PHASE II ENVIRONMENTAL SITE ASSESSMENT

166 South Service Road East, Oakville, Ontario

Client

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Project Number

BIGC-ENV-457A

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Executive Summary

B.I.G. Consulting Inc. (BIG) was retained by Mr. Clarence Zichen Qian on behalf of Distrikt Capital (Client), to complete a Phase II Environmental Site Assessment (ESA) at the property located at 166 South Service Road East, Oakville, Ontario (Site). It is BIG's understanding that the Phase II ESA is required for due diligence purposes and that a Record of Site Condition (RSC) is not required at this time. However, an RSC will be required at a later date.

This Phase II ESA was conducted in general accordance with CSA Standard Z769-00 (R2018) and in accordance with generally accepted professional practices. The objective of the Phase II ESA was to obtain soil and groundwater data to characterize the Site.

The results and findings of the Phase II ESA conducted at the Site are summarized as follows:

1. The general stratigraphy at the Site, as observed in the boreholes, consisted of topsoil or asphalt followed by clayey silt and silty sand fill material, underlain by clayey silt till underlain by shale bedrock.
2. Based on the textural descriptions of these materials as inferred from borehole observations, the applicable SCS selected to evaluate analytical data was determined to be medium/fine.
3. The groundwater depths across the site from ground surface ranged between 3.01 m and 18.28 m bgs on May 4, 2021.
4. The soil analytical results from the samples collected and submitted for analysis of PHCs, BTEX, PAHs, metals and inorganics by BIG indicated that all parameters were either non-detect or were detected below the applicable MECP (2011a) Table 2 Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for Residential/Parkland/Institutional Property Use and medium/fine textured soil.
5. The groundwater analytical results from the samples collected and submitted for PHCs, VOCs, indicated that all parameters were either non-detect or were detected below the applicable MECP (2011a) Table 2 Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for all types of property use and medium/fine textured soil.

Based on the results of this Phase II ESA, there are no environmental concerns with proceeding with the proposed Site redevelopment of three (3) condominium buildings with seven (7) levels of underground parking.

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1 Introduction

B.I.G. Consulting Inc. (BIG) was retained by Mr. Clarence Zichen Qian on behalf of Distrikt Capital (Client), to complete a Phase II Environmental Site Assessment (ESA) at the property located at 166 South Service Road East, Oakville, Ontario (Site). It is BIG's understanding that the Phase II ESA is required for due diligence purposes and that a Record of Site Condition (RSC) is not required at this time. However, an RSC will be required at a later date.

This Phase II ESA was conducted in general accordance with CSA Standard Z769-00 (R2018) and in accordance with generally accepted professional practices. Subject to this standard of care, BIG makes no express or implied warranties regarding its services, and no third-party beneficiaries are intended. Limitation of liability, scope of report and third-party reliance are outlined in Section 7.

The objective of the Phase II ESA was to obtain soil and groundwater data to characterize the Site.

1.1 Site Description

The Site is located south of South Service Road East in Oakville, Ontario. The Site location plan is shown on Figure 1. The Site measures approximately 11,900 m^2 and is currently occupied by a single-storey commercial building (Site building). The Site building has a footprint of approximately 2,350 m^2 and occupies approximately 20% of the Site. The Site building was reportedly constructed in 1959. The Site building is currently occupied by Hikers Haven, Reno Max Lighting, Eagle Speed Uniforms and Spartan Fitness. A trailer and shipping container were located in the southeastern portion of the parking lot. The areas surrounding the Site building are covered with asphalt and vegetation is present in the southern portion of the Site and along the northern property boundary.

The Site is bound to the north by South Service Road East followed by the Queen Elizabeth Way, to the east by commercial properties, to the south by commercial properties, and to the west by commercial properties. A Site Plan is shown on Figure 2.

1.2 Current and Proposed Future Uses

At the time of the Phase II ESA investigation the Site was occupied by a single-storey commercial building (Site building). The proposed development will comprise of three (3) condominium buildings with seven (7) levels of underground parking structure.

1.3 Applicable Site Condition Standards

Analytical results obtained for 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 Ontario Ministry of the Environment, Conservation and Parks (MECP) document "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the *Environmental Protection Act',* (SGWS Standards). Tabulated background SCS applicable to environmentally sensitive sites and effects based generic SCS applicable to non-environmentally sensitive sites are provided in the SCS. The effects based SCS 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).

Application of the generic or background SCS to a specific site is based on consideration of site conditions related to soil pH, thickness and extent of overburden material 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 2 Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for Residential Property Use and medium/fine textured soil. The selection of this category was based on the following factors:

a) More than two-thirds of the Site has an overburden thickness greater than 2 m.
b) The Site is not located within 30 m of a surface water body or an area of natural significance.
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 is supplied by the municipal drinking water system; however the Site is considered potable.
f) The future land use of the Site is residential.
g) The predominant soil type on the Site was considered to be medium/fine textured.
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 II ESA:

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

Based on the review of the above maps, the following information was obtained:

a) The Site is at an elevation of approximately 105 m above sea level (asl), generally at the same elevation as properties to the north and south of the Site.
b) No water bodies are located on the Site. The nearest water body is Sixteen Mile Creek located approximately 330 m southwest and Lake Ontario is located approximately 2.25 km southeast. The inferred groundwater flow direction is likely towards the south/southeast.
c) The bedrock in the general area of the Site consists of shale, limestone, dolostone and siltstone and is part of the Georgian Bay Formation, Blue Mountain Formation, Billings Formation, Collingwood Member and Eastview Member.
d) The surficial geology of the Site is described as Paleozoic bedrock.
e) The physiography of the Site is within the Iroquois Plains characterized as shale plains.

2.2 Past Environmental Investigations

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

a) BIG (2021) Draft Phase I Environmental Site Assessment, 166 South Service Road East, Oakville, Ontario. B.I.G. Consulting Inc. May 10, 2021.

