PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

Superior Court, Oakville, Ontario

Client

Beedie ON (Superior Court) Property Ltd.
3030 Gilmore Diversion
Burnaby, British Columbia,
V5G 3B4

Project Number

BIGC-ENV-382C

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Date Submitted

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Executive Summary

B.I.G. Consulting Inc. (BIG) was retained by Beedie ON (Superior Court) Property Ltd. (Client), to complete a Phase Two Environmental Site Assessment (ESA) at the property located at Superior Court, in Oakville, Ontario (the Site).

This Phase Two ESA was conducted in accordance with the Phase Two ESA standard defined by Ontario Regulation 153/04 (O.Reg.153/04), as amended.

The objective of the Phase Two ESA was to assess the areas of potential environmental concern (APECs) identified in the Phase One ESA completed by BIG in May 2022; and, to obtain soil and groundwater data to characterize the Site.

The findings of the Phase Two ESA conducted at the Site are summarized as follows:

1. The general stratigraphy at the Site, as revealed in the borehole logs, consists of topsoil overlying fill, underlain by native clayey silt till and shale bedrock.
2. Less than two-thirds of the Site has an overburden thickness greater than 2 m. Approximately 46% of the Site has an overburden thickness less than 2 m, as shown on Figure 17. As such, this property is deemed a shallow soil property.
3. Based on the textural description of the soil stratigraphy as inferred from borehole observations and the two (2) soil samples that were submitted for grain size analysis, medium/fine textured standards were applied as part of this Phase Two ESA.
4. The groundwater depths across the entire Site ranged between approximately 2.05 m and 4.94 m below ground surface (bgs) on May 16, 2022.
5. The soil analytical results indicated that all soil samples taken during BIG's soil sampling program submitted for PHCs, BTEX, VOCs, PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR analyses were either non-detect or detected below the applicable MECP (2011a Table 6: Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition for Industrial/Commercial/Community Use and medium/fine textured soils; and all laboratory RDLs were below the applicable SCS.
6. The groundwater analytical results indicated that all groundwater samples taken during BIG's groundwater sampling program submitted for PHCs, BTEX, VOCs, PAHs, metals, As, Sb, Se, Cr(VI), Hg, CN-, Na and Cl- analyses were either non-detect or detected below the applicable MECP (2011) Table 6 SCS; and all laboratory RDLs were below the applicable SCS.

Conclusions and Recommendations

No COCs were identified in soil or groundwater at the Site.

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1 Introduction

B.I.G. Consulting Inc. (BIG) was retained by Beedie ON (Superior Court) Property Ltd. (Client), to complete a Phase Two Environmental Site Assessment (ESA) at the property located at Superior Court, Oakville, Ontario (the Site).

The objective of the investigation was to conduct the investigation in accordance with Ontario Regulation 153/04 (O.Reg.153/04), as amended. It is BIG's understanding that the Site will be redeveloped for industrial use in the future. Contact information for the Client is provided in Section 1.2.

The objective of the Phase Two ESA was to assess the areas of potential environmental concern (APECs) identified in the Phase One ESA completed by BIG in May 2022 and, to obtain soil and groundwater data to characterize the Site to support the filing of an RSC on the Ontario Ministry of the Environment, Conservation and Parks (MECP) Brownfields Environmental Site Registry (BESR).

1.1 Site Description

The Site is located north of Superior Court and east of Burloak Drive in Oakville, Ontario, as shown on Figure 1. For simplicity of this report, Superior Court is considered running west to east. The Site is irregularly shaped and measures approximately 4.06 hectares (10.03 acres) in size. The Site is currently undeveloped or vacant and is covered with grass and bushes. It is our understanding that the Site was owned by a former Shell refinery.

The Site is bound to the north and east by a tributary to Red Oak Pond, to the south by Superior Court followed by an industrial property, and to the west by industrial properties. The surrounding properties are shown on Figure 2.

1.2 Legal Description and Property Ownership

Refer to the table below for the Site identification information.

Site Details	
Municipal Addresses	Superior Court, Oakville, Ontario
Current Owner	Beedie ON (Superior Court) Property Ltd.
Owner Address	3030 Gilmore Diversion, Burnaby, British Columbia, V5G 3B4
Client Contact Person	Mr. Carlos Ilagan
Legal Description	Part of Lot 34, Concession 3 South of Dundas Street, Parts 35 to 37, 20R17477; Oakville. Together with 164850.
Property Identification Numbers (PINs)	24858-0209 (LT)
Property Size	4.06 hectares (10.03 acres)
Approximate Universal Transverse Mercator (UTM) coordinates	Zone: 17 Easting: 601728.32 Northing: 4805170.73 (1m, NAD83, QGIS)

1.3 Current and Proposed Future Uses

At the time of the Phase Two ESA investigation, the Site was zoned for industrial land use. The Site is currently vacant. The Site will be redeveloped for industrial purposes. Section 168.3.1 of the *Environmental Protection Act* does not prohibit the proposed future use of the Property. Current surrounding land uses is included in Figure 3.

1.4 Applicable Site Condition Standards

Analytical results obtained for Site soil and groundwater samples were assessed against Site Condition Standards (SCS) as established under subsection 169.4(1) of the Environmental Protection Act, and presented in the document MECP "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the *Environmental Protection Act',* ("SGWS" Standards), (MECP, 2011a). Tabulated background SCS (Table 1) applicable to environmentally sensitive sites and effects based generic SCS (Tables 2 to 9) applicable to non-environmentally sensitive sites are provided in the SGWS Standards. The effects based SCS (Tables 2 to 9) are protective of human health and the environment for different groundwater conditions (potable and non-potable), land use scenarios (residential, parkland, institutional, commercial, industrial, community, and agricultural/other), soil texture (coarse or medium/fine) and restoration depth (full or stratified).

Tables 1 to 9 of MECP are summarized as follows:

a) Table 1 - applicable to sites where background concentrations must be met (full depth), such as sensitive sites where site-specific criteria have not been derived;
b) Table 2 - applicable to sites with potable groundwater and full depth restoration;
c) Table 3 - applicable to sites with non-potable groundwater and full depth restoration;
d) Table 4 - applicable to sites with potable groundwater and stratified restoration;
e) Table 5 - applicable to sites with non-potable groundwater and stratified restoration;
f) Table 6 - applicable to sites with potable groundwater and shallow soils;
g) Table 7 - applicable to sites with non-potable groundwater and shallow soils;
h) Table 8 - applicable to sites with potable groundwater and that are within 30 m of a water body; and,
i) Table 9 - applicable to sites with non-potable groundwater and that are within 30 m of a water body.

Application of the generic or background SCS to a specific site is based on a consideration of site conditions related to soil pH (i.e., surface and subsurface soil), thickness and extent of overburden material, (i.e., shallow soil conditions), and proximity to an area of environmental sensitivity or of natural significance. For some chemical constituents, consideration is also given to soil textural classification with SCS having been derived for both coarse and medium/fine textured soil conditions.

For assessment purposes, BIG selected the MECP Table 6: Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition for Industrial/Commercial/Community Use and medium/fine textured soil (Table 6 SCS). The selection of this category was based on the following factors:

a) Less than two-thirds of the Site has an overburden thickness greater than 2 m. Approximately 46% of the Site has an overburden thickness less than 2 m, as shown on Figure 17. As such, this property is deemed a shallow soil property.
b) The Site is not located within 30 m of a surface water body.
c) The soil at the Site has a pH value between 5 and 9 for surficial soils; and, between 5 and 11 for subsurface soils.
d) The property is not within an area of natural significance; does not include, nor is it adjacent to an area of natural significance, nor is it part of such an area; and it does not include land that is within 30 m of an area of natural significance, nor is it part of such an area.
e) The Site falls within a potable groundwater area in the Town of Oakville.
f) The future land use of the Site is industrial.
g) The predominant soil type on the Site was considered to be medium/fine textured as per the grain size analysis performed on soil samples taken during the Phase Two ESA (see Appendix G).
h) There was no intention to carry out a stratified restoration at the Site.

2 Background Information

2.1 Physical Setting

The following physiographic, geological and soil maps were reviewed as part of this Phase Two ESA:

a) Atlas of Canada – Toporama Topographic Map (Toporama).
b) Ontario Base Map (OBM).
c) Ontario Ministry of Energy, Northern Development and Mines (MENDM) website, Bedrock Geology of Ontario, 2011 – MRD 126; and Paleozoic Geology of Southern Ontario, 2007 – MRD 219 (KML format);
d) Ontario MENDM website, Surficial Geology of Southern Ontario, 2010. (KML format); and,
e) Ontario MENDM website, Physiography of Southern Ontario 2007.

The following information was obtained from these maps:

a) The Site is at an elevation of approximately 101 to 105 metres above sea level (m asl), generally at the same elevation as properties to the north and west of the Site The surrounding properties located to the east and south are generally at lower elevation than the Site. The Site consists of a downgradient slope towards the south.
b) No water bodies are located on the Site. A tributary to Red Oak Pond is approximately 30 m north and east of the Site and Lake Ontario is located approximately 2.5 km east. The inferred groundwater flow direction is likely towards the east.
c) The bedrock in the general area consists of shale, limestone, dolostone and siltstone and is part of the Queenston Formation.
d) The surficial geology of the Site is described as Paleozoic bedrock.
e) The physiography of the Site is within Iroquois Plain and is characterized as shale plains.

2.2 Past Environmental Investigations

Previous environmental investigations have been conducted at the Site, including a Phase I Environmental Site Assessment, a Preliminary Geotechnical Investigation, a Phase II Environmental Site Assessment, a Preliminary Hydrogeological Investigation and a Phase One Environmental Site Assessment.

The following environmental investigation was reviewed in support of this Phase Two ESA report:

1. BIG (2020a) Preliminary Geotechnical Investigation, Superior Court, Oakville, Ontario. B.I.G. Consulting Inc. April 22, 2020.
2. BIG (2020b) Phase I Environmental Site Assessment, Superior Court, Oakville, Ontario. B.I.G. Consulting Inc. April 22, 2020.
3. BIG (2020c) Phase II Environmental Site Assessment, Superior Court, Oakville, Ontario. B.I.G. Consulting Inc. April 23, 2020.
4. BIG (2021) Preliminary Hydrogeological Investigation, Superior Court, Oakville, Ontario. B.I.G. Consulting Inc. March 10, 2021.
5. BIG (2022) Phase One Environmental Site Assessment, Superior Court, Oakville, Ontario. B.I.G. Consulting Inc. May 27, 2022.

A brief summary of the investigations is included below:

BIG (2020a) Preliminary Geotechnical Investigation	
Objective	To review the established local geological settings at the Site, north adjacent and west adjacent properties.
Program	• Advancement of fifteen (15) boreholes up to depths ranging from 1.7 to 6.2 m below ground surface (bgs). • Installation of six (6) monitoring wells up to depth of 6.1 m bgs.
Soil	• The stratigraphy at the Site consisted of topsoil underlain by earth fill followed by native clayey silt till and sand. • Shale bedrock was encountered from 1.7 m to 6.2 m bgs.

BIG (2020b) Phase I Environmental Site Assessment	
Objective	Identify former and existing sources of potential environmental concern at the Site.
Sources of Potential Environmental Concern	• Importation of fill material and historical deposit of leaded material to the entire Site. • Former petroleum ASTs at the property southwest adjacent to the Site. • Former petroleum ASTs at the property approximately 15 m southwest of the Site. • Concrete pipe manufacturing at 3030 Superior Court, approximately 25 m south.

BIG (2020c) Phase II Environmental Site Assessment	
Objective	Investigate soil and groundwater quality at the Site.
Program	• Advancement of fifteen (15) boreholes up to depths ranging from 1.7 to 6.2 m below ground surface (bgs). • Installation of six (6) monitoring wells up to depth of 6.1 m bgs • Soil samples submitted for the analysis of petroleum hydrocarbons (PHCs), volatile organic compounds (VOCs), Benzene, Toluene, Ethylbenzene and Xylenes (BTEX), polycyclic aromatic hydrocarbons (PAHs), metals and inorganics. • Groundwater samples submitted for the analysis PHCs, VOCs, PAHs, metals and inorganics (incl. sodium and chloride)
Site Condition Standards	MECP (2011) Table 6 Full depth generic SCS for shallow soils in a potable ground water condition for industrial/commercial/community property use and medium-fine textured soil.
Soil	• The stratigraphy consists of topsoil underlain by fill material comprised of clayey silt with trace sand, and native clayey silt . • Weathered Shale bedrock was encountered to the maximum depth investigated, 6.2 m bgs.
Groundwater	• Water levels ranged from 1.80 to 5.33 m bgs (March 20, 2020).
Soil Conditions	• All soil samples submitted were detected below applicable SCS.
Groundwater Conditions	• All groundwater samples submitted were detected below applicable SCS.

BIG (2021) Preliminary Hydrogeological Investigation	
Objective	To establish local hydrogeological settings at the Site.
Program	• Excavation of sixteen (16) test pits up to 2.3 m bgs. • Utilization of previously installed six (6) monitoring wells (MW2, MW3, MW, MW6, MW11 and MW13).
Soil	• The stratigraphy at the Site consisted of topsoil underlain by earth fill followed by native clayey silt till and sand. • Shale bedrock was encountered from 1.7 m to 6.2 m bgs.
Groundwater	• Water level = 3.71 m to 5.14 m bgs or 99.47 m to 96.39 m asl (December 18, 2020) • Groundwater flow is interpreted to be to the southeast direction. • Hydraulic conductivity = 2.05 x 10^{-5} to 9.24 x 10^{-9} m/s

BIG (2022) Phase One Environmental Site Assessment	
Objective	Identify former and existing area of potential environmental concern at the Site.
Area of Potential Environmental Concern	• Importation of fill material of unknown quality at the Site. • Former oil refinery located southwest adjacent to the Site. • Former petroleum ASTs located southwest adjacent to the Site • Concrete pipe manufacturer located 25 m south of the Site at 3300 Superior Court.

3 Scope of the Investigation

3.1 Overview of Site Investigation

The objective of the Phase Two ESA was to assess the APECs identified in BIG's Phase One ESA; and, to obtain soil and groundwater data to characterize the Site.

3.1.1 Scope of Work

The scope of work for the Phase Two ESA was as follows:

a) Request public utility locating companies (e.g., cable, telephone, gas, hydro, water, sewer and storm water) to mark any underground utilities present at the Site;
b) Advance a total of five (5) boreholes (BH101 to BH105) up to a maximum depth of 8.1 m bgs;
c) Instrument five (5) boreholes as monitoring wells (MW101 to MW105);
d) Collect representative soil samples for laboratory chemical analysis of PHCs, benzene, toluene, ethylbenzene and xylenes (BTEX), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, electrical conductivity (EC), and SAR.
e) Develop newly installed groundwater monitoring wells;
f) Collect groundwater levels from both the previously and newly installed monitoring wells;
g) Collect groundwater samples from both the newly installed monitoring wells for laboratory chemical analysis of PHCs, BTEX, VOCs, PAHs, metals, As, Sb, Se, Cr(VI), Hg, CN-, Na and Cl-;
h) Complete an elevation survey of all newly installed monitoring wells to determine the groundwater flow direction in the overburden aquifer beneath the Site;
i) Analyze the data and prepare a report of the findings.

3.2 Media Investigated

The focus of the Phase Two ESA was on the environmental conditions of the surficial topsoil, overburden materials and groundwater beneath the Site. As there was no surface water body on the Site, no sediment sampling was required.

A copy of the Site Sampling and Analysis Plan (SSAP) prepared for the Site is provided in Appendix A.

3.3 Phase One Conceptual Site Model

This section presents the Phase One Conceptual Site Model (P1CSM) providing a narrative, graphical and tabulated description integrating information related to the Site geologic and hydrogeologic conditions, areas of potential environmental concern/potential contaminating activities, and the presence and distribution of potential contaminants of concern. These components are discussed in the following sections.

The Site is located north of Superior Court and east of Burloak Drive in Oakville, Ontario, as shown on Figure 1. For simplicity of this report, Superior Court is considered running west ot east. The Site is irregularly shaped and measures approximately 4.06 hectares (10.03 acres) in size. The Site is currently undeveloped or vacant and is covered with grass and bushes. It is our understanding that the Site was owned by a former Shell refinery.

The legal description of the Site as obtained from the Chain of Title is "Part of Lot 34, Concession 3 South of Dundas Street, Parts 35 to 37, 20R17477; Oakville. Together with 164850". The Property Identification Number (PIN) is 24858-0209 (LT). The legal survey plan is included in Appendix E.

The approximate Universal Transverse Mercator (UTM) coordinates for the Site centroid was NAD83 17-

4805170.73 m N, 601728.32 m E. The UTM coordinates are based on measurements obtained from QGIS. The accuracy of the centroid is estimated to be 1 m.

Potentially Contaminating Activities

The Phase One ESA conducted by BIG in 2022 identified the following PCAs:

PCA Identifier	Address	PCA	PCA Location	Contributing to APEC at the Site?	Rationale
1.	Superior Court	Importation of fill material (PCA#30 – Importation of Fill Material of Unknown Quality)	On-Site	Yes	On-Site
2.	No municipal address	Former Oil Refinery (PCA#14 – Crude Oil Refining, Processing and Bulk Storage)	Off-Site (Southwest adjacent)	Yes	Close proximity
3.		Former ASTs (PCA#28 - Gasoline and Associated Products Storage in Fixed Tanks)		Yes	Close Proximity
4.	3300 Superior Court	Concrete Pipe Manufacturer (PCA#12 – Concrete, Cement and Lime Manufacturing)	Off-Site (25 m south)	Yes	Close proximity
5.	No municipal address	Historical Oil Spill (PCA "Other" – Spill or Leakage of Gasoline or Related Products)	Off-Site (60 m north)	No	Located at a significant distance
6.	No municipal address	Former Oil Refinery (PCA#14 – Crude Oil Refining, Processing and Bulk Storage)	Off-Site (70 m east)	No	Inferred trans-gradient
7.		Former ASTs (PCA#28 - Gasoline and Associated Products Storage in Fixed Tanks)			
8.	No municipal address	Oil Refinery (PCA#14 – Crude Oil Refining, Processing and Bulk Storage)	Off-Site (80 m south)	No	Located downgradient
9.		Former ASTs (PCA#28 - Gasoline and Associated Products Storage in Fixed Tanks)			

1) *Potentially contaminating activity means a use or activity set out in Column A of Table 2 of Schedule D that is occurring or has occurred in a Phase One study area.*

The identification of the PCAs both on-Site and off-Site within the Phase One study area are shown on Figure 3. Based on the rationale provided, it is the opinion of the Qualified Person (QP) that four (4) PCAs

were considered as an APEC at the Site. Further discussion is provided below.

Areas of Potential Environmental Concern

Based on the evaluation of the PCAs located on- and off-Site, four (4) APECs were identified, as presented below:

APEC	Location of APEC on Phase One Property	PCA	Location of PCA (On-Site or Off-Site)	Contaminants of Concern	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC 1: Importation of fill material	Entire Site	PCA#30 – Importation of Fill Material of Unknown Quality	On-Site	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, Electrical Conductivity and SAR	Soil and groundwater
APEC 2: Former oil refinery	Southwestern portion	PCA#14 – Crude Oil Refining, Processing and Bulk Storage	Off-Site	PHCs, VOCs	Groundwater
APEC 3: Former ASTs	Southwestern portion	PCA#28 – Gasoline and Associated Products Storage in Fixed Tanks	Off-Site	PHCs, VOCs	Groundwater
APEC 4: Concrete pipe manufacturer	Southern portion	PCA#12 – Concrete, Cement and Lime Manufacturing	Off-Site	PHCs, metals, As, Sb, Se, Cr(VI), Hg, CN-, Na and Cl-	Groundwater

1) *Area of Potential Environmental Concern means the area on, in or under a phase one study area where one or more contaminants are potentially present, as determined through the Phase One ESA including through:*
    a. *Identification of post or present uses on, in or under the phase one property, and*
    b. *Identification of potentially contaminating activities.*
2) *Potentially contaminating activity means a use or activity set out in Column A of Table 2 of Schedule D that is occurring or has occurred in a phase one study area*
3) *PAHs - polycyclic aromatic hydrocarbons, PHCs - petroleum hydrocarbons, BTEX - benzene, toluene, ethylbenzene, xylenes, VOCs - volatile organic compounds, As = arsenic; Sb = antimony; Se = selenium; B-HWS = boron-hot water soluble; Cr(VI) = hexavalent chromium; Hg = mercury; CN- = cyanide; SAR = sodium adsorption ratio; Na = sodium; Cl- = chloride*

The physiography of the Site is within Iroquois Plain and is characterized as shale plains. The surficial geology of the Site is described as Paleozoic bedrock. The bedrock in the general area consists of shale, limestone, dolostone and siltstone and is part of the Queenston Formation.

Based on the review of the OBM and Toporama map, the Site is at an elevation of approximately 101 to

105 metres above sea level (m asl), generally at the same elevation as properties to the north and west of the Site. The surrounding properties to the south and east are generally at lower elevation than the Site. The Site consists of a downgradient slope towards the south.

No water bodies are located on Site. The closest water body is a tributary to Red Oak Pond, situated approximately 30 m north and east of the Site. Lake Ontario is situated approximately 2.5 km east of the Site. The inferred groundwater flow direction is likely towards the east.

Based on the review of available resources from the Town of Oakville and the Ministry of Natural Resources and Forestry (MNRF) on May 18, 2022, no areas of natural significance were identified at the Site or within the Phase One Study Area.

No On-Site utilities or services were identified at the Site.

3.4 Deviations from Sampling and Analysis Plan

The field investigative and sampling program was carried out following the requirements of the SSAP, shown in Appendix A. No deviations from the SSAP were reported, which affected the sampling and data quality objectives for the Site.

3.5 Impediments

The entire Site was accessible at the time of the investigation, and no physical impediments were encountered during the field investigation.

4 Investigation Method

4.1 General

The Site investigative activities consisted of the drilling of five (5) boreholes to facilitate the collection of soil samples for geologic characterization and chemical analysis; and the installation of monitoring wells for hydrogeologic property characterization and the collection of groundwater samples for chemical analysis.

Boreholes were advanced in the surficial fill and overburden soils by a licensed drilling company under the full-time supervision of BIG staff. The drilling equipment used to advance the boreholes is described below. No petroleum-based greases or solvents were used during drilling activities. Monitoring wells were installed in the boreholes by a MECP licensed well contractor in accordance with Ontario Regulation 903/90, as amended (O.Reg.903) using manufactured well components (i.e., riser pipes and screens) and materials (i.e., sand pack and grout) from documented sources.

4.2 Borehole Drilling

Prior to the commencement of drilling activities, the locations of underground utilities including cable, telephone, natural gas, electrical lines, as well as water, sewer, storm water and sanitary lateral conduits were marked out by public locating companies. In addition, a private utility locating service was also retained to clear the individual borehole locations.

The fieldwork for the soil investigative portion of the Phase Two ESA was carried out on May 9, 2022.

The boreholes were advanced by TCI Drilling under full-time supervision of BIG staff using a CME 1050 track-mounted drill to a maximum depth of 8.1 m bgs to sufficiently assess the APECs identified in the Phase One ESA. The approximate locations of the boreholes and monitoring wells are shown on Figure 4.

BIG continuously monitored the drilling activities to record the physical characteristics of the soil, depth of soil sample collection and total depth of boreholes. Field observations are summarized on the borehole logs provided in Appendix C. Representative soil samples were recovered at regular intervals using a stainless-steel split spoon sampler in all boreholes.

4.3 Soil Sampling

Soil samples for geologic characterization and chemical analysis were collected on a discrete basis in the overburden materials using 5 cm diameter, 60 cm long, split spoon samples advanced in to the subsurface using a track mounted power probe. The soil cores were extruded from the samplers upon retrieval by drilling personnel. Geologic details of the recovered cores were logged by BIG field staff and samples were collected from selected cores for chemical analysis. Field observations are summarized on the borehole logs prepared from the field logs and provided in Appendix C.

Measures were taken in the field and during transport to preserve sample integrity prior to chemical analysis. Recommended volumes of soil samples selected for chemical analysis were collected from the recovered cores into pre-cleaned, laboratory-supplied glass sample jars/vials identified for the specified analytical test group. All soil samples were placed in clean coolers containing ice prior to and during transportation to the subcontract laboratory, Bureau Veritas Laboratories, of Mississauga, Ontario. The samples were transported/submitted within the acceptable holding time to Bureau Veritas Laboratories following Chain of Custody protocols for chemical analysis.

Decontamination and other protocols were followed during sample collection and handling to minimize the potential for sample cross-contamination. New disposable nitrile gloves were used for the handling and sampling of each retrieved soil core. Drill cuttings were placed in labeled, sealed drums upon completion of sampling. Five (5) of the boreholes that were advanced were installed with monitoring wells (MW101 to MW105).

Soil samples submitted for specific chemical analysis were selected on the basis of visual inspection of the recovered cores, sample location and depth interval.

Geologic details of the soil cores recovered from the boreholes advanced at the Site are provided in boreholes logs presented in Appendix C.

Six (6) duplicate soil samples were collected for QA/QC purposes as summarized below.

Borehole	Duplicate Sample Identification	Analytical Test Group
BH102-SS1	DUP01	Metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR
BH103-SS1	DUP02	Metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR
BH102-SS1	DUP03	PAHs
BH103-SS1	DUP04	PAHs
BH102-SS2	DUP05	PHCs, BTEX, VOCs
BH104-SS2	DUP06	PHCs, BTEX, VOCs

4.4 Field Screening Measurements

A portion of each soil core was placed in a sealed "Ziploc®" plastic bag and allowed to reach ambient temperature prior to field screening using a MiniRae 3000 Photo Ionization Detection (PID) instrument, calibrated with isobutylene gas. The measurements were made by inserting the instrument's probe into the plastic bag while manipulating the sample to ensure volatilization of the soil gases. These readings provide a real-time indication of the relative concentration of combustible vapours encountered in the subsurface during drilling and are used to aid in the assessment of the vertical and horizontal extent of contamination and the selection of soil samples for analysis.

The field screening measurements, in parts per million (ppm) isobutylene equivalents, are presented on the borehole logs in Appendix C.

Each sample was additionally examined for visual, textural and olfactory classification at the time of sampling.

4.5 Groundwater: Monitoring Well Installation

Five (5) boreholes were instrumented with groundwater monitoring wells at the Site (MW101 to MW105). The monitoring wells were installed in general accordance with the Ontario Water Resources Act - R.R.O. 1990, Regulation 903/90 - amended to O.Reg.128/03 and were installed by a licensed well contractor.

All monitoring wells consisted of a 3 m length, 50 mm diameter PVC screen, and an appropriate length of PVC riser pipe. All pipe connections were factory machined threaded flush couplings. The annular space around the wells was backfilled with sand to an average height of 0.3 m above the top of the screen. A bentonite seal was added from the top of the sand pack to approximately 0.3 m below ground surface.

When the monitoring wells are no longer required, they must be decommissioned in accordance with the procedure outlined in the Ontario Water Resources Act - R.R.O. 1990, Regulation 903 - amended to O.Reg.128/03. Monitoring well completion details are summarized in Table 3.

Measures taken to minimize the potential for cross contamination or the introduction of contaminants during well construction included:

a) The use of well pipe components (e.g., riser pipe and well screens) with factory machine threaded flush coupling joints;
b) Construction of wells without the use of glues or adhesives;

c) Removing the protective plastic wraps from well components at the time of borehole insertion to prevent contact with the ground and other surfaces;
d) Cleaning of augers between sampling locations; and,
e) The use of hollow stem augers to prevent loose and potentially contaminated material in overlying layers from sloughing into the boreholes and coming into contact with groundwater.

4.6 Monitoring Well Development

Upon completion of monitoring well installation, the new monitoring wells were developed to remove fine sediment particles from the sand pack and enhance hydraulic communication with the surrounding formation waters. The monitoring wells were developed on May 16, 2022 using dedicated equipment to disturb the water column and recover groundwater containing dislodged sediment particles.

4.7 Groundwater Monitoring

Groundwater monitoring activities, which consisted of measuring the depths to groundwater in each monitoring well, were conducted on previously and newly installed monitoring wells so that groundwater flow and direction below the Site could be assessed and groundwater samples can be collected. These groundwater monitoring activities were conducted on May 16, 2022. Water levels were measured with respect to the top of casing by means of an electronic water level meter. The water level measurements were recorded on water level log sheets or in a bound field notebook. The water level meter probe was decontaminated between monitoring well locations.

4.8 Monitoring Well Purging

Monitoring wells were purged prior to groundwater sample collection. Approximately three (3) wetted well volumes of water were purged from each well to remove standing water and draw in fresh formation water. Water levels and wetted well volumes were determined by means of an electronic water level meter.

Well purging was monitored by taking field measurements of turbidity, redox, pH, specific conductance and temperature and water level for every standing well (i.e., wetted casing) volume removed. Well purging continued until the purged water had chemically stabilized as indicated by field parameter measurements, and the water was of sufficient clarity as indicated by turbidity measurements. The groundwater was considered to be chemically stable when the pH measurements of three (3) successive purge well volumes agreed to within ± 1 pH units, the specific conductance within ± 10%, and turbidity ± 10% of the average value of the three readings with the temperature within ± 3%. Field parameters including pH, conductivity and temperature were monitored during monitoring well purging using a Hanna HI 9829 multiparameter water quality meter. All development water was collected and stored on-Site in labeled, sealed containers.

Equipment used during groundwater monitoring were thoroughly cleaned and decontaminated between wells. Well purging details were documented on a log sheet or in a bound hard cover notebook.

4.9 Field Measurements of Water Quality Parameters

Field parameters including pH, conductivity and temperature were monitored during well development using a Hanna HI 9829 multiparameter water quality meter.

4.10 Groundwater Sampling

Upon completion of purging, the newly installed monitoring wells MW101 to MW105 were sampled on May 17, 2022. Recommended groundwater sample volumes were collected into laboratory-supplied vials or bottles provided with analytical test group specific preservatives, as required. The samples were placed in an insulated cooler pre-chilled with ice immediately upon collection. The groundwater samples were

transported to Bureau Veritas Laboratories under Chain of Custody protocols, within 24 hours of sample collection or approved holding times.

4.11 Sediment Sampling

Based on Site reconnaissance, no waterbody was present at the Site at this time. As no water body was present at the Site, sediment sampling was not part of the Phase Two ESA.

4.12 Analytical Testing

All analytical testing was performed by Bureau Veritas Laboratories, which is an accredited laboratory under the Standards Council of Canada/Canadian Association of Environmental Analytical Laboratories (Accredited Laboratory No. 97) in accordance with ISO/IEC 17025:2017 - "General Requirements for the Competence of Testing and Calibration Laboratories".

4.12.1 Soil Sampling

Representative soil samples from each borehole were selected for laboratory analysis based on field screening results, sample location and depth interval. The requested laboratory analysis was based on the identified contaminants of concern. The representative soil samples selected for laboratory analysis, the rationale for each sample and the requested analyses are summarized below.

Table 2: Summary of Soil Samples Submitted for Chemical Analyses

Soil Sample ID	Rationale	Requested Analyses	Consultant
BH1-SS2	APEC 1 and Site characterization	PHCs, BTEX, VOCs, PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2020)
BH2-SS1	APEC 1	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2020)
BH2-SS2	Site characterization	PHCs, BTEX, VOCs	BIG (2020)
BH3-SS2	APEC 1	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2020)
BH4-SS2	APEC 1	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2020)
BH5-SS1	APEC 1	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2020)
BH6-SS1	APEC 1	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2020)
BH7-SS1	APEC 1	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2020)
BH7-SS2	Site characterization	PHCs, BTEX, VOCs	BIG (2020)
BH8-SS1	APEC 1	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2020)
BH9-SS1	APEC 1	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2020)
BH10-SS1	APEC 1	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2020)
BH11-SS1	APEC 1	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2020)
BH11-SS2	Site characterization	PHCs, BTEX, VOCs	BIG (2020)
BH12-SS1	APEC 1	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2020)
BH13-SS1	APEC 1	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg,	BIG (2020)

Soil Sample ID	Rationale	Requested Analyses	Consultant
		CN-, EC and SAR	
BH14-SS1	APEC 1	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, Electrical conductivity and SAR	BIG (2020)
BH15-SS1	Site characterization	PHCs, BTEX, VOCs	BIG (2020)
BH15-SS2	APEC 1	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2020)
BH101-SS2	APEC 1 and Site characterization	PHCs, BTEX, VOCs, PAHs, Metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2022)
BH102-SS1	APEC 1	PAHs, Metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2022)
BH102-SS2	Site characterization	PHCs, BTEX, VOCs	BIG (2022)
BH103-SS1	APEC 1	PHCs, BTEX, VOCs, PAHs, Metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-,EC and SAR	BIG (2022)
BH104-SS1	APEC 1	PAHs, Metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2022)
BH104-SS2	Site characterization	PHCs, BTEX, VOCs	BIG (2022)
BH105-SS1	APEC 1	PAHs, Metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2022)
BH105-SS2	Site characterization	PHCs, BTEX, VOCs	BIG (2022)

4.12.2 Groundwater Sampling

Representative groundwater samples were submitted for specific chemical analysis based on the identified contaminants of concern. The representative groundwater samples selected for lab analysis, the rationale for each sample, and the required analyses are summarized below.

Table 3: Summary of Groundwater Samples Submitted for Chemical Analyses

Monitoring Well ID	Rationale	Requested Analyses	Consultant
MW2	APECs 1 and 4	PHCs, BTEX, VOCs, PAHs, metals, As, Sb, Se, Cr(VI), Hg, CN-, Na and Cl-	BIG (2020)
MW3	APEC 1 and Site characterization	PHCs, BTEX, VOCs, Metals, As, Sb, Se, Cr(VI), Hg, CN-, Na and Cl-	BIG (2020)
MW5	Site characterization	PHCs, BTEX, VOCs	BIG (2020)
MW6	Site characterization	PHCs, BTEX, VOCs	BIG (2020)
MW11	APECs 1 to 4	PHCs, BTEX, VOCs, Metals, As, Sb, Se, Cr(VI), Hg, CN-, Na and Cl-	BIG (2020)
MW13	Site characterization	PHCs, BTEX, VOCs	BIG (2020)
BH/MW101	APEC 1 and Site characterization	PHCs, VOCs, PAHs, Metals, As, Sb, Se, Cr(VI), Hg, CN-, Na, Cl-	BIG (2022)
BH/MW102	APECs 1 to 4	PHCs, VOCs, PAHs, Metals, As, Sb, Se, Cr(VI), Hg, CN-, Na, Cl-	BIG (2022)
BH/MW103	APECs 1 and 4	PHCs, VOCs, PAHs, Metals, As, Sb, Se, Cr(VI), Hg, CN-, Na, Cl-	BIG (2022)
BH/MW104	APEC 1 and Site characterization	PHCs, VOCs, PAHs	BIG (2022)
BH/MW105	APEC 1 and Site characterization	PHCs, VOCs, PAHs, Metals, As, Sb, Se, Cr(VI), Hg, CN-, Na, Cl-	BIG (2022)

4.13 Elevation Survey

An elevation survey was conducted to obtain vertical control of the newly installed borehole and monitoring well locations. The ground surface elevations of each newly installed monitoring well location was surveyed relative to the previously installed monitoring wells. A summary of groundwater levels and elevations is provided below.

Table 4: Summary of Groundwater Levels and Elevations

Monitoring Well ID	Ground Surface Elevation	March 20, 2020		May 16, 2022	
		Groundwater Level (m bgs)	Groundwater Elevation (m asl)	Groundwater Level (m bgs)	Groundwater Elevation (m asl)
BH/MW2	100.93	4.77	96.16	3.55	97.38
BH/MW3	103.34	2.42	100.92	2.76	100.58
BH/MW5	104.46	1.80	102.66	2.05	102.41
BH/MW6	103.09	5.33	97.76	3.15	99.94
BH/MW11	100.87	4.34	96.53	4.41	96.46
BH/MW13	102.34	2.60	99.74	2.94	99.40
BH/MW101	102.69	-	-	4.94	97.75
BH/MW102	100.60	-	-	3.72	96.88
BH/MW103	100.07	-	-	3.08	96.99
BH/MW104	101.37	-	-	2.88	98.49
BH/MW105	104.42	-	-	4.93	99.49

The elevation survey was completed using BIG's own Sokkia B40. The survey equipment was calibrated by BIG personnel prior to use.

4.14 Quality Assurance and Quality Control Measures

Quality Assurance/Quality Control (QA/QC) measures, as set out in the Sampling and Analysis Plan, were implemented during sample collection, storage and transport to provide accurate data representative of conditions in the surficial fill and upper overburden soils and the water table aquifer. The QA/QC measures included decontamination procedures to minimize the potential for sample cross contamination, the execution of standard operating procedures to collect representative and unbiased samples, the collection of quality control samples to evaluate sample precision and accuracy, and the implementation of measures to preserve sample integrity.

Decontamination protocols were followed during sample collection and handling to minimize the potential for cross-contamination. During the collection of soil samples, split-spoon samplers were scraped and decontaminated between sampling intervals by washing with a potable water/phosphate-free detergent solution followed by a rinse with potable water. New disposable nitrile gloves were used for the handling and collection of samples from each soil core and for sample collection from each borehole.

Soil samples selected for chemical analyses were collected from the retrieved soil cores and placed directly into pre-cleaned, laboratory-supplied glass jars or vials. Sample volumes were consistent with analytical test group requirements as specified by the receiving laboratory.

Groundwater samples were collected into pre-clean laboratory-supplied vials or bottles provided with analytical test group specific preservatives, as required. Recommended analytical test group specific sample volumes were collected as specified by the contractual laboratory. Sample vials for analysis of PHCs, BTEX, and VOCs were inspected for the presence of gas bubbles and the presence of head space, where volatiles may partition into.

Measures were followed to preserve sample integrity between collection and receipt by the contractual laboratory. All samples, both soil and groundwater, immediately upon collection were placed in insulated coolers pre-chilled with ice for storage and transport to the contractual laboratory. Samples were received by the contractual laboratory within specific analytical test group holding time requirements.

Documentation procedures were followed to confirm sample identification and tracked sample movement. Each sample was assigned a unique identification ID number, which was recorded along with the date, time of sampling and requested analyses on labels affixed to the sampling containers, and in a bound field notebook. Chain of Custody protocols were followed to track sample handling and movement until receipt by the contractual laboratory.

Field QA/QC samples were collected during the soil and groundwater sampling. Duplicate samples were collected to evaluate sampling precision and trip blanks were included to evaluate the potential for sample cross-contamination during handling and transport.

Six (6) duplicate soil samples were collected for QA/QC purposes as summarized below.

Borehole	Duplicate Sample Identification	Analytical Test Group
BH102-SS1	DUP01	Metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN, EC and SAR
BH103-SS1	DUP02	Metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN, EC and SAR
BH102-SS1	DUP03	PAHs
BH103-SS1	DUP04	PAHs
BH102-SS2	DUP05	PHCs, BTEX, VOCs
BH104-SS2	DUP06	PHCs, BTEX, VOCs

Two (2) duplicate groundwater sample was collected for QA/QC purposes as summarized below.

Monitoring Well	Duplicate Sample Identification	Analytical Test Group
MW103	DUP1030	PHCs, BTEX, VOCs, PAHs, metals, As, Sb, Se, Cr(VI), Hg, CN-, Na and Cl-
MW104	DUP1040	PHCs, BTEX, VOCs and PAHs

There were no significant deviations from the SSAP.

5 Review and Evaluation

5.1 Geology

The soil investigation conducted at the Site consisted of the advancement of five (5) boreholes into the surficial soil and the underlying native materials to a maximum depth of 8.1 m bgs. Borehole logs describing geologic details of the soil cores recovered during the Site drilling activities are presented in Appendix C. Boundaries of soil indicated on the log sheets are intended to reflect transition zones for the purpose of environmental assessment and should not be interpreted as exact planes of geological change.

The general stratigraphy at the Site, as revealed in the borehole logs, consists of topsoil overlying fill, underlain by native clayey silt till and shale bedrock.

A brief description of the soil stratigraphy at the Site, in order of depth, is summarized in the following sections. The interpreted Site geology is shown on the enclosed cross sections (Figures 7 and 8).

5.1.1 Surficial Material

A topsoil layer of 50 mm to 150 mm was encountered in all boreholes.

