	mbgs	masl								
BH2A SS1	0.6 - 1.2	87.1 - 86.5	Fill	1				✓		
BH2B SS1	0.6 - 1.2	87.1 - 86.5	Fill	1				✓		
BH2C SS1	0.6 - 1.2	87.1 - 86.5	Fill	1				✓		

**Soil samples were submitted for the following select ORPs, unless otherwise mentioned: Cyanide (CN-), Mercury (Hg), Hexavalent Chromium (Cr(VI)), low or high pH, Boron Hot-Water Soluble, EC, SAR*

4.3.2 Location and Depth of Groundwater Samples

Sample ID	Screen Depth		Screen Strata	APEC Assessed	Metals, H-Metals, Na & *ORPs	PAHs	PHCs/ BTEX	VOCs
	mbgs	masl						
Grounded Drilling Investigation (November 2022)								
BH1	10.7 - 13.7	76.8 - 73.7	Sand and Silt Till/Sand	Due Diligence	✓	✓	✓	✓
BH2	9.1 - 12.2	78.6 - 75.5	Sand and Silt Till/Silty Sand	Due Diligence	✓	✓	✓	✓
BH3	12.2 - 15.2	76.3 - 73.2	Sand	Due Diligence	✓	✓	✓	✓

**Groundwater samples were submitted for the following select ORPs: Cyanide (CN-), Mercury (Hg), Hexavalent Chromium (Cr(VI)), low or high pH, Chloride (Cl)*

4.3.3 Additional pH sampling in Soil

The drilling program conducted by Grounded collected a soil sample in BH1 between 0.2 to 0.8 m depth (BH1/SS1) that had an elevated pH level of 9.12 pH units. On December 16, 2022, Grounded advanced 2 additional boreholes (BH1A and BH1B) within 1 m laterally of BH1 to a maximum depth of 1.5 m below existing grade. Four samples (BH1A/SS1, BH1A/SS2, BH1B/SS1, BH1B/SS2) plus one duplicate were collected at depths of 0.3 to 0.9 mbgs (SS1) and 0.9 to 1.5 mbgs (SS2), respectively. The laboratory results indicated that all samples were within the applicable range of 7.00 to 9.00 pH units for surface soil, as indicated below.:

Sample Name	Units	MECP Table 2 RPI	RDL	BH1 SS1	BH1A SS1	DUP-2 (BH1A SS1)	BH1B SS1	BH1A SS2	BH1B SS2
Date				**11-Nov-22**	**16-Dec-22**	**16-Dec-22**	**16-Dec-22**	**16-Dec-22**	**16-Dec-22**
Depth of Sample (m)				**0.2 - 0.8**	**0.3 - 0.9**	**0.3 - 0.9**	**0.3 - 0.9**	**0.9 - 1.5**	**0.9 - 1.5**
Elev. of Sample (masl)				**87.3 - 86.7**	**87.1 - 86.5**	**87.1 - 86.5**	**87.1 - 86.5**	**86.5 - 85.9**	**86.5 - 85.9**
pH	unitless	5 to 9	-	9.12	8.13	8.01	8.1	8.07	8.04
Average Result of soils 0.2-0.9 mbgs (SS1)*				***8.26***					

*Results were averaged with the original sample and soil sample points taken within 1 metre of and same depth within the same soil horizon as the original exceedance.

The Qualified Person has determined that the original sample in BH1-SS1 is anomalous, likely due to concrete or lime dust included in the original sample. As per Section 48 (2) of O.Reg. 153/04, an average of the original sample (BH1/SS1) and additional samples within 1 m of the original sample from BH1A and BH1B and at 0.3 to 0.9 m depth (BH1A/SS1 and BH1B/SS1) was used to determine the representative pH value of the surface soils in this location. This average pH value of 8.26 was calculated as follows:

i. converting the pH value of the original samples and additional auger hole samples to their corresponding hydrogen ion (H+) concentrations
ii. calculating the average H+ concentration, and
iii. converting the average H+ concentration back to its corresponding pH value.

The QP has determined through additional sampling, that the elevated pH reading in BH1/SS1 was likely due to concrete and/or lime dust included in the sample. This average pH value of additional samples taken at this depth of 8.26 is within the applicable range of 7.00 to 9.00 pH units for surface soils and therefore, all surface soil at the Property is within the applicable range for pH.

4.4 Exemption of Exceedances (O.Reg. 153/04 Sec 49.1)

Chemical analysis of the soil indicates that there are exceedances of the MECP Table 2 RPI Standards for Electrical Conductivity and Sodium Adsorption Ratio (salt related compound) within the upper soils in BH2 and BH3.

The Property is bound by municipal roadways to the east (Dixie Road) and west (Kingston Road). The roadways have public sidewalks between the road and the Property boundary. The Property features construction vehicle traffic and car parking. The roadways, sidewalks, and parking area are all salted during the winter months for safety purposes.

The Qualified Person has determined, based on the Phase One Environmental Site Assessment and the Phase Two Environmental Site Assessment, that a substance (salt) has been applied to surfaces of the roadway, sidewalks, driveway, and parking area for the safety of vehicular and pedestrian traffic under conditions of snow or ice or both.

The applicable site condition standard is exceeded at the Property solely because of the reason as stated above (application of salt for safety purposes during winter months). As per O.Reg. 153/04 49.1 the applicable site condition standard is deemed not to be exceeded for the purpose of Part XV.1 of the Act.

4.5 Contaminants Associated with Each Area

No Contaminants of Concerns (CoCs) were associated with Areas of Potential Concerns (APECs) identified on the Property.