BIG (2021) Phase I Environmental Site Assessment	
Objective	Identify existing or former potential sources of environmental concern.
Potential environmental impacts identified	• Fill material of unknown quality is present on-Site • A former auto service garage was located in the southeastern portion of the Site building. • Two (2) fuel oil tanks were located on the northeastern portion of the property located at 125 Cross Avenue in 1967, located south adjacent. • A former auto centre was located at 125 Cross Avenue, located south adjacent. • A former dry cleaner was located at 125 Cross Avenue, located south adjacent.

3 Scope of the Investigation

3.1 Overview of Site Investigation

The objective of the Phase II ESA was to obtain soil and groundwater data to characterize the Site.

3.1.1 Scope of Work

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

a) Request public and private 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 ten (10) boreholes (BH1 to BH10) up to a maximum depth of 23.5 m below ground surface (bgs);
c) Instrument six (6) boreholes as monitoring wells (MW1, MW2, MW4, MW6, MW8 and MW10);
d) Collect representative soil samples for laboratory analysis of petroleum hydrocarbons (PHCs), benzene, toluene, ethylbenzene and xylenes (BTEX), polycyclic aromatic hydrocarbons (PAHs), metals and inorganics.
e) Develop the newly installed groundwater monitoring wells;
f) Collect groundwater levels from the newly installed monitoring wells;
g) Collect groundwater samples from the newly installed monitoring wells for laboratory analysis of PHCs and VOCs; and,
h) Analyze the data and prepare a report of the findings.

3.2 Media Investigated

The focus of the Phase II ESA was on the environmental conditions of the overburden material 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 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 ten (10) boreholes (BH1 to BH10) to facilitate the collection of soil samples/core holes for geologic characterization and laboratory analysis and, the installation of monitoring wells in six (6) boreholes for the collection of groundwater samples for laboratory analysis.

Boreholes were advanced in the surficial fill and overburden soils and bedrock by Canadian Soil Drilling Inc. 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 fibre optic cable, telephone, natural gas, electrical lines, as well as water, sewer, storm water and sanitary lateral conduits were marked out by public locating companies and a private utility locator.

The fieldwork for the soil investigative portion of the Phase II ESA was carried out between April 27 to 28, 2021.

Boreholes were advanced by Canadian Soil Drilling Inc. under full-time supervision of BIG staff. A truck-mounted drill rig was used to advance the boreholes to maximum depth of 23.5 m bgs at various on-Site locations to sufficiently assess and characterize the Site. The approximate locations of the boreholes and monitoring wells are shown on Figure 2.

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

4.3 Deviations from Sampling and Analysis Plan

The field investigative and sampling program was carried out following the requirements of the SSAP.

4.4 Soil Sampling

Soil samples for geologic characterization and laboratory analysis were collected on a discrete basis in the overburden materials using 5-centimetre (cm) diameter, 60 cm long, split spoon samples advanced in to the subsurface using a truck mounted drill rig. The soil samples were extruded from the samplers and rock-core samples were placed in wooden boxes upon retrieval by drilling personnel. Geologic details of the recovered rock-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 B.

Measures were taken in the field and during transport to preserve sample integrity prior to laboratory analysis. Recommended volumes of soil samples selected for laboratory analysis were collected from the recovered cores into pre-cleaned, laboratory-supplied glass sample bottles identified for the specified analytical test group. All soil samples were placed in clean coolers containing ice prior to and during transportation to the subcontracted laboratory, AGAT Laboratories (AGAT) of Mississauga, Ontario. The

samples were transported/submitted within acceptable holding times to AGAT following Chain of Custody protocols for laboratory 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. Ten (10) boreholes were advanced and six (6) were completed as monitoring wells (MW1, MW2, MW4, MW6, MW8 and MW10).

Soil samples submitted for specific laboratory 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 the borehole logs presented in Appendix B.

4.5 Groundwater: Monitoring Well Installation

Six (6) of the boreholes advanced at the Site were instrumented as groundwater monitoring wells (MW1, MW2, MW4, MW6, MW8 and MW10). 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.

The monitoring wells consisted of a 3 m length, 50-millimetre (mm) diameter polyvinyl chloride (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 0.6 m above the top of the screen. A bentonite seal was added from the top of the sand pack to approximately 0.3 m bgs.

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.

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; and,
d) Cleaning of augers between sampling locations.

4.6 Monitoring Well Development

Upon completion of monitoring well installation, the new monitoring wells were developed to remove fine sediment materials from drilling processes within and around the sand pack to enhance hydraulic communication from the surrounding formation waters. The monitoring wells were developed on May 5, 2021 from the process of using a groundwater pump and bailers 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 newly installed monitoring well, were conducted on the monitoring well network, so that groundwater flow and direction below the Site could be assessed and groundwater samples could be collected. These groundwater monitoring activities were conducted on May 5, 2021. Water levels were measured with

respect to the top of casing by means of an electronic water level meter and recorded on water level log sheets or in a bound field notebook.

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.

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 Groundwater Sampling

Upon completion of purging, the monitoring wells were sampled on May 5, 2021, using dedicated polyethylene bailers. 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 AGAT Labs under Chain of Custody protocols within 24 hours of sample collection or approved holding times.

Groundwater samples were collected from four (4) monitoring wells (MW1, MW2, MW6 and M10) installed by BIG.

4.10 Analytical Testing

All analytical testing was performed by AGAT, an accredited laboratory under the Standards Council of Canada/Canadian Association of Environmental Analytical Laboratories (Accredited Laboratory No. A3200) in accordance with ISO/IEC 17025:2017 - “General Requirements for the Competence of Testing and Calibration Laboratories”.

4.10.1 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 and the requested analyses are summarized below.