5.1.2 Fill Material

Below the surficial material, fill was encountered in all boreholes that extended to depths varying between 0.3 m and 1.5 m bgs. The fill predominantly consisted of clayey silt, trace sand, trace gravel, trace rootlets.

5.1.3 Native Material

Clayey Silt Till

Below the fill in all boreholes, a native clayey silt till was encountered to depths varying between 1.4 and 4.6 m bgs. This deposit also contained trace sand, trace gravel and shale fragments.

5.1.4 Bedrock

Below the native clayey silt till in all boreholes, bedrock was encountered from 1.4 m to 4.6 m bgs.

Refer to the geological cross sections in Figures 7 and 8 for an overview of the Site stratigraphy.

5.2 Groundwater Elevations and Flow Direction

The monitoring well network advanced at the Site consists of five (5) monitoring wells advanced by BIG screened within the overburden. The 3 m long screens were installed within the clayey silt till/weathered shale layer to intercept the overburden groundwater aquifer.

Based on previous investigations at the Site, groundwater flow was considered to be towards the east in the Phase One ESA. The groundwater data collected from across the Site on May 16, 2022 identified that the groundwater flow was towards the east (refer to figure 6).

5.2.1 Groundwater: Hydraulic Gradients

The horizontal hydraulic gradient, between each monitoring well pair, is calculated using the following equation:

$$i = Ah/As$$

Where,

i = horizontal hydraulic gradient;

Ah (m) = groundwater elevation difference; and,

As (m) = separation distance.

The horizontal hydraulic gradient in groundwater, based on groundwater measurements collected on May 16, 2022 was 0.006 m/m between BH/MW101 and BH/MW102 and 0.006 m/m between BH/MW105 and BH/MW104 with a geometric mean of 0.006 m/m.

It is noted that vertical hydraulic gradients were not evaluated for this Site as a second water bearing unit was not identified at the depths investigated at the Site.

5.2.2 Groundwater: Hydraulic Conductivity

Single Well Response Test (SWRT) analysis was conducted during hydrogeological investigation at selected monitoring wells (MW2, MW3, MW5, MW6, MW11 and MW13). The hydraulic conductivity values for each of the tested wells were calculated from the SWRT data using Aqtesolv Software and the Hvorlsev solution for unconfined conditions. The hydraulic conductivity (K) ranged from 2.05×10^{-5} to 9.24×10^{-9} m/s.

5.3 Soil Texture

The native materials encountered are comprised of clayey silt till. Grain size analysis was performed on two (3) soil samples (BH101-SS3 and BH103-SS1) submitted from the fill and native material. Two (2) soil samples were found to be medium/fine textured. As a result, medium/fine textured standards were applied as part of this Phase Two ESA. The grain size distribution curves are provided in Appendix G.

5.4 Soil Field Screening

All soil samples were submitted for chemical analyses based on field observations, location and depth.

5.5 Soil Quality

In accordance with the scope of work, chemical analyses were performed on selected soil samples recovered from the boreholes. The selection of representative “worst case” soil samples was based on field screening, visual and/or olfactory evidence of impacts, and the presence of potential water bearing zones. Copies of the laboratory Certificates of Analysis for the analyzed soil samples are provided in Appendix F.

5.5.1 PHCs

The soil samples submitted for PHCs analysis indicated that all parameters were detected below the applicable MECP Table 6 SCS; and all laboratory RDLs were below the applicable SCS.

Refer to Table B.1 for a summary of the soil results analyzed for PHCs.

5.5.2 VOCs (Including BTEX)

The soil samples submitted for VOCs including BTEX analysis indicated that all parameters were detected below the applicable MECP Table 6 SCS; and all laboratory RDLs were below the applicable SCS.

Refer to Table B.2 for a summary of the soil results analyzed for VOCs.

5.5.3 PAHs

The soil samples submitted for PAHs analysis indicated that all parameters were detected below the applicable MECP Table 6 SCS; and all laboratory RDLs were below the applicable SCS.

Refer to Table B.3 for a summary of the soil results analyzed for PAHs.

5.5.4 Metals

The soil samples submitted for metals, As, Sb, Se, B-HWS, Cr(VI), Hg and CN- indicated that all parameters were detected below the applicable MECP Table 6 SCS; and all laboratory RLDs were below the applicable SCS.

Refer to Table B.4 for a summary of the soil results analyzed for metals.

5.5.5 EC and SAR

The soil samples submitted for EC and SAR indicated that all parameters were detected below the applicable MECP Table 6 SCS; and all laboratory RLDs were below the applicable SCS.

Refer to Table B.5 for a summary of the soil results analyzed for EC and SAR.

5.5.6 Chemical Transformation and Soil Contaminant Sources

Some parameters were identified in soil at concentrations in exceedance of the applicable MECP Table 6 SCS. However, given the nature of the compounds it is not expected that any chemical transformation (i.e., presence of parent compounds and daughter products) has occurred on the property. Further assessment would need to be conducted to assess where any natural attenuation processes have occurred.

5.5.7 Evidence of Non-Aqueous Phase Liquid

Inspection of the soil cores retrieved from the boreholes did not indicate the presence of non-aqueous phase liquid (NAPL), staining or sheen.

5.6 Groundwater Quality

Representative groundwater samples were collected from the newly installed monitoring wells to assess groundwater quality at the Site. Evidence of free product (i.e., visible film or sheen), and odour was not observed during well purging (noted in Section 5.6.6).

Analytical results summary tables are provided in Appendix B and copies of the laboratory Certificates of Analysis for the analyzed groundwater samples are provided in Appendix F.

5.6.1 PHCs

Groundwater samples submitted for PHCs analysis indicated that all parameters were detected below the applicable MECP Table 6 SCS; and all laboratory RDLs were below the applicable SCS.

Refer to Table B.6 for a summary of the groundwater results analyzed for PHCs.

5.6.2 VOCs (Including BTEX)

Groundwater samples submitted for VOCs (including BTEX) analysis indicated that all parameters were detected below the applicable MECP Table 6 SCS; and all laboratory RDLs were below the applicable SCS.

Refer to Table B.7 for a summary of the groundwater results analyzed for VOCs.

5.6.3 PAHs

Groundwater samples submitted for PAHs analysis indicated that all parameters were detected below the applicable MECP Table 6 SCS; and all laboratory RDLs were below the applicable SCS.

Refer to Table B.8 for a summary of the groundwater results analyzed for PAHs.

5.6.4 Metals

Groundwater samples submitted for metals, As, Sb, Se, Cr(VI), Hg, CN- analysis indicated that all parameters were detected below the applicable MECP Table 6 SCS; and all laboratory RDLs were below the applicable SCS.

Refer to Table B.9 for a summary of the groundwater results analyzed for metals.

5.6.5 Sodium and Chloride

Groundwater samples submitted for sodium and chloride analysis indicated that all parameters were

detected below the applicable MECP Table 6 SCS; and al laboratory RDLs were below the applicable SCS.

Refer to Table B.9 for a summary of the groundwater results analyzed for sodium and chloride.

5.6.6 Chemical Transformation and Contaminant Sources

No parameters were identified in groundwater in exceedance of the applicable MECP Table 6 SCS. Therefore, chemical transformations (i.e., the presence of parent compounds and daughter products) do not need to be considered further.

5.6.7 Evidence of Non-Aqueous Phase Liquid

Inspection of the purged groundwater retrieved from the monitoring wells did not indicate the presence of NAPL, staining, sheen, or odour in groundwater.

5.7 Sediment Quality

As no surface water body was located on-Site, the Phase Two ESA did not include sediment sampling.

5.8 Quality Assurance and Quality Control Measures

QA/QC measures were taken during the field activities to meet the objectives of the sampling and QA plan to collect unbiased and representative samples to characterize existing conditions in the fill/upper overburden materials and water table aquifer unit at the Site. QA/QC measures included:

a) The collection of soil and groundwater samples following standard operating procedures;
b) The implementation of decontamination procedures to minimize the potential for sample cross contamination;
c) The collection of recommended analytical test group specific volumes into pre-cleaned laboratory supplied containers provided with necessary preservatives as required;
d) Sample preservation in insulated coolers pre-chilled with ice and meeting holding time requirements;
e) Sample documentation including Chain of Custody protocols; and
f) The collection of QC samples.

Review of field activity documentation indicated that recommended sample volumes were collected from soil and groundwater for each analytical test group into appropriate containers and preserved with proper chemical reagents in accordance with the protocols set out in the "Protocol for Analytical Methods used in the Assessment of Properties under Part XV.1 of the **Environmental Protection Act',** dated March 9, 2004, amended as of July 1,2011 (MECP 2011b). Samples were preserved at the required temperatures in pre-chilled insulated coolers and met applicable holding time requirements, when relinquished to the receiving laboratory.

Field QA/QC samples were collected during the soil and groundwater sampling. Duplicate samples were collected to evaluate sampling precision.

Six (6) duplicate soil samples were collected for QA/QC purposes as summarized below.

Borehole	Duplicate Sample Identification	Analytical Test Group
BH102-SS1	DUP01	Metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR
BH103-SS1	DUP02	Metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR
BH102-SS1	DUP03	PAHs
BH103-SS1	DUP04	PAHs
BH102-SS2	DUP05	PHCs, BTEX, VOCs
BH104-SS2	DUP06	PHCs, BTEX, VOCs

Two (2) duplicate groundwater sample was collected for QA/QC purposes as summarized below.

Monitoring Well	Duplicate Sample Identification	Analytical Test Group
MW103	DUP1030	PHCs, BTEX, VOCs, PAHs, metals, As, Sb, Se, Cr(VI), Hg, CN-, Na, Cl-
MW104	DUP1040	PHCs, BTEX, VOCs, PAHs, metals, As, Sb, Se, Cr(VI), Hg, CN-, Na, Cl-

The field duplicate sample results were quantitatively evaluated by calculating the relative percent difference (RPD). Assessment of the duplicate soil and groundwater samples, where quantifiable, showed that the results met analytical test group specific acceptance criteria as specified in the MECP Protocol document (MECP 2011b). The overall assessment indicates that the soil samples were collected within an acceptable level of precision, and the data is acceptable quality for meeting the objectives of the Phase Two ESA.

The subcontract laboratory used during this investigation was Bureau Veritas Laboratories. Bureau Veritas is accredited by the Standards Council of Canada/Canadian Association for Laboratory Accreditation (Accredited Laboratory No. 97), in accordance with ISO/IEC 17025:2017 - "General Requirements for the Competence of Testing and Calibration Laboratories" for the analysis of all parameters for all samples in the scope of work for which SCS have been established under O.Reg.153/04.

Certificates of Analysis were received from Bureau Veritas reporting the results of all the chemical analyses performed on the submitted soil and groundwater samples. Copies of the Bureau Veritas Certificates of Analysis are provided in Appendix F. Review of the Certificates of Analysis prepared by Bureau Veritas indicates that they were in compliance with the requirements set out under subsection 47(3) of O.Reg.153/04.

The analytical program conducted by Bureau Veritas included analytical test group specific QA/QC measures to evaluate the accuracy and precision of the analytical results and the efficiency of analyte recovery during solute extraction procedures. The laboratory QA/QC program consisted of the preparation and analysis of laboratory duplicate samples to assess precision and sample homogeneity, method blanks to assess analytical bias, spiked blanks and QC standards to evaluate analyte recovery, matrix spikes to evaluate matrix interferences and surrogate compound recoveries (VOCs only) to evaluate extraction efficiency. The laboratory QA/QC results are presented in the Quality Assurance Report provided in the Certificate of Analysis prepared by Bureau Veritas. The QA/QC results are reported as percent recoveries for matrix spikes, spike blanks and QC standards, RPDs for laboratory duplicates and analyte concentrations for method blanks.

The Bureau Veritas QA/QC results were assessed against test group control limits in the case of spiked blanks, matrix spikes, and surrogate recoveries and alert criteria in the case of method blanks and laboratory duplicates. Review of the laboratory QA/QC results reported by Bureau Veritas indicated that they were within acceptable control limits or below applicable alert criteria for the sampled media and analytical test groups. Based on the assessment of the QA/QC, the analytical results reported by Bureau Veritas are of acceptable quality and data qualifications are not required.

5.9 Phase Two Conceptual Site Model

This section presents a Conceptual Site Model (CSM) providing a narrative, graphical and tabulated description integrating information related to the Site geologic and hydrogeologic conditions, areas of potential environmental concern/potential contaminating activities, the presence and distribution of potential contaminants of concern, contaminant fate and transport, and potential exposure pathways.

5.9.1 Introduction

The Site is located north of Superior Court and east of Burloak Drive in Oakville, Ontario, as shown on

Figure 1. For simplicity of this report, Superior Court is considered running west to east. The Site is irregularly shaped and measures approximately 4.06 hectares (10.03 acres) in size. The Site is currently undeveloped or vacant and is covered with grass and bushes. It is our understanding that the Site was owned by a former Shell refinery

The Site is located within a predominantly commercial/industrial area of Oakville. The nearest water body is a tributary to Red Oak Pond, situated approximately 30 m north and east of the Site. Lake Ontario is situated approximately 2.5 km east of the Site. A Site Location Map and Site Layout Plan are shown on Figures 1 and 2, respectively.

Refer to the following table for the Site identification information.

Table 1: Site Information

Site Details	
Municipal Addresses	Superior Court, Oakville, Ontario
Current Owner	Beedie ON (Superior Court) Property Ltd.
Owner Address	3030 Gilmore Diversion, Burnaby, British Columbia, V5G 3B4
Owner Contact Person	Mr. Carlos Ilagan
Legal Description	Part of Lot 34, Concession 3 South of Dundas Street, Parts 35 to 37, 20R17477; Oakville. Together with 164850.
Property Identification Numbers (PINs)	24858-0209 (LT)
Property Size	4.06 hectares (10.03 acres)
Approximate Universal Transverse Mercator (UTM) coordinates	Zone: 17 Easting: 601728.32 Northing: 4805170.73 (1m, NAD83, QGIS)

5.9.2 Potentially Contaminating Activities and Areas of Potential Environmental Concern

A Phase One ESA, in accordance with O. Reg. 153/04, as amended, has been conducted by BIG for the Site. The surrounding land use plan and PCAs identified On-Site and in the Phase One ESA Study Area are shown on Figure 3. A list of all PCA's identified at the Site and within the Phase One ESA Study Area are presented below:

Table 2: Potentially Contaminating Activities in the Phase One Study Area

PCA Identifier	Address	PCA	PCA Location	Contributing to APEC at the Site?	Rationale
1.	Superior Court	Importation of fill material (PCA#30 – Importation of Fill Material of Unknown Quality)	On-Site	Yes	On-Site
2.	No municipal address	Former Oil Refinery (PCA#14 – Crude Oil Refining, Processing and Bulk Storage)	Off-Site (Southwest adjacent)	Yes	Close proximity
3.		Former ASTs (PCA#28 - Gasoline and Associated Products Storage in Fixed Tanks)		Yes	Close Proximity
4.	3300 Superior	Concrete Pipe Manufacturer (PCA#12 – Concrete, Cement	Off-Site (25 m	Yes	Close proximity

PCA Identifier	Address	PCA	PCA Location	Contributing to APEC at the Site?	Rationale
	Court	and Lime Manufacturing)	south)		
5.	No municipal address	Historical Oil Spill (PCA "Other" – Spill or Leakage of Gasoline or Related Products)	Off-Site (60 m north)	No	Located at a significant distance
6.	No municipal address	Former Oil Refinery (PCA#14 – Crude Oil Refining, Processing and Bulk Storage)	Off-Site (70 m east)	No	Inferred trans-gradient
7.		Former ASTs (PCA#28 - Gasoline and Associated Products Storage in Fixed Tanks)			
8.	No municipal address	Oil Refinery (PCA#14 – Crude Oil Refining, Processing and Bulk Storage)	Off-Site (80 m south)	No	Located downgradient
9.		Former ASTs (PCA#28 - Gasoline and Associated Products Storage in Fixed Tanks)			

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

The identification of the PCAs both on-Site and off-Site within the Phase One study area are shown on Figure 3.

Based on the rationale provided, it is the opinion of the Qualified Person (QP) that six (6) PCAs are contributing to an APEC at the Site. Further discussion is provided below.

5.9.3 Areas of Potential Environmental Concern

Based on the evaluation of the PCAs located on- and off-Site, four (4) APECs were identified, as presented below:

Table 3: Areas of Potential Environmental Concern (APECs)

APEC	Location of APEC on Phase One Property	PCA	Location of PCA (On-Site or Off-Site)	Contaminants of Concern	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC 1: Importation of fill material	Entire Site	PCA#30 – Importation of Fill Material of Unknown Quality	On-Site	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, Electrical Conductivit	Soil and groundwater

APEC	Location of APEC on Phase One Property	PCA	Location of PCA (On-Site or Off-Site)	Contaminants of Concern	Media Potentially Impacted (Groundwater, soil and/or sediment)
				y and SAR	
APEC 2: Former oil refinery	Southwestern portion	PCA#14 – Crude Oil Refining, Processing and Bulk Storage	Off-Site	PHCs, VOCs	Groundwater
APEC 3: Former ASTs	Southwestern portion	PCA#28 – Gasoline and Associated Products Storage in Fixed Tanks	Off-Site	PHCs, VOCs	Groundwater
APEC 4: Concrete pipe manufacturer	Southern portion	PCA#12 – Concrete, Cement and Lime Manufacturing	Off-Site	PHCs, metals, As, Sb, Se, Cr(VI), Hg, CN-, Na and Cl-	Groundwater

(1) Area of Potential Environmental Concern means the area on, in or under a phase one study area where one or more contaminants are potentially present, as determined through the Phase One ESA including through:
   a. Identification of post or present uses on, in or under the phase one property, and
   b. Identification of potentially contaminating activities.

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

(3) *PAHs - polycyclic aromatic hydrocarbons, PHCs - petroleum hydrocarbons, BTEX - benzene, toluene, ethylbenzene, xylenes, VOCs - volatile organic compounds, As = arsenic; Sb = antimony; Se = selenium; B-HWS = boron-hot water soluble; Cr(VI) = hexavalent chromium; Hg = mercury; CN- = cyanide; SAR = sodium adsorption ratio; Na = sodium; Cl- = chloride*

Refer to Figures 4 and 5 for the Site plan illustrating the borehole/monitoring well locations and APECs.

5.9.4 Underground Utilities

No underground utilities were observed at the Site.

5.9.5 Physical Site Description

The Phase Two CSM provides a narrative and graphical interpretation of the Site surface features, near surface geologic and hydrogeologic conditions, potential contaminants of concern, contaminant fate and transport mechanisms and relevant receptors and exposure pathways. These components are discussed in the following sections.

Surface Features

The Site is irregularly shaped and measures approximately 4.06 hectares (10.03 acres) in size. The Site is currently undeveloped or vacant and is covered with grass and bushes. It is our understanding that the Site was owned by a former Shell refinery.

Geologic Setting

Information on the overburden and bedrock geology of the general Site area was obtained during the Phase One ESA. Based on the review, the following was summarized:

The physiography of the Site is within Iroquois Plain and is characterized as shale plains. The surficial geology of the Site is described as Paleozoic bedrock. The bedrock in the general area consists of shale, limestone, dolostone and siltstone and is part of the Queenston Formation.

Based on the review of the OBM and Toporama map, the Site is at an elevation of approximately generally at the same elevation as properties to the north and west of the Site. The surrounding properties to the south and east are generally at lower elevation than the Site. The Site consists of a downgradient slope towards the south.

Based on the review of available resources from the Town of Oakville and the Ministry of Natural Resources and Forestry (MNRF) on May 18, 2022, no areas of natural significance were identified at the Site or within the Phase One Study Area.

The MECP (2020) Source Protection Information Atlas was accessed on May 18, 2022. The search of the website indicated that the Site is not considered to be located in a well-head protection area or any other designation identified by the municipality in its municipal plan for the protection of groundwater.

The general stratigraphy at the Site, as revealed in the borehole logs, consists of topsoil overlying fill, underlain by native clayey silt till and shale bedrock. As previously indicated, approximately 46% of the Site has an overburden thickness less than 2 m, as shown on Figure 17. As such, this property is deemed a shallow soil property. Bedrock was encountered at the Site. The approximate depth to bedrock at the Site was 2 m bgs.

A brief description of the soil stratigraphy at the Site, in order of depth, is summarized in the following sections. The interpreted Site geology is shown on the enclosed cross sections.

Surficial Material

A topsoil layer of 50 mm to 150 mm was encountered in all boreholes.

Fill Material

Below the surficial material, fill was encountered in all boreholes that extended to depths varying between 0.3 m and 1.5 m bgs. The fill predominantly consisted of clayey silt, trace sand, trace gravel, trace rootlets.

Clayey Silt Till

Below the fill in all boreholes, a native clayey silt till was encountered to depths varying between 1.4 and 4.6 m bgs. This deposit also contained trace sand, trace gravel and shale fragments

Bedrock

Below the native clayey silt till in all boreholes, bedrock was encountered from 1.4 m to 4.6 m bgs.

Refer to the geological cross sections in Figures 7 and 8 for an overview of the Site stratigraphy.

Hydrogeologic Setting

One (1) hydrostratigraphic unit was encountered at the Site which acts as an aquifer.

The monitoring well network advanced by BIG at the Site consists of five (5) monitoring wells screened within the overburden. The 3 m long screens were installed within the clayey silt till/shale bedrock to intercept the overburden groundwater aquifer.

Groundwater depths within the groundwater table across the Site ranged between approximately 2.05 m and 4.94 m bgs on May 16, 2022. Based on the static water levels observed, the groundwater flow was determined to be towards the east (refer to Figure 6).

Single Well Response Test (SWRT) analysis was conducted during hydrogeological investigation at selected monitoring wells (MW2, MW3, MW5, MW6, MW11 and MW13). Estimates of the saturated hydraulic conductivity in the overburden ranged from 2.05 x 10^{-5} to 9.24 x 10^{-9} m/s.

The horizontal hydraulic gradient in groundwater, based on groundwater measurements collected on May 16, 2022 was 0.006 m/m between BH/MW101 and BH/MW102 and 0.006 m/m between BH/MW105 and BH/MW104 with a geometric mean of 0.006 m/m.

It is noted that vertical hydraulic gradients were not evaluated for this Site as a second water bearing unit was not identified at the depths investigated at the Site.

5.9.6 Site Sensitivity

The Site Sensitivity classification with respect Sections 41 and 43.1 of O.Reg.153/04, as amended, were evaluated to determine if the Site is sensitive. Rationale is provided below:

Table 4: Site Sensitivity

Sensitivity	Classification	Does Sensitivity Apply to Site?
Section 41 applies if	(i) property is within an area of natural significance (ANSI)	No
	(ii) property includes or is adjacent to an ANSI or part of such an area	No
	(iii) property includes land that is within 30 m of an ANSI or part of such an area	No
	(iv) soil at property has a pH value for surface soil less than 5 or greater than 9	No
	(v) soil at property has a pH value for sub-surface soil less than 5 or greater than 11	No
	(vi) a qualified person is of the opinion that, given the characteristics of the property and the certifications the qualified person would be required to make in a record of site condition in relation to the property as specified in Schedule A, it is appropriate to apply this section to the property	No
Section 43.1 applies if	(i) property is a shallow soil property	Yes
	(ii) property includes all or part of a water body or is adjacent to a water body or includes land that is within 30 m of a water body	No

A total of twenty (20) soil samples were collected and submitted from across the Site for pH analysis. All soil samples submitted had a pH between 5 to 9 for surficial soils (0 - 1.5 m bgs) and pH between 5 and 11 for surficial soils (>1.5 m bgs).

5.9.7 Remediation

No remediation has been completed at the Site.

5.9.8 Soil Importation

No soil importation has occurred on-Site.

5.9.9 Land Use

The Site is currently undeveloped or vacant and is covered with grass and bushes. It is our understanding that the Site was owned by a former Shell refinery. The proposed development at the Site consists of industrial land use.

5.9.10 Contaminants of Concern

The MECP (2011a) Table 6: Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition for Industrial/Commercial/Community Use and medium/fine textured soils were considered applicable for determining contaminants of concern (COCs), based on the reasons presented below:

Table 5: Site Condition Standards

Descriptor	Site-Specific Condition
Section 41 Site Sensitivity	Not applicable o The soil at the Site has pH values between 5 and 9 for surficial soil; and, between 5 and 11 for subsurface soil. o The Site is not located within, or adjacent to, an area of natural significance, or part of such an area; and, the Site does not include land that is within 30 m of an area of natural significance, or part of such an area.
Section 43.1 Site Sensitivity	Applicable o The Site is considered a shallow soil property. Approximately 46% of the Site has an overburden thickness less than 2 m, as shown on Figure 17. As such, this property is deemed a shallow soil property. o The Site is not located within 30 m of a surface water body; the nearest surface water body, a tributary to Red Oak Pond, is located approximately 30 m north and east and Lake Ontario is located approximately 2.5 km east of the Site.
Ground Water	Potable o The Site falls within a potable groundwater area in the Town of Oakville
Land Use	Industrial/Commercial/Community o The future use of the Site will be industrial land use.
Soil Texture	Medium/fine-textured o The predominant texture of soils at the Site is considered to be medium/fine textured. o Two (2) soil samples were submitted for grain size analysis as part of the Phase Two investigation. All soil samples were found to be medium/fine textured.

No soil or groundwater COCs were identified at the Site.

5.9.11 Contaminant Fate and Transport

Soil Media

No COCs were present in soil at the Site.

Groundwater Media

No COCs were present in the groundwater at the Site.

5.9.12 Preferential Pathways

Given that no COCs were present at the Site, there are no preferential pathways.

5.9.13 Climatic Conditions

Given that no COCs are present at the Site, the climatic or meteorological conditions are not a potential contaminant transport mechanism and is not considered further.

5.9.14 Soil Vapour Migration

Given that no COCs were identified in soil or groundwater at the Site, soil vapour intrusion is not a potential contaminant transport mechanism.

5.9.15 Receptors and Exposure Pathways

Human Health Receptors and Exposure Pathways

As no COCs were identified in soil or groundwater at the Site there are no complete exposure pathways for human receptors at the future residential development.

Scenario	Receptor	Exposure Pathways
Property Residents	Adult (including pregnant female), Teen, Child, Toddler, Infant	None
Workers – Short Term (outdoor)	Adult (including pregnant female)	None
Property Visitor - Recreational	Adult (including pregnant female), Teen, Child, Toddler, Infant	None
Property Visitor - Trespassers	Adult (including pregnant female), Teen, Child, Toddler, Infant	None
Workers – Construction/ Remediation	Adult (including pregnant female)	None

The human health conceptual on-Site model is included in D.1 in Appendix D.

Ecological Receptors and Exposure Pathways

As no COCs were identified in soil or groundwater at the Site there are no complete exposure pathways for ecological receptors at the future residential and commercial development.

Primary Source	Secondary Source	Receptor	Exposure Pathway
Soil/Groundwater	Soil	Vegetation	None
		Soil invertebrates	None
		Terrestrial birds and mammals	None
	Ambient air	Vegetation	None
		Soil Invertebrates	None
		Terrestrial birds and mammals	None
	Groundwater	Terrestrial vegetation	None
		Soil invertebrates	None
		Terrestrial birds and mammals	None
	Plant and animal tissue	Soil invertebrates	None
		Terrestrial birds and mammals	None

The ecological health conceptual on-Site model is included in Figure D.2 in Appendix D.

6 Summary of Findings

The findings of the Phase Two ESA conducted at the Site are summarized as follows:

1. The general stratigraphy at the Site, as revealed in the borehole logs, consists of topsoil overlying fill, underlain by native clayey silt till and shale bedrock.
2. Less than two-thirds of the Site has an overburden thickness greater than 2 m. Approximately 46% of the Site has an overburden thickness less than 2 m, as shown on Figure 17. As such, this property is deemed a shallow soil property.
3. Based on the textural description of the soil stratigraphy as inferred from borehole observations and the two (2) soil samples that were submitted for grain size analysis, medium/fine textured standards were applied as part of this Phase Two ESA.
4. The groundwater depths across the entire Site ranged between approximately 2.05 m and 4.94 m below ground surface (bgs) on May 16, 2022.
5. The soil analytical results indicated that all soil samples taken during BIG's soil sampling program submitted for PHCs, BTEX, VOCs, PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR analyses were either non-detect or detected below the applicable MECP (2011a Table 6: Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition for Industrial/Commercial/Community Use and medium/fine textured soils; and all laboratory RDLs were below the applicable SCS.
6. The groundwater analytical results indicated that all groundwater samples submitted for PHCs, BTEX, VOCs, PAHs, metals, As, Sb, Se, Cr(VI), Hg, CN-, Na and Cl- analyses were either non-detected or detected below the applicable MECP (2011) Table 6 SCS; and all laboratory RDLs were below the applicable SCS.

7 Conclusions and Recommendations

No COCs were identified in soil or groundwater at the Site.

8 General Limitations

The information presented in this report is based on a limited investigation designed to provide information to support an assessment of the current environmental conditions within the subject property. The conclusions and recommendations presented in this report reflect Site conditions existing at the time of the investigation.

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Yours truly,

B.I.G. Consulting Inc.

Julia Romano, M.Env.Sc., GIT
Environmental Scientist

Eileen Liu, M.Env.Sc, P.Geo.
Project Manager

Darko Strajin, P.Eng.
Managing Partner

9 References

1. MECP (2011a) "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the *Environmental Protection Act*";
2. MECP (2011b) Protocol for Analytical Methods Used in the Assessment of Properties under Prt XV.1 of the *Environmental Protection Act*. PIBS 4696e01
3. MECP (2020); Well Records Map. Retrieved from https://www.ontario.ca/environment-and-energy/map-well-records
4. NHIC (2020); Make a Natural Heritage Map. Retrieved from https://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US
5. Toporama. Retrieved from http://www.atlas.gc.ca/toporama/en/index.html

The following is a list of the environmental investigations reviewed in support of this report:

1. BIG (2020a) Preliminary Geotechnical Investigation, Superior Court, Oakville, Ontario. B.I.G. Consulting Inc. April 22, 2020.
2. BIG (2020b) Phase I Environmental Site Assessment, Superior Court, Oakville, Ontario. B.I.G. Consulting Inc. April 22, 2020.
3. BIG (2020c) Phase II Environmental Site Assessment, Superior Court, Oakville, Ontario. B.I.G. Consulting Inc. April 23, 2020.
4. BIG (2021) Preliminary Hydrogeological Investigation, Superior Court, Oakville, Ontario. B.I.G. Consulting Inc. March 10, 2021.
5. BIG (2022) Phase One Environmental Site Assessment, Superior Court, Oakville, Ontario. B.I.G. Consulting Inc. May 27, 2022.

Figures

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LEGEND

SITE BOUNDARY

SCALE

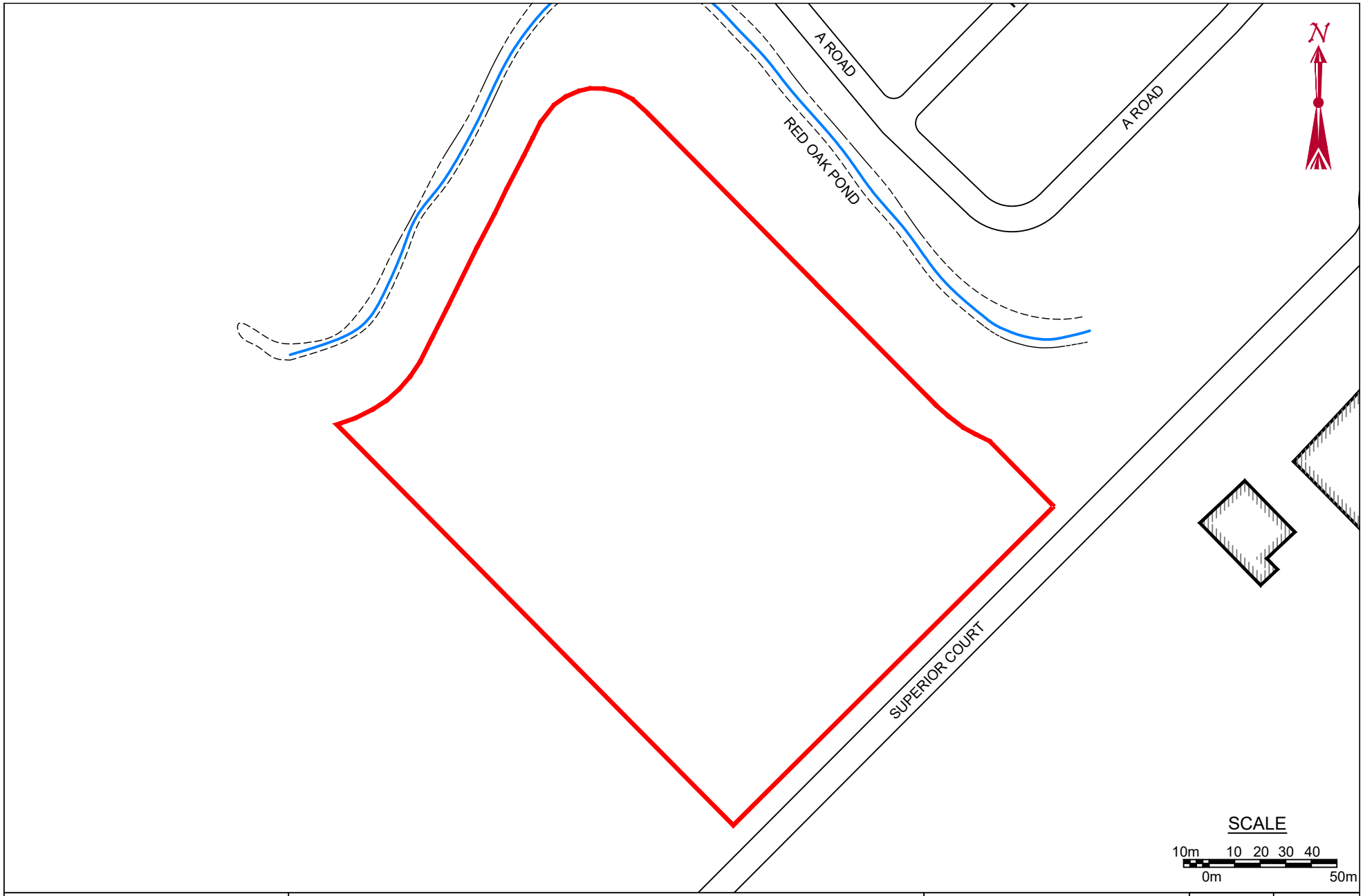
100m 0m 100m 200m 300m 400m 500m

IMAGERY OBTAINED FROM TOPORAMA, NATURAL RESOURCES CANADA,2017

TITLE AND LOCATION

SITE LOCATION PLAN
PHASE TWO ESA
SUPERIOR COURT,
OAKVILLE, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-382C	T.S.
SCALE	CK.
AS NOTED	E.L.
DATE	FIG NO.
MAY 2022	1



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LEGEND

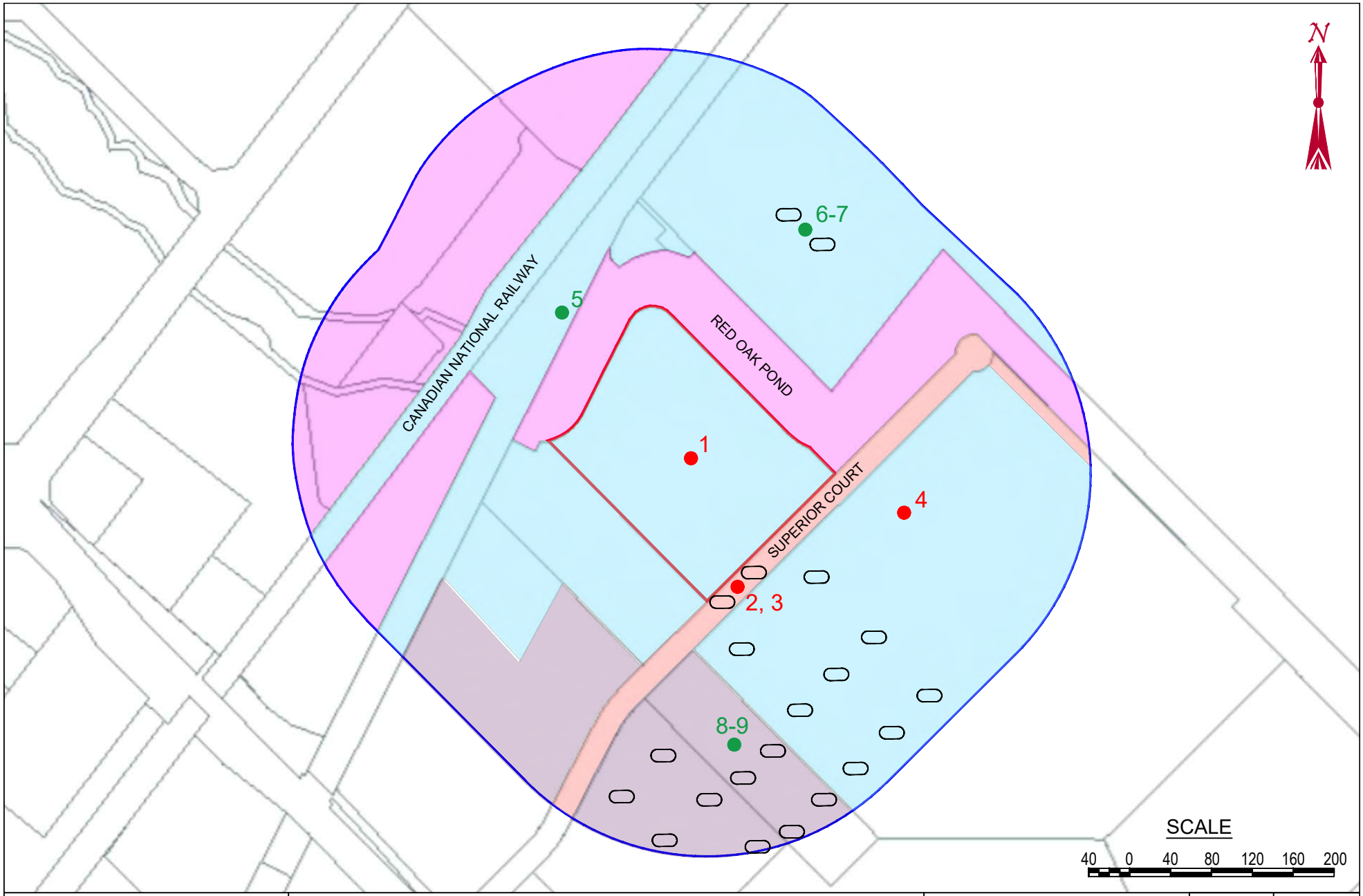
SITE BOUNDARY

NOTE: NO UTILITIES WERE IDENTIFIED

TITLE AND LOCATION

SITE LAYOUT
AND UTILITIES PLAN
PHASE TWO ESA
SUPERIOR COURT,
OAKVILLE, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-382C	T.S.
SCALE	CK.
AS NOTED	E.L.
DATE	FIG NO.
MAY 2022	2



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LEGEND

- SITE BOUNDARY
- PHASE TWO STUDY AREA BOUNDARY
- AGRICULTURAL OR OTHER USE
- INDUSTRIAL LAND USE
- COMMERCIAL LAND USE
- COMMUNITY LAND USE
- 1 PCA IDENTIFIER NOT CONTRIBUTING TO APEC
- 1 PCA IDENTIFIER
- APPROXIMATE LOCATION OF FORMER ABOVEGROUND STORAGE TANK (AST)