APEC 1	APEC 2
None	None

4.6 Medium in Which Contaminants are Associated

Fill, native soil and groundwater were investigated as part of the Phase Two ESA investigation. No CoCs were identified in the following media for the contaminants listed.

Metals	H-Metals	ORPs	PAHs	PHCs	BTEX	VOCs
None	None	None	None	None	None	None

4.7 Information Known about Each Contaminated Area

No contaminants were identified in the soil and groundwater on the Property. All the samples met the Table 2 RPI Standard as shown in Figures 6 to 9.

4.8 Distribution of Contaminant

No contaminants were identified on the Property. As such, there is migration associated with contaminants on the Property is unlikely.

4.9 Climatic or Meteorological Influences on Migration

No contaminants were identified on the Property. As such, climatic or meteorological influences on migration on the Property are unlikely.

4.10 Soil Vapour Intrusion into Buildings

No contaminants were identified in the soil and groundwater during the investigation. As such, the likelihood for soil vapour intrusion of contaminants into buildings is low.

4.11 Relevant Construction Features of Buildings

A slab-on-grade commercial building was observed on the Property.

4.12 Building HVAC

Current/future HVAC systems present in any buildings on the Property will not affect the distribution and transport of contaminants because no volatile CoCs were identified.

4.13 Subsurface Structures and Utilities

The utility locates conducted as part of the Phase Two ESA observed subsurface utilities and services at the Property, as shown on Figure 4. It is possible that the bedding materials for the underground utilities could serve as preferential pathways for the migration of CoPCs. However, as the highest stabilized groundwater levels was observed at approximately 4.9 m below ground surface, it is unlikely that the utilities will intersect the groundwater table.

Additionally, no contaminants were identified in the soil and groundwater during the investigation.

5 Potential Exposures Pathways and Receptors

5.1 Description of All Components

A list of all risk-based components of potential exposure pathways and receptors are presented below and presented on Figures 10 and 11.

Potential Pathway	Description
GW1	Groundwater for drinking water purposes
GW2	Groundwater for protection from movement to indoor air
GW3	Groundwater for protection of aquatic life
S1	Soil for protection of a residential receptor from direct contact with surface soil
S2	Soil for protection from direct soil contact for a lower frequency and intensity exposure than residential surface soil, such as commercial or industrial scenarios
S3	Soil for direct soil contact for a low-frequency, high-intensity, human health exposure scenario without children present that is protective of a worker digging in the soil

Potential Pathway	Description
S-IA	Soil for protection of movement to indoor air and human exposure
S-OA	Soil for protection of movement to outdoor air and human exposure
S-Odour	Soil for protection of movement to outdoor air and human exposure
S-GW1	Soil for protection from movement to groundwater for drinking water purposes
S-GW3	Soil for protection from movement to groundwater and then to aquatic life
Plants and Soil Organisms	Soil for protection against adverse effects to plants and soil dwelling organisms
Mammals and Birds	Soil for protection against adverse effects through direct soil and food ingestion to mammals and birds

5.2 Receptor Human Health

Potential Pathway	Sources	CoCs from Phase Two ESA	Potential Risks (Yes/No)			
			Source	Pathway	Receptor	Risk
GW1	Groundwater not a media of concern. However, contamination not present in groundwater assessed.	None	No	Yes	Yes	No Risk
GW2	Groundwater not a media of concern. However, contamination not present in groundwater assessed.	None	No	No	Yes	No Risk
GW3	Groundwater not a media of concern. However, contamination not present in groundwater assessed.	None	No	Yes	Yes	No Risk
S1	Contamination not present in fill material and native soils	None	No	Yes	Yes	No Risk
S2	Contamination not present in fill material and native soils	None	No	Yes	Yes	No Risk
S3	Contamination not present in fill material and native soils	None	No	Yes	Yes	No Risk
S-IA	Contamination not present in fill material and native soils	None	No	Yes	Yes	No Risk

Potential Pathway	Sources	CoCs from Phase Two ESA	Potential Risks (Yes/No)			
			Source	Pathway	Receptor	Risk
S-OA	Contamination not present in fill material and native soils	None	No	Yes	Yes	No Risk
S-Odour	Contamination not present in fill material and native soils	None	No	Yes	Yes	No Risk
S-GW1	Contamination not present in fill material and native soils	None	No	Yes	Yes	No Risk
S-GW3	Contamination not present in fill material and native soils	None	No	Yes	Yes	No Risk

5.3 Receptor Terrestrial Environment

Potential Pathway	Sources	CoCs from Phase Two ESA	Potential Risks (Yes/No)			
			Source	Pathway	Receptor	Risk
Plants and Soil Organisms	Contamination not present in fill material and native soils	None	No	Yes	Yes	No Risk
Mammals and Birds	Contamination not present in fill material and native soils	None	No	Yes	Yes	No Risk

5.4 Receptor Aquatic Environment

Potential Pathway	Sources	CoCs from Phase Two ESA	Potential Risks (Yes/No)			
			Source	Pathway	Receptor	Risk
GW3	Groundwater not a media of concern. However, contamination not present in groundwater assessed.	None	No	Yes	Yes	No Risk
S-GW3	Contamination not present in fill material and native soils	None	No	Yes	Yes	No Risk

5.5 Summary of Potential Receptor Risks

No Contaminants of Concern were identified during the Phase Two ESA investigation. There is no potential risk associated with the Human Receptor, the Terrestrial or the Aquatic Environment.