Table 1: Summary of Soil Samples Submitted for Laboratory Analyses

Soil Sample ID	Requested Analyses	Date Sampled	Consultant
BH1-SS1	PAHs, Metals and Inorganics	April 27, 2021	BIG
BH2-SS1	PAHs, Metals and Inorganics	April 27, 2021	BIG
BH3-SS2	PAHs, Metals and Inorganics	April 27, 2021	BIG
BH4-SS1	PAHs, Metals and Inorganics	April 27, 2021	BIG
BH5-SS2	PAHs, Metals and Inorganics	April 27, 2021	BIG
BH6-SS1	Metals	April 27, 2021	BIG
BH6-SS2	PAHs	April 27, 2021	BIG
BH7-SS1	PAHs, Metals and Inorganics	April 28, 2021	BIG
BH8-SS2	PAHs, Metals and Inorganics	April 28, 2021	BIG
BH9-SS1	PAHs, Metals and Inorganics	April 28, 2021	BIG
BH9-SS2	PHCs and BTEX	April 28, 2021	BIG
BH10-SS1	PHCs and BTEX	April 28, 2021	BIG
BH10-SS4	pH	April 28, 2021	BIG

4.10.2 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 2: Summary of Groundwater Samples Submitted for Laboratory Analyses

Monitoring Well ID	Requested Analyses	Well Screen Depth (m bgs)	Date Sampled	Consultant
MW1	PHCs and VOCs	9.14 – 12.19	May 5, 2021	BIG
MW2	PHCs and VOCs	3.05 – 6.10	May 5, 2021	BIG
MW6	PHCs and VOCs	3.05 – 6.10	May 5, 2021	BIG
MW10	PHCs and VOCs	18.29 – 21.34	May 5, 2021	BIG

4.11 Groundwater Levels

A summary of the groundwater levels is provided below.

Table 3: Summary of Groundwater Levels and Elevations

Borehole/ Monitoring Well ID	Monitoring Well Depth (m bgs)	Groundwater Level (m bgs) – May 4, 2021	Groundwater Elevation (m bgs) – May 4, 2021
MW1	12.20	6.25	98.54
MW2	6.10	2.64	101.99
MW4	12.20	3.46	102.13
MW6	6.10	3.39	102.27
MW8	6.10	3.01	102.62
MW10	21.30	18.28	87.16

4.12 Quality Assurance and Quality Control Measures

Quality Assurance/Quality Control (QA/QC) measures, as set out in the SSAP, 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 laboratory analyses were collected from the retrieved soil cores and placed into pre-cleaned, laboratory-supplied bottles. Sample volumes were consistent with analytical test group requirements as specified by the receiving laboratory.

Groundwater samples were collected into pre-cleaned laboratory-supplied bottles provided with analytical test group specific preservatives, as required. Sample volumes were consistent with analytical test group requirements as specified by the receiving laboratory.

Measures were followed to preserve sample integrity between collection and receipt by the laboratory. All samples, immediately upon collection were placed in insulated coolers pre-chilled with ice for storage and transport to the laboratory. Samples were received by the 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 laboratory.

For deviations from the SSAP, please see section 4.3.

5 Review and Evaluation

5.1 Geology

The soil investigation conducted at the Site consisted of the advancement of ten (10) boreholes into the surficial material and the underlying native materials to a maximum depth of 23.5 m bgs. Borehole logs describing geologic details of the soil cores recovered during the Site drilling activities are presented in Appendix B. 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 observed in the boreholes, consisted of topsoil or asphalt followed by clayey silt and silty sand fill material, underlain by clayey silt till underlain by shale bedrock. A brief description of the soil stratigraphy at the Site, in order of depth, is summarized in the following sections.

5.1.1 Surficial Material

BH/MW1, BH/MW2 and BH3 were advanced through an existing ground surface cover consisting of approximately 150 mm thick topsoil. BH/MW4 to BH/MW10 were drilled through asphalt pavement ground surface cover, consisting of approximately 200 mm thick asphalt over 200 mm thick granular bases.

5.1.2 Fill

Below the surface ground cover, existing fill generally consisting of clayey silt and silty sand with trace gravel was encountered in all boreholes that extended to depths varying between 0.8 m and 1.5 m bgs. The fill material contained fragments of shale and occasional topsoil inclusions.

5.1.3 Native

Clayey Silt Till

Below the existing fill material in all boreholes, native clayey silt till was encountered that extended to depths varying between 1.5 m and 3.3 m bgs. Occasional possible cobble/boulders were also encountered within this deposit.

5.1.4 Bedrock

Below the clayey silt till, a highly weathered reddish brown and/or grey shale bedrock was encountered in all boreholes that extended to the borehole termination depths varying between 4.6 m to 23.5 m bgs.

5.2 Soil Texture

The native materials encountered are comprised of clayey silt till. Based on the textural descriptions of these materials as inferred from borehole observations, the applicable SCS selected to evaluate analytical data was determined to be for medium/fine textured soil classification.

5.3 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.

Analytical results summary tables are provided in Appendix C and copies of the laboratory Certificates of Analysis for the analyzed soil samples are provided in Appendix D.

5.3.1 PHCs

The soil samples submitted for PHCs analysis were detected at concentrations below the applicable MECP Table 2 SCS and all laboratory reporting detection limits (RDLs) were below the applicable SCS.

Refer to Figure 3 for the soil sampling locations.

5.3.2 BTEX

The soil samples submitted for BTEX analysis were detected at concentrations below the applicable MECP Table 2 SCS and all laboratory reporting detection limits (RDLs) were below the applicable SCS.

Refer to Figure 3 for the soil sampling locations.

5.3.3 PAHs

The soil samples submitted for PAHs analysis were detected at concentrations below the applicable MECP Table 2 SCS and all laboratory reporting detection limits (RDLs) were below the applicable SCS.

Refer to Figure 4 for the soil sampling locations.

5.3.4 Metals

The soil samples submitted for metals analysis were detected at concentrations below the applicable MECP Table 2 SCS and all laboratory reporting detection limits (RDLs) were below the applicable SCS.

Refer to Figure 5 for the soil sampling locations.

5.3.5 Inorganics

It is noted SAR was detected in one (1) soil sample (BH6-SS1) in exceedance of the applicable MECP Table 2 SCS. However, under the newly amended O.Reg.153/04 (O.Reg.407/19) Section 49.1 (1), if a substance has been applied to surfaces for the safety of vehicular or pedestrian traffic under the conditions of snow or ice or both (i.e., application of de-icing salts), its related parameters are not deemed to be in exceedance of the MECP Table 2 SCS. As de-icing salts are used at the Site for vehicular and pedestrian safety EC and SAR in soil, and sodium in groundwater are not considered as contaminants of concern.