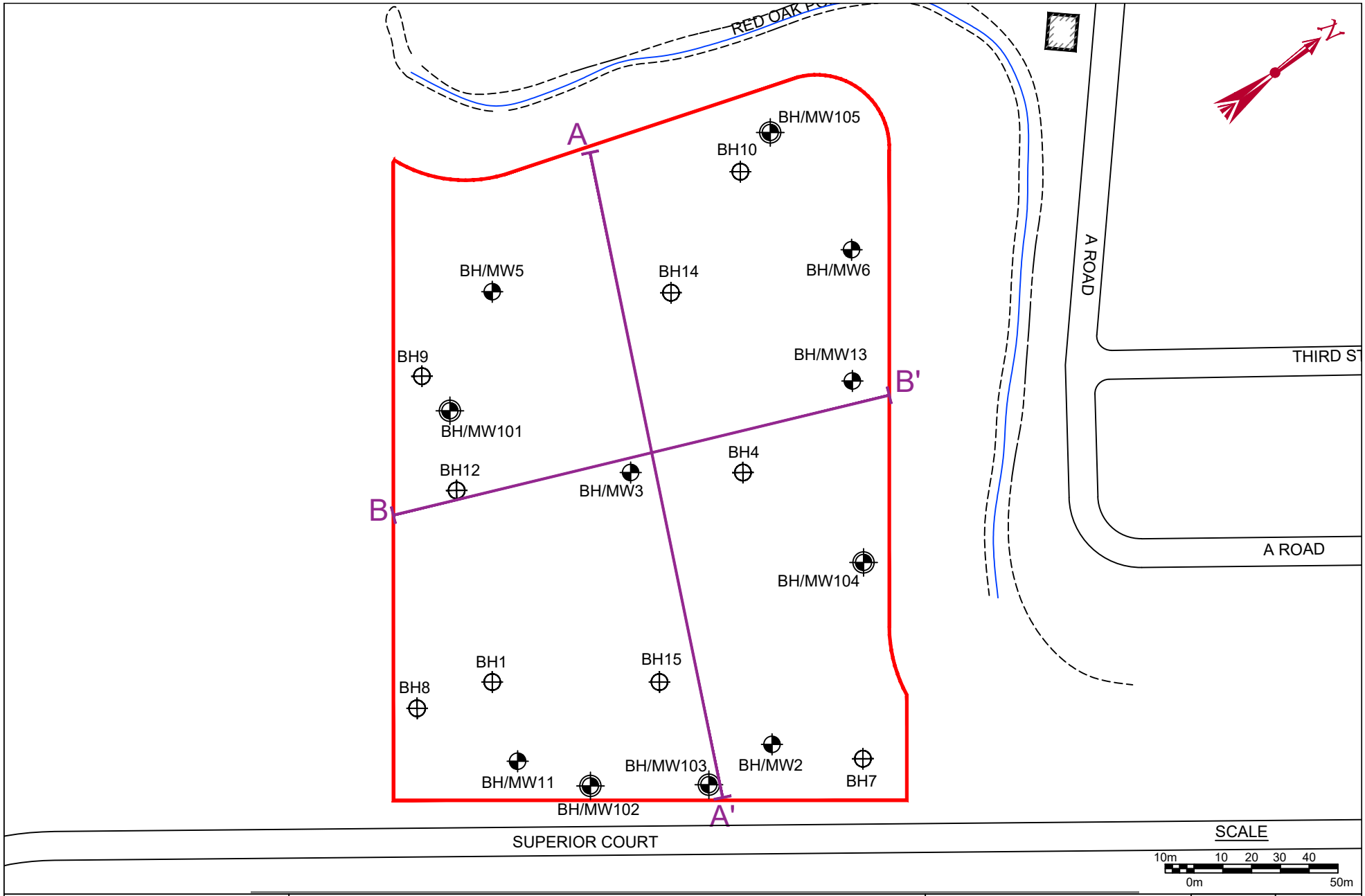
IMAGERY OBTAINED FROM COSINE ONLINE SERVICES, 2022

TITLE AND LOCATION

PHASE TWO STUDY AREA AND POTENTIALLY CONTAMINATING ACTIVITIES (PCAs)

PHASE TWO ESA
SUPERIOR COURT,
OAKVILLE, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-382C	T.S.
SCALE	CK.
AS NOTED	E.L.
DATE	FIG NO.
MAY 2022	3



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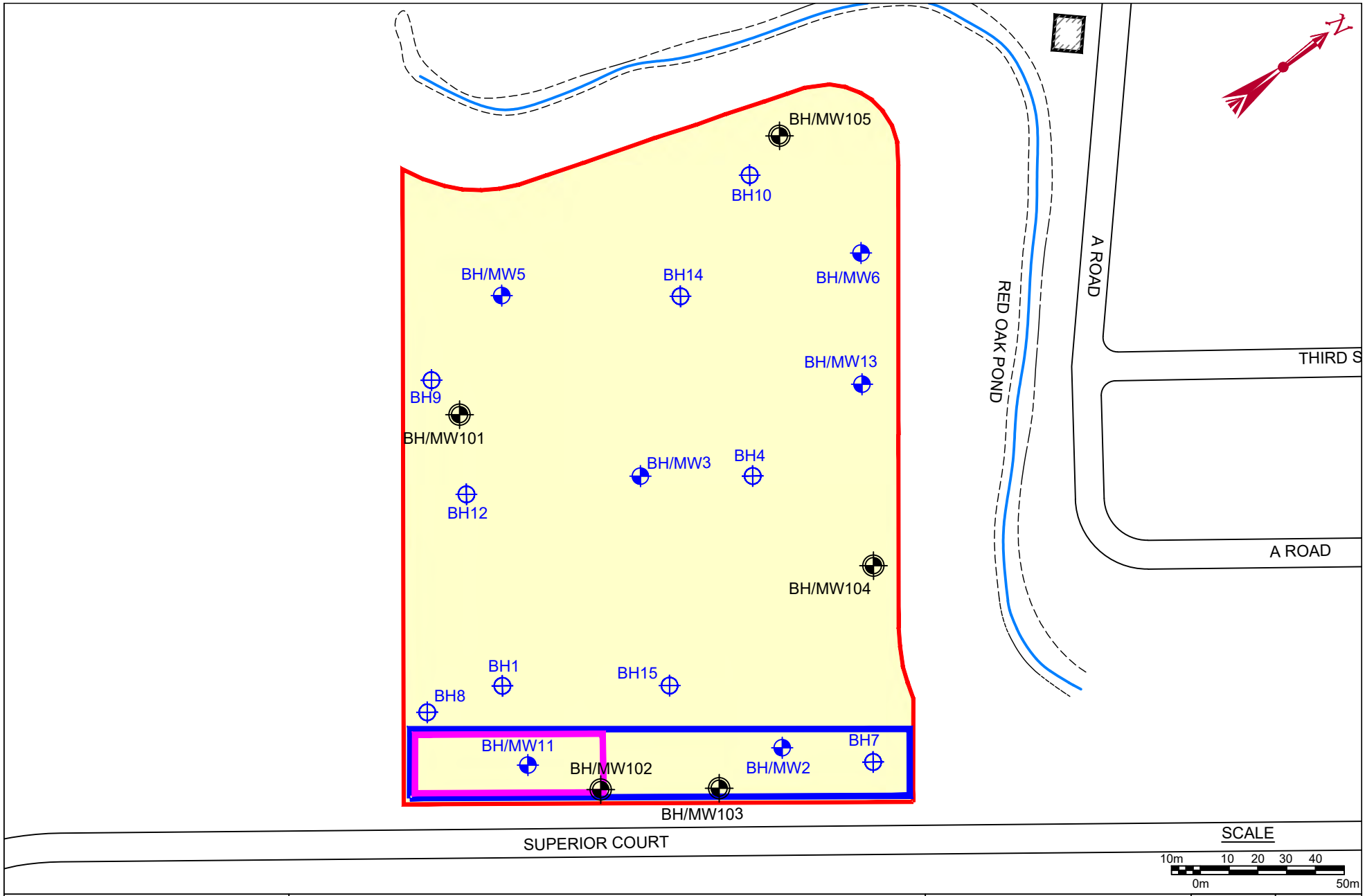
LEGEND

- SITE BOUNDARY
- LOCATION OF BOREHOLE/MONITORING WELL (BIG 2022)
- 1 LOCATION OF BOREHOLE (BIG 2020)
- 2 LOCATION OF BOREHOLE/MONITORING WELL (BIG 2020)
- A—A' GEOLOGICAL CROSS SECTION (SEE FIGURE 7)
- B—B' GEOLOGICAL CROSS SECTION (SEE FIGURE 8)

TITLE AND LOCATION

BOREHOLE/MONITORING WELL LOCATION PLAN
PHASE TWO ESA
SUPERIOR COURT,
OAKVILLE, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-382C	T.S.
SCALE	CK.
AS NOTED	E.L.
DATE	FIG NO.
MAY 2022	4



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LEGEND

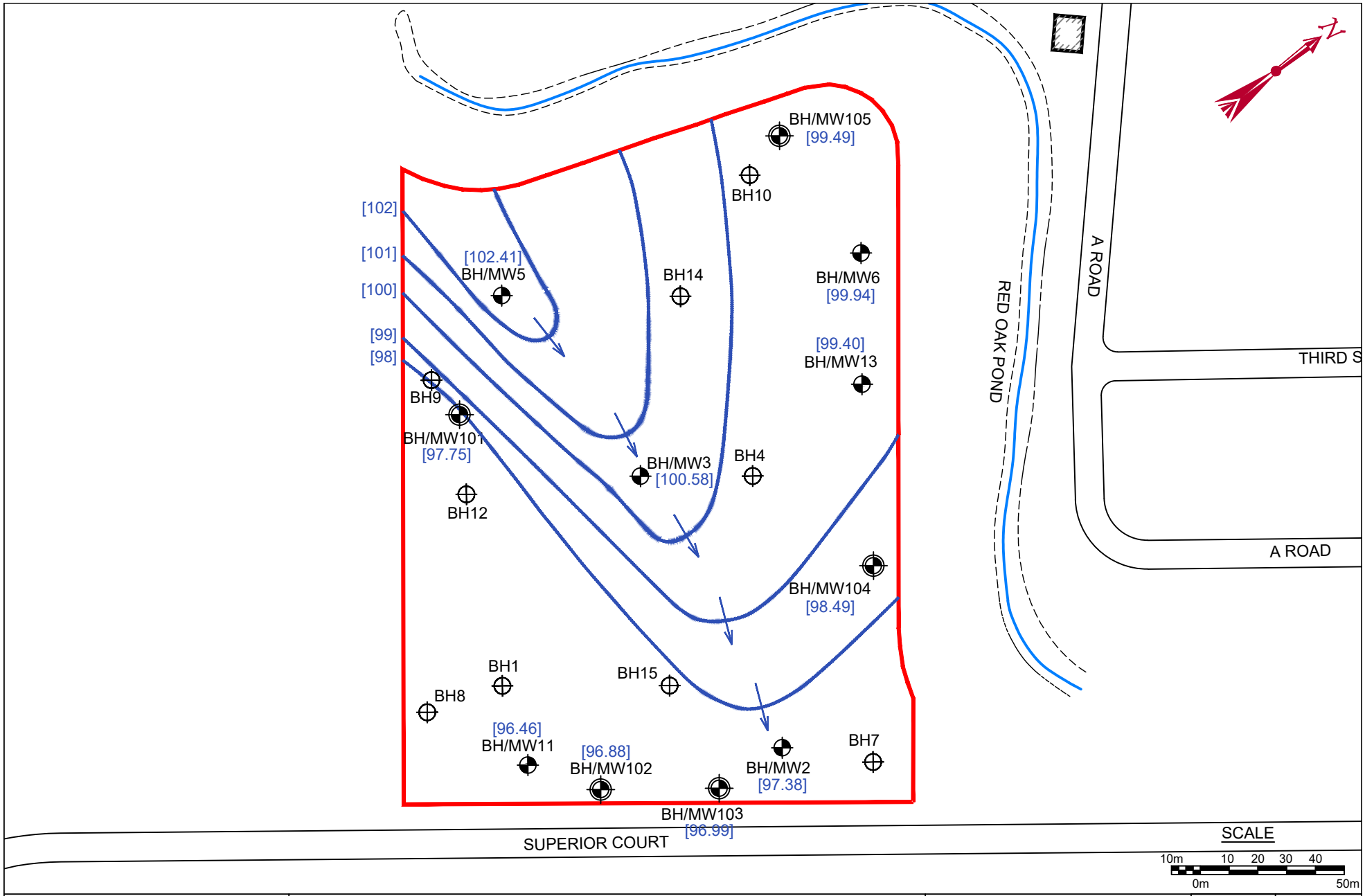
- SITE BOUNDARY
- LOCATION OF BOREHOLE/MONITORING WELL (BIG 2022)
- 1 LOCATION OF BOREHOLE (BIG 2020)
- 2 LOCATION OF BOREHOLE/MONITORING WELL (BIG 2020)
- APEC 1
- APECs 2-3
- APEC 4

TITLE AND LOCATION

BOREHOLE/MONITORING WELL LOCATION PLAN WITH AREAS OF POTENTIAL ENVIRONMENTAL CONCERN (APECs)

PHASE TWO ESA
SUPERIOR COURT,
OAKVILLE, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-382C	T.S.
SCALE	CK.
AS NOTED	E.L.
DATE	FIG NO.
MAY 2022	5



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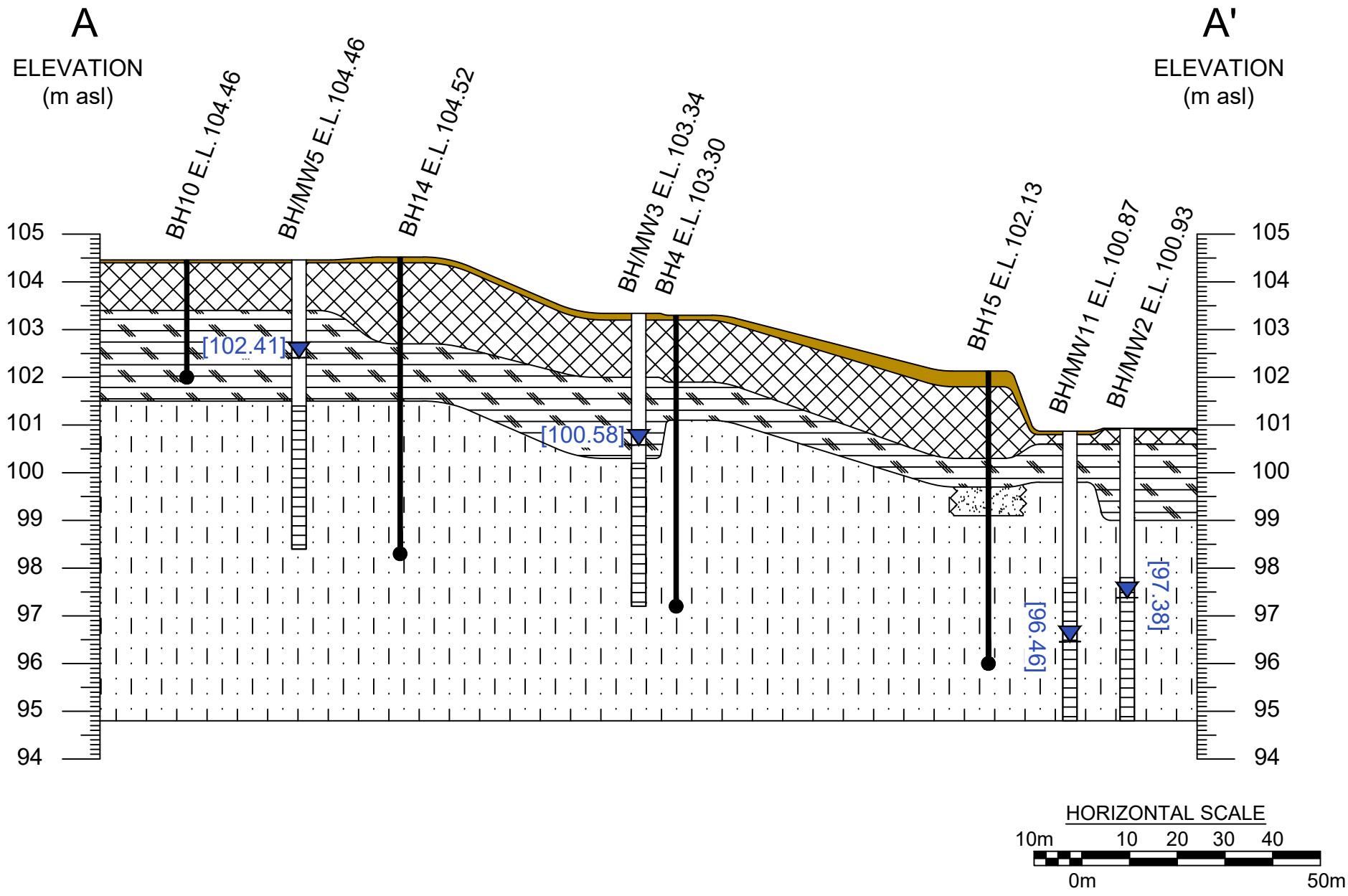
LEGEND

- SITE BOUNDARY
- LOCATION OF BOREHOLE/MONITORING WELL (BIG 2022)
- 1 LOCATION OF BOREHOLE (BIG 2020)
- 2 LOCATION OF BOREHOLE/MONITORING WELL (BIG 2020)
- [XX.XX] WATER LEVEL MEASUREMENT (MAY 16, 2022) (m asl)
- GROUNDWATER CONTOUR
- INTERPRETED DIRECTION OF GROUNDWATER FLOW

TITLE AND LOCATION

GROUNDWATER CONTOUR PLAN
PHASE TWO ESA
SUPERIOR COURT, OAKVILLE, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-382C	T.S.
SCALE	CK.
AS NOTED	E.L.
DATE	FIG NO.
MAY 2022	6



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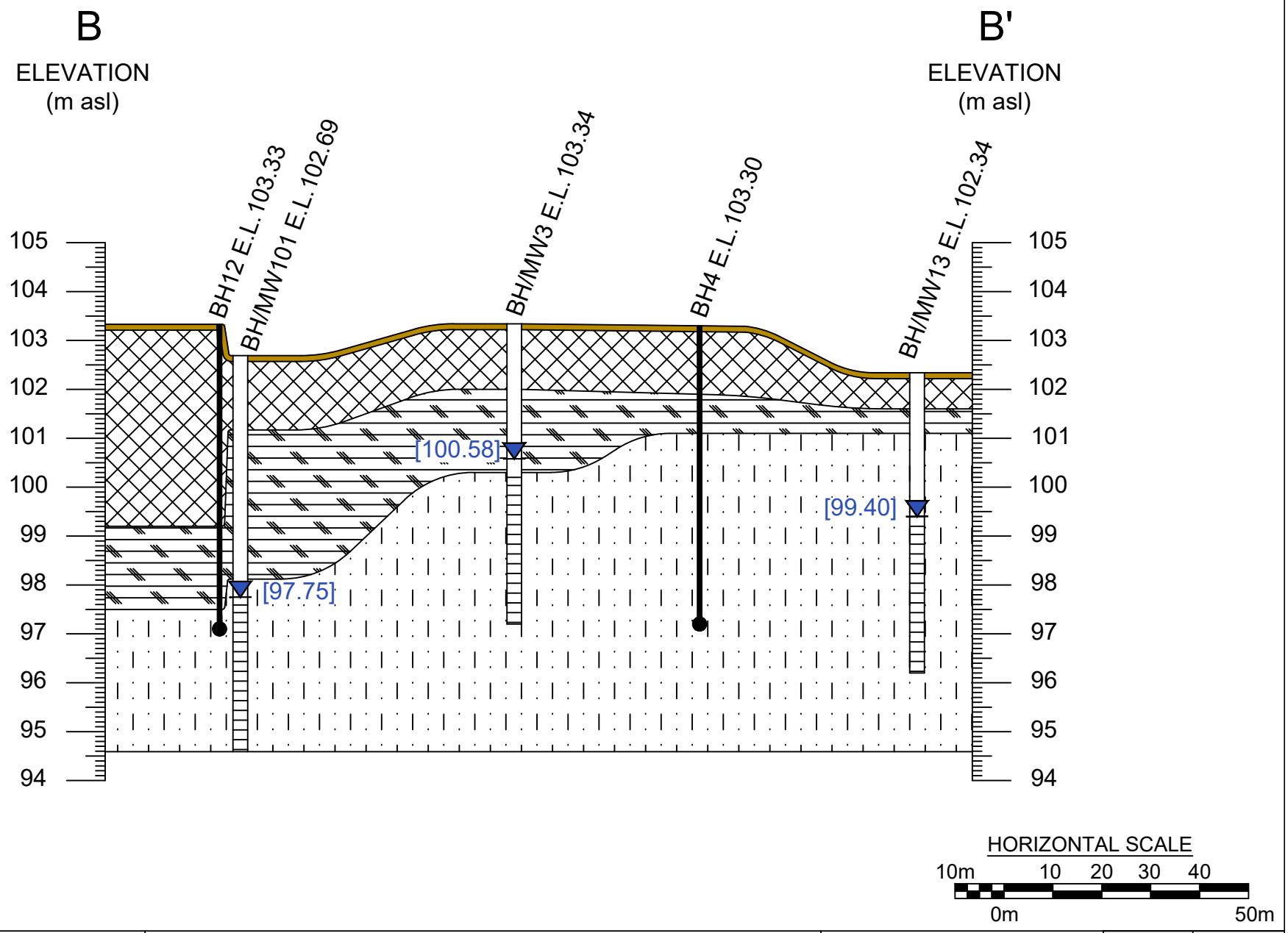
LEGEND

- TOP SOIL
- FILL
- CLAYEY SILT TILL
- SAND
- SHALE BEDROCK
- WATER LEVEL
- [XX.XX] WATER LEVEL MEASUREMENT (MAY 16, 2022) (m asl)

TITLE AND LOCATION

GEOLOGICAL CROSS SECTION A-A'
PHASE TWO ESA
SUPERIOR COURT,
OAKVILLE, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-382C	T.S.
SCALE	CK.
AS NOTED	E.L.
DATE	FIG NO.
MAY 2022	7



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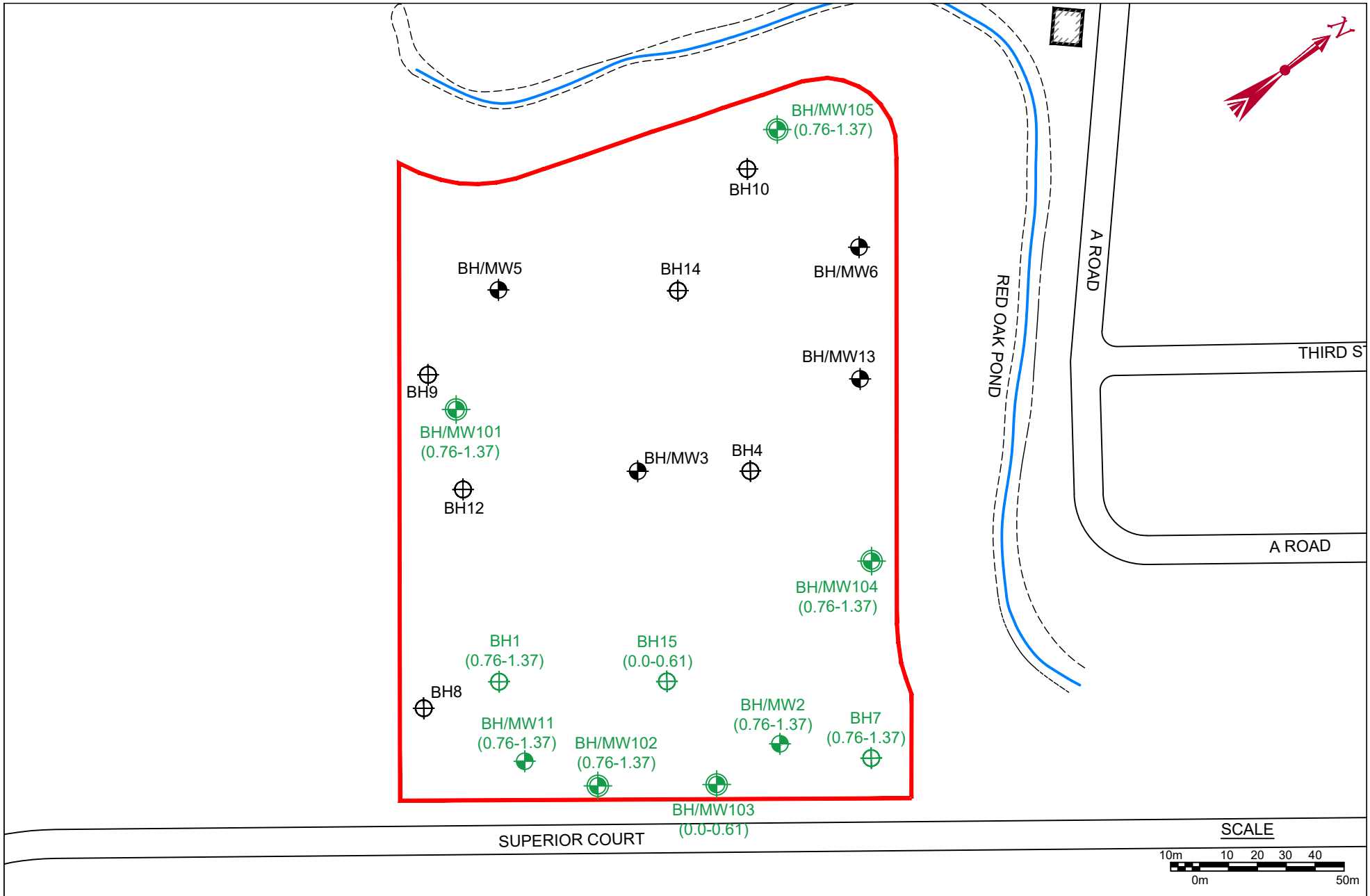
LEGEND

- TOP SOIL
- FILL
- CLAYEY SILT TILL
- SHALE BEDROCK
- WATER LEVEL
- [XX.XX] WATER LEVEL MEASUREMENT (MAY 16, 2022) (m asl)

TITLE AND LOCATION

GEOLOGICAL CROSS SECTION B-B'
PHASE TWO ESA
SUPERIOR COURT,
OAKVILLE, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-382C	T.S.
SCALE	CK.
AS NOTED	E.L.
DATE	FIG NO.
MAY 2022	8



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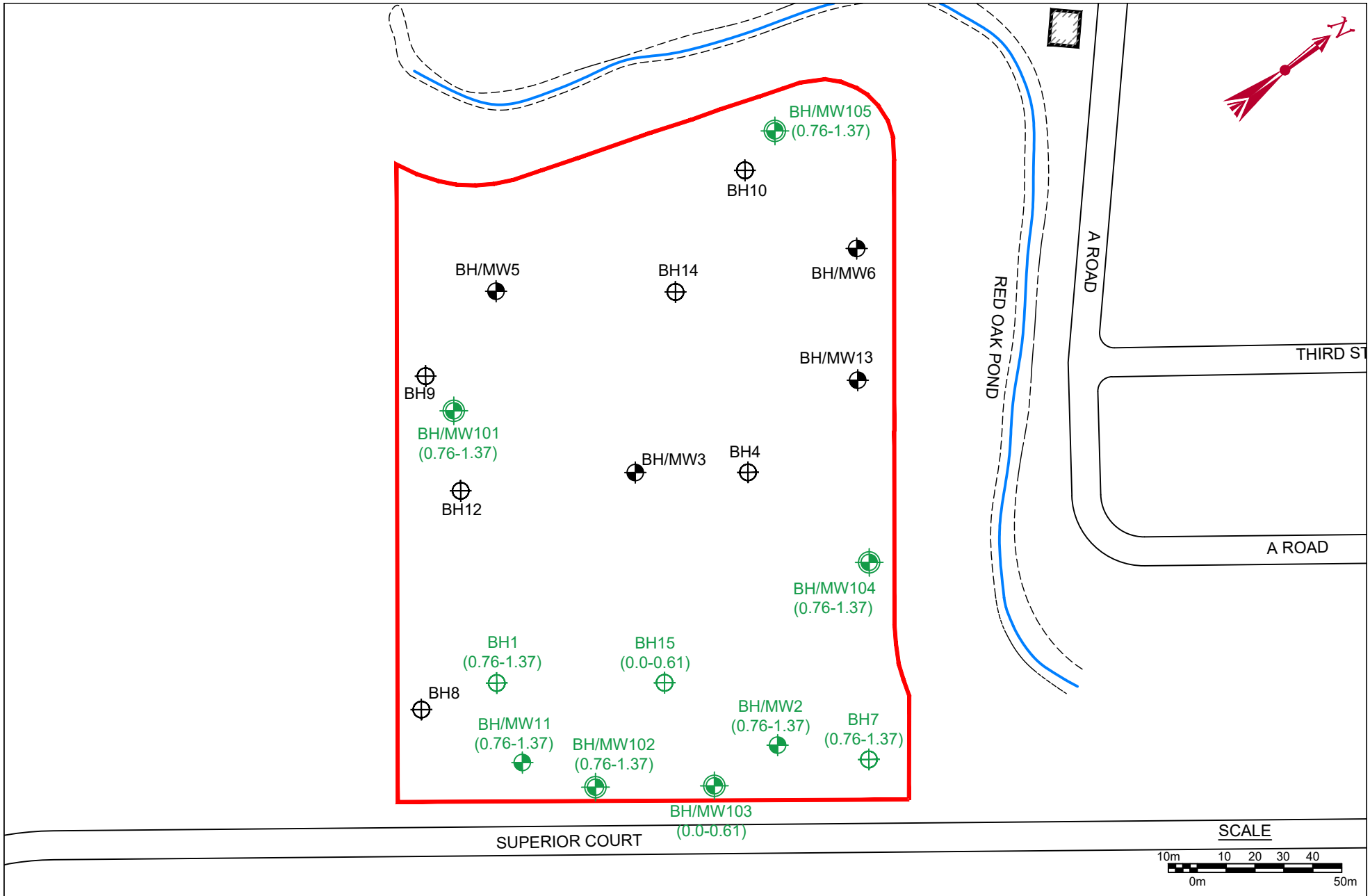
LEGEND

- SITE BOUNDARY
- LOCATION OF BOREHOLE/MONITORING WELL (BIG 2022)
- 1 LOCATION OF BOREHOLE (BIG 2020)
- 2 LOCATION OF BOREHOLE/MONITORING WELL (BIG 2020)
- MEETS MECP TABLE 6 SCS
- EXCEEDS MECP TABLE 6 SCS
- [xx.xx] SOIL SAMPLE DEPTH (m bgs)

TITLE AND LOCATION

PHC CONCENTRATIONS IN SOIL
PHASE TWO ESA
SUPERIOR COURT, OAKVILLE, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-382C	T.S.
SCALE	CK.
AS NOTED	E.L.
DATE	FIG NO.
MAY 2022	9



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- SITE BOUNDARY
- LOCATION OF BOREHOLE/MONITORING WELL (BIG 2022)
- 1 LOCATION OF BOREHOLE (BIG 2020)
- 2 LOCATION OF BOREHOLE/MONITORING WELL (BIG 2020)
- MEETS MECP TABLE 6 SCS
- EXCEEDS MECP TABLE 6 SCS
- [xx.xx] SOIL SAMPLE DEPTH (m bgs)

TITLE AND LOCATION

VOC AND BTEX CONCENTRATIONS IN SOIL
PHASE TWO ESA
SUPERIOR COURT,
OAKVILLE, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-382C	T.S.
SCALE	CK.
AS NOTED	E.L.
DATE	FIG NO.
MAY 2022	10

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LEGEND

- SITE BOUNDARY
- LOCATION OF BOREHOLE/MONITORING WELL (BIG 2022)
- 1 LOCATION OF BOREHOLE (BIG 2020)
- 2 LOCATION OF BOREHOLE/MONITORING WELL (BIG 2020)
- MEETS MECP TABLE 6 SCS
- EXCEEDS MECP TABLE 6 SCS
- [xx.xx] SOIL SAMPLE DEPTH (m bgs)

TITLE AND LOCATION

PAH CONCENTRATIONS IN SOIL
PHASE TWO ESA
SUPERIOR COURT, OAKVILLE, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-382C	T.S.
SCALE	CK.
AS NOTED	E.L.
DATE	FIG NO.
MAY 2022	11

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LEGEND

- SITE BOUNDARY
- LOCATION OF BOREHOLE/MONITORING WELL (BIG 2022)
- 1 LOCATION OF BOREHOLE (BIG 2020)
- 2 LOCATION OF BOREHOLE/MONITORING WELL (BIG 2020)
- MEETS MECP TABLE 6 SCS
- EXCEEDS MECP TABLE 6 SCS
- [xx.xx] SOIL SAMPLE DEPTH (m bgs)

TITLE AND LOCATION

METALS, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC AND SAR CONCENTRATIONS IN SOIL

PHASE TWO ESA
SUPERIOR COURT,
OAKVILLE, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-382C	T.S.
SCALE	CK.
AS NOTED	E.L.
DATE	FIG NO.
MAY 2022	12

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LEGEND

- SITE BOUNDARY
- LOCATION OF BOREHOLE/MONITORING WELL (BIG 2022)
- 1 LOCATION OF BOREHOLE (BIG 2020)
- 2 LOCATION OF BOREHOLE/MONITORING WELL (BIG 2020)
- MEETS MECP TABLE 6 SCS
- EXCEEDS MECP TABLE 6 SCS
- [xx.xx] WELL SCREEN INTERVAL (m bgs)

TITLE AND LOCATION

PHCs CONCENTRATIONS IN GROUNDWATER
PHASE TWO ESA
SUPERIOR COURT, OAKVILLE, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-382C	T.S.
SCALE	CK.
AS NOTED	E.L.
DATE	FIG NO.
MAY 2022	13

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LEGEND

- SITE BOUNDARY
- LOCATION OF BOREHOLE/MONITORING WELL (BIG 2022)
- 1 LOCATION OF BOREHOLE (BIG 2020)
- 2 LOCATION OF BOREHOLE/MONITORING WELL (BIG 2020)
- MEETS MECP TABLE 6 SCS
- EXCEEDS MECP TABLE 6 SCS
- [xx.xx] WELL SCREEN INTERVAL (m bgs)

TITLE AND LOCATION

VOC AND BTEX CONCENTRATIONS IN GROUNDWATER
PHASE TWO ESA
SUPERIOR COURT, OAKVILLE, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-382C	T.S.
SCALE	CK.
AS NOTED	E.L.
DATE	FIG NO.
MAY 2022	14

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LEGEND

- SITE BOUNDARY
- LOCATION OF BOREHOLE/MONITORING WELL (BIG 2022)
- 1 LOCATION OF BOREHOLE (BIG 2020)
- 2 LOCATION OF BOREHOLE/MONITORING WELL (BIG 2020)
- MEETS MECP TABLE 6 SCS
- EXCEEDS MECP TABLE 6 SCS
- [xx.xx] WELL SCREEN INTERVAL (m bgs)

TITLE AND LOCATION

PAHs CONCENTRATIONS IN GROUNDWATER
PHASE TWO ESA
SUPERIOR COURT, OAKVILLE, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-382C	T.S.
SCALE	CK.
AS NOTED	E.L.
DATE	FIG NO.
MAY 2022	15

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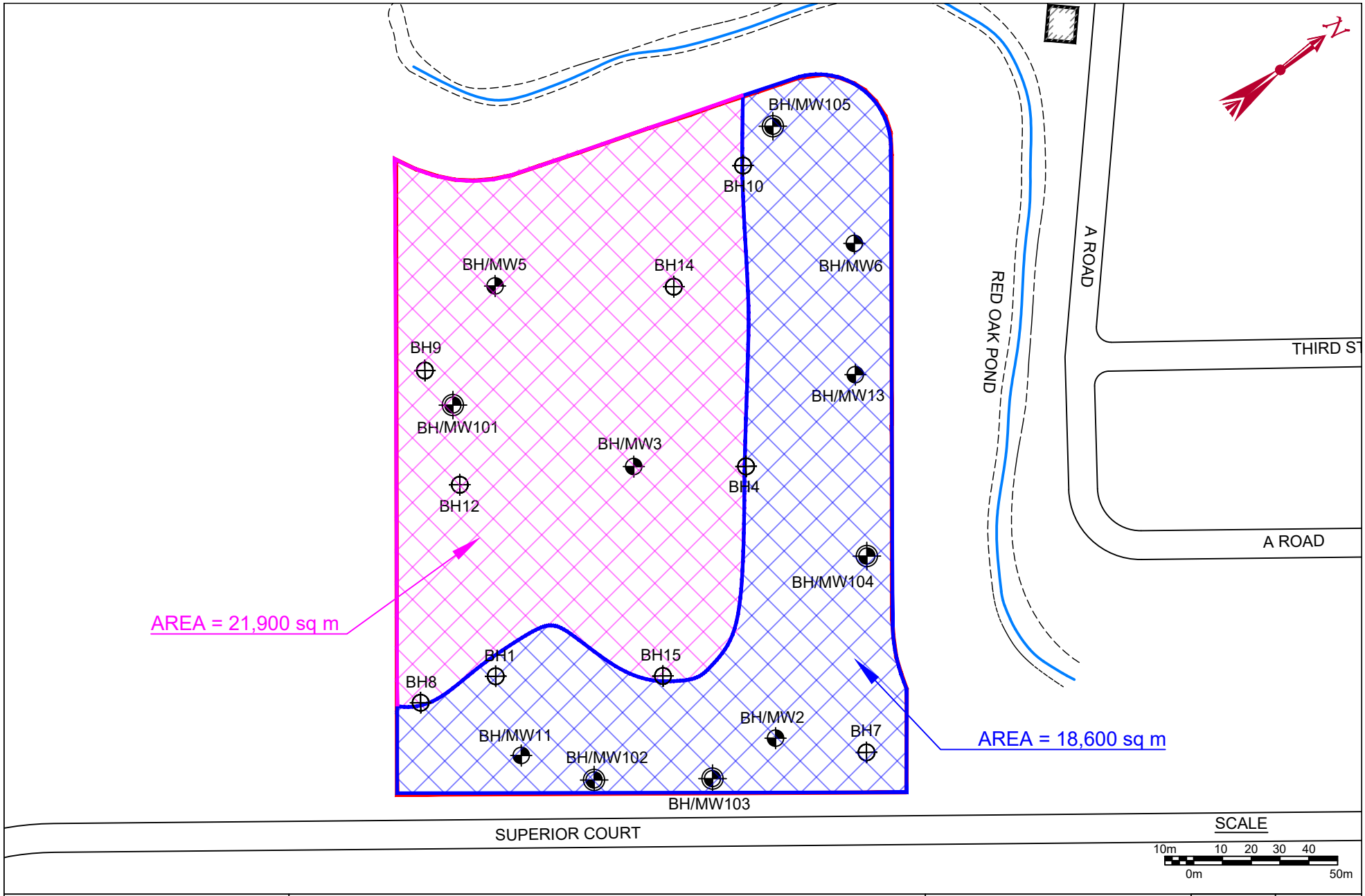
LEGEND

- SITE BOUNDARY
- LOCATION OF BOREHOLE/MONITORING WELL (BIG 2022)
- 1 LOCATION OF BOREHOLE (BIG 2020)
- 2 LOCATION OF BOREHOLE/MONITORING WELL (BIG 2020)
- MEETS MECP TABLE 6 SCS
- EXCEEDS MECP TABLE 6 SCS
- [xx.xx] WELL SCREEN INTERVAL (m bgs)

TITLE AND LOCATION

METALS, As, Sb, Se, Cr(VI), Hg, CN-, SODIUM AND CHLORIDE CONCENTRATIONS IN GROUNDWATER
PHASE TWO ESA
SUPERIOR COURT,
OAKVILLE, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-382C	T.S.
SCALE	CK.
AS NOTED	E.L.
DATE	FIG NO.
MAY 2022	16



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LEGEND

- SITE BOUNDARY
- OVERBURDEN > 2 m bgs
- OVERBURDEN < 2 m bgs

TITLE AND LOCATION

SITE KEY PLAN
PHASE TWO ESA
SUPERIOR COURT,
OAKVILLE, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-382C	T.S.
SCALE	CK.
AS NOTED	E.L.
DATE	FIG NO.
MAY 2022	17

Tables

TABLE 1 – Areas of Potential Environmental Concern (APECs)
BIGC-ENV-382C – Phase Two Environmental Site Assessment
Superior Court, Oakville, Ontario

APEC	Location of APEC on Phase One Property	PCA	Location of PCA (On-Site or Off-Site)	Contaminants of Concern	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC 1: Importation of fill material	Entire Site	PCA#30 – Importation of Fill Material of Unknown Quality	On-Site	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, Electrical Conductivity and SAR	Soil and groundwater
APEC 2: Former oil refinery	Southwestern portion	PCA#14 – Crude Oil Refining, Processing and Bulk Storage	Off-Site	PHCs, VOCs	Groundwater
APEC 3: Former ASTs	Southwestern portion	PCA#28 – Gasoline and Associated Products Storage in Fixed Tanks	Off-Site	PHCs, VOCs	Groundwater
APEC 4: Concrete pipe manufacturer	Southern portion	PCA#12 – Concrete, Cement and Lime Manufacturing	Off-Site	PHCs, metals, As, Sb, Se, Cr(VI), Hg, CN-, Na and Cl-	Groundwater

1) *Area of Potential Environmental Concern means the area on, in or under a phase one study area where one or more contaminants are potentially present, as determined through the Phase One ESA including through:*
    a) *Identification of post or present uses on, in or under the phase one property, and*
    b) *Identification of potentially contaminating activities.*
2) *Potentially contaminating activity means a use or activity set out in Column A of Table 2 of Schedule D that is occurring or has occurred in a phase one study area*

PHCs = PAHs = polycyclic aromatic hydrocarbons; As = arsenic; Sb = antimony; Se = selenium; B-HWS = boron-hot water soluble; Cr(VI) = hexavalent chromium; Hg = mercury; CN- = cyanide; SAR = sodium adsorption ratio; Na = sodium; Cl = chloride

TABLE 2 – Summary of Soil Samples Submitted for Chemical Analysis
BIGC-ENV-382C – Phase Two Environmental Site Assessment
Superior Court, Oakville, Ontario

Soil Sample ID	Rationale	Requested Analyses	Consultant
BH1-SS2	APEC 1 and Site characterization	PHCs, BTEX, VOCs, PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2020)
BH2-SS1	APEC 1	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2020)
BH2-SS2	Site characterization	PHCs, BTEX, VOCs	BIG (2020)
BH3-SS2	APEC 1	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2020)
BH4-SS2	APEC 1	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2020)
BH5-SS1	APEC 1	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2020)
BH6-SS1	APEC 1	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2020)
BH7-SS1	APEC 1	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2020)
BH7-SS2	Site characterization	PHCs, BTEX, VOCs	BIG (2020)
BH8-SS1	APEC 1	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2020)
BH9-SS1	APEC 1	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2020)
BH10-SS1	APEC 1	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2020)
BH11-SS1	APEC 1	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2020)
BH11-SS2	Site characterization	PHCs, BTEX, VOCs	BIG (2020)
BH12-SS1	APEC 1	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2020)
BH13-SS1	APEC 1	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2020)
BH14-SS1	APEC 1	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, Electrical conductivity and SAR	BIG (2020)
BH15-SS1	Site characterization	PHCs, BTEX, VOCs	BIG (2020)
BH15-SS2	APEC 1	PAHs, metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2020)
BH101-SS2	APEC 1 and Site characterization	PHCs, BTEX, VOCs, PAHs, Metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2022)
BH102-SS1	APEC 1	PAHs, Metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2022)
BH102-SS2	Site characterization	PHCs, BTEX, VOCs	BIG (2022)
BH103-SS1	APEC 1	PHCs, BTEX, VOCs, PAHs, Metals, As, Sb, Se, B-HWS,	BIG (2022)

Soil Sample ID	Rationale	Requested Analyses	Consultant
		Cr(VI), Hg, CN-,EC and SAR	
BH104-SS1	APEC 1	PAHs, Metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2022)
BH104-SS2	Site characterization	PHCs, BTEX, VOCs	BIG (2022)
BH105-SS1	APEC 1	PAHs, Metals, As, Sb, Se, B-HWS, Cr(VI), Hg, CN-, EC and SAR	BIG (2022)
BH105-SS2	Site characterization	PHCs, BTEX, VOCs	BIG (2022)

TABLE 3 – Monitoring Well Installation Details
BIGC-ENV-382C – Phase Two Environmental Site Assessment
Superior Court, Oakville, Ontario

Well ID	Consultant	Ground Elevation (m asl)	Stick up (m)	Top of screen (m bgs)	Bottom of screen (m bgs)	Screen length (m)	Top of screen (m asl)	Bottom of screen (m asl)	Geologic Units Intercepted by Well Screen	Well Condition
BH/MW2	BIG (2020)	100.93	0.91	3.1	6.1	3.0	97.83	94.83	Shale	Intact
BH/MW3	BIG (2020)	103.34	1.08	3.1	6.1	3.0	100.24	97.24	Shale	Intact
BH/MW5	BIG (2020)	104.46	0.98	3.1	6.1	3.0	101.36	98.36	Shale	Intact
BH/MW6	BIG (2020)	103.09	0.75	3.1	6.1	3.0	99.99	96.99	Shale	Intact
BH/MW11	BIG (2020)	100.87	0.91	3.1	6.1	3.0	97.77	94.77	Shale	Intact
BH/MW13	BIG (2020)	102.34	0.97	3.1	6.1	3.0	99.24	96.24	Shale	Intact
BH/MW101	BIG (2022)	102.69	0.99	6.1	8.1	3.0	96.59	93.59	Shale	Intact
BH/MW102	BIG (2022)	100.6	0.9	3.1	6.1	3.0	97.5	94.5	Shale	Intact
BH/MW103	BIG (2022)	100.07	1.04	3.1	6.1	3.0	96.97	93.97	Shale	Intact
BH/MW104	BIG (2022)	101.37	0.94	3.1	6.1	3.0	98.27	95.27	Shale	Intact
BH/MW105	BIG (2022)	104.42	0.95	3.1	6.1	3.0	101.32	98.32	Shale	Intact

TABLE 4 – Summary of Groundwater Samples Submitted for Chemical Analysis
BIGC-ENV-382C – Phase Two Environmental Site Assessment
Superior Court, Oakville, Ontario

Monitoring Well ID	Rationale	Requested Analyses	Consultant
MW2	APECs 1 and 4	PHCs, BTEX, VOCs, PAHs, metals, As, Sb, Se, Cr(VI), Hg, CN-, Na and Cl-	BIG (2020)
MW3	APEC 1 and Site characterization	PHCs, BTEX, VOCs, Metals, As, Sb, Se, Cr(VI), Hg, CN-, Na and Cl-	BIG (2020)
MW5	Site characterization	PHCs, BTEX, VOCs	BIG (2020)
MW6	Site characterization	PHCs, BTEX, VOCs	BIG (2020)
MW11	APECs 1 to 4	PHCs, BTEX, VOCs, Metals, As, Sb, Se, Cr(VI), Hg, CN-, Na and Cl-	BIG (2020)
MW13	Site characterization	PHCs, BTEX, VOCs	BIG (2020)
BH/MW101	APEC 1 and Site characterization	PHCs, VOCs, PAHs, Metals, As, Sb, Se, Cr(VI), Hg, CN-, Na, Cl-	BIG (2022)
BH/MW102	APECs 1 to 4	PHCs, VOCs, PAHs, Metals, As, Sb, Se, Cr(VI), Hg, CN-, Na, Cl-	BIG (2022)
BH/MW103	APECs 1 and 4	PHCs, VOCs, PAHs, Metals, As, Sb, Se, Cr(VI), Hg, CN-, Na, Cl-	BIG (2022)
BH/MW104	APEC 1 and Site characterization	PHCs, VOCs, PAHs	BIG (2022)
BH/MW105	APEC 1 and Site characterization	PHCs, VOCs, PAHs, Metals, As, Sb, Se, Cr(VI), Hg, CN-, Na, Cl-	BIG (2022)

TABLE 5 – Water Level Depths and Elevations
BIGC-ENV-382C – Phase Two Environmental Site Assessment
Superior Court, Oakville, Ontario

Borehole/ Monitoring Well ID	Ground Surface Elevation	Groundwater Level (m bgs)	Groundwater Elevation (m asl)	Groundwater Monitoring Date
BH/MW2	100.93	3.55	97.38	May 16, 2022
BH/MW3	103.34	2.76	100.58	May 16, 2022
BH/MW5	104.46	2.05	102.41	May 16, 2022
BH/MW6	103.09	3.15	99.94	May 16, 2022
BH/MW11	100.87	4.41	96.46	May 16, 2022
BH/MW13	102.34	2.94	99.40	May 16, 2022
BH/MW101	102.69	4.94	97.75	May 16, 2022
BH/MW102	100.6	3.72	96.88	May 16, 2022
BH/MW103	100.07	3.08	96.99	May 16, 2022
BH/MW104	101.37	2.88	98.49	May 16, 2022
BH/MW105	104.42	4.93	99.49	May 16, 2022

Appendix A - Sampling and Analysis Plan

1. Introduction

This appendix presents the Site Sampling and Analysis Plan (SSAP) that was developed in support of the Phase Two Environmental Site Assessment (ESA), which will be conducted to provide further characterization of the Site subsurface conditions. The SSAP presents the procedures and measures that will be undertaken during field investigative activities to characterize the Site conditions and meet the data quality objectives of the Phase Two ESA.

The SSAP presents the sampling program proposed for the Site, the recommended procedures and protocols for sampling and related field activities, the data quality objectives, and the quality assurance/ quality control (QA/QC) measures that will be undertaken to provide for the collection of accurate, reproducible, and representative data. These components are described in further detail below.

2. Field Sampling Program

The field sampling program was developed to provide for the collection of samples of the surficial and subsurface soil materials for chemical analysis of parameters identified as potential contaminants of concern identified in the Phase One ESA.

The soil samples will be collected from of the surficial fill and overburden material. The groundwater samples will be collected from each monitoring well.

The monitoring wells will be installed at selected boreholes to intercept the groundwater table aquifer. The monitoring wells will be installed with 1.5 or 3 m long screens extending to a maximum depth of approximately 8.1 metres below grade.

Elevation of the boreholes and monitoring wells will be obtained through the completion of an elevation survey with reference to a Site temporary benchmark or a local geodetic benchmark. Groundwater flow will be determined through groundwater level measurements and the relative groundwater elevations established in the Site elevation survey.

3. Field Methods

To meet the requirements of the field sampling program, the following field investigative methods will be undertaken:

a) Borehole Drilling;
b) Soil Sampling;
c) Monitoring Well Installation;
d) Monitoring Well Development;
e) Groundwater Level Measurements;
f) Elevation Survey;
g) Groundwater Sampling; and
h) Residue Management Procedures.

The field investigative methods will be performed as described below:

a) Borehole Drilling

Boreholes will be advanced at the Site to facilitate the collection of soil samples for chemical analysis and geologic characterization and for the installation of groundwater monitoring wells. Boreholes will be advanced at the Site to a maximum depth of approximately 8.1 m below grade, within the overburden materials to provide for the collection of soil samples beneath the Site. The borehole locations will be selected to assess soil and groundwater quality at the Site.

Prior to borehole drilling, utility clearances will be obtained from public locators, as required. Boreholes will be advanced into the surficial fill and overburden soils by a drilling company under the full-time supervision of BIG staff. A track mounted drilling machine equipped with hollow stem augers and split spoons will be utilized to advance the boreholes through the overburden materials.

b) Soil Sampling

Soil samples for geologic characterization and chemical analysis will be collected from the overburden boreholes using 5 cm diameter, 60 cm long, stainless steel split-spoon sampling devices advanced ahead of the augers. The split-spoon samplers will be attached to drill rods and advanced into the soil by means of a machine-driven hammer. Spilt-spoon soil samples will be collected where possible, beginning at the ground surface and subsequently at continuous intervals. Geologic and sampling details of the recovered cores will be logged, and the samples will be assessed for the potential presence of non-aqueous phase liquids. A portion of each soil sample will be placed in a sealed “zip-lock” plastic bag and allowed to reach ambient temperature prior to field screening with a photoionization detector (PID) that will be calibrated by the supplier with an appropriate reference gas and zeroed in ambient conditions prior to use. The vapour measurements will be made by inserting the instrument’s probe into the plastic bag while manipulating the sample to ensure volatilization of the soil gases. These readings will provide a real-time indication of the relative concentration of volatile organic vapours encountered in the subsurface during drilling. Samples for chemical analysis will be selected on the basis of visual, combustible gas, and olfactory evidence of impacts and at specific intervals to define the lateral and vertical extent of suspected impacts.

Recommended volumes of soil samples selected for chemical analysis will be collected into pre-cleaned, laboratory supplied, analytical test group specific containers. The samples will be placed into clean insulated coolers chilled with ice for storage and transport. Samples intended for VOC analysis will be collected using a laboratory-supplied soil core sampler, placed into the vials containing methanol for preservation purposes and sealed using Teflon lined septa lids. The samples will be assigned unique identification numbers, and the date, time, location, and requested analyses for each sample will be documented in a bound field notebook. The samples will be submitted to a CAEL certified laboratory within analytical test group holding times under Chain of Custody (COC) protocols. New disposable chemical resistant gloves will be used during the handling and sample collection for each soil core to prevent sample cross-contamination.

c) Monitoring Well Installation

Monitoring wells will be installed in general accordance with Ontario Regulation 903/90, as amended and will be installed by a licensed well contractor.

The monitoring wells will be constructed using 50 mm diameter, Schedule 40, PVC riser pipe and number 10 slot size (0.25 mm) well screens. The base of the well screens will be sealed with PVC end caps. All well pipe connections will be factory machined threaded flush couplings. The pipe components will be pre-wrapped in plastic, which will be removed prior to insertion in the borehole to minimize the potential for contamination. No lubricants or adhesives will be used in the construction of the monitoring wells. The annular space around the well screens will be backfilled with silica sand to at least 0.3 m above the top of the screen. Granular bentonite will be placed in the borehole annulus from the top of the sand pack to approximately grade. The monitoring wells will be completed with protective casings.

d) Monitoring Well Development

Monitoring wells will be developed to remove fine sediment particles potentially lodged in the sand pack and well screen to enhance contact with the surrounding formation groundwater and will be developed using Wattera® tubing and a monsoon pump. Monitoring well development will be monitored by multiparameter water quality meter, visual observations of turbidity, and by taking field measurements of pH and conductivity for every well volume removed. Standing water volumes will be determined by means of a water level meter. Water quality parameter measurements will be recorded using a multiparameter water quality meter. A minimum of approximately three (3) well volumes will be removed; and, well development will continue until the purged water has chemically stabilized as indicated by field parameters measurements.

Well development details will be documented on a well development log sheet or in a bound hard cover notebook. All water accumulated during well development will be collected and stored in sealed containers.

e) Groundwater Level Measurements

Groundwater level measurements will be recorded from monitoring wells to determine groundwater flow and direction at the Site. Water levels will be measured with respect to the top of the casing by means of a groundwater level meter. The water levels will be recorded on water level log sheets or in a bound field notebook. The water level meter probe will be decontaminated between monitoring well locations.

f) Elevation Survey

An elevation survey will be conducted to obtain vertical control of the newly installed monitoring well locations. The top of casing and ground surface elevation of each monitoring well location will be surveyed against a known geodetic benchmark, or if unavailable, against a suitable arbitrary temporary benchmark. Elevations measured against a geodetic benchmark will be recorded as meters above mean sea level (m AMSL). The arbitrary temporary benchmark will be assigned an elevation of 100.00 m. The elevation survey will be accurate to within ± 1 cm.

g) Groundwater Sampling

Groundwater samples will be collected from monitoring wells for chemical analysis. The monitoring wells will be purged first of three to five wetted well volumes of water, or until dry, to remove standing water and draw in fresh formation water as previously described. Dedicated well materials will be used for well purging and sample collection.

Recommended groundwater sample volumes will be collected into pre-cleaned, laboratory-supplied vials or bottles provided with analytical test group specific preservatives, as required. The samples will be placed in an insulated cooler chilled with ice for storage and transport. Where needed, bottles will be checked for headspace.

All groundwater samples will be assigned unique identification numbers, and the date, time, project number, and company name will be specified on each bottle. The samples will be submitted to the contractual laboratory within analytical test group holding times under COC protocols. New disposable chemical resistant gloves will be used for each sampling location to prevent sample cross-contamination.

h) Residue Management Procedures

The residue materials produced during the borehole drilling, soil sampling programs and monitoring well sampling programs comprised of decontamination fluids from equipment cleaning, and waters from well development and purging will be placed in sealed drums for future off-Site disposal.

4. Field Quality Assurance/Quality Control Program

The objective of the field quality assurance/quality control (QA/QC) program is to obtain soil and groundwater samples and other field measurements that provide data of acceptable quality that meets the objectives of the Phase Two ESA. The objectives of the QA/QC program will be achieved through the implementation of procedures for the collection of unbiased (i.e., non-contaminated) samples, sample documentation, and the collection of appropriate QC samples to provide a measure of sample reproducibility and accuracy. The field QA/QC measures will comprise:

a) Decontamination Protocols;
b) Equipment Calibration;
c) Sample Preservation;
d) Sample Documentation; and,
e) Field Quality Control Samples.

Details on the field QA/QC measures are provided in the following sections.

a) Decontamination Protocols

Decontamination protocols will be followed during field sampling where non-dedicated sampling equipment is used to prevent sample cross contamination. For the borehole drilling and soil sampling, split-spoon soil sampling devices will be cleaned/decontaminated between sampling intervals and auger flights between borehole locations. For the monitoring well installation, well components are not to come into contact with the ground surface prior to insertion into

boreholes. Electronic water level meters will be decontaminated between monitoring well locations during well development, purging activities, and rising head tests. All decontamination fluids will be collected and stored in sealed containers.

b) Equipment Calibration

All equipment requiring calibration will be calibrated according to manufacturer's requirements using analytical grade reagents, or by the supplier prior to conducting field activities.

c) Sample Preservation

All samples will be preserved using appropriate analytical test group specific reagents, as required, and upon collection placed in ice-filled insulated coolers for storage and transport.

d) Sample Documentation

All samples will be assigned a unique identification number, which is to be recorded along with the date, time, project number, and company name. All samples will be handled and transported following COC protocols.

e) Field Quality Control Samples

Field quality controls samples will be collected to evaluate the accuracy and reproducibility of the field sampling procedures. Where required, for groundwater samples, a trip blank prepared by a laboratory will be submitted for chemical analysis to evaluate the potential for sample cross-contamination or bias. The recommended alert criteria for the trip blank sample are the detections of any test group analyte at a concentration in excess of laboratory detection limits.

Appendix B – Analytical Results

Sample ID	MOECC (2011) Table 6: Generic SCS for Shallow Soils in a Potable Groundwater Condition Industrial/Commercial/Community Land Use (medium/fine textured soil)	BH1-SS2	BH2-SS2	BH7-SS2	BH11-SS2	BH15-SS1	BH101-SS2	BH102-SS2	DUP05 (Duplicate of BH102-SS2)	BH103-SS1	BH104-SS2	DUP06 (Duplicate of BH104-SS2)	BH105-SS2
Lab ID		1035907	1035914	1035921	1035932	1035936	SOT969	SOT971	SOT976	SOT972	SOT974	SOT982	SOT976
Sampling Date		16-Mar-20	16-Mar-20	12-Mar-20	16-Mar-20	16-Mar-20	09-May-2022	09-May-2022	09-May-2022	09-May-2022	09-May-2022	09-May-2022	09-May-2022
Soil Sample Depth (m)		0.76-1.37	0.76-1.37	0.76-1.37	0.76-1.37	0.0-0.61	0.76-1.37	0.76-1.37	0.76-1.37	0.0-0.61	0.76-1.37	0.76-1.37	0.76-1.37
Consultant		BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG
Laboratory		AGAT	AGAT	AGAT	AGAT	AGAT	BV	BV	BV	BV	BV	BV	BV
Certificate of Analysis		20T585671	20T585671	20T585671	20T585671	20T585671	C2C5659	C2C5659	C2C5659	C2C5659	C2C5659	C2C5659	C2C5659
Benzene	0.4	-	-	-	-	-	-	-		-	-	-	-
Toluene	9	-	-	-	-	-	-	-		-	-	-	-
Ethylbenzene	1.6	-	-	-	-	-	-	-		-	-	-	-
m&p-Xylene	NV	-	-	-	-	-	-	-		-	-	-	-
o-Xylene	NV	-	-	-	-	-	-	-		-	-	-	-
Xylenes (total)	30	-	-	-	-	-	-	-		-	-	-	-
PHC F1 (C6-C10)	65	<5	<5	<5	<5	<5	<10	<10	<10	<10	<10	<10	<10
PHC F1 (C6-C10) - BTEX	65	<5	<5	<5	<5	<5	<10	<10	<10	<10	<10	<10	<10
PHC F2 (C10-C16)	250	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
PHC F3 (C16-C34)	2500	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
PHC F4 (C34-C50)	6600	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Reached baseline at C50?	NV	NA	NA	NA	NA	NA	YES	YES	YES	YES	YES	YES	YES
PHC F4 (C34-C50)-gravimetric	6600	-	-	-	-	-	-	-	-	-	-	-	-

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 6: Generic SCS for Shallow Soils in a Potable Groundwater Condition Industrial/Commercial/Community Land Use (medium/fine textured soil)	BH1-SS2	BH2-SS2	BH7-SS2	BH11-SS2	BH15-SS1	BH101-SS2	BH102-SS2	DUP05 (Duplicate of BH102-SS2)	BH103-SS1	BH104-SS2	DUP06 (Duplicate of BH104-SS2)	BH105-SS2
Lab ID		1035907	1035914	1035921	1035932	1035936	SOT969	SOT971	SOT981	SOT972	SOT974	SOT982	SOT976
Sampling Date		16-Mar-20	16-Mar-20	12-Mar-20	16-Mar-20	16-Mar-20	09-May-2022	09-May-2022	09-May-2022	09-May-2022	09-May-2022	09-May-2022	09-May-2022
Soil Sample Depth (m)		0.76-1.37	0.76-1.37	0.76-1.37	0.76-1.37	0.0-0.61	0.76-1.37	0.76-1.37	0.76-1.37	0.0-0.61	0.76-1.37	0.76-1.37	0.76-1.37
Consultant		BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG
Laboratory		AGAT	AGAT	AGAT	AGAT	AGAT	BV	BV	BV	BV	BV	BV	BV
Certificate of Analysis		1035907	1035914	1035921	1035932	1035936	C2C5659	C2C5659	C2C5659	C2C5659	C2C5659	C2C5659	C2C5659
Acetone	28	<0.50	<0.50	<0.50	<0.50	<0.50	<0.49	<0.49	<0.49	<0.49	<0.49	<0.49	<0.49
Benzene	0.4	<0.02	<0.02	<0.02	<0.02	<0.02	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060
Bromodichloromethane	1.9	<0.05	<0.05	<0.05	<0.05	<0.05	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Bromoform	1.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Bromomethane	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Carbon Tetrachloride	0.71	<0.05	<0.05	<0.05	<0.05	<0.05	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Chlorobenzene	2.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Chloroform	0.18	<0.04	<0.04	<0.04	<0.04	<0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Dibromochloromethane	2.9	<0.05	<0.05	<0.05	<0.05	<0.05	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
1,2-Dichlorobenzene	1.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
1,3-Dichlorobenzene	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
1,4-Dichlorobenzene	0.57	<0.05	<0.05	<0.05	<0.05	<0.05	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Dichlorodifluoromethane	25	<0.05	<0.05	<0.05	<0.05	<0.05	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
1,1-Dichloroethane	0.6	<0.02	<0.02	<0.02	<0.02	<0.02	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
1,2-Dichloroethane	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049
1,1-Dichloroethylene	0.48	<0.05	<0.05	<0.05	<0.05	<0.05	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
cis-1,2-Dichloroethylene	2.5	<0.02	<0.02	<0.02	<0.02	<0.02	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
trans-1,2-Dichloroethylene	2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
1,2-Dichloropropane	0.68	<0.03	<0.03	<0.03	<0.03	<0.03	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
cis-1,3-Dichloropropene	NV	<0.04	<0.04	<0.04	<0.04	<0.04	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
trans-1,3-Dichloropropene	NV	<0.04	<0.04	<0.04	<0.04	<0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Ethylbenzene	1.6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Ethylene Dibromide (1,2-Dibromoethane)	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Hexane (n)	88	<0.05	<0.05	<0.05	<0.05	<0.05	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Methylene chloride (Dichloromethane)	2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049
Methyl ethyl ketone (2-Butanone)	88	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Methyl Isobutyl Ketone	210	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Methyl t-butyl ether (MTBE)	2.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Styrene	43	<0.05	<0.05	<0.05	<0.05	<0.05	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
1,1,1,2-Tetrachloroethane	0.11	<0.04	<0.04	<0.04	<0.04	<0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
1,1,2,2-Tetrachloroethane	0.094	<0.05	<0.05	<0.05	<0.05	<0.05	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Tetrachloroethylene	2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Toluene	9	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
1,1,1-Trichloroethane	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
1,1,2-Trichloroethane	0.11	<0.04	<0.04	<0.04	<0.04	<0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Trichloroethylene	0.61	<0.03	<0.03	<0.03	<0.03	<0.03	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane	5.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Vinyl Chloride	0.25	<0.02	<0.02	<0.02	<0.02	<0.02	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019
m-Xylene + p-Xylene	NV	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
o-Xylene	NV	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Xylenes (total)	30	<0.05	<0.05	<0.05	<0.05	<0.05	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 6: Generic SCS for Shallow Soils in a Potable Groundwater Condition	BH1-SS2	BH2-SS1	BH3-SS2	BH4-SS2	BH5-SS1	BH6-SS1	BH7-SS1	BH8-SS1	BH9-SS1	BH10-SS1	BH11-SS1	BH12-SS1	BH13-SS1	BH14-SS1	BH15-SS2	BH101-SS2	BH102-SS1	DUP03 (Duplicate of BH102-SS1)	BH103-SS1	DUP04 (Duplicate of BH103-SS1)	BH104-SS1	BH105-SS1
Lab ID	Industrial/Commercial/Community Land Use (medium/fine textured soil)	1035907	1035911	1035916	1035917	1035918	1035919	1035920	1035922	1035923	1035924	1035925	1035933	1035934	1035935	1035939	SOT969	SOT970	SOT979	SOT972	SOT980	SOT973	SOT975
Sampling Date		16-Mar-20	16-Mar-20	12-Mar-20	12-Mar-20	13-Mar-20	12-Mar-20	12-Mar-20	16-Mar-20	13-Mar-20	13-Mar-20	16-Mar-20	12-Mar-20	12-Mar-20	13-Mar-20	16-Mar-20	09-May-2022	09-May-2022	09-May-2022	09-May-2022	09-May-2022	09-May-2022	09-May-2022
Soil Sample Depth (m)		0.76-1.37	0.0-0.61	0.76-1.37	0.76-1.37	0.0-0.61	0.0-0.61	0.0-0.61	0.0-0.61	0.0-0.61	0.0-0.61	0.0-0.61	0.0-0.61	0.0-0.61	0.0-0.61	0.76-1.37	0.76-1.37	0.0-0.61	0.0-0.61	0.0-0.61	0.0-0.61	0.0-0.61	0.0-0.61
Consultant		BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG
Laboratory		AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	BV	BV	BV	BV	BV	BV	BV
Certificate of Analysis		20T585671	20T585671	20T585671	20T585671	20T585671	20T585671	20T585671	20T585671	20T585671	20T585671	20T585671	20T585671	20T585671	20T585671	20T585671	C2C5659	C2C5659	C2C5660	C2C5661	C2C5662	C2C5659	C2C5659
Acenaphthene	29	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Acenaphthylene	0.17	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Anthracene	0.74	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Benzo(a)anthracene	0.96	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Benzo(a)pyrene	0.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Benzo(b)fluoranthene	0.96	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Benzo(ghi)perylene	9.6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Benzo(k)fluoranthene	0.96	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Chrysene	9.6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dibenz(a,h)anthracene	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Fluoranthene	9.6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Fluorene	69	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Indeno(1,2,3-cd)pyrene	0.95	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
1-Methylnaphthalene	42	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
2-Methylnaphthalene	42	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
1&2-Methylnaphthalene	42	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071
Naphthalene	28	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Phenanthrene	16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Pyrene	96	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 6: Generic SCS for Shallow Soils in a Potable Groundwater Condition Industrial/Commercial/Community Land Use (medium/fine textured soil)	BH1-SS2	BH2-SS1	BH3-SS2	BH4-SS2	BH5-SS1	BH6-SS1	BH7-SS1	BH8-SS1	BH9-SS1	BH10-SS1	BH11-SS1	BH12-SS1	BH13-SS1	BH14-SS1	BH15-SS2	BH101-SS2	BH102-SS1	DUP01 (Duplicate of BH102-SS1)	BH103-SS1	DUP02 (Duplicate of BH103-SS1)	BH104-SS1	BH105-SS1
Lab ID		1035907	1035911	1035916	1035917	1035918	1035919	1035920	1035922	1035923	1035924	1035925	1035933	1035934	1035935	1035939	SOT969	SOT970	SOT977	SOT972	SOT978	SOT973	SOT975
Sampling Date		16-Mar-20	16-Mar-20	12-Mar-20	12-Mar-20	13-Mar-20	12-Mar-20	12-Mar-20	16-Mar-20	13-Mar-20	13-Mar-20	16-Mar-20	12-Mar-20	12-Mar-20	13-Mar-20	16-Mar-20	09-May-2022	09-May-2022	09-May-2022	09-May-2022	09-May-2022	09-May-2022	09-May-2022
Soil Sample Depth (m)		0.76-1.37	0.0-0.61	0.76-1.37	0.76-1.37	0.0-0.61	0.0-0.61	0.0-0.61	0.0-0.61	0.0-0.61	0.0-0.61	0.0-0.61	0.0-0.61	0.0-0.61	0.0-0.61	0.76-1.37	0.76-1.37	0.0-0.61	0.0-0.61	0.0-0.61	0.0-0.61	0.0-0.61	0.0-0.61
Consultant		BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG
Laboratory		AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	BV	BV	BV	BV	BV	BV	BV
Certificate of Analysis		20T585671	20T585671	20T585671	20T585671	20T585671	20T585671	20T585671	20T585671	20T585671	20T585671	20T585671	20T585671	20T585671	20T585671	20T585671	SOT970	SOT971	SOT971	SOT972	SOT971	SOT973	SOT974
Antimony	50	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	0.46	0.5	0.45	0.53	0.41	0.41	<0.20
Arsenic	18	5	4	5	6	6	7	6	7	4	5	6	6	8	5	8	4.4	3.6	3.9	4.1	4	5.8	3.4
Barium	670	105	111	96	98	118	69	123	119	113	106	125	142	94	161	129	76	91	120	87	95	110	57
Beryllium	10	0.8	0.8	0.7	0.7	0.8	<0.5	0.5	0.9	0.7	0.7	0.7	0.8	<0.5	0.8	0.7	0.79	0.74	0.76	0.9	0.82	0.61	0.6
Boron	120	13	6	<5	6	18	16	11	13	10	6	15	11	15	14	15	20	19	21	25	21	19	8.5
Boron (Hot Water Extractable)	2	0.13	0.26	0.24	0.19	0.29	0.33	0.16	0.25	0.43	0.36	0.35	0.39	0.25	0.32	0.35	0.21	0.16	0.16	0.13	0.11	0.17	0.26
Cadmium	1.9	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.10	<0.10	<0.10	<0.10	0.11	0.21	<0.10
Chromium	160	22	22	20	21	24	13	18	29	21	22	24	96	16	24	57	22	23	23	26	24	20	18
Cobalt	100	11.9	10.8	12.2	10.9	12.3	6.3	10.2	13.4	11.1	11	12.7	14	7.9	12	13.6	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18
Copper	300	5	6	5	7	7	15	38	10	7	7	10	14	25	8	160	13	13	13	14	13	11	8.1
Lead	120	8	9	11	12	11	24	10	10	12	13	14	43	19	10	18	9.1	7.4	6.9	6.5	6	18	5.2
Molybdenum	40	0.7	0.7	1.1	0.8	1	1.4	1.4	1.6	0.8	1	1	10	1.5	0.9	3.8	8.3	8.6	8.8	9.6	9.3	19	10
Nickel	340	27	22	17	20	27	16	19	35	24	20	28	45	17	28	31	29	30	30	30	29	24	16
Selenium	5.5	<0.4	<0.4	0.5	<0.4	0.4	0.4	<0.4	0.5	<0.4	0.4	<0.4	0.7	<0.4	<0.4	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Silver	50	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Thallium	3.3	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	0.076	0.093	0.088	0.098	0.099	0.11	0.11
Uranium	33	<0.5	0.5	0.6	1.1	0.6	<0.5	0.5	0.7	0.5	0.7	0.6	0.7	<0.5	0.6	0.7	0.69	0.553	0.55	0.69	0.66	0.57	0.52
Vanadium	86	26	27	32	39	32	18	27	37	29	34	30	49	22	34	38	30	26	27	33	29	25	28
Zinc	340	57	56	59	62	66	273	66	68	66	65	65	108	173	69	197	59	61	59	62	61	94	52
Chromium, Hexavalent	10	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18
Cyanide, Free	0.051	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.17	<0.10	<0.10	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Electrical Conductivity (2:1)	1.4	0.31	0.172	0.158	0.104	0.292	0.207	0.159	0.351	0.201	0.214	0.323	0.197	0.212	0.167	0.247	0.26	0.24	0.25	0.2	0.19	0.16	0.067
Sodium Adsorption Ratio	12	0.631	0.227	0.314	0.179	0.111	0.103	0.199	0.438	0.13	0.091	4.45	0.182	0.137	0.082	0.365	0.72	5.4	5.9	0.43	0.37	0.25	0.36
pH, 2:1 CaCl2 Extraction	NV	7.25	7.51	7.15	7.07	7.56	7.56	7.97	7.65	7.42	7.11	7.71	7.51	7.76	7.46	7.48	7.71	7.81	7.78	7.82	7.65	7.74	7.04

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP SCS.
pH level outside of the acceptable MECP range

Sample ID	MOECC (2011) Table 6: Generic SCS for Shallow Soils in a Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW2	MW3	MW5	MW6	MW11	MW13	BH/MW 101	BH/MW 102	BH/MW 103	DUP 1030 (Duplicate of BH/MW103)	BH/MW 104	DUP 1040 (Duplicate of BH/MW104)	BH/MW 105	TRIP BLANK
Lab ID		1041066	1041070	1041071	1041072	1041073	1041074	SQN796	SQN797	SQN798	SQN801	SQN799	SQN802	SQN800	SQN803
Sampling Date		20-Mar-20	20-Mar-20	20-Mar-20	20-Mar-20	20-Mar-20	20-Mar-20	17-May-2022	17-May-2022	17-May-2022	17-May-2022	17-May-2022	17-May-2022	17-May-2022	17-May-2022
Screen Depth Interval (m)		3.1-6.1	3.1-6.1	3.1-6.1	3.1-6.1	3.1-6.1	3.1-6.1	5.1-8.1	3.1-6.1	3.1-6.1	3.1-6.1	3.1-6.1	3.1-6.1	3.1-6.1	
Consultant		BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG
Laboratory		AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	BV	BV	BV	BV	BV	BV	BV	BV
Certificate of Analysis		20T586806	20T586806	20T586806	20T586806	20T586806	20T586806	C2D3769	C2D3769	C2D3769	C2D3769	C2D3769	C2D3769	C2D3769	C2D3769
Benzene	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
m-Xylene + p-Xylene	NV	-	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene	NV	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes (total)	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PHC F1 (C6-C10)	420	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
PHC F1 (C6-C10) - BTEX	420	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
PHC F2 (C10-C16)	150	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
PHC F3 (C16-C34)	500	<100	<100	<100	<100	<100	<100	<200	<200	<200	<200	<200	<200	<200	<200
PHC F4 (C34-C50)	500	<100	<100	<100	<100	<100	<100	<200	<200	<200	<200	<200	<200	<200	<200
Reached baseline at C50?	NV	-	-	-	-	-	-	YES	YES	YES	YES	YES	YES	YES	YES
PHC F4 (C34-C50)-gravimetric	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MOECC (2011) SCS.
Non-detect but detection limit exceeds the MOECC (2011) SCS.