All other inorganics were either non-detect or detected below the applicable MECP Table 2 SCS and all laboratory reporting detection limits (RDLs) were below the applicable SCS.

Refer to Figure 6 for the soil sampling locations.

5.3.6 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.

5.4 Groundwater Quality

5.4.1 PHCs

The groundwater samples submitted for PHCs analysis were detected at concentrations below the applicable MECP Table 2 SCS and all laboratory reporting detection limits (RDLs) were below the applicable SCS.

Refer to Figure 7 for the groundwater sampling locations.

5.4.2 VOCs

The groundwater samples submitted for VOCs were detected at concentrations below the applicable MECP Table 2 SCS.

Refer to Figure 8 for the groundwater sampling locations.

5.5 Quality Assurance and Quality Control (QA/QC) 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 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; and,
e) Sample documentation including Chain of Custody protocols.

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, as amended July 1, 2011. Samples were preserved at the required temperatures in pre-chilled insulated coolers and met applicable holding time requirements, when relinquished to the receiving laboratory.

The subcontracted laboratory used during this investigation, AGAT, is accredited by the Standards Council of Canada/Canadian Association for Laboratory Accreditation (Accredited Laboratory No. A3200), 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 AGAT reporting the results of all the chemical analyses performed on the submitted soil and groundwater samples. Copies of the AGAT Certificates of Analysis are provided in Appendix D. A review of the Certificates of Analysis prepared by AGAT 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 AGAT 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 AGAT. 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 AGAT 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 AGAT 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 AGAT are of acceptable quality and data qualifications were not required.

6 Summary of Findings

The results and findings of the Phase II ESA conducted at the Site are summarized as follows:

1. The general stratigraphy at the Site, as observed in the boreholes, consisted of topsoil or asphalt followed by clayey silt and silty sand fill material, underlain by clayey silt till underlain by shale bedrock.
2. Based on the textural descriptions of these materials as inferred from borehole observations, the applicable SCS selected to evaluate analytical data was determined to be medium/fine.
3. The groundwater depths across the site from ground surface ranged between 3.01 m and 18.28 m bgs on May 4, 2021.
4. The soil analytical results from the samples collected and submitted for analysis of PHCs, BTEX, PAHs, metals and inorganics by BIG indicated that all parameters were either non-detect or were detected below the applicable MECP (2011a) Table 2 Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for Residential/Parkland/Institutional Property Use and medium/fine textured soil.
5. The groundwater analytical results from the samples collected and submitted for PHCs, VOCs, indicated that all parameters were either non-detect or were detected below the applicable MECP (2011a) Table 2 Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for all types of property use and medium/fine textured soil.

Based on the results of this Phase II ESA, there are no environmental concerns with proceeding with the proposed Site redevelopment of three (3) condominium buildings with seven (7) levels of underground parking.

7 General Limitations

The information presented in this report is based on field investigation activities completed by BIG and designed to provide information to support an assessment of the current environmental conditions at the Site. 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.