Sample ID	MOECC (2011) Table 6: Generic SCS for Shallow Soils in a Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW2	MW3	MW5	MW6	MW11	MW13	BH/MW 101	BH/MW 102	BH/MW 103	DUP 1030 (Duplicate of BH/MW103)	BH/MW 104	DUP 1040 (Duplicate of BH/MW104)	BH/MW 105	TRIP BLANK
Lab ID		1041066	1041070	1041071	1041072	1041073	1041074	SQN796	SQN797	SQN798	SQN801	SQN799	SQN802	SQN800	SQN803
Sampling Date		20-Mar-20	20-Mar-20	20-Mar-20	20-Mar-20	20-Mar-20	20-Mar-20	17-May-2022	17-May-2022	17-May-2022	17-May-2022	17-May-2022	17-May-2022	17-May-2022	17-May-2022
Screen Depth Interval (m)		3.1-6.1	3.1-6.1	3.1-6.1	3.1-6.1	3.1-6.1	3.1-6.1	5.1-8.1	3.1-6.1	3.1-6.1	3.1-6.1	3.1-6.1	3.1-6.1	3.1-6.1	
Consultant		BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG
Laboratory		AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	BV	BV	BV	BV	BV	BV	BV	BV
Certificate of Analysis		20T586806	20T586806	20T586806	20T586806	20T586806	20T586806	C2D3769	C2D3769	C2D3769	C2D3769	C2D3769	C2D3769	C2D3769	C2D3769
Acetone	2700	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<10	<10	<10	<10
Benzene	0.5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Bromodichloromethane	16	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromoform	5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane	0.89	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Carbon Tetrachloride	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chlorobenzene	30	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chloroform	2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dibromochloromethane	25	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichlorobenzene	3	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3-Dichlorobenzene	59	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,4-Dichlorobenzene	0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorodifluoromethane	590	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	5	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloroethane	0.5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	0.5	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
cis-1,2-Dichloroethylene	1.6	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,2-Dichloroethylene	1.6	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloropropane	0.58	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
cis-1,3-Dichloropropene	NV	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
trans-1,3-Dichloropropene	NV	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Ethylbenzene	2.4	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Ethylene Dibromide (1,2-Dibromoethane)	0.2	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Hexane (n)	5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methylene chloride (Dichloromethane)	26	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl ethyl ketone (2-Butanone)	1800	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<10	<10	<10	<10
Methyl Isobutyl Ketone	640	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl t-butyl ether (MTBE)	15	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Styrene	5.4	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,1,2-Tetrachloroethane	1.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2,2-Tetrachloroethane	0.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Tetrachloroethylene	0.5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	24	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1,1-Trichloroethane	23	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1,2-Trichloroethane	0.5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethylene	0.5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane	150	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Vinyl Chloride	0.5	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
m-Xylene + p-Xylene	NV	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
o-Xylene	NV	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Xylenes (total)	72	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MECP (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition for medium-fine textured soils	MW2	MW3	MW11	BH/MW 101	BH/MW 102	BH/MW 103	DUP 1030 (Duplicate of BH/MW103)	BH/MW 104	DUP 1040 (Duplicate of BH/MW104)	BH/MW 105
Lab ID		1041066	1041070	1041073	SQN796	SQN797	SQN798	SQN801	SQN799	SQN802	SQN800
Sampling Date		20-Mar-20	20-Mar-20	20-Mar-20	17-May-2022	17-May-2022	17-May-2022	17-May-2022	17-May-2022	17-May-2022	17-May-2022
Screen Depth Interval (m)		3.1-6.1	3.1-6.1	3.1-6.1	5.1-8.1	3.1-6.1	3.1-6.1	3.1-6.1	3.1-6.1	3.1-6.1	3.1-6.1
Consultant		BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG
Laboratory		AGAT	AGAT	AGAT	BV	BV	BV	BV	BV	BV	BV
Certificate of Analysis		20T586806	20T586806	20T586806	C2D3769	C2D3769	C2D3769	C2D3769	C2D3769	C2D3769	C2D3769
Acenaphthene	4.1	<0.20	<0.20	<0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acenaphthylene	1	<0.20	<0.20	<0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Anthracene	1	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)anthracene	1	<0.20	<0.20	<0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)pyrene	0.01	<0.01	<0.01	<0.01	<0.0090	<0.0090	<0.0090	<0.0090	<0.0090	<0.0090	<0.0090
Benzo(b)fluoranthene	0.1	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(ghi)perylene	0.2	<0.20	<0.20	<0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(k)fluoranthene	0.1	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chrysene	0.1	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibenz(a,h)anthracene	0.2	<0.20	<0.20	<0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluoranthene	0.41	<0.20	<0.20	<0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluorene	120	<0.20	<0.20	<0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Indeno(1,2,3-cd)pyrene	0.2	<0.20	<0.20	<0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1-Methylnaphthalene	3.2	<0.20	<0.20	<0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2-Methylnaphthalene	3.2	<0.20	<0.20	<0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1&2-Methylnaphthalene	3.2	<0.20	<0.20	<0.20	<0.071	<0.071	<0.071	<0.071	<0.071	<0.071	<0.071
Naphthalene	7	<0.20	<0.20	<0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phenanthrene	1	<0.10	<0.10	<0.10	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Pyrene	4.1	<0.20	<0.20	<0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 6: Generic SCS for Shallow Soils in a Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW2	MW3	MW11	BH/MW 101	BH/MW 102	BH/MW 103	DUP 1030 (Duplicate of BH/MW103)	BH/MW 105
Lab ID		1041066	1041070	1041073	SQN796	SQN797	SQN798	SQN801	SQN800
Sampling Date		20-Mar-20	20-Mar-20	20-Mar-20	17-May-2022	17-May-2022	17-May-2022	17-May-2022	17-May-2022
Screen Depth Interval (m)		3.1-6.1	3.1-6.1	3.1-6.1	5.1-8.1	3.1-6.1	3.1-6.1	3.1-6.1	3.1-6.1
Consultant		BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG
Laboratory		AGAT	AGAT	AGAT	BV	BV	BV	BV	BV
Certificate of Analysis		20T586806	20T586806	20T586806	C2D3769	C2D3769	C2D3769	C2D3769	C2D3769
Antimony	6	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50
Arsenic	25	5.1	5.5	4.2	2.1	12	10	8.9	2.2
Barium	1000	41.8	40	56	100	64	56	59	100
Beryllium	4	<0.50	<0.50	<0.50	<0.40	<0.40	<0.40	<0.40	<0.40
Boron (Total)	5000	1310	135	327	220	680	1200	1100	150
Cadmium	2.1	<0.20	<0.20	<0.20	<0.090	<0.090	<0.090	<0.090	<0.090
Chromium (total)	50	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chromium VI	25	<5	<5	<5	<0.50	<0.50	<0.50	<0.50	<0.50
Cobalt	3.8	<0.50	1.7	1.1	1.3	1.3	0.6	0.7	<0.50
Copper	69	1.1	<1.0	1.1	2.4	1.6	2.7	2.9	1.3
Lead	10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Mercury	0.1	<0.02	<0.02	<0.02	<0.10	<0.10	<0.10	<0.10	<0.10
Molybdenum	70	16.6	5.48	3.81	2.3	19	12	11	8
Nickel	100	<1.0	3.9	1	2.4	1.4	1.1	1	1.4
Selenium	10	1.2	1.7	1.6	<2.0	<2.0	<2.0	<2.0	<2.0
Silver	1.2	<0.20	<0.20	<0.20	<0.090	<0.090	<0.090	<0.090	<0.090
Thallium	2	<0.30	<0.30	<0.30	<0.050	<0.050	<0.050	0.05	<0.050
Uranium	20	5.30	10.20	9.93	6.2	7.3	10	8.2	4.8
Vanadium	6.2	1.73	1.43	1.15	0.56	<0.50	<0.50	<0.50	<0.50
Zinc	890	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Sodium	490000	142,000	38,700	57,400	79,000	110,000	120,000	130,000	230,000
Chloride	790000	45,700	16,300	67,200	230,000	150,000	36,000	34,000	480,000
Free Cyanide	52	<2	<2	<2	<1	<1	<1	<1	<1

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.
Parameter detected and no SCS provided

Appendix C – Borehole Logs

B.I.G. Consulting Inc.
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RECORD OF BOREHOLE No. BH01

METRIC 1 OF 1

PROJ. NO. BIGC-ENV-382A | LOCATION Superior Court, Oakville, Ontario | ORIGINATED BY F.V.G

DATUM Geodetic | BOREHOLE TYPE Continous flight, 5 inches, Solid Stem Auger | COMPILED BY F.V.G

PROJ. NAME Preliminary Geotechnical Investgation | DATE 2020.03.16 - 2020.03.16 | CHECKED BY

ELEV / DEPTH	DESCRIPTION	STRAT PLOT	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: "N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH kPa: ○ UNCONFINED, ● QUICK TRIAXIAL, + FIELD VANE, × LAB VANE (20 40 60 80 100)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%) (20 40 60)	UNIT WEIGHT γ kN/m³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
102.43											
102.3 / 0.1	**TOPSOIL:** 50 mm										
	FILL: clayey silt, trace sand, trace rootlets, dark brown, moist, firm		1	SS1	8						
101.9 / 0.5	**CLAYEY SILT TILL:** trace sand, trace gravel, occasional shale fragments, brown to reddish brown, moist, stiff to hard		2	SS2	15				○		
100.7 / 1.8	**SHALE:** highly to moderately weathered, reddish brown, moist to damp, hard		3	SS3	70/ 25cm				○		
			4	SS4	50/ 3cm						
			5	SS5	50/ 2cm						
			6	SS6	50/ 1cm						
96.3 / 6.1	**End of Borehole** Notes: 1. Borehole open and dry upon completion of drilling										

$+^3, \times^3$: Numbers refer to Sensitivity ○ 3% STRAIN AT FAILURE

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RECORD OF BOREHOLE No. BH/MW02

METRIC 1 OF 1

PROJ. NO. BIGC-ENV-382A | LOCATION Superior Court, Oakville, Ontario | ORIGINATED BY F.V.G

DATUM Geodetic | BOREHOLE TYPE Continous flight, 5 inches, Solid Stem Auger | COMPILED BY F.V.G

PROJ. NAME Preliminary Geotechnical Investgation | DATE 2020.03.16 - 2020.03.16 | CHECKED BY

ELEV / DEPTH	DESCRIPTION	STRAT PLOT	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: "N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH kPa: ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE × LAB VANE (20 40 60 80 100)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%) (20 40 60)	UNIT WEIGHT γ kN/m³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
100.93											
100.8 / 0.1	**TOPSOIL:** 50 mm										
100.6 / 0.3	**FILL:** clayey silt, trace sand, trace rootlets, dark brown, moist, firm										
	CLAYEY SILT TILL: trace sand, trace gravel, occasional shale fragments, brown to reddish brown, moist, firm to hard		1	SS1	6						
			2	SS2	44				○		
99.0			3	SS3	67/ 28cm				○		
94.8 / 1.9	**SHALE:** highly to moderately weathered, occasional limestone fragments, reddish brown, moist to damp, hard		4	SS4	50/ 2cm						
			5	SS5	50/ 2cm						
			6	SS6	50/ 1cm						
6.1	**End of Borehole** Notes: 1. Borehole open and dry upon completion of drilling 2. Water level at 4.77 m bgs on March 20, 2020										

$+^3, \times^3$: Numbers refer to Sensitivity ○ 3% STRAIN AT FAILURE

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RECORD OF BOREHOLE No. BH/MW03

METRIC 1 OF 1

PROJ. NO. BIGC-ENV-382A | LOCATION Superior Court, Oakville, Ontario | ORIGINATED BY F.V.G

DATUM Geodetic | BOREHOLE TYPE Continous flight, 5 inches, Solid Stem Auger | COMPILED BY F.V.G

PROJ. NAME Preliminary Geotechnical Investgation | DATE 2020.03.12 - 2020.03.12 | CHECKED BY

ELEV / DEPTH	DESCRIPTION	STRAT PLOT	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: "N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH kPa: ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE × LAB VANE (20 40 60 80 100)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%) (20 40 60)	UNIT WEIGHT γ kN/m³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
103.34											
103.2	**TOPSOIL:** 100 mm										
0.1	**FILL:** clayey silt, trace sand, trace rootlets, dark reddish brown, moist, firm		1	SS1	6						
			2	SS2	4						
102.0											
1.4	**CLAYEY SILT TILL:** trace sand, trace gravel, occasional shale fragments, reddish brown, moist, very stiff to hard		3	SS3	23						
			4	SS4	39	▽					
100.3											
3.0	**SHALE:** highly to moderately weathered, occasional limestone fragments, reddish brown, moist to damp, hard		5	SS5	50/ 2cm						
	- spoon wet		6	SS6	50/ 1cm						
	- Limestone										
97.2											
6.1	**End of Borehole** Notes: 1. Borehole open upon completion of drilling 2. Water level at 4.6 m bgs upon completion of drilling 3. Water level at 2.42 m bgs on March 20, 2020										

$+^3, \times^3$: Numbers refer to Sensitivity $\circ^{3\%}$ STRAIN AT FAILURE

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RECORD OF BOREHOLE No. BH04

METRIC 1 OF 1

PROJ. NO. BIGC-ENV-382A | LOCATION Superior Court, Oakville, Ontario | ORIGINATED BY F.V.G

DATUM Geodetic | BOREHOLE TYPE Continous flight, 5 inches, Solid Stem Auger | COMPILED BY F.V.G

PROJ. NAME Preliminary Geotechnical Investgation | DATE 2020.03.12 - 2020.03.12 | CHECKED BY

ELEV / DEPTH	DESCRIPTION	STRAT PLOT	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: "N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH kPa: ○ UNCONFINED, ● QUICK TRIAXIAL, + FIELD VANE, × LAB VANE (20 40 60 80 100)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%) (20 40 60)	UNIT WEIGHT γ kN/m³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
103.30											
103.2	**TOPSOIL:** 75 mm										
0.1	**FILL:** clayey silt, trace sand, trace rootlets, dark brown, moist, firm		1	SS1	4						
			2	SS2	6				○		
101.9											
1.4	**CLAYEY SILT TILL:** trace sand, trace gravel, occasional shale fragments, brown to reddish brown, moist, hard		3	SS3	42				○		
101.1											
2.2	**SHALE:** highly to moderately weathered, occasitional limestone fragments, reddish brown, damp, hard		4	SS4	50/ 3cm						
			5	SS5	50/ 2cm						
			6	SS6	50/ 1cm						
97.2	- possible wet seam										
6.1	**End of Borehole** Notes: 1. Borehole open and dry upon completion of drilling										

$+^3, \times^3$: Numbers refer to Sensitivity ○ 3% STRAIN AT FAILURE

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RECORD OF BOREHOLE No. BH/MW05

METRIC 1 OF 1

PROJ. NO. BIGC-ENV-382A | LOCATION Superior Court, Oakville, Ontario | ORIGINATED BY F.V.G

DATUM Geodetic | BOREHOLE TYPE Continous flight, 5 inches, Solid Stem Auger | COMPILED BY F.V.G

PROJ. NAME Preliminary Geotechnical Investgation | DATE 2020.03.13 - 2020.03.13 | CHECKED BY

ELEV / DEPTH	DESCRIPTION	STRAT PLOT	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: "N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT / SHEAR STRENGTH kPa (○ UNCONFINED, ● QUICK TRIAXIAL, + FIELD VANE, × LAB VANE)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%)	UNIT WEIGHT γ kN/m³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
104.46											
104.4	**TOPSOIL:** 100 mm										
0.0 / 0.1	**FILL:** clayey silt, trace sand, trace rootlets, dark brown, moist, firm to stiff		1	SS1	5						
103.4			2	SS2	11						
1.1	**CLAYEY SILT TILL:** trace sand, trace gravel, occasional shale fragments, brown to reddish brown, moist, stiff to hard		3	SS3	12	▽					
			4	SS4	51						
101.5											
3.0	**SHALE:** highly to moderately weathered, occasional limestone fragments, reddish brown, moist to damp, hard		5	SS5	50/ 2cm						
	- spoon wet		6	SS6	50/ 2cm						
98.4											
6.1	**End of Borehole** Notes: 1. Borehole open upon completion of drilling 2. Water level at 4.6 m bgs upon completion of drilling 3. Water level at 1.8 m bgs on March 20, 2020										

$+^3, \times^3$: Numbers refer to Sensitivity $\circ^{3\%}$ STRAIN AT FAILURE

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RECORD OF BOREHOLE No. BH/MW06

METRIC 1 OF 1

PROJ. NO. BIGC-ENV-382A | LOCATION Superior Court, Oakville, Ontario | ORIGINATED BY F.V.G

DATUM Geodetic | BOREHOLE TYPE Continous flight, 5 inches, Solid Stem Auger | COMPILED BY F.V.G

PROJ. NAME Preliminary Geotechnical Investgation | DATE 2020.03.12 - 2020.03.12 | CHECKED BY

ELEV / DEPTH	DESCRIPTION	STRAT PLOT	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: "N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT / SHEAR STRENGTH kPa (○ UNCONFINED, ● QUICK TRIAXIAL, + FIELD VANE, × LAB VANE)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%)	UNIT WEIGHT γ kN/m³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
103.09											
103.0	**TOPSOIL:** 100 mm										
0.1	**FILL:** sand and gravel, trace clay, plenty of rootlets, dark brown, moist, firm		1	SS1	6						
102.3											
0.8	**CLAYEY SILT TILL:** trace sand, trace gravel, occasional shale fragments, brown to reddish brown, moist, hard		2	SS2	63						
101.6											
1.5	**SHALE:** highly to moderately weathered, occasional limestone fragments, reddish brown, damp, hard		3	SS3	50/ 14cm						
			4	SS4	50/ 2cm						
			5	SS5	50/ 1cm						
	- limestone										
	- limestone		6	SS6	50/ 1cm						
97.0											
6.1	**End of Borehole** Notes: 1. Borehole open and dry upon completion of drilling 2. Water level at 5.33 m bgs on March 20, 2020										

$+^3$, $\times^3$: Numbers refer to Sensitivity $\circ^{3\%}$ STRAIN AT FAILURE

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RECORD OF BOREHOLE No. BH07

METRIC 1 OF 1

PROJ. NO. BIGC-ENV-382A LOCATION Superior Court, Oakville, Ontario ORIGINATED BY F.V.G

DATUM Geodetic BOREHOLE TYPE Continous flight, 5 inches, Solid Stem Auger COMPILED BY F.V.G

PROJ. NAME Preliminary Geotechnical Investgation DATE 2020.03.12 - 2020.03.12 CHECKED BY

ELEV / DEPTH	DESCRIPTION	STRAT PLOT	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: "N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH kPa: ○ UNCONFINED + FIELD VANE ● QUICK TRIAXIAL × LAB VANE (20 40 60 80 100)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%) (20 40 60)	UNIT WEIGHT γ kN/m³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
100.53											
100.0	**TOPSOIL:** 75 mm										
0.1	**FILL:** clayey silt, trace sand, trace to some gravel, trace rootlets, dark brown, moist, stiff		1	SS1	9						
99.9											
0.6	**CLAYEY SILT TILL:** trace sand, trace gravel, occasional shale fragments, light grey to reddish brown, moist, hard								○		
99.4			2	SS2	37						
1.1	**SHALE:** highly weathered, reddish brown, damp, hard										
98.9			3	SS3	50/ 12cm						
1.7	**End of Borehole** Notes: 1. Borehole open and dry upon completion of drilling										

$+^3, \times^3$: Numbers refer to Sensitivity ○ 3% STRAIN AT FAILURE

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RECORD OF BOREHOLE No. BH08

METRIC 1 OF 1

PROJ. NO. BIGC-ENV-382A LOCATION Superior Court, Oakville, Ontario ORIGINATED BY F.V.G

DATUM Geodetic BOREHOLE TYPE Continous flight, 5 inches, Solid Stem Auger COMPILED BY F.V.G

PROJ. NAME Preliminary Geotechnical Investgation DATE 2020.03.16 - 2020.03.16 CHECKED BY

ELEV / DEPTH	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT / SHEAR STRENGTH kPa (○ UNCONFINED, ● QUICK TRIAXIAL, + FIELD VANE, × LAB VANE)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%)	UNIT WEIGHT γ kN/m³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
101.43								20 40 60 80 100	20 40 60		
101.3 / 0.1	**TOPSOIL:** 50 mm **FILL:** clayey silt, trace sand, trace rootlets, brown, moist, firm to stiff		1	SS1	6				○		
			2	SS2	14				○		
99.6 / 1.8	**CLAYEY SILT TILL:** trace sand, trace gravel, reddish brown, moist, stiff		3	SS3	9						
99.3 / 2.1	**End of Borehole** Notes: 1. Borehole open and dry upon completion of drilling										

+ 3, × 3: Numbers refer to Sensitivity ○ 3% STRAIN AT FAILURE

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RECORD OF BOREHOLE No. BH09

METRIC 1 OF 1

PROJ. NO. BIGC-ENV-382A | LOCATION Superior Court, Oakville, Ontario | ORIGINATED BY F.V.G

DATUM Geodetic | BOREHOLE TYPE Continous flight, 5 inches, Solid Stem Auger | COMPILED BY F.V.G

PROJ. NAME Preliminary Geotechnical Investgation | DATE 2020.03.13 - 2020.03.13 | CHECKED BY

ELEV / DEPTH	DESCRIPTION	STRAT PLOT	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: "N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH kPa: ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE × LAB VANE (20 40 60 80 100)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%) (20 40 60)	UNIT WEIGHT γ kN/m³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
103.63											
103.5 / 0.0	**TOPSOIL:** 100 mm										
0.1	**FILL:** clayey silt, trace sand, trace gravel, trace rootlets, brown, moist, soft		1	SS1	3				○		
			2	SS2	4				○		
102.1											
1.5	**CLAYEY SILT TILL:** trace sand, trace gravel, reddish brown, moist, firm		3	SS3	7						
101.5											
2.1	**End of Borehole** Notes: 1. Borehole open and dry upon completion of drilling										

$+^{3}, \times^{3}$: Numbers refer to Sensitivity ○ 3% STRAIN AT FAILURE

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RECORD OF BOREHOLE No. BH10

METRIC 1 OF 1

PROJ. NO. BIGC-ENV-382A LOCATION Superior Court, Oakville, Ontario ORIGINATED BY F.V.G

DATUM Geodetic BOREHOLE TYPE Continous flight, 5 inches, Solid Stem Auger COMPILED BY F.V.G

PROJ. NAME Preliminary Geotechnical Investgation DATE 2020.03.13 - 2020.03.13 CHECKED BY

ELEV / DEPTH	DESCRIPTION	STRAT PLOT	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: "N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH kPa (○ UNCONFINED, ● QUICK TRIAXIAL, + FIELD VANE, × LAB VANE) (20 40 60 80 100)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L — WATER CONTENT (%) (20 40 60)	UNIT WEIGHT γ kN/m³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
104.46											
104.4 / 0.0	**TOPSOIL:** 75 mm										
0.1	**FILL:** clayey silt, trace sand, trace gravel, trace rootlets, brown, moist, very soft to firm		1	SS1	2						
103.4			2	SS2	8						
1.1	**CLAYEY SILT TILL:** trace sand, trace gravel, occasional shale fragments, reddish brown, moist, stiff to hard		3	SS3	57						
102.5											
2.0	**End of Borehole** Notes: 1.Borehole open and dry upon completion of drilling										

$+^3, \times^3$: Numbers refer to Sensitivity ○ 3% STRAIN AT FAILURE

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RECORD OF BOREHOLE No. BH/MW11

METRIC 1 OF 1

PROJ. NO. BIGC-ENV-382A | LOCATION Superior Court, Oakville, Ontario | ORIGINATED BY F.V.G

DATUM Geodetic | BOREHOLE TYPE Continous flight, 5 inches, Solid Stem Auger | COMPILED BY F.V.G

PROJ. NAME Preliminary Geotechnical Investgation | DATE 2020.03.16 - 2020.03.16 | CHECKED BY

ELEV / DEPTH	DESCRIPTION	STRAT PLOT	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: "N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT / SHEAR STRENGTH kPa (○ UNCONFINED, ● QUICK TRIAXIAL, + FIELD VANE, × LAB VANE)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%)	UNIT WEIGHT γ kN/m³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
100.87											
100.8	**TOPSOIL:** 75 mm										
0.1	**FILL:** clayey silt, trace sand, trace gravel, trace rootlets, brown, moist, very stiff		1	SS1	24						
100.6											
0.3	**CLAYEY SILT TILL:** trace sand, occasional shale fragments, reddish brown, moist, very stiff to hard		2	SS2	71/ 27cm						
99.8											
1.1	**SHALE:** highly to moderately weathered, reddish brown, damp, hard		3	SS3	50/ 5cm						
			4	SS4	50/ 3cm						
			5	SS5	50/ 2cm						
	- wet seam		6	SS6	50/ 2cm						
94.8											
6.1	**End of Borehole**										

Notes:
1. Borehole open and dry upon completion of drilling
2. Water level at 4.34 m bgs on March 20,2020

$+^3, \times^3$: Numbers refer to Sensitivity $\circ^{3\%}$ STRAIN AT FAILURE

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RECORD OF BOREHOLE No. BH12

METRIC 1 OF 1

PROJ. NO. BIGC-ENV-382A LOCATION Superior Court, Oakville, Ontario ORIGINATED BY F.V.G

DATUM Geodetic BOREHOLE TYPE Continous flight, 5 inches, Solid Stem Auger COMPILED BY F.V.G

PROJ. NAME Preliminary Geotechnical Investgation DATE 2020.03.12 - 2020.03.12 CHECKED BY

ELEV / DEPTH	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH kPa (○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE × LAB VANE) (20 40 60 80 100)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%) (20 40 60)	UNIT WEIGHT γ kN/m³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
103.33											
0.0 / 103.2	**TOPSOIL:** 150 mm										
0.2	**FILL:** clayey silt, trace sand, trace rootlets, trace organics, brown, moist to very moist, soft to stiff		1	SS1	4						
			2	SS2	11						
			3	SS3	5						
			4	SS4	10						
			5	SS5	3						
99.2											
4.1	**CLAYEY SILT TILL:** trace sand, trace gravel, occasional shale fragments, reddish brown, moist, stiff		6	SS6	13						
97.5											
5.8	**SHALE:** highly to moderately weathere, reddish brown, damp, hard		7	SS7	50/10cm						
97.1											
6.2	**End of Borehole** Notes: 1. Borehole open and dry upon completion of drilling										

$+^3, \times^3$: Numbers refer to Sensitivity ○ 3% STRAIN AT FAILURE

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RECORD OF BOREHOLE No. BH/MW13

METRIC 1 OF 1

PROJ. NO. BIGC-ENV-382A | LOCATION Superior Court, Oakville, Ontario | ORIGINATED BY F.V.G

DATUM Geodetic | BOREHOLE TYPE Continous flight, 5 inches, Solid Stem Auger | COMPILED BY F.V.G

PROJ. NAME Preliminary Geotechnical Investgation | DATE 2020.03.12 - 2020.03.12 | CHECKED BY

ELEV / DEPTH	DESCRIPTION	STRAT PLOT	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: "N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH kPa: ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE × LAB VANE (20 40 60 80 100)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%) (20 40 60)	UNIT WEIGHT γ kN/m³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
102.34											
102.2	**TOPSOIL:** 100 mm										
0.0											
0.1	**FILL:** clayey silt, trace sand, trace rootlets, brown, moist, firm		1	SS1	6						
101.6											
0.7	**CLAYEY SILT TILL:** trace sand, trace gravel, occasional shale fragments, reddish brown, moist, hard		2	SS2	53						
101.1											
1.2	**SHALE:** highly to moderately weathered, occasional limestone fragments, reddish brown, damp, hard										
	---		3	SS3	50/ 15cm						
	Augered to 6.1 m bgs without sampling										
96.2											
6.1	**End of Borehole**										

Notes:
1. Open and dry upon completion of drilling
2. Water level at 2.6 m bgs on March 20, 2020

$+^3, \times^3$: Numbers refer to Sensitivity ○ 3% STRAIN AT FAILURE

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RECORD OF BOREHOLE No. BH14

METRIC 1 OF 1

PROJ. NO. BIGC-ENV-382A | LOCATION Superior Court, Oakville, Ontario | ORIGINATED BY F.V.G

DATUM Geodetic | BOREHOLE TYPE Continous flight, 5 inches, Solid Stem Auger | COMPILED BY F.V.G

PROJ. NAME Preliminary Geotechnical Investgation | DATE 2020.03.13 - 2020.03.13 | CHECKED BY

ELEV / DEPTH	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT / SHEAR STRENGTH kPa (○ UNCONFINED, ● QUICK TRIAXIAL, + FIELD VANE, × LAB VANE)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%)	UNIT WEIGHT γ kN/m³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
104.52								20 40 60 80 100	20 40 60		
104.4 / 0.0	**TOPSOIL:** 75 mm										
104.4 / 0.1	**FILL:** clayey silt, trace sand, trace rootlets, dark brown, moist, firm		1	SS1	4				○		
			2	SS2	6				○		
102.7			3	SS3	9				○		
102.7 / 1.8	**CLAYEY SILT TILL:** trace sand, trace gravel, occasional shale fragments, brown to reddish brown, moist, stiff to very stiff		4	SS4	21				○		
101.5			5	SS5	50/ 8cm						
101.5 / 3.0	**SHALE:** highly to moderately weathered, occasional limestone fragments, reddish brown, damp, hard										
	- wet		6	SS6	50/ 8cm						
98.3			7	SS7	50/ 10cm						
98.3 / 6.2	**End of Borehole** Notes: 1. Borehole open and dry upon completion of drilling										

$+^3, \times^3$: Numbers refer to Sensitivity $\circ^{3\%}$ STRAIN AT FAILURE

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RECORD OF BOREHOLE No. BH15

METRIC 1 OF 1

PROJ. NO. BIGC-ENV-382A | LOCATION Superior Court, Oakville, Ontario | ORIGINATED BY F.V.G

DATUM Geodetic | BOREHOLE TYPE Continous flight, 5 inches, Solid Stem Auger | COMPILED BY F.V.G

PROJ. NAME Preliminary Geotechnical Investgation | DATE 2020.03.16 - 2020.03.16 | CHECKED BY

ELEV / DEPTH	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH kPa (○ UNCONFINED, ● QUICK TRIAXIAL, + FIELD VANE, × LAB VANE) (20 40 60 80 100)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%) (20 40 60)	UNIT WEIGHT γ kN/m^3	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
102.13											
0.0 101.8	**TOPSOIL:** 300 mm		1	SS1	4						
0.3	**FILL:** clayey silt, trace sand, trace rootlets, dark brown, moist, firm to stiff		2	SS2	14						
100.3			3	SS3	9						
1.8 99.7	**POSSIBLE NATIVE CLAYEY SILT TILL:** trace sand, occasional shale fragments, dark brown, moist, stiff										
2.4 99.1	**SAND:** trace silt, dark brown, wet, dense		4	SS4	34						
3.0	**SHALE:** highly to moderately weathered, reddish brown, moist to damp, hard		5	SS5	50/ 10cm						
96.0			6	SS6	50/ 8cm						
6.1	**End of Borehole** Notes: 1. Borehole open and dry upon completion of drilling										

$+^3, \times^3$: Numbers refer to Sensitivity $\circ^{3\%}$ STRAIN AT FAILURE

RECORD OF BOREHOLE No. BH/MW101

Project Number:	BIGC-ENV-382C	Drilling Location:	See Borehole Location Plan	Logged by:	KK
Project Client:	Kerry Ventures LP	Drilling Method:	150 mm Solid Stem Augering	Compiled by:	KK
Project Name:	Supplemental Geotechnical Investigation	Drilling Machine:	Truck Mounted Drill	Reviewed by:	SS
Project Location:	Superior Court, Oakville, ON	Date Started:	9 May 22	Date Completed: 9 May 22	Revision No.: 0, 26/5/22

Geodetic Ground Surface Elevation: 102.69 m

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT 'N' Value/RQD%	DEPTH (m)	ELEVATION (m)	FIELD TESTING	LAB TESTING	INSTRUMENTATION INSTALLATION	COMMENTS
	TOPSOIL: 150 mm 102.54										
	FILL: clayey silt ,trace sand, trace gravel, trace rootlets , brown to dark brown, moist, soft to stiff 0.2	SS	1	46	4						
		SS	2	75	12	1	102				
	101.17										
	CLAYEY SILT TILL: trace sand, trace gravel, bedrock inclusion, reddish brown, moist, firm 1.5	SS	3	33	7	2	101				Gr: %, Sa: %, Si: %, Cl: %
		SS	4	59	5		100				
		SS	5	75	4	3					
	98.12					4	99				
	SHALE: highly weathered, limestone inclusions, reddish brown, moist, hard 4.6	SS	6	100	50/13cm	5	98	50/13cm			
		SS	7	100	50/10cm	6	97	50/10cm			
	94.99	SS	8	100	50/8cm	7	96				
	------ 7.7 AUGURED TO 8.07 M TO INSTALL MONITORING WELL 94.62					8	95	50/8cm			
	End of Borehole 8.1										

Notes:
1. Borehole open upon completion of drilling.
2. Groundwater level reading at 4.81 m bgs upon completion of drilling.
3. Groundwater level reading at 4.94 m bgs on May 16, 2022.

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Groundwater depth on completion of drilling: 4.81 m.

Groundwater depth observed on 2022-05-16 at a depth of: 4.94 m.

Borehole details as presented, do not constitute a thorough understanding of all potential conditions present and requires interpretative assistance from a qualified Geotechnical Engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commisioned and the accompanying'Notes to Record of Boreholes'.

RECORD OF BOREHOLE No. BH/MW102

Project Number:	BIGC-ENV-382C	Drilling Location:	See Borehole Location Plan	Logged by:	KK
Project Client:	Kerry Ventures LP	Drilling Method:	150 mm Solid Stem Augering	Compiled by:	KK
Project Name:	Supplemental Geotechnical Investigation	Drilling Machine:	Truck Mounted Drill	Reviewed by:	SS
Project Location:	Superior Court, Oakville, ON	Date Started:	9 May 22	Date Completed: 9 May 22	Revision No.: 0, 26/5/22

Geodetic Ground Surface Elevation: 100.60 m

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT 'N' Value/RQD%	DEPTH (m)	ELEVATION (m)	FIELD TESTING	LAB TESTING	INSTRUMENTATION INSTALLATION	COMMENTS
	TOPSOIL: 50 mm 100.55							Penetration Testing: ○ SPT ● DCPT; MTO Vane* △ Intact ▲ Remould; Nilcon Vane* ◇ Intact ◆ Remould; * Undrained Shear Strength (kPa) 20 40 60 80	★ Rinse pH Values 2 4 6 8 10 12; Soil Vapour Reading △ parts per million (ppm) 100 200 300 400; ▲ Lower Explosive Limit (LEL) W_P W W_L Plastic Liquid 20 40 60 80		
	FILL: clayey silt ,trace sand, rootlets ,reddish brown, moist, soft 100.30 0.3	SS	1	75	4						
	CLAYEY SILT TILL: trace sand, trace gravel, shale fragments, moist, hard	SS	2	92	65	1	100				
	98.77	SS	3	122	50/13cm		99	50/13cm			
	SHALE: highly weathered, limestone inclusions, reddish brown, moist, hard 1.8	SS	4	100	50/8cm	2	98	50/8cm			
		SS	5	100	50	3	97				
						4 ▽					
		SS	6	100	50/8cm		96	50/8cm			
						5	95				
						6					
	94.17	SS	7	94	50/18cm			50/18cm			
	End of Borehole 6.4										

Notes:
1. Borehole open upon completion of drilling.
2. Groundwater level reading at 4.81 m bgs upon completion of drilling.
3. Groundwater level reading at 3.72 m bgs on May 16, 2022.

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▽ Groundwater depth on completion of drilling: 4.02 m.

▼ Groundwater depth observed on 2022-05-16 at a depth of: 3.72 m.

Borehole details as presented, do not constitute a thorough understanding of all potential conditions present and requires interpretative assistance from a qualified Geotechnical Engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commisioned and the accompanying'Notes to Record of Boreholes'.

RECORD OF BOREHOLE No. BH/MW103

Project Number:	BIGC-ENV-382C	Drilling Location:	See Borehole Location Plan	Logged by:	KK
Project Client:	Kerry Ventures LP	Drilling Method:	150 mm Solid Stem Augering	Compiled by:	KK
Project Name:	Supplemental Geotechnical Investigation	Drilling Machine:	Truck Mounted Drill	Reviewed by:	SS
Project Location:	Superior Court, Oakville, ON	Date Started:	9 May 22	Date Completed: 9 May 22	Revision No.: 0, 26/5/22

Geodetic Ground Surface Elevation: 100.07 m

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT 'N' Value/RQD%	DEPTH (m)	ELEVATION (m)	FIELD TESTING: Penetration Testing (SPT ○, DCPT ●); MTO Vane* (Intact △, Remould ▲); Nilcon Vane* (Intact ◇, Remould ◆); * Undrained Shear Strength (kPa) 20 40 60 80	LAB TESTING: ★ Rinse pH Values 2 4 6 8 10 12; Soil Vapour Reading △ parts per million (ppm) 100 200 300 400; ▲ Lower Explosive Limit (LEL) W_P W W_L Plastic Liquid 20 40 60 80	INSTRUMENTATION INSTALLATION	COMMENTS
	TOPSOIL: 50 mm 100.02										
	FILL: clayey silt ,trace sand, rootlets ,reddish brown, moist, stiff 99.77	SS	1	100	13			○	10		Gr: %, Sa: %, Si: %, Cl: %
	0.3										
	CLAYEY SILT TILL: trace sand, trace gravel, shale fragments, moist, hard										
		SS	2	84	38	1	99	○	6		
		SS	3	100	50			○	8		
						2	98				
	97.63	SS	4	100	50/10cm			50 ○ 10cm			
	SHALE: highly weathered, limestone inclusions, reddish brown, moist, hard 2.4								4		
		SS	5	100	50/15cm	3 ▼	97	50 ○ 15cm	4		
						4 ▽	96				
		SS	6	100	50/5cm			50 ○ 5cm	5		
						5	95				
						6	94				
	93.66	SS	7	100	50			○	3		
	End of Borehole 6.4										

Notes:
1. Borehole open upon completion of drilling.
2. Groundwater level reading at 4.00 m bgs upon completion of drilling.
3. Groundwater level reading at 3.08 m bgs on May 16, 2022.

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▽ Groundwater depth on completion of drilling: 4 m.

▼ Groundwater depth observed on 2022-05-16 at a depth of: 3.08 m.

Borehole details as presented, do not constitute a thorough understanding of all potential conditions present and requires interpretative assistance from a qualified Geotechnical Engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commisioned and the accompanying'Notes to Record of Boreholes'.

RECORD OF BOREHOLE No. BH/MW104

Project Number:	BIGC-ENV-382C	Drilling Location:	See Borehole Location Plan	Logged by:	KK
Project Client:	Kerry Ventures LP	Drilling Method:	150 mm Solid Stem Augering	Compiled by:	KK
Project Name:	Supplemental Geotechnical Investigation	Drilling Machine:	Truck Mounted Drill	Reviewed by:	SS
Project Location:	Superior Court, Oakville, ON	Date Started:	9 May 22	Date Completed: 9 May 22	Revision No.: 0, 26/5/22

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT 'N' Value/RQD%	DEPTH (m)	ELEVATION (m)	FIELD TESTING	LAB TESTING	INSTRUMENTATION INSTALLATION	COMMENTS
	Geodetic Ground Surface Elevation: 101.37 m							Penetration Testing: SPT ○ DCPT ●; MTO Vane* △ Intact ▲ Remould; Nilcon Vane* ◇ Intact ◆ Remould; * Undrained Shear Strength (kPa) 20 40 60 80	★ Rinse pH Values 2 4 6 8 10 12; Soil Vapour Reading △ parts per million (ppm) 100 200 300 400; ▲ Lower Explosive Limit (LEL) W_P W W_L Plastic Liquid 20 40 60 80		
	TOPSOIL: 50 mm 101.32										
	FILL: clayey silt ,trace sand, rootlets ,reddish brown, moist, stiff	SS	1	67	7		101	○	14		
	100.61										
	CLAYEY SILT TILL: trace sand, trace gravel, shale fragments, moist, hard 0.8	SS	2	75	33	1	100	○	9		
	99.39	SS	3	92	41			○	7		
	SHALE: highly weathered, limestone inclusions, reddish brown, moist, hard 2.0	SS	4	100	50/8cm	2	99	○ 50/8cm	4		
		SS	5	100	50/3cm	3 ▽		○ 50/3cm	4		
		SS	6	100	50	4	98	○	5		
	95.12	SS	7	100	50	5	97	○	3		
	End of Borehole 6.3					6	96				

Notes:
1. Borehole open upon completion of drilling.
2. Groundwater level reading at 3.00 m bgs upon completion of drilling.
3. Groundwater level reading at 2.88 m bgs on May 16, 2022.

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▽ Groundwater depth on completion of drilling: 3.0 m.

▼ Groundwater depth observed on 2022-05-16 at a depth of: 2.88 m.

Borehole details as presented, do not constitute a thorough understanding of all potential conditions present and requires interpretative assistance from a qualified Geotechnical Engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commisioned and the accompanying'Notes to Record of Boreholes'.

RECORD OF BOREHOLE No. BH/MW105

Project Number:	BIGC-ENV-382C	Drilling Location:	See Borehole Location Plan	Logged by:	KK
Project Client:	Kerry Ventures LP	Drilling Method:	150 mm Solid Stem Augering	Compiled by:	KK
Project Name:	Supplemental Geotechnical Investigation	Drilling Machine:	Truck Mounted Drill	Reviewed by:	SS
Project Location:	Superior Court, Oakville, ON	Date Started:	9 May 22	Date Completed: 9 May 22	Revision No.: 0, 26/5/22

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT 'N' Value/RQD%	DEPTH (m)	ELEVATION (m)	FIELD TESTING	LAB TESTING	INSTRUMENTATION INSTALLATION	COMMENTS
	Geodetic Ground Surface Elevation: 104.42 m							Penetration Testing: ○ SPT ● DCPT; MTO Vane* △ Intact ▲ Remould; Nilcon Vane* ◇ Intact ◆ Remould; * Undrained Shear Strength (kPa) 20 40 60 80	★ Rinse pH Values 2 4 6 8 10 12; Soil Vapour Reading △ parts per million (ppm) 100 200 300 400; ▲ Lower Explosive Limit (LEL) W_P W W_L; Plastic 20 40 60 80 Liquid		
	TOPSOIL: 50 mm 104.37										
	FILL: clayey silt ,trace sand, trace rootlets ,reddish brown, moist, firm	SS	1	59	5		104	○	12		
	103.66										
	CLAYEY SILT TILL: trace sand, trace gravel, shale fragments, moist, stiff 0.8	SS	2	100	15	1		○	8		
	103.05						103				
	SHALE: highly weathered, limestone inclusions, reddish brown, moist, hard 1.4	SS	3	100	50/13			50/13	7		
						2					
		SS	4	100	90		102	○	8		
		SS	5	100	50/13	3		50/13	7		
							101				
						4					
		SS	6	100	50/5cm		100	50/5cm	5		
						5					
							99				
						6					
		SS	7	100	79/28cm		98	79/28cm	7		
	97.89										
	End of Borehole 6.5										

Notes:
1. Borehole open upon completion of drilling.
2. Groundwater level reading at 4.56 m bgs upon completion of drilling.
3. Groundwater level reading at 4.93 m bgs on May 16, 2022.

B.I.G. Consulting Inc.
12-5500 Tomken Rd.
Mississauga, ON L4W 2Z4
Canada
T: 416-214-4880
F: 416-551-2633

▽ Groundwater depth on completion of drilling: 4.56 m.

▼ Groundwater depth observed on 2022-05-16 at a depth of: 4.93 m.

Borehole details as presented, do not constitute a thorough understanding of all potential conditions present and requires interpretative assistance from a qualified Geotechnical Engineer. Also, borehole information should be read in conjunction with the geotechnical report for which it was commisioned and the accompanying'Notes to Record of Boreholes'.

Appendix D – Conceptual Site Models

Figure D.1 - Human Health Conceptual On-Site Model

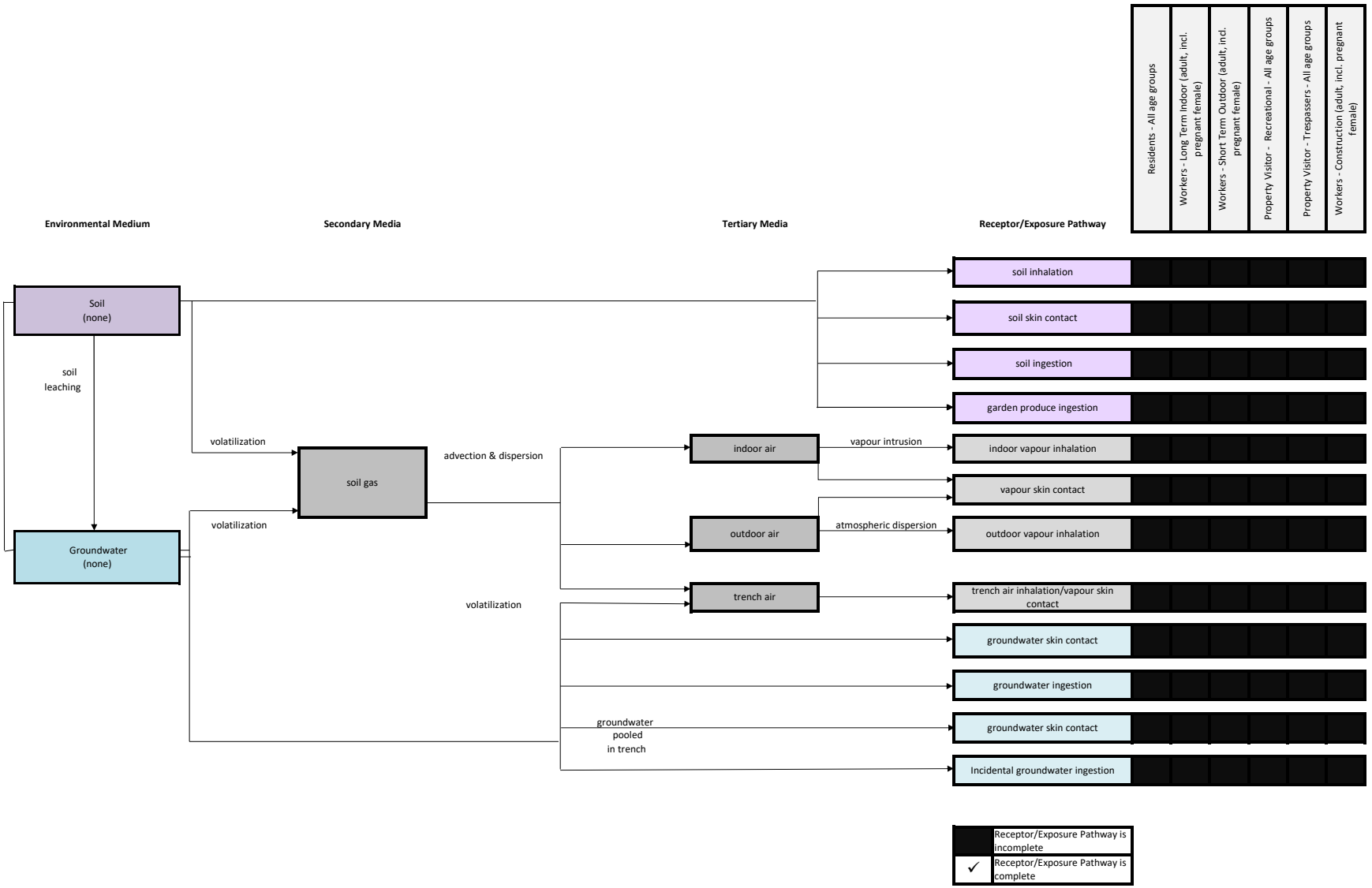
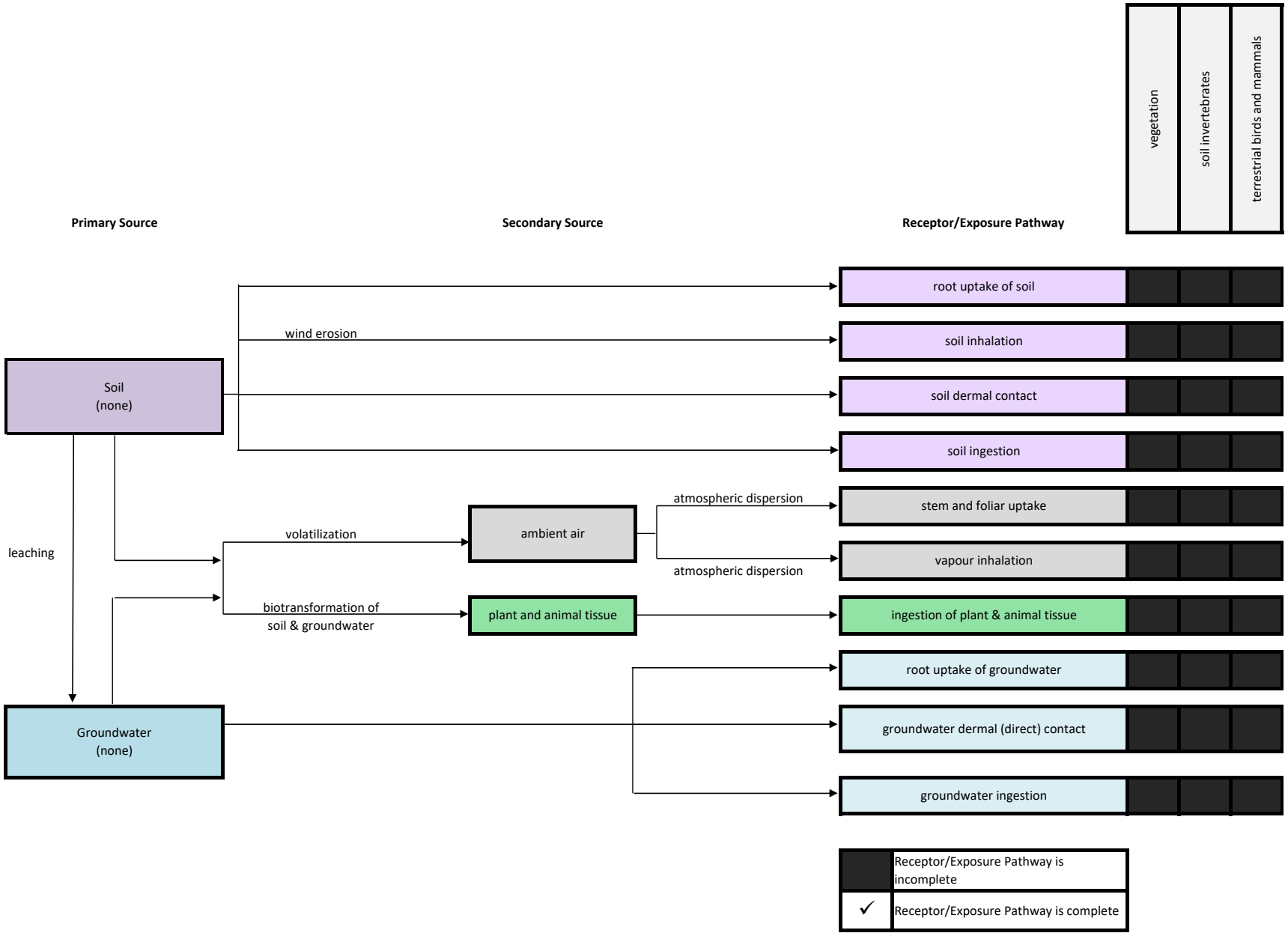


Figure D.2 - Ecological Conceptual On-Site Model



Appendix E - Survey Plan

METRIC

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

I require this plan to be deposited under the Land Titles Act.

Date OCTOBER 31, 2007

GARY B. VANDERVEEN O.L.S.

PLAN 20R-17477

RECEIVED AND DEPOSITED

Date November 1, 2007

Ass't Dep. Land Registrar for the Land Titles Division of HALTON (No. 20)

SCHEDULE

PART	PART OF LOT	CONCESSION	ALL OF PIN	AREA (SQ. METRES)
1	34 & 35	3, SOUTH OF DUNDAS STREET	24858-0136	595
2	34			19
3				25
4	34 & 35			9664
5	34			238
6				26279
7				356
8				273
9				1189
10	34 & 35			18852
11	34			121
12				121
13				840
14				32091
15				1356
16				32430
17				11821
18				4009
19				984
20				6663
21				7880
22				1694
23				240
24				16
25				58
26	35			91
27				69
28				30281
29	34 & 35			937
30				297180
31	35			547
32	34 & 35			77887
33				3731
34	35			1196
35				38
36	34			6809
37				33621
38	34 & 35			92977
39	34			62784
40				5267

PARTS 1, 2, 3 AND 34 – SUBJECT TO EASEMENT AS IN INST. 164849
PARTS 2 AND 7 – SUBJECT TO EASEMENT AS IN INST. HR402493
PARTS 8, 9 AND 10 – SUBJECT TO EASEMENT AS IN INST. HR165558

PARTS 15, 18, 19, 20, 21, 22, 23, 25, 26, 27, 33, 35 AND 36 – SUBJECT TO AGREEMENT AS IN INST. 790242 AND 790987
PARTS 18, 19, 21, 22, 23, 33 AND 36 – SUBJECT TO CONDITIONS AS IN INST. 524612
PARTS 25, 26 AND 27 – SUBJECT TO CONDITIONS AS IN INST. 524613

PLAN OF SURVEY OF
PART OF LOTS 34 AND 35
CONCESSION 3
SOUTH OF DUNDAS STREET
(GEOGRAPHIC TOWNSHIP OF TRAFALGAR)
TOWN OF OAKVILLE
REGIONAL MUNICIPALITY OF HALTON

SCALE 1 : 2000

20 0 50 100 150 METRES

HOLDING JONES VANDERVEEN INC.
ONTARIO LAND SURVEYORS

NOTES

BEARINGS SHOWN HEREON ARE GRID BEARINGS AND ARE DERIVED FROM THE TOWN OF OAKVILLE HORIZONTAL CONTROL MONUMENTS No. 04.3880050 (E. 600735.762, N. 4805433.401) AND No. 04.3880051 (E. 603321.716, N. 4802904.032) AND ARE REFERRED TO 6° UTM GRID ZONE 17, CENTRAL MERIDIAN 81° 00' WEST LONGITUDE.

■	DENOTES	SURVEY MONUMENT FOUND
□	DENOTES	SURVEY MONUMENT SET
SIB	DENOTES	STANDARD IRON BAR
IB	DENOTES	IRON BAR
CM	DENOTES	CONCRETE MONUMENT
WIT	DENOTES	WITNESS
760	DENOTES	McCONNELL, MAUGHAN ONTARIO LIMITED, O.L.S.
950	DENOTES	FRED G. CUNNINGHAM INCORPORATED, O.L.S.
1075	DENOTES	HOLDING & JONES LIMITED, O.L.S.
HJV	DENOTES	HOLDING JONES VANDERVEEN INC., O.L.S.
HP	DENOTES	H. PILLAR CORPORATION LTD., O.L.S.
JW	DENOTES	JAMES AND WANDABENSE, O.L.S.
RPE	DENOTES	RADY-PENTEK & EDWARD SURVEYING LTD., O.L.S.
TO	DENOTES	TOWN OF OAKVILLE
P1	DENOTES	PLAN 20R-17181

ALL BAR FOUND OR SET ARE LABELLED (HJV) UNLESS OTHERWISE NOTED.

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE LAND TITLES ACT AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON OCTOBER 31, 2007.

OCTOBER 31, 2007 — DATE

GARY B. VANDERVEEN
ONTARIO LAND SURVEYOR

HOLDING JONES VANDERVEEN INC.
ONTARIO LAND SURVEYORS
1700 LANGSTAFF ROAD, SUITE 1002
VAUGHAN, ON L4K 3S3
PHONE: 905-660-4000, 416-445-3800 EMAIL: hjv@planeteer.com

SCALE: 1:2000 | DRAWN BY: T.P. | CHKD. BY: G.V./T.R. | JOB NO. 00-1230 – REF8

Appendix F - Laboratory Certificates of Analysis

Your Project #: BIGC-ENV-382C
Site Location: SUPERIOR COURT, OAKLVILLE
Your C.O.C. #: N/A

Attention: Eileen Liu

B.I.G Consulting Inc.
12-5500 Tomken Road
Mississauga, ON
CANADA L4W 2Z4

Report Date: 2022/05/16
Report #: R7127396
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2C5659
Received: 2022/05/10, 14:50

Sample Matrix: Soil
Samples Received: 14

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum	7	N/A	2022/05/16	CAM SOP-00301	EPA 8270D m
Hot Water Extractable Boron	7	2022/05/12	2022/05/13	CAM SOP-00408	R153 Ana. Prot. 2011
1,3-Dichloropropene Sum	7	N/A	2022/05/12		EPA 8260C m
Free (WAD) Cyanide	7	2022/05/13	2022/05/13	CAM SOP-00457	OMOE E3015 m
Conductivity	7	2022/05/12	2022/05/12	CAM SOP-00414	OMOE E3530 v1 m
Hexavalent Chromium in Soil by IC (1)	7	2022/05/12	2022/05/13	CAM SOP-00436	EPA 3060/7199 m
Petroleum Hydrocarbons F2-F4 in Soil (2)	7	2022/05/12	2022/05/13	CAM SOP-00316	CCME CWS m
Acid Extractable Metals by ICPMS	7	2022/05/12	2022/05/13	CAM SOP-00447	EPA 6020B m
Moisture	14	N/A	2022/05/11	CAM SOP-00445	Carter 2nd ed 51.2 m
PAH Compounds in Soil by GC/MS (SIM)	7	2022/05/12	2022/05/13	CAM SOP-00318	EPA 8270D m
pH CaCl2 EXTRACT	5	2022/05/12	2022/05/12	CAM SOP-00413	EPA 9045 D m
pH CaCl2 EXTRACT	2	2022/05/13	2022/05/13	CAM SOP-00413	EPA 9045 D m
Sodium Adsorption Ratio (SAR)	7	N/A	2022/05/14	CAM SOP-00102	EPA 6010C
Volatile Organic Compounds and F1 PHCs	7	N/A	2022/05/11	CAM SOP-00230	EPA 8260C m

Remarks:

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

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

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

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Your Project #: BIGC-ENV-382C
Site Location: SUPERIOR COURT, OAKLVILLE
Your C.O.C. #: N/A

Attention: Eileen Liu

B.I.G Consulting Inc.
12-5500 Tomken Road
Mississauga, ON
CANADA L4W 2Z4

Report Date: 2022/05/16
Report #: R7127396
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2C5659

Received: 2022/05/10, 14:50

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Soils are reported on a dry weight basis unless otherwise specified.

(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Deepthi Shaji, Project Manager
Email: Deepthi.Shaji@bureauveritas.com
Phone# (905)817-5700 Ext:7065843

==========

This report has been generated and distributed using a secure automated process.
Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Job #: C2C5659
Report Date: 2022/05/16

B.I.G Consulting Inc.
Client Project #: BIGC-ENV-382C
Site Location: SUPERIOR COURT, OAKLVILLE
Sampler Initials: JR

O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID			SOT969			SOT969			SOT970		
Sampling Date			2022/05/09 11:05			2022/05/09 11:05			2022/05/09 13:00		
COC Number			N/A			N/A			N/A		
	UNITS	Criteria	BH101-SS2	RDL	QC Batch	BH101-SS2 Lab-Dup	RDL	QC Batch	BH102-SS1	RDL	QC Batch
Calculated Parameters											
Sodium Adsorption Ratio	N/A	12	0.72		7986843				5.4		7986843
Inorganics											
Conductivity	mS/cm	1.4	0.26	0.002	7991689				0.24	0.002	7991689
Available (CaCl2) pH	pH	-	7.71		7991327				7.81		7991327
WAD Cyanide (Free)	ug/g	0.051	ND	0.01	7993312	ND	0.01	7993312	ND	0.01	7993312
Chromium (VI)	ug/g	10	ND	0.18	7992244	0.19	0.18	7992244	ND	0.18	7992244
Metals											
Hot Water Ext. Boron (B)	ug/g	2	0.21	0.050	7991451				0.16	0.050	7991451
Acid Extractable Antimony (Sb)	ug/g	50	0.46	0.20	7991441				0.50	0.20	7991441
Acid Extractable Arsenic (As)	ug/g	18	4.4	1.0	7991441				3.6	1.0	7991441
Acid Extractable Barium (Ba)	ug/g	670	76	0.50	7991441				91	0.50	7991441
Acid Extractable Beryllium (Be)	ug/g	10	0.79	0.20	7991441				0.74	0.20	7991441
Acid Extractable Boron (B)	ug/g	120	20	5.0	7991441				19	5.0	7991441
Acid Extractable Cadmium (Cd)	ug/g	1.9	ND	0.10	7991441				ND	0.10	7991441
Acid Extractable Chromium (Cr)	ug/g	160	22	1.0	7991441				23	1.0	7991441
Acid Extractable Cobalt (Co)	ug/g	100	13	0.10	7991441				13	0.10	7991441
Acid Extractable Copper (Cu)	ug/g	300	9.1	0.50	7991441				7.4	0.50	7991441
Acid Extractable Lead (Pb)	ug/g	120	8.3	1.0	7991441				8.6	1.0	7991441
Acid Extractable Molybdenum (Mo)	ug/g	40	1.1	0.50	7991441				0.86	0.50	7991441
Acid Extractable Nickel (Ni)	ug/g	340	29	0.50	7991441				30	0.50	7991441
Acid Extractable Selenium (Se)	ug/g	5.5	ND	0.50	7991441				ND	0.50	7991441
Acid Extractable Silver (Ag)	ug/g	50	ND	0.20	7991441				ND	0.20	7991441
Acid Extractable Thallium (Tl)	ug/g	3.3	0.076	0.050	7991441				0.093	0.050	7991441
Acid Extractable Uranium (U)	ug/g	33	0.67	0.050	7991441				0.53	0.050	7991441
Acid Extractable Vanadium (V)	ug/g	86	30	5.0	7991441				26	5.0	7991441
Acid Extractable Zinc (Zn)	ug/g	340	59	5.0	7991441				61	5.0	7991441

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 6: Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition
Soil - Industrial/Commercial/Community Property Use - Medium and Fine Textured Soil
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C2C5659
Report Date: 2022/05/16

B.I.G Consulting Inc.
Client Project #: BIGC-ENV-382C
Site Location: SUPERIOR COURT, OAKLVILLE
Sampler Initials: JR

O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID			SOT969			SOT969			SOT970		
Sampling Date			2022/05/09 11:05			2022/05/09 11:05			2022/05/09 13:00		
COC Number			N/A			N/A			N/A		
	UNITS	Criteria	BH101-SS2	RDL	QC Batch	BH101-SS2 Lab-Dup	RDL	QC Batch	BH102-SS1	RDL	QC Batch
Acid Extractable Mercury (Hg)	ug/g	20	ND	0.050	7991441				ND	0.050	7991441

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C2C5659
Report Date: 2022/05/16

B.I.G Consulting Inc.
Client Project #: BIGC-ENV-382C
Site Location: SUPERIOR COURT, OAKLVILLE
Sampler Initials: JR

O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID			SOT972	SOT973		SOT975		
Sampling Date			2022/05/09 15:30	2022/05/09 17:00		2022/05/09 18:20		
COC Number			N/A	N/A		N/A		
	UNITS	Criteria	BH103-SS1	BH104-SS1	QC Batch	BH105-SS1	RDL	QC Batch
Calculated Parameters								
Sodium Adsorption Ratio	N/A	12	0.43	0.25 (1)	7986843	0.36 (1)		7986843
Inorganics								
Conductivity	mS/cm	1.4	0.20	0.16	7991689	0.067	0.002	7991689
Available (CaCl2) pH	pH	-	7.82	7.74	7991327	7.04		7994300
WAD Cyanide (Free)	ug/g	0.051	ND	ND	7993312	ND	0.01	7993312
Chromium (VI)	ug/g	10	ND	ND	7992244	ND	0.18	7992244
Metals								
Hot Water Ext. Boron (B)	ug/g	2	0.13	0.17	7991451	0.26	0.050	7991451
Acid Extractable Antimony (Sb)	ug/g	50	0.53	0.41	7991441	ND	0.20	7991441
Acid Extractable Arsenic (As)	ug/g	18	4.1	5.8	7991441	3.4	1.0	7991441
Acid Extractable Barium (Ba)	ug/g	670	87	110	7991441	57	0.50	7991441
Acid Extractable Beryllium (Be)	ug/g	10	0.90	0.61	7991441	0.60	0.20	7991441
Acid Extractable Boron (B)	ug/g	120	25	19	7991441	8.5	5.0	7991441
Acid Extractable Cadmium (Cd)	ug/g	1.9	ND	0.21	7991441	ND	0.10	7991441
Acid Extractable Chromium (Cr)	ug/g	160	26	20	7991441	18	1.0	7991441
Acid Extractable Cobalt (Co)	ug/g	100	14	11	7991441	8.1	0.10	7991441
Acid Extractable Copper (Cu)	ug/g	300	6.5	18	7991441	5.2	0.50	7991441
Acid Extractable Lead (Pb)	ug/g	120	9.6	19	7991441	10	1.0	7991441
Acid Extractable Molybdenum (Mo)	ug/g	40	1.1	1.1	7991441	0.79	0.50	7991441
Acid Extractable Nickel (Ni)	ug/g	340	30	24	7991441	16	0.50	7991441
Acid Extractable Selenium (Se)	ug/g	5.5	ND	ND	7991441	ND	0.50	7991441
Acid Extractable Silver (Ag)	ug/g	50	ND	ND	7991441	ND	0.20	7991441
Acid Extractable Thallium (Tl)	ug/g	3.3	0.098	0.11	7991441	0.11	0.050	7991441
Acid Extractable Uranium (U)	ug/g	33	0.69	0.57	7991441	0.52	0.050	7991441
Acid Extractable Vanadium (V)	ug/g	86	33	25	7991441	28	5.0	7991441

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 6: Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition
Soil - Industrial/Commercial/Community Property Use - Medium and Fine Textured Soil
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.
(1) Sodium was not detected. To report SAR the sodium detection limit was used in the calculation. This value represents a maximum ratio.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C2C5659
Report Date: 2022/05/16

B.I.G Consulting Inc.
Client Project #: BIGC-ENV-382C
Site Location: SUPERIOR COURT, OAKLVILLE
Sampler Initials: JR

O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID			SOT972	SOT973		SOT975		
Sampling Date			2022/05/09 15:30	2022/05/09 17:00		2022/05/09 18:20		
COC Number			N/A	N/A		N/A		
	UNITS	Criteria	BH103-SS1	BH104-SS1	QC Batch	BH105-SS1	RDL	QC Batch
Acid Extractable Zinc (Zn)	ug/g	340	62	94	7991441	52	5.0	7991441
Acid Extractable Mercury (Hg)	ug/g	20	ND	ND	7991441	ND	0.050	7991441

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 6: Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition
Soil - Industrial/Commercial/Community Property Use - Medium and Fine Textured Soil
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID			SOT977		SOT978		
Sampling Date			2022/05/09		2022/05/09		
COC Number			N/A		N/A		
	UNITS	Criteria	DUP01	QC Batch	DUP02	RDL	QC Batch
Calculated Parameters							
Sodium Adsorption Ratio	N/A	12	5.9	7986843	0.37		7986843
Inorganics							
Conductivity	mS/cm	1.4	0.25	7991689	0.19	0.002	7991689
Moisture	%	-	13	7988430	12	1.0	7988430
Available (CaCl2) pH	pH	-	7.78	7991327	7.65		7994300
WAD Cyanide (Free)	ug/g	0.051	ND	7993312	ND	0.01	7993312
Chromium (VI)	ug/g	10	ND	7992244	ND	0.18	7992244
Metals							
Hot Water Ext. Boron (B)	ug/g	2	0.16	7991451	0.11	0.050	7991451
Acid Extractable Antimony (Sb)	ug/g	50	0.45	7991441	0.41	0.20	7991441
Acid Extractable Arsenic (As)	ug/g	18	3.9	7991441	4.0	1.0	7991441
Acid Extractable Barium (Ba)	ug/g	670	120	7991441	95	0.50	7991441
Acid Extractable Beryllium (Be)	ug/g	10	0.76	7991441	0.82	0.20	7991441
Acid Extractable Boron (B)	ug/g	120	21	7991441	21	5.0	7991441
Acid Extractable Cadmium (Cd)	ug/g	1.9	ND	7991441	0.11	0.10	7991441
Acid Extractable Chromium (Cr)	ug/g	160	23	7991441	24	1.0	7991441
Acid Extractable Cobalt (Co)	ug/g	100	13	7991441	13	0.10	7991441
Acid Extractable Copper (Cu)	ug/g	300	6.9	7991441	6.0	0.50	7991441
Acid Extractable Lead (Pb)	ug/g	120	8.8	7991441	9.3	1.0	7991441
Acid Extractable Molybdenum (Mo)	ug/g	40	0.95	7991441	1.1	0.50	7991441
Acid Extractable Nickel (Ni)	ug/g	340	30	7991441	29	0.50	7991441
Acid Extractable Selenium (Se)	ug/g	5.5	ND	7991441	ND	0.50	7991441
Acid Extractable Silver (Ag)	ug/g	50	ND	7991441	ND	0.20	7991441
Acid Extractable Thallium (Tl)	ug/g	3.3	0.088	7991441	0.099	0.050	7991441
Acid Extractable Uranium (U)	ug/g	33	0.55	7991441	0.66	0.050	7991441
Acid Extractable Vanadium (V)	ug/g	86	27	7991441	29	5.0	7991441

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 6: Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition
Soil - Industrial/Commercial/Community Property Use - Medium and Fine Textured Soil
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C2C5659
Report Date: 2022/05/16

B.I.G Consulting Inc.
Client Project #: BIGC-ENV-382C
Site Location: SUPERIOR COURT, OAKLVILLE
Sampler Initials: JR

O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID			SOT977		SOT978		
Sampling Date			2022/05/09		2022/05/09		
COC Number			N/A		N/A		
	UNITS	Criteria	DUP01	QC Batch	DUP02	RDL	QC Batch
Acid Extractable Zinc (Zn)	ug/g	340	59	7991441	61	5.0	7991441
Acid Extractable Mercury (Hg)	ug/g	20	ND	7991441	ND	0.050	7991441

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 6: Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition
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O.REG 153 PAHS (SOIL)

Bureau Veritas ID			SOT969			SOT970			SOT972		
Sampling Date			2022/05/09 11:05			2022/05/09 13:00			2022/05/09 15:30		
COC Number			N/A			N/A			N/A		
	UNITS	Criteria	BH101-SS2	RDL	QC Batch	BH102-SS1	RDL	QC Batch	BH103-SS1	RDL	QC Batch
Inorganics											
Moisture	%	-				9.1	1.0	7988258			
Calculated Parameters											
Methylnaphthalene, 2-(1-)	ug/g	-	ND	0.0071	7986955	ND	0.0071	7985767	ND	0.0071	7985767
Polyaromatic Hydrocarbons											
Acenaphthene	ug/g	29	ND	0.0050	7992190	ND	0.0050	7992190	ND	0.0050	7992190
Acenaphthylene	ug/g	0.17	ND	0.0050	7992190	ND	0.0050	7992190	ND	0.0050	7992190
Anthracene	ug/g	0.74	ND	0.0050	7992190	ND	0.0050	7992190	ND	0.0050	7992190
Benzo(a)anthracene	ug/g	0.96	ND	0.0050	7992190	ND	0.0050	7992190	ND	0.0050	7992190
Benzo(a)pyrene	ug/g	0.3	ND	0.0050	7992190	ND	0.0050	7992190	ND	0.0050	7992190
Benzo(b/j)fluoranthene	ug/g	0.96	ND	0.0050	7992190	ND	0.0050	7992190	ND	0.0050	7992190
Benzo(g,h,i)perylene	ug/g	9.6	ND	0.0050	7992190	ND	0.0050	7992190	ND	0.0050	7992190
Benzo(k)fluoranthene	ug/g	0.96	ND	0.0050	7992190	ND	0.0050	7992190	ND	0.0050	7992190
Chrysene	ug/g	9.6	ND	0.0050	7992190	ND	0.0050	7992190	ND	0.0050	7992190
Dibenzo(a,h)anthracene	ug/g	0.1	ND	0.0050	7992190	ND	0.0050	7992190	ND	0.0050	7992190
Fluoranthene	ug/g	9.6	ND	0.0050	7992190	ND	0.0050	7992190	ND	0.0050	7992190
Fluorene	ug/g	69	ND	0.0050	7992190	ND	0.0050	7992190	ND	0.0050	7992190
Indeno(1,2,3-cd)pyrene	ug/g	0.95	ND	0.0050	7992190	ND	0.0050	7992190	ND	0.0050	7992190
1-Methylnaphthalene	ug/g	42	ND	0.0050	7992190	ND	0.0050	7992190	ND	0.0050	7992190
2-Methylnaphthalene	ug/g	42	ND	0.0050	7992190	ND	0.0050	7992190	ND	0.0050	7992190
Naphthalene	ug/g	28	ND	0.0050	7992190	ND	0.0050	7992190	ND	0.0050	7992190
Phenanthrene	ug/g	16	ND	0.0050	7992190	ND	0.0050	7992190	ND	0.0050	7992190
Pyrene	ug/g	96	ND	0.0050	7992190	ND	0.0050	7992190	ND	0.0050	7992190
Surrogate Recovery (%)											
D10-Anthracene	%	-	105		7992190	105		7992190	109		7992190
D14-Terphenyl (FS)	%	-	102		7992190	99		7992190	102		7992190
D8-Acenaphthylene	%	-	100		7992190	107		7992190	107		7992190

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

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QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
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O.REG 153 PAHS (SOIL)

Bureau Veritas ID			SOT973	SOT975	SOT979	SOT980		
Sampling Date			2022/05/09 17:00	2022/05/09 18:20	2022/05/09	2022/05/09		
COC Number			N/A	N/A	N/A	N/A		
	UNITS	Criteria	BH104-SS1	BH105-SS1	DUP03	DUP04	RDL	QC Batch
Inorganics								
Moisture	%	-	15	17	10	8.2	1.0	7988258
Calculated Parameters								
Methylnaphthalene, 2-(1-)	ug/g	-	ND	ND	ND	ND	0.0071	7985767
Polyaromatic Hydrocarbons								
Acenaphthene	ug/g	29	ND	ND	ND	ND	0.0050	7992190
Acenaphthylene	ug/g	0.17	ND	ND	ND	ND	0.0050	7992190
Anthracene	ug/g	0.74	ND	ND	ND	ND	0.0050	7992190
Benzo(a)anthracene	ug/g	0.96	ND	ND	ND	ND	0.0050	7992190
Benzo(a)pyrene	ug/g	0.3	ND	ND	ND	ND	0.0050	7992190
Benzo(b/j)fluoranthene	ug/g	0.96	ND	ND	ND	ND	0.0050	7992190
Benzo(g,h,i)perylene	ug/g	9.6	ND	ND	ND	ND	0.0050	7992190
Benzo(k)fluoranthene	ug/g	0.96	ND	ND	ND	ND	0.0050	7992190
Chrysene	ug/g	9.6	ND	ND	ND	ND	0.0050	7992190
Dibenzo(a,h)anthracene	ug/g	0.1	ND	ND	ND	ND	0.0050	7992190
Fluoranthene	ug/g	9.6	ND	ND	ND	ND	0.0050	7992190
Fluorene	ug/g	69	ND	ND	ND	ND	0.0050	7992190
Indeno(1,2,3-cd)pyrene	ug/g	0.95	ND	ND	ND	ND	0.0050	7992190
1-Methylnaphthalene	ug/g	42	ND	ND	ND	ND	0.0050	7992190
2-Methylnaphthalene	ug/g	42	ND	ND	ND	ND	0.0050	7992190
Naphthalene	ug/g	28	ND	ND	ND	ND	0.0050	7992190
Phenanthrene	ug/g	16	ND	ND	ND	ND	0.0050	7992190
Pyrene	ug/g	96	ND	ND	ND	ND	0.0050	7992190
Surrogate Recovery (%)								
D10-Anthracene	%	-	95	104	106	106		7992190
D14-Terphenyl (FS)	%	-	93	101	101	101		7992190
D8-Acenaphthylene	%	-	100	113	108	106		7992190

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
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O.REG 153 VOCS BY HS & F1-F4 (SOIL)

Bureau Veritas ID			SOT969	SOT971	SOT972	SOT974	SOT976		
Sampling Date			2022/05/09 11:05	2022/05/09 13:05	2022/05/09 15:30	2022/05/09 17:05	2022/05/09 18:25		
COC Number			N/A	N/A	N/A	N/A	N/A		
	UNITS	Criteria	BH101-SS2	BH102-SS2	BH103-SS1	BH104-SS2	BH105-SS2	RDL	QC Batch
Inorganics									
Moisture	%	-	11	7.5	11	8.9	11	1.0	7988258
Calculated Parameters									
1,3-Dichloropropene (cis+trans)	ug/g	0.081	ND	ND	ND	ND	ND	0.050	7986617
Volatile Organics									
Acetone (2-Propanone)	ug/g	28	ND	ND	ND	ND	ND	0.49	7988860
Benzene	ug/g	0.4	ND	ND	ND	ND	ND	0.0060	7988860
Bromodichloromethane	ug/g	1.9	ND	ND	ND	ND	ND	0.040	7988860
Bromoform	ug/g	1.7	ND	ND	ND	ND	ND	0.040	7988860
Bromomethane	ug/g	0.05	ND	ND	ND	ND	ND	0.040	7988860
Carbon Tetrachloride	ug/g	0.71	ND	ND	ND	ND	ND	0.040	7988860
Chlorobenzene	ug/g	2.7	ND	ND	ND	ND	ND	0.040	7988860
Chloroform	ug/g	0.18	ND	ND	ND	ND	ND	0.040	7988860
Dibromochloromethane	ug/g	2.9	ND	ND	ND	ND	ND	0.040	7988860
1,2-Dichlorobenzene	ug/g	1.7	ND	ND	ND	ND	ND	0.040	7988860
1,3-Dichlorobenzene	ug/g	12	ND	ND	ND	ND	ND	0.040	7988860
1,4-Dichlorobenzene	ug/g	0.57	ND	ND	ND	ND	ND	0.040	7988860
Dichlorodifluoromethane (FREON 12)	ug/g	25	ND	ND	ND	ND	ND	0.040	7988860
1,1-Dichloroethane	ug/g	0.6	ND	ND	ND	ND	ND	0.040	7988860
1,2-Dichloroethane	ug/g	0.05	ND	ND	ND	ND	ND	0.049	7988860
1,1-Dichloroethylene	ug/g	0.48	ND	ND	ND	ND	ND	0.040	7988860
cis-1,2-Dichloroethylene	ug/g	2.5	ND	ND	ND	ND	ND	0.040	7988860
trans-1,2-Dichloroethylene	ug/g	2.5	ND	ND	ND	ND	ND	0.040	7988860
1,2-Dichloropropane	ug/g	0.68	ND	ND	ND	ND	ND	0.040	7988860
cis-1,3-Dichloropropene	ug/g	0.081	ND	ND	ND	ND	ND	0.030	7988860
trans-1,3-Dichloropropene	ug/g	0.081	ND	ND	ND	ND	ND	0.040	7988860
Ethylbenzene	ug/g	1.6	ND	ND	ND	ND	ND	0.010	7988860
Ethylene Dibromide	ug/g	0.05	ND	ND	ND	ND	ND	0.040	7988860

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
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QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 6: Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition
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Bureau Veritas Job #: C2C5659
Report Date: 2022/05/16

B.I.G Consulting Inc.
Client Project #: BIGC-ENV-382C
Site Location: SUPERIOR COURT, OAKLVILLE
Sampler Initials: JR

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

Bureau Veritas ID			SOT969	SOT971	SOT972	SOT974	SOT976		
Sampling Date			2022/05/09 11:05	2022/05/09 13:05	2022/05/09 15:30	2022/05/09 17:05	2022/05/09 18:25		
COC Number			N/A	N/A	N/A	N/A	N/A		
	UNITS	Criteria	BH101-SS2	BH102-SS2	BH103-SS1	BH104-SS2	BH105-SS2	RDL	QC Batch
Hexane	ug/g	88	ND	ND	ND	ND	ND	0.040	7988860
Methylene Chloride(Dichloromethane)	ug/g	2	ND	ND	ND	ND	ND	0.049	7988860
Methyl Ethyl Ketone (2-Butanone)	ug/g	88	ND	ND	ND	ND	ND	0.40	7988860
Methyl Isobutyl Ketone	ug/g	210	ND	ND	ND	ND	ND	0.40	7988860
Methyl t-butyl ether (MTBE)	ug/g	2.3	ND	ND	ND	ND	ND	0.040	7988860
Styrene	ug/g	43	ND	ND	ND	ND	ND	0.040	7988860
1,1,1,2-Tetrachloroethane	ug/g	0.11	ND	ND	ND	ND	ND	0.040	7988860
1,1,2,2-Tetrachloroethane	ug/g	0.094	ND	ND	ND	ND	ND	0.040	7988860
Tetrachloroethylene	ug/g	2.5	ND	ND	ND	ND	ND	0.040	7988860
Toluene	ug/g	9	ND	ND	ND	ND	ND	0.020	7988860
1,1,1-Trichloroethane	ug/g	12	ND	ND	ND	ND	ND	0.040	7988860
1,1,2-Trichloroethane	ug/g	0.11	ND	ND	ND	ND	ND	0.040	7988860
Trichloroethylene	ug/g	0.61	ND	ND	ND	ND	ND	0.010	7988860
Trichlorofluoromethane (FREON 11)	ug/g	5.8	ND	ND	ND	ND	ND	0.040	7988860
Vinyl Chloride	ug/g	0.25	ND	ND	ND	ND	ND	0.019	7988860
p+m-Xylene	ug/g	-	ND	ND	ND	ND	ND	0.020	7988860
o-Xylene	ug/g	-	ND	ND	ND	ND	ND	0.020	7988860
Total Xylenes	ug/g	30	ND	ND	ND	ND	ND	0.020	7988860
F1 (C6-C10)	ug/g	65	ND	ND	ND	ND	ND	10	7988860
F1 (C6-C10) - BTEX	ug/g	65	ND	ND	ND	ND	ND	10	7988860
F2-F4 Hydrocarbons									
F2 (C10-C16 Hydrocarbons)	ug/g	250	ND	ND	ND	ND	ND	10	7993068
F3 (C16-C34 Hydrocarbons)	ug/g	2500	ND	ND	ND	ND	ND	50	7993068
F4 (C34-C50 Hydrocarbons)	ug/g	6600	ND	ND	ND	ND	ND	50	7993068
Reached Baseline at C50	ug/g	-	Yes	Yes	Yes	Yes	Yes		7993068
Surrogate Recovery (%)									
o-Terphenyl	%	-	97	98	95	95	89		7993068
4-Bromofluorobenzene	%	-	95	98	95	94	94		7988860

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

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Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 6: Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition
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Bureau Veritas Job #: C2C5659
Report Date: 2022/05/16

B.I.G Consulting Inc.
Client Project #: BIGC-ENV-382C
Site Location: SUPERIOR COURT, OAKLVILLE
Sampler Initials: JR

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

Bureau Veritas ID			SOT969	SOT971	SOT972	SOT974	SOT976		
Sampling Date			2022/05/09 11:05	2022/05/09 13:05	2022/05/09 15:30	2022/05/09 17:05	2022/05/09 18:25		
COC Number			N/A	N/A	N/A	N/A	N/A		
	UNITS	Criteria	BH101-SS2	BH102-SS2	BH103-SS1	BH104-SS2	BH105-SS2	RDL	QC Batch
D10-o-Xylene	%	-	89	93	92	88	86		7988860
D4-1,2-Dichloroethane	%	-	106	106	107	108	108		7988860
D8-Toluene	%	-	99	96	98	97	97		7988860

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
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Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
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Soil - Industrial/Commercial/Community Property Use - Medium and Fine Textured Soil