Rebecca Morrison, M.Env.Sc,
Project Manager

Darko Strajin, P.Eng.
Managing Partner

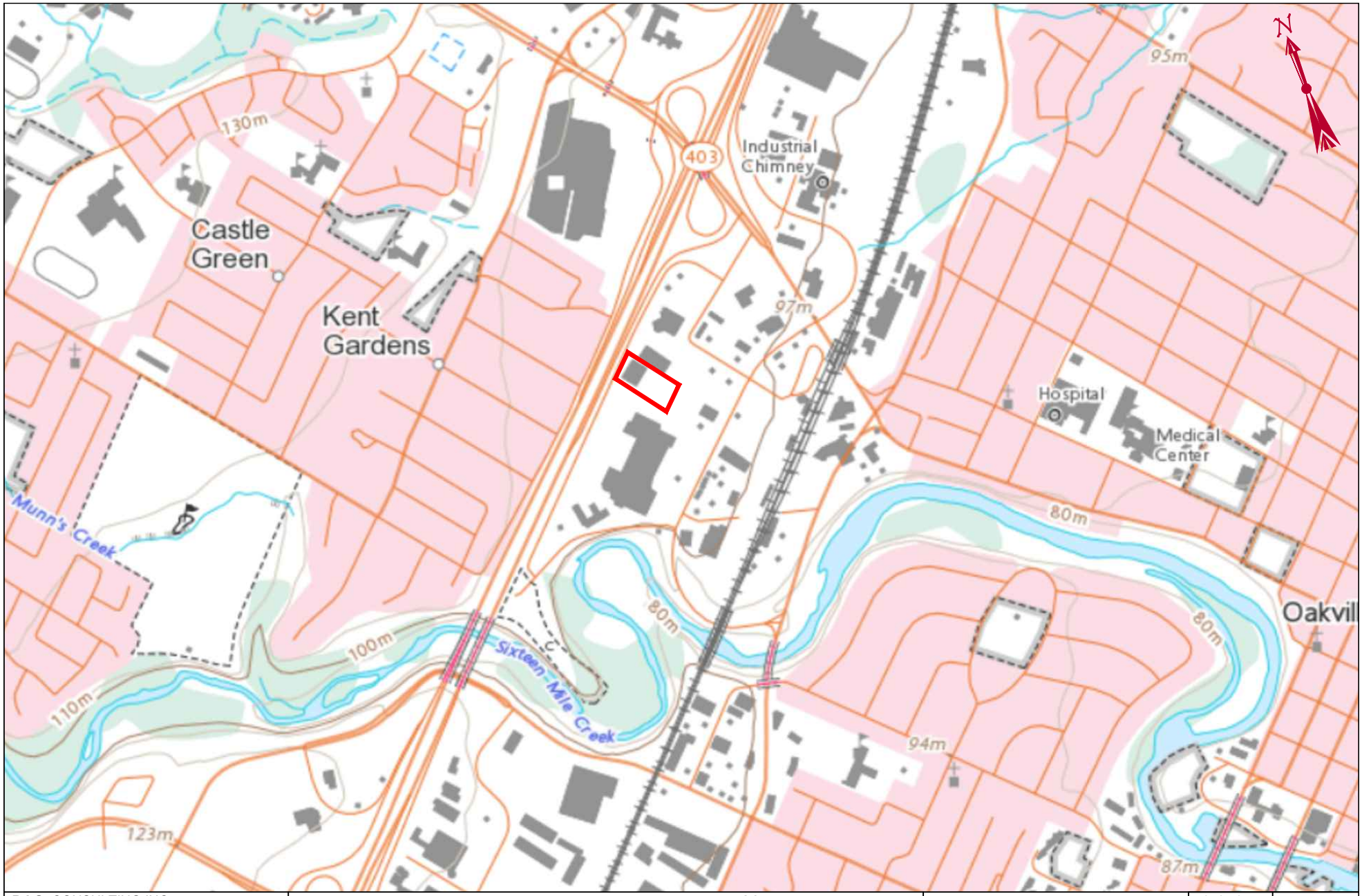
8 References

1. Canadian Standards Association. 2018. Z769-00 Phase II Environmental Site Assessment.
2. MECP (2011a) "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the *Environmental Protection Act*";
3. MECP (2011b) Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the *Environmental Protection Act*. PIBS 4696e01
4. NHIC (2017); Make a Natural Heritage Map. Retrieved from http://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US
5. Topographic Map available at the Natural Resources Canada (NRC) website. Accessed online at http://atlas.nrcan.gc.ca/site/english/maps/topo/map

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

1. BIG (2021) Draft Phase I Environmental Site Assessment, 166 South Service Road East, Oakville, Ontario. B.I.G. Consulting Inc. May 10, 2021.

Figures



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LEGEND

SITE BOUNDARY

SCALE

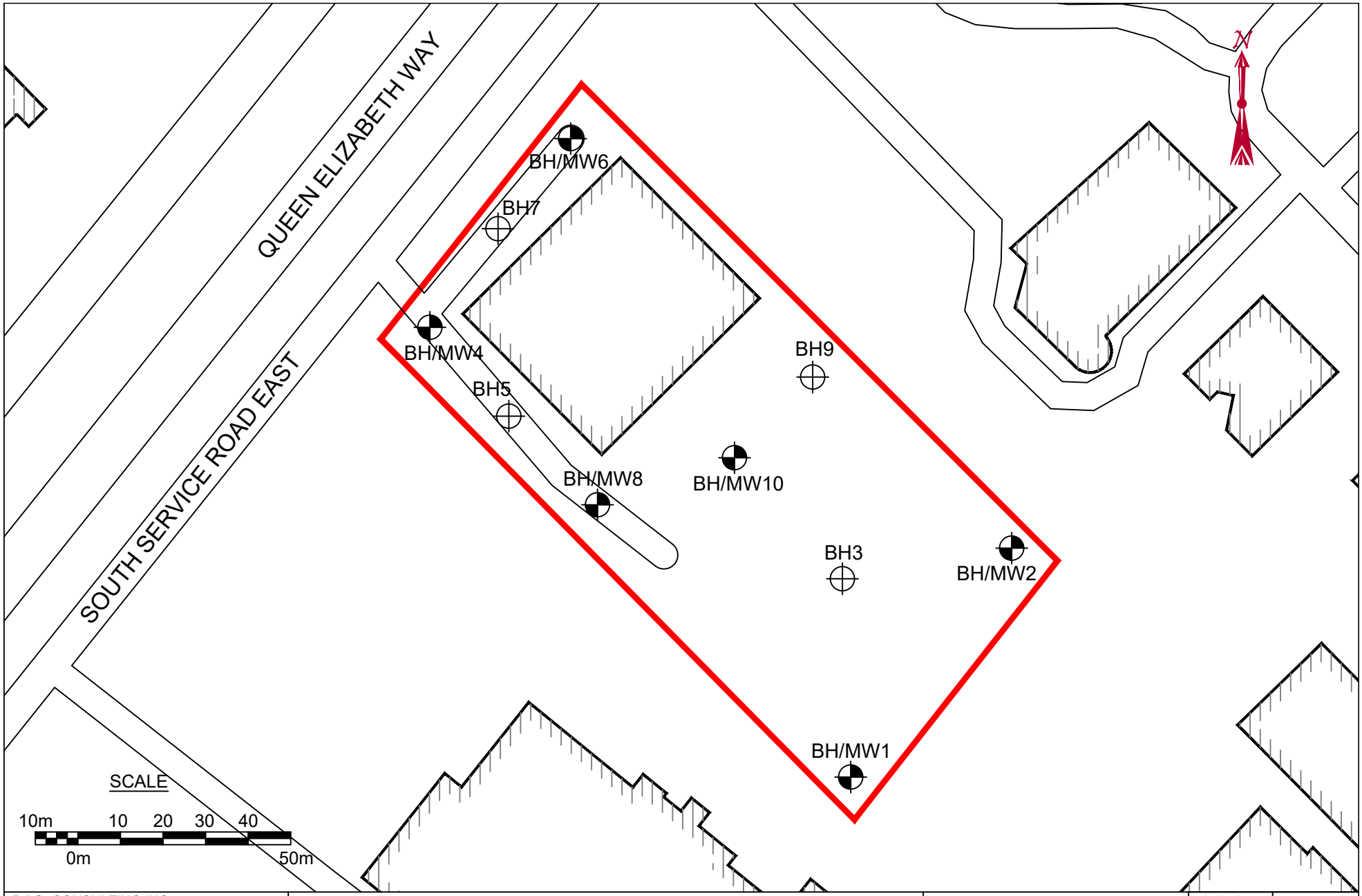
100m 0m 100m 200m 300m 400m 500m

IMAGERY OBTAINED FROM TOPORAMA, NATURAL RESOURCES CANADA,2017

TITLE AND LOCATION

SITE LOCATION PLAN
PHASE II ESA
166 SOUTH SERVICE ROAD EAST,
OAKVILLE, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-457A	L.C.K.
SCALE	CK.
AS NOTED	R.M.
DATE	FIG NO.
JUNE2021	1