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

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

Bureau Veritas ID			SOT981	SOT982		
Sampling Date			2022/05/09	2022/05/09		
COC Number			N/A	N/A		
	UNITS	Criteria	DUP05	DUP06	RDL	QC Batch
Inorganics						
Moisture	%	-	6.5	7.4	1.0	7988258
Calculated Parameters						
1,3-Dichloropropene (cis+trans)	ug/g	0.081	ND	ND	0.050	7986617
Volatile Organics						
Acetone (2-Propanone)	ug/g	28	ND	ND	0.49	7988860
Benzene	ug/g	0.4	ND	ND	0.0060	7988860
Bromodichloromethane	ug/g	1.9	ND	ND	0.040	7988860
Bromoform	ug/g	1.7	ND	ND	0.040	7988860
Bromomethane	ug/g	0.05	ND	ND	0.040	7988860
Carbon Tetrachloride	ug/g	0.71	ND	ND	0.040	7988860
Chlorobenzene	ug/g	2.7	ND	ND	0.040	7988860
Chloroform	ug/g	0.18	ND	ND	0.040	7988860
Dibromochloromethane	ug/g	2.9	ND	ND	0.040	7988860
1,2-Dichlorobenzene	ug/g	1.7	ND	ND	0.040	7988860
1,3-Dichlorobenzene	ug/g	12	ND	ND	0.040	7988860
1,4-Dichlorobenzene	ug/g	0.57	ND	ND	0.040	7988860
Dichlorodifluoromethane (FREON 12)	ug/g	25	ND	ND	0.040	7988860
1,1-Dichloroethane	ug/g	0.6	ND	ND	0.040	7988860
1,2-Dichloroethane	ug/g	0.05	ND	ND	0.049	7988860
1,1-Dichloroethylene	ug/g	0.48	ND	ND	0.040	7988860
cis-1,2-Dichloroethylene	ug/g	2.5	ND	ND	0.040	7988860
trans-1,2-Dichloroethylene	ug/g	2.5	ND	ND	0.040	7988860
1,2-Dichloropropane	ug/g	0.68	ND	ND	0.040	7988860
cis-1,3-Dichloropropene	ug/g	0.081	ND	ND	0.030	7988860
trans-1,3-Dichloropropene	ug/g	0.081	ND	ND	0.040	7988860

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
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O.REG 153 VOCS BY HS & F1-F4 (SOIL)

Bureau Veritas ID			SOT981	SOT982		
Sampling Date			2022/05/09	2022/05/09		
COC Number			N/A	N/A		
	UNITS	Criteria	DUP05	DUP06	RDL	QC Batch
Ethylbenzene	ug/g	1.6	ND	ND	0.010	7988860
Ethylene Dibromide	ug/g	0.05	ND	ND	0.040	7988860
Hexane	ug/g	88	ND	ND	0.040	7988860
Methylene Chloride(Dichloromethane)	ug/g	2	ND	ND	0.049	7988860
Methyl Ethyl Ketone (2-Butanone)	ug/g	88	ND	ND	0.40	7988860
Methyl Isobutyl Ketone	ug/g	210	ND	ND	0.40	7988860
Methyl t-butyl ether (MTBE)	ug/g	2.3	ND	ND	0.040	7988860
Styrene	ug/g	43	ND	ND	0.040	7988860
1,1,1,2-Tetrachloroethane	ug/g	0.11	ND	ND	0.040	7988860
1,1,2,2-Tetrachloroethane	ug/g	0.094	ND	ND	0.040	7988860
Tetrachloroethylene	ug/g	2.5	ND	ND	0.040	7988860
Toluene	ug/g	9	ND	ND	0.020	7988860
1,1,1-Trichloroethane	ug/g	12	ND	ND	0.040	7988860
1,1,2-Trichloroethane	ug/g	0.11	ND	ND	0.040	7988860
Trichloroethylene	ug/g	0.61	ND	ND	0.010	7988860
Trichlorofluoromethane (FREON 11)	ug/g	5.8	ND	ND	0.040	7988860
Vinyl Chloride	ug/g	0.25	ND	ND	0.019	7988860
p+m-Xylene	ug/g	-	ND	ND	0.020	7988860
o-Xylene	ug/g	-	ND	ND	0.020	7988860
Total Xylenes	ug/g	30	ND	ND	0.020	7988860
F1 (C6-C10)	ug/g	65	ND	ND	10	7988860
F1 (C6-C10) - BTEX	ug/g	65	ND	ND	10	7988860
F2-F4 Hydrocarbons						
F2 (C10-C16 Hydrocarbons)	ug/g	250	ND	ND	10	7993068
F3 (C16-C34 Hydrocarbons)	ug/g	2500	ND	ND	50	7993068
F4 (C34-C50 Hydrocarbons)	ug/g	6600	ND	ND	50	7993068

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 6: Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition
Soil - Industrial/Commercial/Community Property Use - Medium and Fine Textured Soil
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

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

Bureau Veritas ID			SOT981	SOT982		
Sampling Date			2022/05/09	2022/05/09		
COC Number			N/A	N/A		
	UNITS	Criteria	DUP05	DUP06	RDL	QC Batch
Reached Baseline at C50	ug/g	-	Yes	Yes		7993068
Surrogate Recovery (%)						
o-Terphenyl	%	-	92	94		7993068
4-Bromofluorobenzene	%	-	94	94		7988860
D10-o-Xylene	%	-	90	89		7988860
D4-1,2-Dichloroethane	%	-	108	108		7988860
D8-Toluene	%	-	97	97		7988860

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 6: Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition
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GENERAL COMMENTS

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

Package 1	2.3°C

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7988860	4-Bromofluorobenzene	2022/05/11	99	60 - 140	100	60 - 140	96	%		
7988860	D10-o-Xylene	2022/05/11	90	60 - 130	101	60 - 130	90	%		
7988860	D4-1,2-Dichloroethane	2022/05/11	104	60 - 140	106	60 - 140	106	%		
7988860	D8-Toluene	2022/05/11	104	60 - 140	103	60 - 140	98	%		
7992190	D10-Anthracene	2022/05/13	107	50 - 130	110	50 - 130	113	%		
7992190	D14-Terphenyl (FS)	2022/05/13	104	50 - 130	105	50 - 130	104	%		
7992190	D8-Acenaphthylene	2022/05/13	109	50 - 130	123	50 - 130	117	%		
7993068	o-Terphenyl	2022/05/12	94	60 - 130	97	60 - 130	98	%		
7988258	Moisture	2022/05/11							0.64	20
7988430	Moisture	2022/05/11							2.3	20
7988860	1,1,1,2-Tetrachloroethane	2022/05/11	104	60 - 140	103	60 - 130	ND, RDL=0.040	ug/g	NC	50
7988860	1,1,1-Trichloroethane	2022/05/11	106	60 - 140	104	60 - 130	ND, RDL=0.040	ug/g	NC	50
7988860	1,1,2,2-Tetrachloroethane	2022/05/11	92	60 - 140	92	60 - 130	ND, RDL=0.040	ug/g	NC	50
7988860	1,1,2-Trichloroethane	2022/05/11	107	60 - 140	107	60 - 130	ND, RDL=0.040	ug/g	NC	50
7988860	1,1-Dichloroethane	2022/05/11	108	60 - 140	106	60 - 130	ND, RDL=0.040	ug/g	NC	50
7988860	1,1-Dichloroethylene	2022/05/11	116	60 - 140	114	60 - 130	ND, RDL=0.040	ug/g	NC	50
7988860	1,2-Dichlorobenzene	2022/05/11	98	60 - 140	96	60 - 130	ND, RDL=0.040	ug/g	NC	50
7988860	1,2-Dichloroethane	2022/05/11	101	60 - 140	101	60 - 130	ND, RDL=0.049	ug/g	NC	50
7988860	1,2-Dichloropropane	2022/05/11	107	60 - 140	107	60 - 130	ND, RDL=0.040	ug/g	NC	50
7988860	1,3-Dichlorobenzene	2022/05/11	99	60 - 140	97	60 - 130	ND, RDL=0.040	ug/g	NC	50
7988860	1,4-Dichlorobenzene	2022/05/11	112	60 - 140	110	60 - 130	ND, RDL=0.040	ug/g	NC	50
7988860	Acetone (2-Propanone)	2022/05/11	93	60 - 140	93	60 - 140	ND, RDL=0.49	ug/g	NC	50
7988860	Benzene	2022/05/11	102	60 - 140	101	60 - 130	ND, RDL=0.0060	ug/g	NC	50
7988860	Bromodichloromethane	2022/05/11	103	60 - 140	103	60 - 130	ND, RDL=0.040	ug/g	NC	50
7988860	Bromoform	2022/05/11	95	60 - 140	95	60 - 130	ND, RDL=0.040	ug/g	NC	50
7988860	Bromomethane	2022/05/11	118	60 - 140	115	60 - 140	ND, RDL=0.040	ug/g	NC	50
7988860	Carbon Tetrachloride	2022/05/11	107	60 - 140	105	60 - 130	ND, RDL=0.040	ug/g	NC	50
7988860	Chlorobenzene	2022/05/11	104	60 - 140	103	60 - 130	ND, RDL=0.040	ug/g	NC	50
7988860	Chloroform	2022/05/11	104	60 - 140	103	60 - 130	ND, RDL=0.040	ug/g	NC	50
7988860	cis-1,2-Dichloroethylene	2022/05/11	108	60 - 140	106	60 - 130	ND, RDL=0.040	ug/g	NC	50
7988860	cis-1,3-Dichloropropene	2022/05/11	90	60 - 140	90	60 - 130	ND, RDL=0.030	ug/g	NC	50

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7988860	Dibromochloromethane	2022/05/11	92	60 - 140	92	60 - 130	ND, RDL=0.040	ug/g	NC	50
7988860	Dichlorodifluoromethane (FREON 12)	2022/05/11	107	60 - 140	104	60 - 140	ND, RDL=0.040	ug/g	NC	50
7988860	Ethylbenzene	2022/05/11	94	60 - 140	92	60 - 130	ND, RDL=0.010	ug/g	NC	50
7988860	Ethylene Dibromide	2022/05/11	92	60 - 140	93	60 - 130	ND, RDL=0.040	ug/g	NC	50
7988860	F1 (C6-C10) - BTEX	2022/05/11					ND, RDL=10	ug/g	NC	30
7988860	F1 (C6-C10)	2022/05/11	90	60 - 140	95	80 - 120	ND, RDL=10	ug/g	NC	30
7988860	Hexane	2022/05/11	120	60 - 140	117	60 - 130	ND, RDL=0.040	ug/g	NC	50
7988860	Methyl Ethyl Ketone (2-Butanone)	2022/05/11	90	60 - 140	91	60 - 140	ND, RDL=0.40	ug/g	NC	50
7988860	Methyl Isobutyl Ketone	2022/05/11	92	60 - 140	93	60 - 130	ND, RDL=0.40	ug/g	NC	50
7988860	Methyl t-butyl ether (MTBE)	2022/05/11	90	60 - 140	89	60 - 130	ND, RDL=0.040	ug/g	NC	50
7988860	Methylene Chloride(Dichloromethane)	2022/05/11	107	60 - 140	106	60 - 130	ND, RDL=0.049	ug/g	NC	50
7988860	o-Xylene	2022/05/11	96	60 - 140	94	60 - 130	ND, RDL=0.020	ug/g	NC	50
7988860	p+m-Xylene	2022/05/11	97	60 - 140	95	60 - 130	ND, RDL=0.020	ug/g	NC	50
7988860	Styrene	2022/05/11	101	60 - 140	99	60 - 130	ND, RDL=0.040	ug/g	NC	50
7988860	Tetrachloroethylene	2022/05/11	102	60 - 140	101	60 - 130	ND, RDL=0.040	ug/g	NC	50
7988860	Toluene	2022/05/11	96	60 - 140	95	60 - 130	ND, RDL=0.020	ug/g	NC	50
7988860	Total Xylenes	2022/05/11					ND, RDL=0.020	ug/g	NC	50
7988860	trans-1,2-Dichloroethylene	2022/05/11	109	60 - 140	107	60 - 130	ND, RDL=0.040	ug/g	NC	50
7988860	trans-1,3-Dichloropropene	2022/05/11	90	60 - 140	88	60 - 130	ND, RDL=0.040	ug/g	NC	50
7988860	Trichloroethylene	2022/05/11	113	60 - 140	111	60 - 130	ND, RDL=0.010	ug/g	NC	50
7988860	Trichlorofluoromethane (FREON 11)	2022/05/11	117	60 - 140	115	60 - 130	ND, RDL=0.040	ug/g	NC	50
7988860	Vinyl Chloride	2022/05/11	124	60 - 140	121	60 - 130	ND, RDL=0.019	ug/g	NC	50
7991327	Available (CaCl2) pH	2022/05/12			101	97 - 103			0.32	N/A
7991441	Acid Extractable Antimony (Sb)	2022/05/13	99	75 - 125	100	80 - 120	ND, RDL=0.20	ug/g	NC	30
7991441	Acid Extractable Arsenic (As)	2022/05/13	97	75 - 125	96	80 - 120	ND, RDL=1.0	ug/g	NC	30
7991441	Acid Extractable Barium (Ba)	2022/05/13	95	75 - 125	95	80 - 120	ND, RDL=0.50	ug/g	0.25	30
7991441	Acid Extractable Beryllium (Be)	2022/05/13	98	75 - 125	97	80 - 120	ND, RDL=0.20	ug/g	NC	30
7991441	Acid Extractable Boron (B)	2022/05/13	94	75 - 125	107	80 - 120	ND, RDL=5.0	ug/g	6.5	30
7991441	Acid Extractable Cadmium (Cd)	2022/05/13	95	75 - 125	96	80 - 120	ND, RDL=0.10	ug/g	NC	30
7991441	Acid Extractable Chromium (Cr)	2022/05/13	97	75 - 125	95	80 - 120	ND, RDL=1.0	ug/g	5.3	30
7991441	Acid Extractable Cobalt (Co)	2022/05/13	94	75 - 125	95	80 - 120	ND, RDL=0.10	ug/g	6.9	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7991441	Acid Extractable Copper (Cu)	2022/05/13	94	75 - 125	94	80 - 120	ND, RDL=0.50	ug/g	4.2	30
7991441	Acid Extractable Lead (Pb)	2022/05/13	93	75 - 125	96	80 - 120	ND, RDL=1.0	ug/g	0.19	30
7991441	Acid Extractable Mercury (Hg)	2022/05/13	81	75 - 125	83	80 - 120	ND, RDL=0.050	ug/g	NC	30
7991441	Acid Extractable Molybdenum (Mo)	2022/05/13	99	75 - 125	97	80 - 120	ND, RDL=0.50	ug/g	NC	30
7991441	Acid Extractable Nickel (Ni)	2022/05/13	98	75 - 125	95	80 - 120	ND, RDL=0.50	ug/g	7.2	30
7991441	Acid Extractable Selenium (Se)	2022/05/13	94	75 - 125	97	80 - 120	ND, RDL=0.50	ug/g	NC	30
7991441	Acid Extractable Silver (Ag)	2022/05/13	95	75 - 125	96	80 - 120	ND, RDL=0.20	ug/g	NC	30
7991441	Acid Extractable Thallium (Tl)	2022/05/13	95	75 - 125	98	80 - 120	ND, RDL=0.050	ug/g	NC	30
7991441	Acid Extractable Uranium (U)	2022/05/13	97	75 - 125	95	80 - 120	ND, RDL=0.050	ug/g	6.4	30
7991441	Acid Extractable Vanadium (V)	2022/05/13	99	75 - 125	95	80 - 120	ND, RDL=5.0	ug/g	9.2	30
7991441	Acid Extractable Zinc (Zn)	2022/05/13	100	75 - 125	94	80 - 120	ND, RDL=5.0	ug/g	4.3	30
7991451	Hot Water Ext. Boron (B)	2022/05/13	98	75 - 125	100	75 - 125	ND, RDL=0.050	ug/g	8.7	40
7991689	Conductivity	2022/05/12			99	90 - 110	ND, RDL=0.002	mS/cm	1.1	10
7992190	1-Methylnaphthalene	2022/05/13	92	50 - 130	91	50 - 130	ND, RDL=0.0050	ug/g	NC	40
7992190	2-Methylnaphthalene	2022/05/13	90	50 - 130	89	50 - 130	ND, RDL=0.0050	ug/g	NC	40
7992190	Acenaphthene	2022/05/13	93	50 - 130	93	50 - 130	ND, RDL=0.0050	ug/g	NC	40
7992190	Acenaphthylene	2022/05/13	111	50 - 130	112	50 - 130	ND, RDL=0.0050	ug/g	NC	40
7992190	Anthracene	2022/05/13	101	50 - 130	102	50 - 130	ND, RDL=0.0050	ug/g	NC	40
7992190	Benzo(a)anthracene	2022/05/13	105	50 - 130	110	50 - 130	ND, RDL=0.0050	ug/g	NC	40
7992190	Benzo(a)pyrene	2022/05/13	78	50 - 130	87	50 - 130	ND, RDL=0.0050	ug/g	NC	40
7992190	Benzo(b/j)fluoranthene	2022/05/13	94	50 - 130	100	50 - 130	ND, RDL=0.0050	ug/g	NC	40
7992190	Benzo(g,h,i)perylene	2022/05/13	88	50 - 130	89	50 - 130	ND, RDL=0.0050	ug/g	NC	40
7992190	Benzo(k)fluoranthene	2022/05/13	95	50 - 130	92	50 - 130	ND, RDL=0.0050	ug/g	NC	40
7992190	Chrysene	2022/05/13	102	50 - 130	103	50 - 130	ND, RDL=0.0050	ug/g	NC	40
7992190	Dibenzo(a,h)anthracene	2022/05/13	90	50 - 130	88	50 - 130	ND, RDL=0.0050	ug/g	NC	40
7992190	Fluoranthene	2022/05/13	104	50 - 130	104	50 - 130	ND, RDL=0.0050	ug/g	NC	40
7992190	Fluorene	2022/05/13	104	50 - 130	105	50 - 130	ND, RDL=0.0050	ug/g	NC	40
7992190	Indeno(1,2,3-cd)pyrene	2022/05/13	91	50 - 130	92	50 - 130	ND, RDL=0.0050	ug/g	NC	40
7992190	Naphthalene	2022/05/13	84	50 - 130	85	50 - 130	ND, RDL=0.0050	ug/g	NC	40
7992190	Phenanthrene	2022/05/13	98	50 - 130	97	50 - 130	ND, RDL=0.0050	ug/g	NC	40
7992190	Pyrene	2022/05/13	106	50 - 130	104	50 - 130	ND, RDL=0.0050	ug/g	NC	40

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7992244	Chromium (VI)	2022/05/13	85	70 - 130	95	80 - 120	ND, RDL=0.18	ug/g	3.4	35
7993068	F2 (C10-C16 Hydrocarbons)	2022/05/13	108	60 - 130	105	80 - 120	ND, RDL=10	ug/g	NC	30
7993068	F3 (C16-C34 Hydrocarbons)	2022/05/13	107	60 - 130	108	80 - 120	ND, RDL=50	ug/g	NC	30
7993068	F4 (C34-C50 Hydrocarbons)	2022/05/13	105	60 - 130	108	80 - 120	ND, RDL=50	ug/g	NC	30
7993312	WAD Cyanide (Free)	2022/05/13	93	75 - 125	94	80 - 120	ND, RDL=0.01	ug/g	NC	35
7994300	Available (CaCl2) pH	2022/05/13			100	97 - 103			1.0	N/A

N/A = Not Applicable

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

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

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

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

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

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

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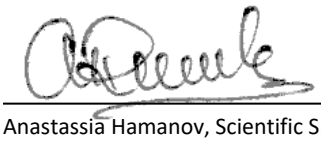
VALIDATION SIGNATURE PAGE

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



Anastassia Hamanov, Scientific Specialist

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

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Exceedance Summary Table – Reg153/04 T6-Soil/Ind-F

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

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Your Project #: BIGC-ENV-382C
Your C.O.C. #: 878466-01-01

Attention: Eileen Liu

B.I.G Consulting Inc.
12-5500 Tomken Road
Mississauga, ON
CANADA L4W 2Z4

Report Date: 2022/05/26
Report #: R7139520
Version: 3 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C2D3769
Received: 2022/05/17, 17:05

Sample Matrix: Water
Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum	5	N/A	2022/05/20	CAM SOP-00301	EPA 8270D m
1,3-Dichloropropene Sum	6	N/A	2022/05/24		EPA 8260C m
Chloride by Automated Colourimetry	5	N/A	2022/05/19	CAM SOP-00463	SM 23 4500-Cl E m
Chromium (VI) in Water	5	N/A	2022/05/19	CAM SOP-00436	EPA 7199 m
Free (WAD) Cyanide	5	N/A	2022/05/19	CAM SOP-00457	OMOE E3015 m
Petroleum Hydrocarbons F2-F4 in Water (1)	6	2022/05/19	2022/05/20	CAM SOP-00316	CCME PHC-CWS m
Mercury	5	2022/05/19	2022/05/19	CAM SOP-00453	EPA 7470A m
Dissolved Metals by ICPMS	5	N/A	2022/05/19	CAM SOP-00447	EPA 6020B m
PAH Compounds in Water by GC/MS (SIM)	5	2022/05/19	2022/05/20	CAM SOP-00318	EPA 8270D m
Volatile Organic Compounds and F1 PHCs	6	N/A	2022/05/20	CAM SOP-00230	EPA 8260C m

Remarks:

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

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

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

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Your Project #: BIGC-ENV-382C
Your C.O.C. #: 878466-01-01

Attention: Eileen Liu

B.I.G Consulting Inc.
12-5500 Tomken Road
Mississauga, ON
CANADA L4W 2Z4

Report Date: 2022/05/26
Report #: R7139520
Version: 3 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C2D3769

Received: 2022/05/17, 17:05

(1) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Deepthi Shaji, Project Manager
Email: Deepthi.Shaji@bureauveritas.com
Phone# (905)817-5700 Ext:7065843

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

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C2D3769
Report Date: 2022/05/26

B.I.G Consulting Inc.
Client Project #: BIGC-ENV-382C
Sampler Initials: MM

O.REG 153 METALS & INORGANICS PKG (WTR)

Bureau Veritas ID			SQN796		SQN797		SQN798		SQN800		
Sampling Date			2022/05/17 13:46		2022/05/17 12:00		2022/05/17 11:30		2022/05/17 09:40		
COC Number			878466-01-01		878466-01-01		878466-01-01		878466-01-01		
	UNITS	Criteria	BH/MW 101	RDL	BH/MW 102	RDL	BH/MW 103	RDL	BH/MW 105	RDL	QC Batch
Inorganics											
WAD Cyanide (Free)	ug/L	52	ND	1	ND	1	ND	1	ND	1	8004269
Dissolved Chloride (Cl-)	mg/L	790	230	3.0	150	2.0	36	1.0	480	6.0	8004289
Metals											
Chromium (VI)	ug/L	25	ND	0.50	ND	0.50	ND	0.50	ND	0.50	8004399
Mercury (Hg)	ug/L	0.1	ND	0.10	ND	0.10	ND	0.10	ND	0.10	8004503
Dissolved Antimony (Sb)	ug/L	6.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50	8004197
Dissolved Arsenic (As)	ug/L	25	2.1	1.0	12	1.0	10	1.0	2.2	1.0	8004197
Dissolved Barium (Ba)	ug/L	1000	100	2.0	64	2.0	56	2.0	100	2.0	8004197
Dissolved Beryllium (Be)	ug/L	4.0	ND	0.40	ND	0.40	ND	0.40	ND	0.40	8004197
Dissolved Boron (B)	ug/L	5000	220	10	680	10	1200	10	150	10	8004197
Dissolved Cadmium (Cd)	ug/L	2.1	ND	0.090	ND	0.090	ND	0.090	ND	0.090	8004197
Dissolved Chromium (Cr)	ug/L	50	ND	5.0	ND	5.0	ND	5.0	ND	5.0	8004197
Dissolved Cobalt (Co)	ug/L	3.8	1.3	0.50	1.3	0.50	0.63	0.50	ND	0.50	8004197
Dissolved Copper (Cu)	ug/L	69	2.4	0.90	1.6	0.90	2.7	0.90	1.3	0.90	8004197
Dissolved Lead (Pb)	ug/L	10	ND	0.50	ND	0.50	ND	0.50	ND	0.50	8004197
Dissolved Molybdenum (Mo)	ug/L	70	2.3	0.50	19	0.50	12	0.50	8.0	0.50	8004197
Dissolved Nickel (Ni)	ug/L	100	2.4	1.0	1.4	1.0	1.1	1.0	1.4	1.0	8004197
Dissolved Selenium (Se)	ug/L	10	ND	2.0	ND	2.0	ND	2.0	ND	2.0	8004197
Dissolved Silver (Ag)	ug/L	1.2	ND	0.090	ND	0.090	ND	0.090	ND	0.090	8004197
Dissolved Sodium (Na)	ug/L	490000	79000	100	110000	100	120000	100	230000	100	8004197
Dissolved Thallium (Tl)	ug/L	2.0	ND	0.050	ND	0.050	ND	0.050	ND	0.050	8004197
Dissolved Uranium (U)	ug/L	20	6.2	0.10	7.3	0.10	10	0.10	4.8	0.10	8004197
Dissolved Vanadium (V)	ug/L	6.2	0.56	0.50	ND	0.50	ND	0.50	ND	0.50	8004197
Dissolved Zinc (Zn)	ug/L	890	ND	5.0	ND	5.0	ND	5.0	ND	5.0	8004197

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 6: Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition
Potable Ground Water - All Types of Property Use
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

O.REG 153 METALS & INORGANICS PKG (WTR)

Bureau Veritas ID			SQN800			SQN801		
Sampling Date			2022/05/17 09:40			2022/05/17 13:00		
COC Number			878466-01-01			878466-01-01		
	UNITS	Criteria	BH/MW 105 Lab-Dup	RDL	QC Batch	DUP 1030	RDL	QC Batch
Inorganics								
WAD Cyanide (Free)	ug/L	52				ND	1	8004269
Dissolved Chloride (Cl-)	mg/L	790				34	1.0	8004289
Metals								
Chromium (VI)	ug/L	25				ND	0.50	8004399
Mercury (Hg)	ug/L	0.1				ND	0.10	8004503
Dissolved Antimony (Sb)	ug/L	6.0	ND	0.50	8004197	ND	0.50	8004197
Dissolved Arsenic (As)	ug/L	25	2.4	1.0	8004197	8.9	1.0	8004197
Dissolved Barium (Ba)	ug/L	1000	110	2.0	8004197	59	2.0	8004197
Dissolved Beryllium (Be)	ug/L	4.0	ND	0.40	8004197	ND	0.40	8004197
Dissolved Boron (B)	ug/L	5000	150	10	8004197	1100	10	8004197
Dissolved Cadmium (Cd)	ug/L	2.1	ND	0.090	8004197	ND	0.090	8004197
Dissolved Chromium (Cr)	ug/L	50	ND	5.0	8004197	ND	5.0	8004197
Dissolved Cobalt (Co)	ug/L	3.8	ND	0.50	8004197	0.68	0.50	8004197
Dissolved Copper (Cu)	ug/L	69	1.2	0.90	8004197	2.9	0.90	8004197
Dissolved Lead (Pb)	ug/L	10	ND	0.50	8004197	ND	0.50	8004197
Dissolved Molybdenum (Mo)	ug/L	70	8.2	0.50	8004197	11	0.50	8004197
Dissolved Nickel (Ni)	ug/L	100	1.3	1.0	8004197	1.0	1.0	8004197
Dissolved Selenium (Se)	ug/L	10	ND	2.0	8004197	ND	2.0	8004197
Dissolved Silver (Ag)	ug/L	1.2	ND	0.090	8004197	ND	0.090	8004197
Dissolved Sodium (Na)	ug/L	490000	240000	100	8004197	130000	100	8004197
Dissolved Thallium (Tl)	ug/L	2.0	ND	0.050	8004197	0.050	0.050	8004197
Dissolved Uranium (U)	ug/L	20	4.8	0.10	8004197	8.2	0.10	8004197
Dissolved Vanadium (V)	ug/L	6.2	ND	0.50	8004197	ND	0.50	8004197
Dissolved Zinc (Zn)	ug/L	890	ND	5.0	8004197	ND	5.0	8004197

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 6: Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition
Potable Ground Water - All Types of Property Use
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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O.REG 153 PAHS (WATER)

Bureau Veritas ID			SQN796	SQN797	SQN798	SQN800	SQN801		
Sampling Date			2022/05/17 13:46	2022/05/17 12:00	2022/05/17 11:30	2022/05/17 09:40	2022/05/17 13:00		
COC Number			878466-01-01	878466-01-01	878466-01-01	878466-01-01	878466-01-01		
	UNITS	Criteria	BH/MW 101	BH/MW 102	BH/MW 103	BH/MW 105	DUP 1030	RDL	QC Batch
Calculated Parameters									
Methylnaphthalene, 2-(1-)	ug/L	-	ND	ND	ND	ND	ND	0.071	8001681
Polyaromatic Hydrocarbons									
Acenaphthene	ug/L	4.1	ND	ND	ND	ND	ND	0.050	8005375
Acenaphthylene	ug/L	1	ND	ND	ND	ND	ND	0.050	8005375
Anthracene	ug/L	1	ND	ND	ND	ND	ND	0.050	8005375
Benzo(a)anthracene	ug/L	1.0	ND	ND	ND	ND	ND	0.050	8005375
Benzo(a)pyrene	ug/L	0.01	ND	ND	ND	ND	ND	0.0090	8005375
Benzo(b/j)fluoranthene	ug/L	0.1	ND	ND	ND	ND	ND	0.050	8005375
Benzo(g,h,i)perylene	ug/L	0.2	ND	ND	ND	ND	ND	0.050	8005375
Benzo(k)fluoranthene	ug/L	0.1	ND	ND	ND	ND	ND	0.050	8005375
Chrysene	ug/L	0.1	ND	ND	ND	ND	ND	0.050	8005375
Dibenzo(a,h)anthracene	ug/L	0.2	ND	ND	ND	ND	ND	0.050	8005375
Fluoranthene	ug/L	0.41	ND	ND	ND	ND	ND	0.050	8005375
Fluorene	ug/L	120	ND	ND	ND	ND	ND	0.050	8005375
Indeno(1,2,3-cd)pyrene	ug/L	0.2	ND	ND	ND	ND	ND	0.050	8005375
1-Methylnaphthalene	ug/L	3.2	ND	ND	ND	ND	ND	0.050	8005375
2-Methylnaphthalene	ug/L	3.2	ND	ND	ND	ND	ND	0.050	8005375
Naphthalene	ug/L	7	ND	ND	ND	ND	ND	0.050	8005375
Phenanthrene	ug/L	1	ND	ND	ND	ND	ND	0.030	8005375
Pyrene	ug/L	4.1	ND	ND	ND	ND	ND	0.050	8005375
Surrogate Recovery (%)									
D10-Anthracene	%	-	88	87	91	81	86		8005375
D14-Terphenyl (FS)	%	-	86	86	85	62	84		8005375
D8-Acenaphthylene	%	-	87	86	84	81	85		8005375

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 6: Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition
Potable Ground Water - All Types of Property Use
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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

Bureau Veritas ID			SQN796	SQN797	SQN798	SQN800	SQN801		
Sampling Date			2022/05/17 13:46	2022/05/17 12:00	2022/05/17 11:30	2022/05/17 09:40	2022/05/17 13:00		
COC Number			878466-01-01	878466-01-01	878466-01-01	878466-01-01	878466-01-01		
	UNITS	Criteria	BH/MW 101	BH/MW 102	BH/MW 103	BH/MW 105	DUP 1030	RDL	QC Batch
Calculated Parameters									
1,3-Dichloropropene (cis+trans)	ug/L	0.5	ND	ND	ND	ND	ND	0.50	8001638
Volatile Organics									
Acetone (2-Propanone)	ug/L	2700	ND	ND	ND	ND	ND	10	8005533
Benzene	ug/L	0.5	ND	ND	ND	ND	ND	0.17	8005533
Bromodichloromethane	ug/L	16.0	ND	ND	ND	ND	ND	0.50	8005533
Bromoform	ug/L	5	ND	ND	ND	ND	ND	1.0	8005533
Bromomethane	ug/L	0.89	ND	ND	ND	ND	ND	0.50	8005533
Carbon Tetrachloride	ug/L	0.2	ND	ND	ND	ND	ND	0.20	8005533
Chlorobenzene	ug/L	30	ND	ND	ND	ND	ND	0.20	8005533
Chloroform	ug/L	2	ND	ND	ND	ND	ND	0.20	8005533
Dibromochloromethane	ug/L	25.0	ND	ND	ND	ND	ND	0.50	8005533
1,2-Dichlorobenzene	ug/L	3.0	ND	ND	ND	ND	ND	0.50	8005533
1,3-Dichlorobenzene	ug/L	59	ND	ND	ND	ND	ND	0.50	8005533
1,4-Dichlorobenzene	ug/L	0.5	ND	ND	ND	ND	ND	0.50	8005533
Dichlorodifluoromethane (FREON 12)	ug/L	590	ND	ND	ND	ND	ND	1.0	8005533
1,1-Dichloroethane	ug/L	5	ND	ND	ND	ND	ND	0.20	8005533
1,2-Dichloroethane	ug/L	0.5	ND	ND	ND	ND	ND	0.50	8005533
1,1-Dichloroethylene	ug/L	0.5	ND	ND	ND	ND	ND	0.20	8005533
cis-1,2-Dichloroethylene	ug/L	1.6	ND	ND	ND	ND	ND	0.50	8005533
trans-1,2-Dichloroethylene	ug/L	1.6	ND	ND	ND	ND	ND	0.50	8005533
1,2-Dichloropropane	ug/L	0.58	ND	ND	ND	ND	ND	0.20	8005533
cis-1,3-Dichloropropene	ug/L	0.5	ND	ND	ND	ND	ND	0.30	8005533
trans-1,3-Dichloropropene	ug/L	0.5	ND	ND	ND	ND	ND	0.40	8005533
Ethylbenzene	ug/L	2.4	ND	ND	ND	ND	ND	0.20	8005533
Ethylene Dibromide	ug/L	0.2	ND	ND	ND	ND	ND	0.20	8005533
Hexane	ug/L	5	ND	ND	ND	ND	ND	1.0	8005533
Methylene Chloride(Dichloromethane)	ug/L	26	ND	ND	ND	ND	ND	2.0	8005533
Methyl Ethyl Ketone (2-Butanone)	ug/L	1800	ND	ND	ND	ND	ND	10	8005533

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 6: Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition
Potable Ground Water - All Types of Property Use
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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

Bureau Veritas ID			SQN796	SQN797	SQN798	SQN800	SQN801		
Sampling Date			2022/05/17 13:46	2022/05/17 12:00	2022/05/17 11:30	2022/05/17 09:40	2022/05/17 13:00		
COC Number			878466-01-01	878466-01-01	878466-01-01	878466-01-01	878466-01-01		
	UNITS	Criteria	BH/MW 101	BH/MW 102	BH/MW 103	BH/MW 105	DUP 1030	RDL	QC Batch
Methyl Isobutyl Ketone	ug/L	640	ND	ND	ND	ND	ND	5.0	8005533
Methyl t-butyl ether (MTBE)	ug/L	15	ND	ND	ND	ND	ND	0.50	8005533
Styrene	ug/L	5.4	ND	ND	ND	ND	ND	0.50	8005533
1,1,1,2-Tetrachloroethane	ug/L	1.1	ND	ND	ND	ND	ND	0.50	8005533
1,1,2,2-Tetrachloroethane	ug/L	0.5	ND	ND	ND	ND	ND	0.50	8005533
Tetrachloroethylene	ug/L	0.5	ND	ND	ND	ND	ND	0.20	8005533
Toluene	ug/L	24	ND	ND	ND	ND	ND	0.20	8005533
1,1,1-Trichloroethane	ug/L	23	ND	ND	ND	ND	ND	0.20	8005533
1,1,2-Trichloroethane	ug/L	0.5	ND	ND	ND	ND	ND	0.50	8005533
Trichloroethylene	ug/L	0.5	ND	ND	ND	ND	ND	0.20	8005533
Trichlorofluoromethane (FREON 11)	ug/L	150	ND	ND	ND	ND	ND	0.50	8005533
Vinyl Chloride	ug/L	0.5	ND	ND	ND	ND	ND	0.20	8005533
p+m-Xylene	ug/L	-	ND	ND	ND	ND	ND	0.20	8005533
o-Xylene	ug/L	-	ND	ND	ND	ND	ND	0.20	8005533
Total Xylenes	ug/L	72	ND	ND	ND	ND	ND	0.20	8005533
F1 (C6-C10)	ug/L	420	ND	ND	ND	ND	ND	25	8005533
F1 (C6-C10) - BTEX	ug/L	420	ND	ND	ND	ND	ND	25	8005533
F2-F4 Hydrocarbons									
F2 (C10-C16 Hydrocarbons)	ug/L	150	ND	ND	ND	ND	ND	100	8005310
F3 (C16-C34 Hydrocarbons)	ug/L	500	ND	ND	ND	ND	ND	200	8005310
F4 (C34-C50 Hydrocarbons)	ug/L	500	ND	ND	ND	ND	ND	200	8005310
Reached Baseline at C50	ug/L	-	Yes	Yes	Yes	Yes	Yes		8005310
Surrogate Recovery (%)									
4-Bromofluorobenzene	%	-	89	89	89	89	89		8005533
D4-1,2-Dichloroethane	%	-	111	108	111	110	111		8005533
D8-Toluene	%	-	95	96	96	96	96		8005533

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 6: Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition
Potable Ground Water - All Types of Property Use
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

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

Bureau Veritas ID			SQN803		
Sampling Date			2022/05/17		
COC Number			878466-01-01		
	UNITS	Criteria	TRIP BLANK	RDL	QC Batch
Calculated Parameters					
1,3-Dichloropropene (cis+trans)	ug/L	0.5	ND	0.50	8001638
Volatile Organics					
Acetone (2-Propanone)	ug/L	2700	ND	10	8005533
Benzene	ug/L	0.5	ND	0.17	8005533
Bromodichloromethane	ug/L	16.0	ND	0.50	8005533
Bromoform	ug/L	5	ND	1.0	8005533
Bromomethane	ug/L	0.89	ND	0.50	8005533
Carbon Tetrachloride	ug/L	0.2	ND	0.20	8005533
Chlorobenzene	ug/L	30	ND	0.20	8005533
Chloroform	ug/L	2	ND	0.20	8005533
Dibromochloromethane	ug/L	25.0	ND	0.50	8005533
1,2-Dichlorobenzene	ug/L	3.0	ND	0.50	8005533
1,3-Dichlorobenzene	ug/L	59	ND	0.50	8005533
1,4-Dichlorobenzene	ug/L	0.5	ND	0.50	8005533
Dichlorodifluoromethane (FREON 12)	ug/L	590	ND	1.0	8005533
1,1-Dichloroethane	ug/L	5	ND	0.20	8005533
1,2-Dichloroethane	ug/L	0.5	ND	0.50	8005533
1,1-Dichloroethylene	ug/L	0.5	ND	0.20	8005533
cis-1,2-Dichloroethylene	ug/L	1.6	ND	0.50	8005533
trans-1,2-Dichloroethylene	ug/L	1.6	ND	0.50	8005533
1,2-Dichloropropane	ug/L	0.58	ND	0.20	8005533
cis-1,3-Dichloropropene	ug/L	0.5	ND	0.30	8005533
trans-1,3-Dichloropropene	ug/L	0.5	ND	0.40	8005533
Ethylbenzene	ug/L	2.4	ND	0.20	8005533
Ethylene Dibromide	ug/L	0.2	ND	0.20	8005533
Hexane	ug/L	5	ND	1.0	8005533

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 6: Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition
Potable Ground Water - All Types of Property Use
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

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

Bureau Veritas ID			SQN803		
Sampling Date			2022/05/17		
COC Number			878466-01-01		
	UNITS	Criteria	TRIP BLANK	RDL	QC Batch
Methylene Chloride(Dichloromethane)	ug/L	26	ND	2.0	8005533
Methyl Ethyl Ketone (2-Butanone)	ug/L	1800	ND	10	8005533
Methyl Isobutyl Ketone	ug/L	640	ND	5.0	8005533
Methyl t-butyl ether (MTBE)	ug/L	15	ND	0.50	8005533
Styrene	ug/L	5.4	ND	0.50	8005533
1,1,1,2-Tetrachloroethane	ug/L	1.1	ND	0.50	8005533
1,1,2,2-Tetrachloroethane	ug/L	0.5	ND	0.50	8005533
Tetrachloroethylene	ug/L	0.5	ND	0.20	8005533
Toluene	ug/L	24	ND	0.20	8005533
1,1,1-Trichloroethane	ug/L	23	ND	0.20	8005533
1,1,2-Trichloroethane	ug/L	0.5	ND	0.50	8005533
Trichloroethylene	ug/L	0.5	ND	0.20	8005533
Trichlorofluoromethane (FREON 11)	ug/L	150	ND	0.50	8005533
Vinyl Chloride	ug/L	0.5	ND	0.20	8005533
p+m-Xylene	ug/L	-	ND	0.20	8005533
o-Xylene	ug/L	-	ND	0.20	8005533
Total Xylenes	ug/L	72	ND	0.20	8005533
F1 (C6-C10)	ug/L	420	ND	25	8005533
F1 (C6-C10) - BTEX	ug/L	420	ND	25	8005533
F2-F4 Hydrocarbons					
F2 (C10-C16 Hydrocarbons)	ug/L	150	ND	100	8005310
F3 (C16-C34 Hydrocarbons)	ug/L	500	ND	200	8005310
F4 (C34-C50 Hydrocarbons)	ug/L	500	ND	200	8005310
Reached Baseline at C50	ug/L	-	Yes		8005310
Surrogate Recovery (%)					
4-Bromofluorobenzene	%	-	89		8005533
D4-1,2-Dichloroethane	%	-	114		8005533

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 6: Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition
Potable Ground Water - All Types of Property Use
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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

Bureau Veritas ID			SQN803		
Sampling Date			2022/05/17		
COC Number			878466-01-01		
	UNITS	Criteria	TRIP BLANK	RDL	QC Batch
D8-Toluene	%	-	96		8005533

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 6: Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition
Potable Ground Water - All Types of Property Use

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GENERAL COMMENTS

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

Package 1	14.0°C

Revised report [2022/05/26] - Split report as per client request.

Sample SQN803 [TRIP BLANK] : F24FID Analysis: No expiry date was provided for this sample.

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8005375	D10-Anthracene	2022/05/19	84	50 - 130	88	50 - 130	83	%		
8005375	D14-Terphenyl (FS)	2022/05/19	91	50 - 130	84	50 - 130	83	%		
8005375	D8-Acenaphthylene	2022/05/19	87	50 - 130	82	50 - 130	77	%		
8005533	4-Bromofluorobenzene	2022/05/20	94	70 - 130	94	70 - 130	90	%		
8005533	D4-1,2-Dichloroethane	2022/05/20	112	70 - 130	109	70 - 130	109	%		
8005533	D8-Toluene	2022/05/20	101	70 - 130	102	70 - 130	97	%		
8004197	Dissolved Antimony (Sb)	2022/05/19	109	80 - 120	101	80 - 120	ND, RDL=0.50	ug/L	NC	20
8004197	Dissolved Arsenic (As)	2022/05/19	104	80 - 120	98	80 - 120	ND, RDL=1.0	ug/L	8.9	20
8004197	Dissolved Barium (Ba)	2022/05/19	104	80 - 120	95	80 - 120	ND, RDL=2.0	ug/L	4.0	20
8004197	Dissolved Beryllium (Be)	2022/05/19	103	80 - 120	93	80 - 120	ND, RDL=0.40	ug/L	NC	20
8004197	Dissolved Boron (B)	2022/05/19	102	80 - 120	87	80 - 120	ND, RDL=10	ug/L	1.2	20
8004197	Dissolved Cadmium (Cd)	2022/05/19	104	80 - 120	99	80 - 120	ND, RDL=0.090	ug/L	NC	20
8004197	Dissolved Chromium (Cr)	2022/05/19	102	80 - 120	97	80 - 120	ND, RDL=5.0	ug/L	NC	20
8004197	Dissolved Cobalt (Co)	2022/05/19	101	80 - 120	98	80 - 120	ND, RDL=0.50	ug/L	NC	20
8004197	Dissolved Copper (Cu)	2022/05/19	103	80 - 120	98	80 - 120	ND, RDL=0.90	ug/L	4.6	20
8004197	Dissolved Lead (Pb)	2022/05/19	101	80 - 120	97	80 - 120	ND, RDL=0.50	ug/L	NC	20
8004197	Dissolved Molybdenum (Mo)	2022/05/19	111	80 - 120	99	80 - 120	ND, RDL=0.50	ug/L	2.0	20
8004197	Dissolved Nickel (Ni)	2022/05/19	97	80 - 120	95	80 - 120	ND, RDL=1.0	ug/L	3.6	20
8004197	Dissolved Selenium (Se)	2022/05/19	102	80 - 120	99	80 - 120	ND, RDL=2.0	ug/L	NC	20
8004197	Dissolved Silver (Ag)	2022/05/19	106	80 - 120	102	80 - 120	ND, RDL=0.090	ug/L	NC	20
8004197	Dissolved Sodium (Na)	2022/05/19	NC	80 - 120	100	80 - 120	ND, RDL=100	ug/L	1.8	20
8004197	Dissolved Thallium (Tl)	2022/05/19	105	80 - 120	101	80 - 120	ND, RDL=0.050	ug/L	NC	20
8004197	Dissolved Uranium (U)	2022/05/19	105	80 - 120	99	80 - 120	ND, RDL=0.10	ug/L	0.17	20
8004197	Dissolved Vanadium (V)	2022/05/19	104	80 - 120	97	80 - 120	ND, RDL=0.50	ug/L	NC	20
8004197	Dissolved Zinc (Zn)	2022/05/19	97	80 - 120	94	80 - 120	ND, RDL=5.0	ug/L	NC	20
8004269	WAD Cyanide (Free)	2022/05/19	88	80 - 120	91	80 - 120	ND,RDL=1	ug/L	NC	20
8004289	Dissolved Chloride (Cl-)	2022/05/19	NC	80 - 120	105	80 - 120	ND, RDL=1.0	mg/L	1.6	20
8004399	Chromium (VI)	2022/05/19	99	80 - 120	101	80 - 120	ND, RDL=0.50	ug/L	NC	20
8004503	Mercury (Hg)	2022/05/19	93	75 - 125	94	80 - 120	ND, RDL=0.10	ug/L	NC	20
8005310	F2 (C10-C16 Hydrocarbons)	2022/05/20	NC	60 - 130	99	60 - 130	ND, RDL=100	ug/L	NC	30
8005310	F3 (C16-C34 Hydrocarbons)	2022/05/20	NC (1)	60 - 130	97	60 - 130	ND, RDL=200	ug/L	NC	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8005310	F4 (C34-C50 Hydrocarbons)	2022/05/20	NC	60 - 130	94	60 - 130	ND, RDL=200	ug/L	NC	30
8005375	1-Methylnaphthalene	2022/05/20	102	50 - 130	107	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	2-Methylnaphthalene	2022/05/20	95	50 - 130	100	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	Acenaphthene	2022/05/20	89	50 - 130	100	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	Acenaphthylene	2022/05/20	90	50 - 130	92	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	Anthracene	2022/05/20	89	50 - 130	97	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	Benzo(a)anthracene	2022/05/20	103	50 - 130	106	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	Benzo(a)pyrene	2022/05/20	89	50 - 130	94	50 - 130	ND, RDL=0.0090	ug/L	NC	30
8005375	Benzo(b/j)fluoranthene	2022/05/20	98	50 - 130	104	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	Benzo(g,h,i)perylene	2022/05/20	106	50 - 130	115	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	Benzo(k)fluoranthene	2022/05/20	97	50 - 130	102	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	Chrysene	2022/05/20	102	50 - 130	108	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	Dibenzo(a,h)anthracene	2022/05/20	103	50 - 130	111	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	Fluoranthene	2022/05/20	108	50 - 130	111	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	Fluorene	2022/05/20	94	50 - 130	98	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	Indeno(1,2,3-cd)pyrene	2022/05/20	107	50 - 130	113	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	Naphthalene	2022/05/20	85	50 - 130	89	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	Phenanthrene	2022/05/20	98	50 - 130	102	50 - 130	ND, RDL=0.030	ug/L	NC	30
8005375	Pyrene	2022/05/20	104	50 - 130	108	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005533	1,1,1,2-Tetrachloroethane	2022/05/20	95	70 - 130	99	70 - 130	ND, RDL=0.50	ug/L	NC	30
8005533	1,1,1-Trichloroethane	2022/05/20	93	70 - 130	99	70 - 130	ND, RDL=0.20	ug/L	NC	30
8005533	1,1,2,2-Tetrachloroethane	2022/05/20	106	70 - 130	107	70 - 130	ND, RDL=0.50	ug/L	NC	30
8005533	1,1,2-Trichloroethane	2022/05/20	111	70 - 130	112	70 - 130	ND, RDL=0.50	ug/L	NC	30
8005533	1,1-Dichloroethane	2022/05/20	96	70 - 130	100	70 - 130	ND, RDL=0.20	ug/L	NC	30
8005533	1,1-Dichloroethylene	2022/05/20	97	70 - 130	102	70 - 130	ND, RDL=0.20	ug/L	NC	30
8005533	1,2-Dichlorobenzene	2022/05/20	97	70 - 130	102	70 - 130	ND, RDL=0.50	ug/L	NC	30
8005533	1,2-Dichloroethane	2022/05/20	101	70 - 130	103	70 - 130	ND, RDL=0.50	ug/L	NC	30
8005533	1,2-Dichloropropane	2022/05/20	98	70 - 130	102	70 - 130	ND, RDL=0.20	ug/L	NC	30
8005533	1,3-Dichlorobenzene	2022/05/20	93	70 - 130	99	70 - 130	ND, RDL=0.50	ug/L	NC	30
8005533	1,4-Dichlorobenzene	2022/05/20	109	70 - 130	116	70 - 130	ND, RDL=0.50	ug/L	NC	30
8005533	Acetone (2-Propanone)	2022/05/20	113	60 - 140	112	60 - 140	ND, RDL=10	ug/L	6.9	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8005533	Benzene	2022/05/20	93	70 - 130	96	70 - 130	ND, RDL=0.17	ug/L	NC	30
8005533	Bromodichloromethane	2022/05/20	100	70 - 130	103	70 - 130	ND, RDL=0.50	ug/L	NC	30
8005533	Bromoform	2022/05/20	95	70 - 130	96	70 - 130	ND, RDL=1.0	ug/L	NC	30
8005533	Bromomethane	2022/05/20	98	60 - 140	102	60 - 140	ND, RDL=0.50	ug/L	NC	30
8005533	Carbon Tetrachloride	2022/05/20	89	70 - 130	96	70 - 130	ND, RDL=0.20	ug/L	NC	30
8005533	Chlorobenzene	2022/05/20	96	70 - 130	100	70 - 130	ND, RDL=0.20	ug/L	NC	30
8005533	Chloroform	2022/05/20	97	70 - 130	101	70 - 130	ND, RDL=0.20	ug/L	NC	30
8005533	cis-1,2-Dichloroethylene	2022/05/20	97	70 - 130	101	70 - 130	ND, RDL=0.50	ug/L	NC	30
8005533	cis-1,3-Dichloropropene	2022/05/20	88	70 - 130	90	70 - 130	ND, RDL=0.30	ug/L	NC	30
8005533	Dibromochloromethane	2022/05/20	97	70 - 130	99	70 - 130	ND, RDL=0.50	ug/L	NC	30
8005533	Dichlorodifluoromethane (FREON 12)	2022/05/20	79	60 - 140	85	60 - 140	ND, RDL=1.0	ug/L	NC	30
8005533	Ethylbenzene	2022/05/20	86	70 - 130	91	70 - 130	ND, RDL=0.20	ug/L	NC	30
8005533	Ethylene Dibromide	2022/05/20	101	70 - 130	102	70 - 130	ND, RDL=0.20	ug/L	NC	30
8005533	F1 (C6-C10) - BTEX	2022/05/20					ND, RDL=25	ug/L	NC	30
8005533	F1 (C6-C10)	2022/05/20	85	60 - 140	93	60 - 140	ND, RDL=25	ug/L	NC	30
8005533	Hexane	2022/05/20	98	70 - 130	103	70 - 130	ND, RDL=1.0	ug/L	NC	30
8005533	Methyl Ethyl Ketone (2-Butanone)	2022/05/20	118	60 - 140	116	60 - 140	ND, RDL=10	ug/L	NC	30
8005533	Methyl Isobutyl Ketone	2022/05/20	100	70 - 130	101	70 - 130	ND, RDL=5.0	ug/L	NC	30
8005533	Methyl t-butyl ether (MTBE)	2022/05/20	86	70 - 130	90	70 - 130	ND, RDL=0.50	ug/L	NC	30
8005533	Methylene Chloride(Dichloromethane)	2022/05/20	108	70 - 130	110	70 - 130	ND, RDL=2.0	ug/L	NC	30
8005533	o-Xylene	2022/05/20	87	70 - 130	91	70 - 130	ND, RDL=0.20	ug/L	NC	30
8005533	p+m-Xylene	2022/05/20	89	70 - 130	94	70 - 130	ND, RDL=0.20	ug/L	NC	30
8005533	Styrene	2022/05/20	94	70 - 130	98	70 - 130	ND, RDL=0.50	ug/L	NC	30
8005533	Tetrachloroethylene	2022/05/20	88	70 - 130	94	70 - 130	ND, RDL=0.20	ug/L	NC	30
8005533	Toluene	2022/05/20	88	70 - 130	92	70 - 130	ND, RDL=0.20	ug/L	12	30
8005533	Total Xylenes	2022/05/20					ND, RDL=0.20	ug/L	NC	30
8005533	trans-1,2-Dichloroethylene	2022/05/20	98	70 - 130	103	70 - 130	ND, RDL=0.50	ug/L	NC	30
8005533	trans-1,3-Dichloropropene	2022/05/20	100	70 - 130	100	70 - 130	ND, RDL=0.40	ug/L	NC	30
8005533	Trichloroethylene	2022/05/20	95	70 - 130	101	70 - 130	ND, RDL=0.20	ug/L	NC	30
8005533	Trichlorofluoromethane (FREON 11)	2022/05/20	96	70 - 130	102	70 - 130	ND, RDL=0.50	ug/L	NC	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8005533	Vinyl Chloride	2022/05/20	95	70 - 130	100	70 - 130	ND, RDL=0.20	ug/L	NC	30

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

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

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

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

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

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

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

(1) Matrix Spike recoveries were not calculated (NC) because of high concentration of target compounds in the parent sample. The relative difference between the spiked and un-spiked concentrations is not sufficiently significant to permit a reliable recovery calculation

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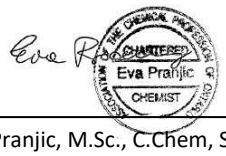
VALIDATION SIGNATURE PAGE

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



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

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

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Exceedance Summary Table – Reg153/04 T6-GW

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

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Your Project #: BIGC-ENV-382C
Your C.O.C. #: 878466-01-01

Attention: Eileen Liu

B.I.G Consulting Inc.
12-5500 Tomken Road
Mississauga, ON
CANADA L4W 2Z4

Report Date: 2022/05/26
Report #: R7139684
Version: 5 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C2D3769
Received: 2022/05/17, 17:05

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum	2	N/A	2022/05/20	CAM SOP-00301	EPA 8270D m
1,3-Dichloropropene Sum	2	N/A	2022/05/24		EPA 8260C m
Chloride by Automated Colourimetry	2	N/A	2022/05/19	CAM SOP-00463	SM 23 4500-Cl E m
Chromium (VI) in Water	2	N/A	2022/05/19	CAM SOP-00436	EPA 7199 m
Free (WAD) Cyanide	2	N/A	2022/05/19	CAM SOP-00457	OMOE E3015 m
Petroleum Hydrocarbons F2-F4 in Water (1)	2	2022/05/19	2022/05/20	CAM SOP-00316	CCME PHC-CWS m
Mercury	2	2022/05/19	2022/05/19	CAM SOP-00453	EPA 7470A m
Dissolved Metals by ICPMS	2	N/A	2022/05/19	CAM SOP-00447	EPA 6020B m
PAH Compounds in Water by GC/MS (SIM)	2	2022/05/19	2022/05/20	CAM SOP-00318	EPA 8270D m
Volatile Organic Compounds and F1 PHCs	2	N/A	2022/05/20	CAM SOP-00230	EPA 8260C m

Remarks:

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

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

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

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Your Project #: BIGC-ENV-382C
Your C.O.C. #: 878466-01-01

Attention: Eileen Liu

B.I.G Consulting Inc.
12-5500 Tomken Road
Mississauga, ON
CANADA L4W 2Z4

Report Date: 2022/05/26
Report #: R7139684
Version: 5 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C2D3769

Received: 2022/05/17, 17:05

(1) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Encryption Key

Deepthi Shaji
Project Manager
26 May 2022 16:33:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Deepthi Shaji, Project Manager
Email: Deepthi.Shaji@bureauveritas.com
Phone# (905)817-5700 Ext:7065843

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

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

O.REG 153 PAHS (WATER)

Bureau Veritas ID			SQN799	SQN802		
Sampling Date			2022/05/17 10:30	2022/05/17 10:50		
COC Number			878466-01-01	878466-01-01		
	UNITS	Criteria	BH/MW 104	DUP 1040	RDL	QC Batch
Calculated Parameters						
Methylnaphthalene, 2-(1-)	ug/L	-	ND	ND	0.071	8001681
Polyaromatic Hydrocarbons						
Acenaphthene	ug/L	4.1	ND	ND	0.050	8005375
Acenaphthylene	ug/L	1	ND	ND	0.050	8005375
Anthracene	ug/L	1	ND	ND	0.050	8005375
Benzo(a)anthracene	ug/L	1.0	ND	ND	0.050	8005375
Benzo(a)pyrene	ug/L	0.01	ND	ND	0.0090	8005375
Benzo(b/j)fluoranthene	ug/L	0.1	ND	ND	0.050	8005375
Benzo(g,h,i)perylene	ug/L	0.2	ND	ND	0.050	8005375
Benzo(k)fluoranthene	ug/L	0.1	ND	ND	0.050	8005375
Chrysene	ug/L	0.1	ND	ND	0.050	8005375
Dibenzo(a,h)anthracene	ug/L	0.2	ND	ND	0.050	8005375
Fluoranthene	ug/L	0.41	ND	ND	0.050	8005375
Fluorene	ug/L	120	ND	ND	0.050	8005375
Indeno(1,2,3-cd)pyrene	ug/L	0.2	ND	ND	0.050	8005375
1-Methylnaphthalene	ug/L	3.2	ND	ND	0.050	8005375
2-Methylnaphthalene	ug/L	3.2	ND	ND	0.050	8005375
Naphthalene	ug/L	7	ND	ND	0.050	8005375
Phenanthrene	ug/L	1	ND	ND	0.030	8005375
Pyrene	ug/L	4.1	ND	ND	0.050	8005375
Surrogate Recovery (%)						
D10-Anthracene	%	-	90	89		8005375
D14-Terphenyl (FS)	%	-	83	77		8005375
D8-Acenaphthylene	%	-	88	88		8005375

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 6: Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition
Potable Ground Water - All Types of Property Use
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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

Bureau Veritas ID			SQN799	SQN802		
Sampling Date			2022/05/17 10:30	2022/05/17 10:50		
COC Number			878466-01-01	878466-01-01		
	UNITS	Criteria	BH/MW 104	DUP 1040	RDL	QC Batch
Calculated Parameters						
1,3-Dichloropropene (cis+trans)	ug/L	0.5	ND	ND	0.50	8001638
Volatile Organics						
Acetone (2-Propanone)	ug/L	2700	ND	ND	10	8005533
Benzene	ug/L	0.5	ND	ND	0.17	8005533
Bromodichloromethane	ug/L	16.0	ND	ND	0.50	8005533
Bromoform	ug/L	5	ND	ND	1.0	8005533
Bromomethane	ug/L	0.89	ND	ND	0.50	8005533
Carbon Tetrachloride	ug/L	0.2	ND	ND	0.20	8005533
Chlorobenzene	ug/L	30	ND	ND	0.20	8005533
Chloroform	ug/L	2	ND	ND	0.20	8005533
Dibromochloromethane	ug/L	25.0	ND	ND	0.50	8005533
1,2-Dichlorobenzene	ug/L	3.0	ND	ND	0.50	8005533
1,3-Dichlorobenzene	ug/L	59	ND	ND	0.50	8005533
1,4-Dichlorobenzene	ug/L	0.5	ND	ND	0.50	8005533
Dichlorodifluoromethane (FREON 12)	ug/L	590	ND	ND	1.0	8005533
1,1-Dichloroethane	ug/L	5	ND	ND	0.20	8005533
1,2-Dichloroethane	ug/L	0.5	ND	ND	0.50	8005533
1,1-Dichloroethylene	ug/L	0.5	ND	ND	0.20	8005533
cis-1,2-Dichloroethylene	ug/L	1.6	ND	ND	0.50	8005533
trans-1,2-Dichloroethylene	ug/L	1.6	ND	ND	0.50	8005533
1,2-Dichloropropane	ug/L	0.58	ND	ND	0.20	8005533
cis-1,3-Dichloropropene	ug/L	0.5	ND	ND	0.30	8005533
trans-1,3-Dichloropropene	ug/L	0.5	ND	ND	0.40	8005533
Ethylbenzene	ug/L	2.4	ND	ND	0.20	8005533
Ethylene Dibromide	ug/L	0.2	ND	ND	0.20	8005533
Hexane	ug/L	5	ND	ND	1.0	8005533

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
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O.REG 153 VOCS BY HS & F1-F4 (WATER)

Bureau Veritas ID			SQN799	SQN802		
Sampling Date			2022/05/17 10:30	2022/05/17 10:50		
COC Number			878466-01-01	878466-01-01		
	UNITS	Criteria	BH/MW 104	DUP 1040	RDL	QC Batch
Methylene Chloride(Dichloromethane)	ug/L	26	ND	ND	2.0	8005533
Methyl Ethyl Ketone (2-Butanone)	ug/L	1800	ND	ND	10	8005533
Methyl Isobutyl Ketone	ug/L	640	ND	ND	5.0	8005533
Methyl t-butyl ether (MTBE)	ug/L	15	ND	ND	0.50	8005533
Styrene	ug/L	5.4	ND	ND	0.50	8005533
1,1,1,2-Tetrachloroethane	ug/L	1.1	ND	ND	0.50	8005533
1,1,2,2-Tetrachloroethane	ug/L	0.5	ND	ND	0.50	8005533
Tetrachloroethylene	ug/L	0.5	ND	ND	0.20	8005533
Toluene	ug/L	24	ND	ND	0.20	8005533
1,1,1-Trichloroethane	ug/L	23	ND	ND	0.20	8005533
1,1,2-Trichloroethane	ug/L	0.5	ND	ND	0.50	8005533
Trichloroethylene	ug/L	0.5	ND	ND	0.20	8005533
Trichlorofluoromethane (FREON 11)	ug/L	150	ND	ND	0.50	8005533
Vinyl Chloride	ug/L	0.5	ND	ND	0.20	8005533
p+m-Xylene	ug/L	-	ND	ND	0.20	8005533
o-Xylene	ug/L	-	ND	ND	0.20	8005533
Total Xylenes	ug/L	72	ND	ND	0.20	8005533
F1 (C6-C10)	ug/L	420	ND	ND	25	8005533
F1 (C6-C10) - BTEX	ug/L	420	ND	ND	25	8005533
F2-F4 Hydrocarbons						
F2 (C10-C16 Hydrocarbons)	ug/L	150	ND	ND	100	8005310
F3 (C16-C34 Hydrocarbons)	ug/L	500	ND	ND	200	8005310
F4 (C34-C50 Hydrocarbons)	ug/L	500	ND	ND	200	8005310
Reached Baseline at C50	ug/L	-	Yes	Yes		8005310
Surrogate Recovery (%)						
4-Bromofluorobenzene	%	-	89	89		8005533
D4-1,2-Dichloroethane	%	-	113	112		8005533

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
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O.REG 153 VOCS BY HS & F1-F4 (WATER)

Bureau Veritas ID			SQN799	SQN802		
Sampling Date			2022/05/17 10:30	2022/05/17 10:50		
COC Number			878466-01-01	878466-01-01		
	UNITS	Criteria	BH/MW 104	DUP 1040	RDL	QC Batch
D8-Toluene	%	-	96	95		8005533

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 6: Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition
Potable Ground Water - All Types of Property Use

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GENERAL COMMENTS

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

Package 1	14.0°C

Revised report [2022/05/26] - Split report as per client request.

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8005375	D10-Anthracene	2022/05/19	84	50 - 130	88	50 - 130	83	%		
8005375	D14-Terphenyl (FS)	2022/05/19	91	50 - 130	84	50 - 130	83	%		
8005375	D8-Acenaphthylene	2022/05/19	87	50 - 130	82	50 - 130	77	%		
8005533	4-Bromofluorobenzene	2022/05/20	94	70 - 130	94	70 - 130	90	%		
8005533	D4-1,2-Dichloroethane	2022/05/20	112	70 - 130	109	70 - 130	109	%		
8005533	D8-Toluene	2022/05/20	101	70 - 130	102	70 - 130	97	%		
8004197	Dissolved Antimony (Sb)	2022/05/19	109	80 - 120	101	80 - 120	ND, RDL=0.50	ug/L	NC	20
8004197	Dissolved Arsenic (As)	2022/05/19	104	80 - 120	98	80 - 120	ND, RDL=1.0	ug/L	8.9	20
8004197	Dissolved Barium (Ba)	2022/05/19	104	80 - 120	95	80 - 120	ND, RDL=2.0	ug/L	4.0	20
8004197	Dissolved Beryllium (Be)	2022/05/19	103	80 - 120	93	80 - 120	ND, RDL=0.40	ug/L	NC	20
8004197	Dissolved Boron (B)	2022/05/19	102	80 - 120	87	80 - 120	ND, RDL=10	ug/L	1.2	20
8004197	Dissolved Cadmium (Cd)	2022/05/19	104	80 - 120	99	80 - 120	ND, RDL=0.090	ug/L	NC	20
8004197	Dissolved Chromium (Cr)	2022/05/19	102	80 - 120	97	80 - 120	ND, RDL=5.0	ug/L	NC	20
8004197	Dissolved Cobalt (Co)	2022/05/19	101	80 - 120	98	80 - 120	ND, RDL=0.50	ug/L	NC	20
8004197	Dissolved Copper (Cu)	2022/05/19	103	80 - 120	98	80 - 120	ND, RDL=0.90	ug/L	4.6	20
8004197	Dissolved Lead (Pb)	2022/05/19	101	80 - 120	97	80 - 120	ND, RDL=0.50	ug/L	NC	20
8004197	Dissolved Molybdenum (Mo)	2022/05/19	111	80 - 120	99	80 - 120	ND, RDL=0.50	ug/L	2.0	20
8004197	Dissolved Nickel (Ni)	2022/05/19	97	80 - 120	95	80 - 120	ND, RDL=1.0	ug/L	3.6	20
8004197	Dissolved Selenium (Se)	2022/05/19	102	80 - 120	99	80 - 120	ND, RDL=2.0	ug/L	NC	20
8004197	Dissolved Silver (Ag)	2022/05/19	106	80 - 120	102	80 - 120	ND, RDL=0.090	ug/L	NC	20
8004197	Dissolved Sodium (Na)	2022/05/19	NC	80 - 120	100	80 - 120	ND, RDL=100	ug/L	1.8	20
8004197	Dissolved Thallium (Tl)	2022/05/19	105	80 - 120	101	80 - 120	ND, RDL=0.050	ug/L	NC	20
8004197	Dissolved Uranium (U)	2022/05/19	105	80 - 120	99	80 - 120	ND, RDL=0.10	ug/L	0.17	20
8004197	Dissolved Vanadium (V)	2022/05/19	104	80 - 120	97	80 - 120	ND, RDL=0.50	ug/L	NC	20
8004197	Dissolved Zinc (Zn)	2022/05/19	97	80 - 120	94	80 - 120	ND, RDL=5.0	ug/L	NC	20
8004269	WAD Cyanide (Free)	2022/05/19	88	80 - 120	91	80 - 120	ND,RDL=1	ug/L	NC	20
8004289	Dissolved Chloride (Cl-)	2022/05/19	NC	80 - 120	105	80 - 120	ND, RDL=1.0	mg/L	1.6	20
8004399	Chromium (VI)	2022/05/19	99	80 - 120	101	80 - 120	ND, RDL=0.50	ug/L	NC	20
8004503	Mercury (Hg)	2022/05/19	93	75 - 125	94	80 - 120	ND, RDL=0.10	ug/L	NC	20
8005310	F2 (C10-C16 Hydrocarbons)	2022/05/20	NC	60 - 130	99	60 - 130	ND, RDL=100	ug/L	NC	30
8005310	F3 (C16-C34 Hydrocarbons)	2022/05/20	NC (1)	60 - 130	97	60 - 130	ND, RDL=200	ug/L	NC	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8005310	F4 (C34-C50 Hydrocarbons)	2022/05/20	NC	60 - 130	94	60 - 130	ND, RDL=200	ug/L	NC	30
8005375	1-Methylnaphthalene	2022/05/20	102	50 - 130	107	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	2-Methylnaphthalene	2022/05/20	95	50 - 130	100	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	Acenaphthene	2022/05/20	89	50 - 130	100	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	Acenaphthylene	2022/05/20	90	50 - 130	92	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	Anthracene	2022/05/20	89	50 - 130	97	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	Benzo(a)anthracene	2022/05/20	103	50 - 130	106	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	Benzo(a)pyrene	2022/05/20	89	50 - 130	94	50 - 130	ND, RDL=0.0090	ug/L	NC	30
8005375	Benzo(b/j)fluoranthene	2022/05/20	98	50 - 130	104	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	Benzo(g,h,i)perylene	2022/05/20	106	50 - 130	115	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	Benzo(k)fluoranthene	2022/05/20	97	50 - 130	102	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	Chrysene	2022/05/20	102	50 - 130	108	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	Dibenzo(a,h)anthracene	2022/05/20	103	50 - 130	111	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	Fluoranthene	2022/05/20	108	50 - 130	111	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	Fluorene	2022/05/20	94	50 - 130	98	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	Indeno(1,2,3-cd)pyrene	2022/05/20	107	50 - 130	113	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	Naphthalene	2022/05/20	85	50 - 130	89	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005375	Phenanthrene	2022/05/20	98	50 - 130	102	50 - 130	ND, RDL=0.030	ug/L	NC	30
8005375	Pyrene	2022/05/20	104	50 - 130	108	50 - 130	ND, RDL=0.050	ug/L	NC	30
8005533	1,1,1,2-Tetrachloroethane	2022/05/20	95	70 - 130	99	70 - 130	ND, RDL=0.50	ug/L	NC	30
8005533	1,1,1-Trichloroethane	2022/05/20	93	70 - 130	99	70 - 130	ND, RDL=0.20	ug/L	NC	30
8005533	1,1,2,2-Tetrachloroethane	2022/05/20	106	70 - 130	107	70 - 130	ND, RDL=0.50	ug/L	NC	30
8005533	1,1,2-Trichloroethane	2022/05/20	111	70 - 130	112	70 - 130	ND, RDL=0.50	ug/L	NC	30
8005533	1,1-Dichloroethane	2022/05/20	96	70 - 130	100	70 - 130	ND, RDL=0.20	ug/L	NC	30
8005533	1,1-Dichloroethylene	2022/05/20	97	70 - 130	102	70 - 130	ND, RDL=0.20	ug/L	NC	30
8005533	1,2-Dichlorobenzene	2022/05/20	97	70 - 130	102	70 - 130	ND, RDL=0.50	ug/L	NC	30
8005533	1,2-Dichloroethane	2022/05/20	101	70 - 130	103	70 - 130	ND, RDL=0.50	ug/L	NC	30
8005533	1,2-Dichloropropane	2022/05/20	98	70 - 130	102	70 - 130	ND, RDL=0.20	ug/L	NC	30
8005533	1,3-Dichlorobenzene	2022/05/20	93	70 - 130	99	70 - 130	ND, RDL=0.50	ug/L	NC	30
8005533	1,4-Dichlorobenzene	2022/05/20	109	70 - 130	116	70 - 130	ND, RDL=0.50	ug/L	NC	30
8005533	Acetone (2-Propanone)	2022/05/20	113	60 - 140	112	60 - 140	ND, RDL=10	ug/L	6.9	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8005533	Benzene	2022/05/20	93	70 - 130	96	70 - 130	ND, RDL=0.17	ug/L	NC	30
8005533	Bromodichloromethane	2022/05/20	100	70 - 130	103	70 - 130	ND, RDL=0.50	ug/L	NC	30
8005533	Bromoform	2022/05/20	95	70 - 130	96	70 - 130	ND, RDL=1.0	ug/L	NC	30
8005533	Bromomethane	2022/05/20	98	60 - 140	102	60 - 140	ND, RDL=0.50	ug/L	NC	30
8005533	Carbon Tetrachloride	2022/05/20	89	70 - 130	96	70 - 130	ND, RDL=0.20	ug/L	NC	30
8005533	Chlorobenzene	2022/05/20	96	70 - 130	100	70 - 130	ND, RDL=0.20	ug/L	NC	30
8005533	Chloroform	2022/05/20	97	70 - 130	101	70 - 130	ND, RDL=0.20	ug/L	NC	30
8005533	cis-1,2-Dichloroethylene	2022/05/20	97	70 - 130	101	70 - 130	ND, RDL=0.50	ug/L	NC	30
8005533	cis-1,3-Dichloropropene	2022/05/20	88	70 - 130	90	70 - 130	ND, RDL=0.30	ug/L	NC	30
8005533	Dibromochloromethane	2022/05/20	97	70 - 130	99	70 - 130	ND, RDL=0.50	ug/L	NC	30
8005533	Dichlorodifluoromethane (FREON 12)	2022/05/20	79	60 - 140	85	60 - 140	ND, RDL=1.0	ug/L	NC	30
8005533	Ethylbenzene	2022/05/20	86	70 - 130	91	70 - 130	ND, RDL=0.20	ug/L	NC	30
8005533	Ethylene Dibromide	2022/05/20	101	70 - 130	102	70 - 130	ND, RDL=0.20	ug/L	NC	30
8005533	F1 (C6-C10) - BTEX	2022/05/20					ND, RDL=25	ug/L	NC	30
8005533	F1 (C6-C10)	2022/05/20	85	60 - 140	93	60 - 140	ND, RDL=25	ug/L	NC	30
8005533	Hexane	2022/05/20	98	70 - 130	103	70 - 130	ND, RDL=1.0	ug/L	NC	30
8005533	Methyl Ethyl Ketone (2-Butanone)	2022/05/20	118	60 - 140	116	60 - 140	ND, RDL=10	ug/L	NC	30
8005533	Methyl Isobutyl Ketone	2022/05/20	100	70 - 130	101	70 - 130	ND, RDL=5.0	ug/L	NC	30
8005533	Methyl t-butyl ether (MTBE)	2022/05/20	86	70 - 130	90	70 - 130	ND, RDL=0.50	ug/L	NC	30
8005533	Methylene Chloride(Dichloromethane)	2022/05/20	108	70 - 130	110	70 - 130	ND, RDL=2.0	ug/L	NC	30
8005533	o-Xylene	2022/05/20	87	70 - 130	91	70 - 130	ND, RDL=0.20	ug/L	NC	30
8005533	p+m-Xylene	2022/05/20	89	70 - 130	94	70 - 130	ND, RDL=0.20	ug/L	NC	30
8005533	Styrene	2022/05/20	94	70 - 130	98	70 - 130	ND, RDL=0.50	ug/L	NC	30
8005533	Tetrachloroethylene	2022/05/20	88	70 - 130	94	70 - 130	ND, RDL=0.20	ug/L	NC	30
8005533	Toluene	2022/05/20	88	70 - 130	92	70 - 130	ND, RDL=0.20	ug/L	12	30
8005533	Total Xylenes	2022/05/20					ND, RDL=0.20	ug/L	NC	30
8005533	trans-1,2-Dichloroethylene	2022/05/20	98	70 - 130	103	70 - 130	ND, RDL=0.50	ug/L	NC	30
8005533	trans-1,3-Dichloropropene	2022/05/20	100	70 - 130	100	70 - 130	ND, RDL=0.40	ug/L	NC	30
8005533	Trichloroethylene	2022/05/20	95	70 - 130	101	70 - 130	ND, RDL=0.20	ug/L	NC	30
8005533	Trichlorofluoromethane (FREON 11)	2022/05/20	96	70 - 130	102	70 - 130	ND, RDL=0.50	ug/L	NC	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8005533	Vinyl Chloride	2022/05/20	95	70 - 130	100	70 - 130	ND, RDL=0.20	ug/L	NC	30

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

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

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

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

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

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

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

(1) Matrix Spike recoveries were not calculated (NC) because of high concentration of target compounds in the parent sample. The relative difference between the spiked and un-spiked concentrations is not sufficiently significant to permit a reliable recovery calculation

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VALIDATION SIGNATURE PAGE

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

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

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

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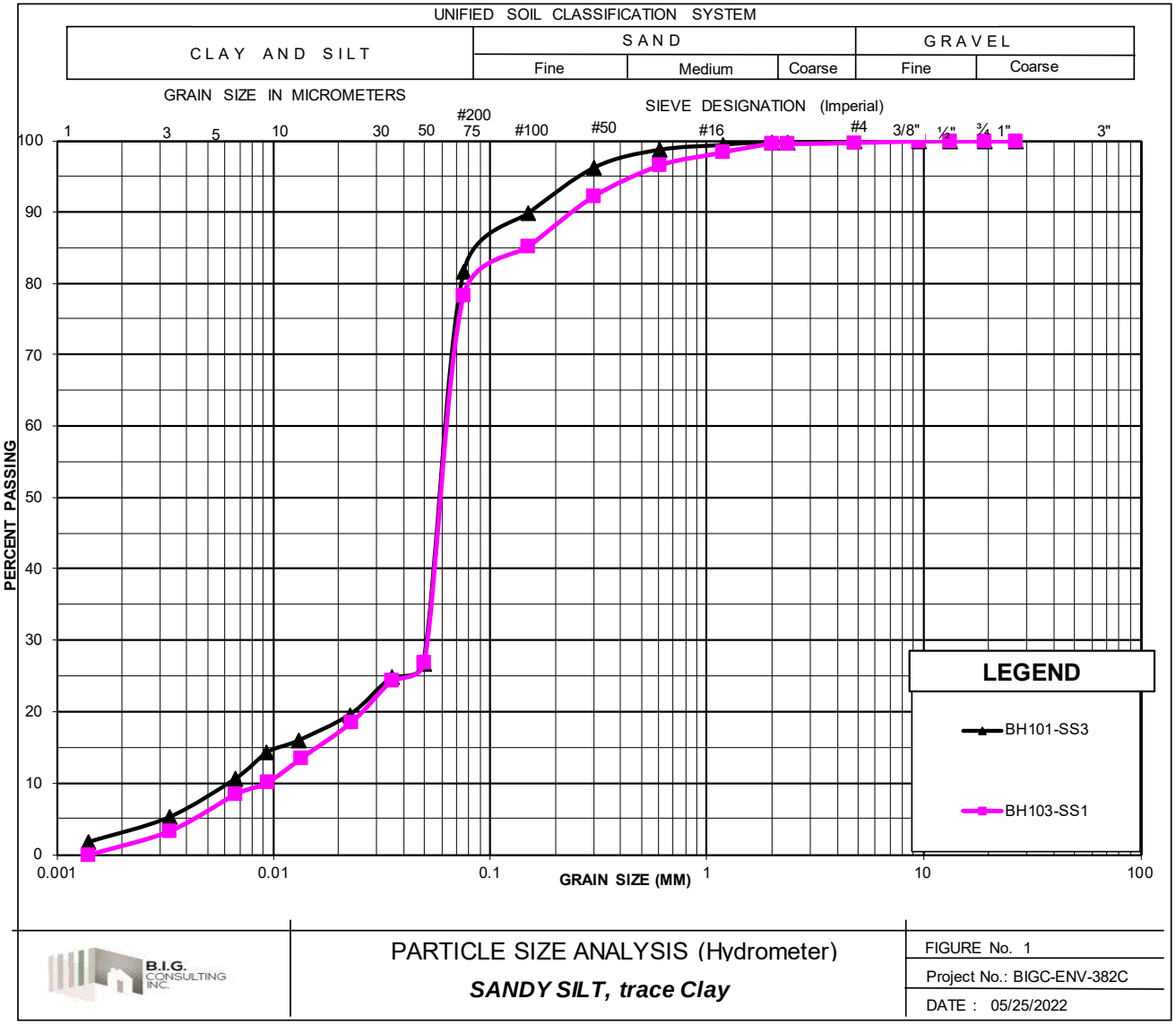
Appendix G – Grain Size Analysis



B.I.G. CONSULTING INC.

PARTICLE SIZE ANALYSIS (Hydrometer)

SANDY SILT, trace Clay

FIGURE No. 1

Project No.: BIGC-ENV-382C

DATE : 05/25/2022