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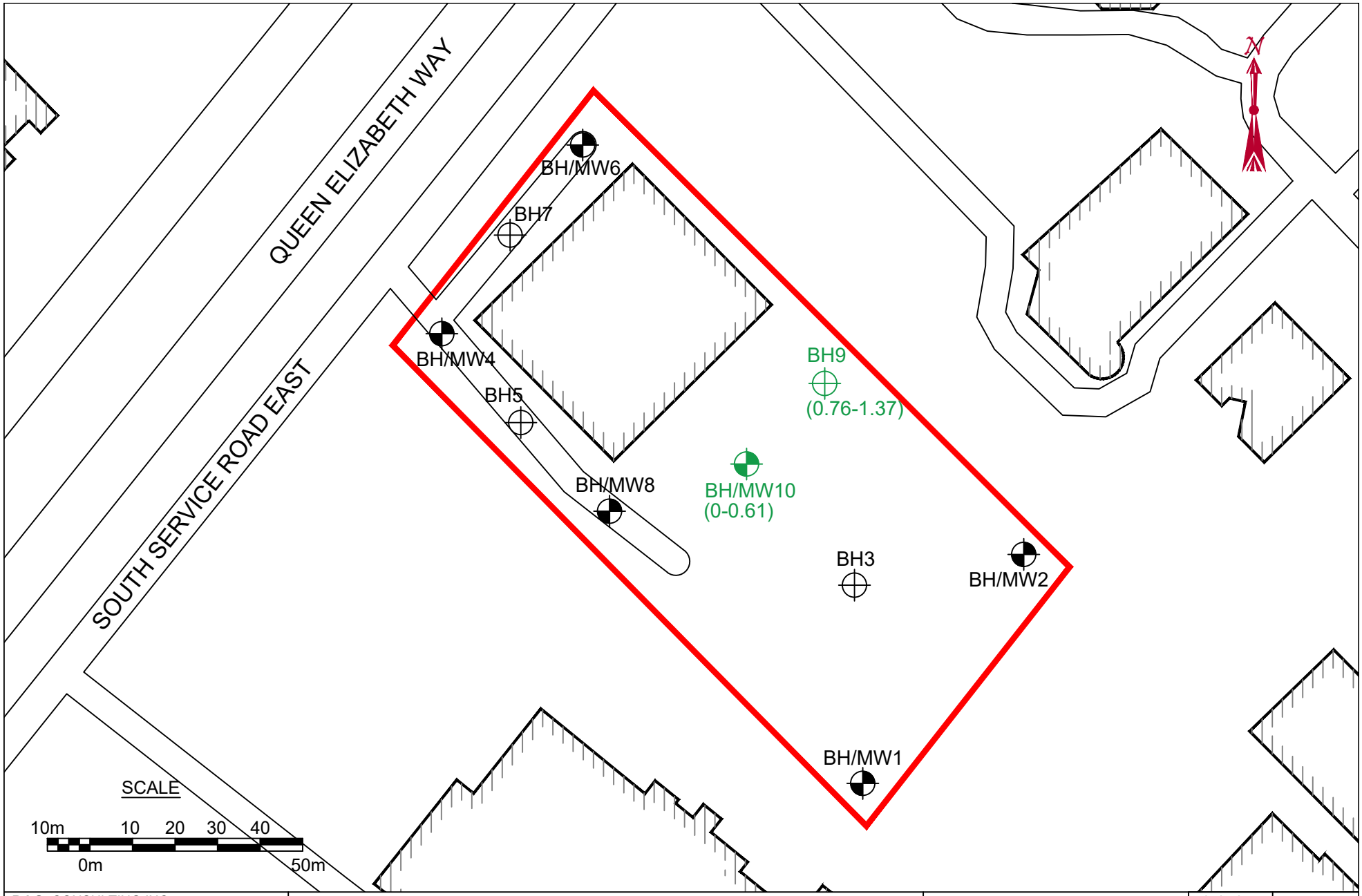
LEGEND

- SITE BOUNDARY
- BUILDING FOOTPRINT
- LOCATION OF BOREHOLE/MONITORING WELL
- LOCATION OF BOREHOLE

TITLE AND LOCATION

BOREHOLE/MONITORING WELL LOCATION PLAN
PHASE II ESA
166 SOUTH SERVICE ROAD EAST,
OAKVILLE, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-457A	L.C.K.
SCALE	CK.
AS NOTED	R.M.
DATE	FIG NO.
JUNE 2021	2



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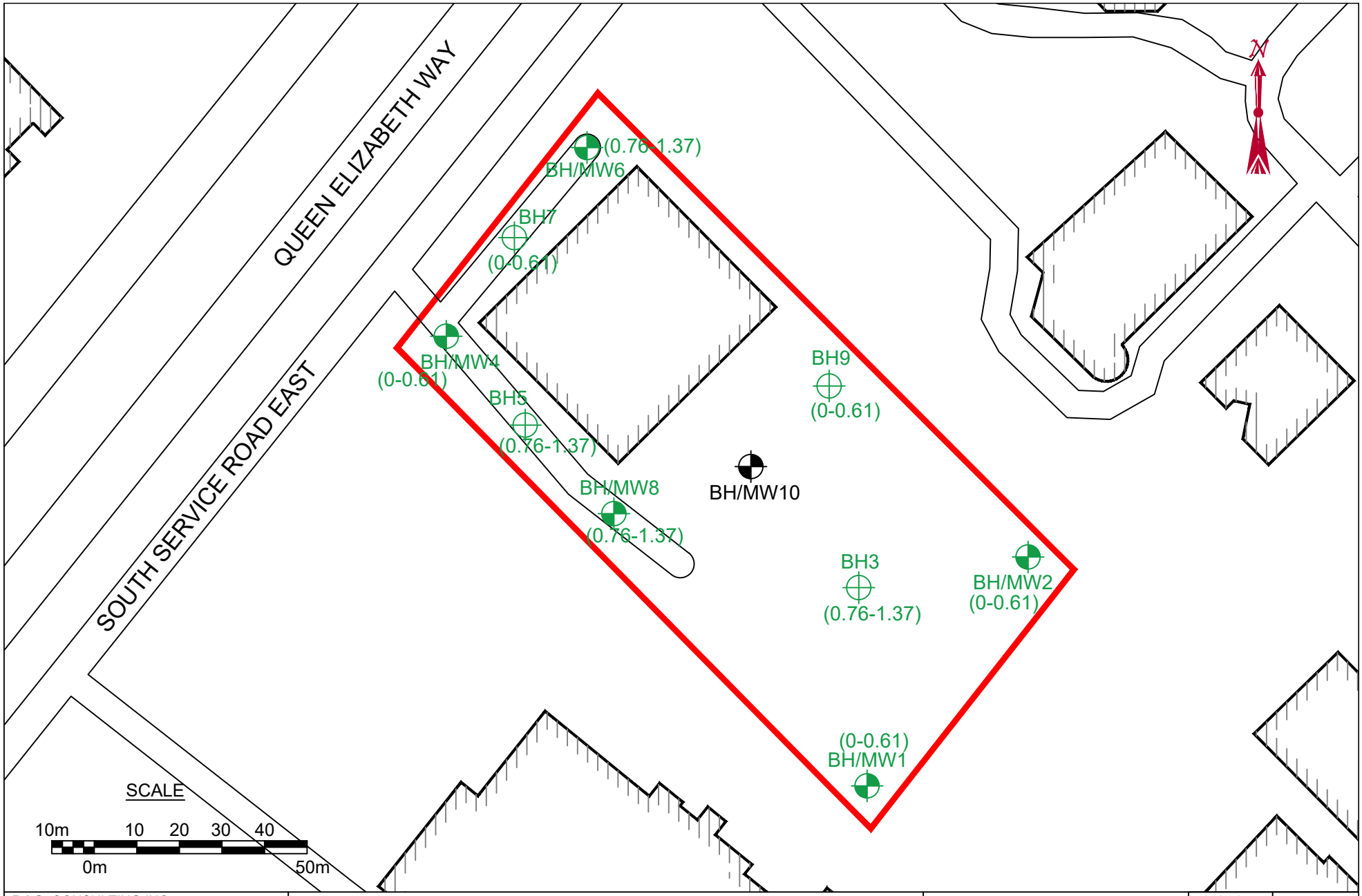
LEGEND

- SITE BOUNDARY
- BUILDING FOOTPRINT
- LOCATION OF BOREHOLE/MONITORING WELL
- LOCATION OF BOREHOLE
- EXCEEDS MECP TABLE 2 SCS
- MEETS MECP TABLE 2 SCS
- [xx.xx] SOIL SAMPLE DEPTH (m bgs)

TITLE AND LOCATION

PHCs AND BTEX IN SOIL
PHASE II ESA
166 SOUTH SERVICE ROAD EAST,
OAKVILLE, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-457A	L.C.K.
SCALE	CK.
AS NOTED	R.M.
DATE	FIG NO.
JUNE 2021	3



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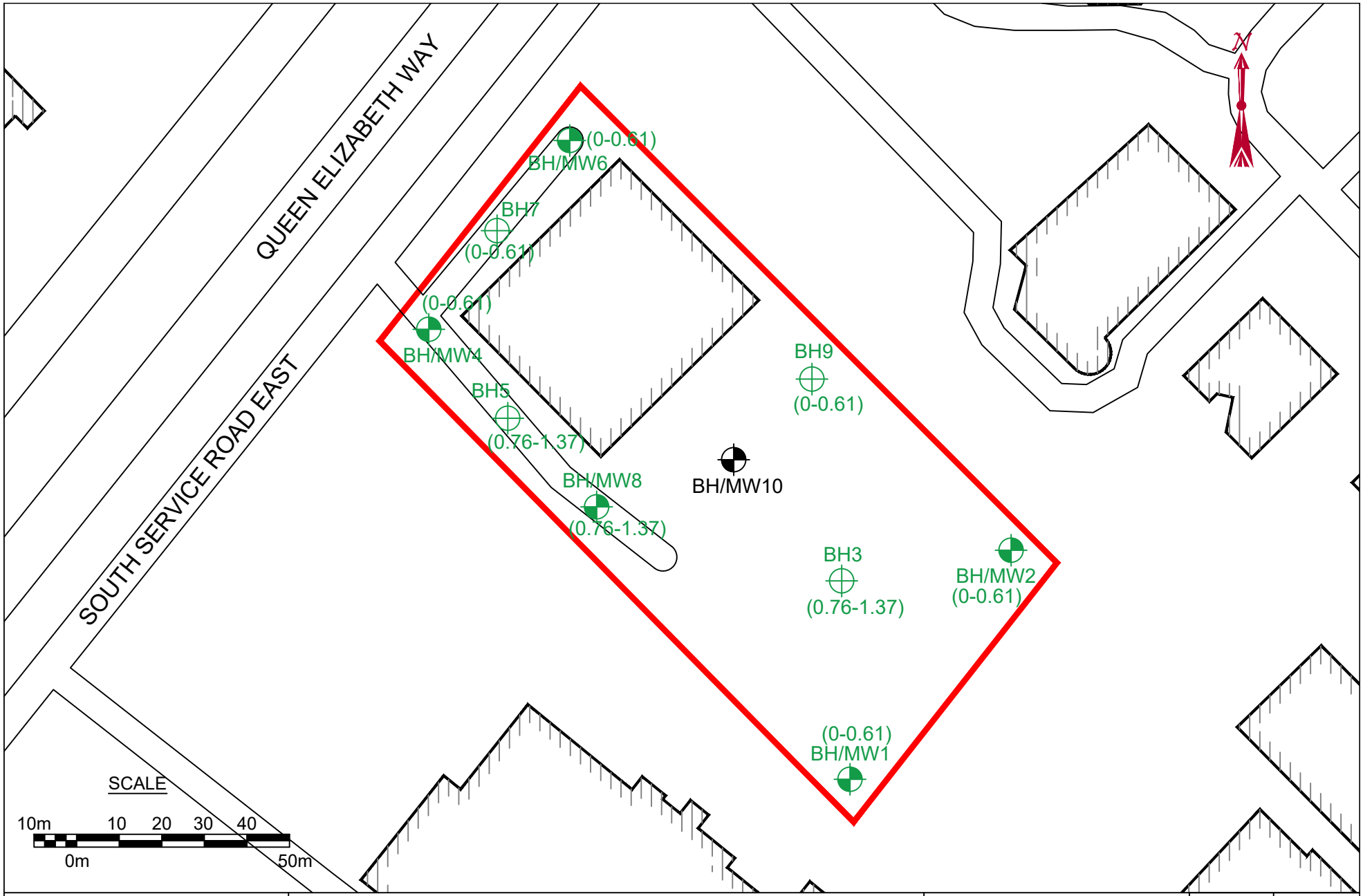
LEGEND

- SITE BOUNDARY
- BUILDING FOOTPRINT
- LOCATION OF BOREHOLE/MONITORING WELL
- LOCATION OF BOREHOLE
- EXCEEDS MECP TABLE 2 SCS
- MEETS MECP TABLE 2 SCS
- [xx.xx] SOIL SAMPLE DEPTH (m bgs)

TITLE AND LOCATION

PAHs IN SOIL
PHASE II ESA
166 SOUTH SERVICE ROAD EAST,
OAKVILLE, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-457A	L.C.K.
SCALE	CK.
AS NOTED	R.M.
DATE	FIG NO.
JUNE 2021	4



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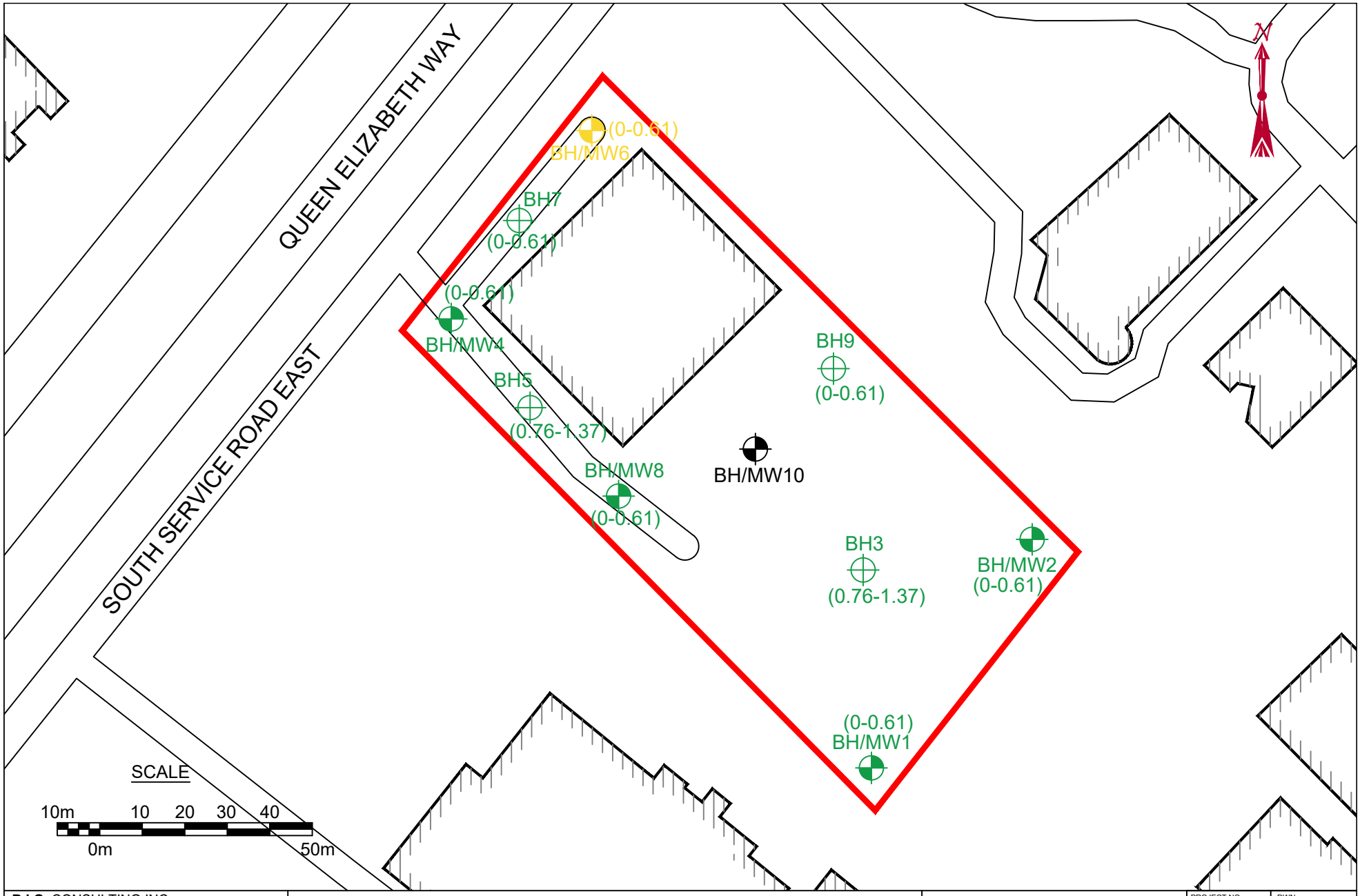
LEGEND

- SITE BOUNDARY
- BUILDING FOOTPRINT
- LOCATION OF BOREHOLE/MONITORING WELL
- LOCATION OF BOREHOLE
- EXCEEDS MECP TABLE 2 SCS
- MEETS MECP TABLE 2 SCS
- [xx.xx] SOIL SAMPLE DEPTH (m bgs)

TITLE AND LOCATION

METALS IN SOIL
PHASE II ESA
166 SOUTH SERVICE ROAD EAST,
OAKVILLE, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-457A	L.C.K.
SCALE	CK.
AS NOTED	R.M.
DATE	FIG NO.
JUNE 2021	5



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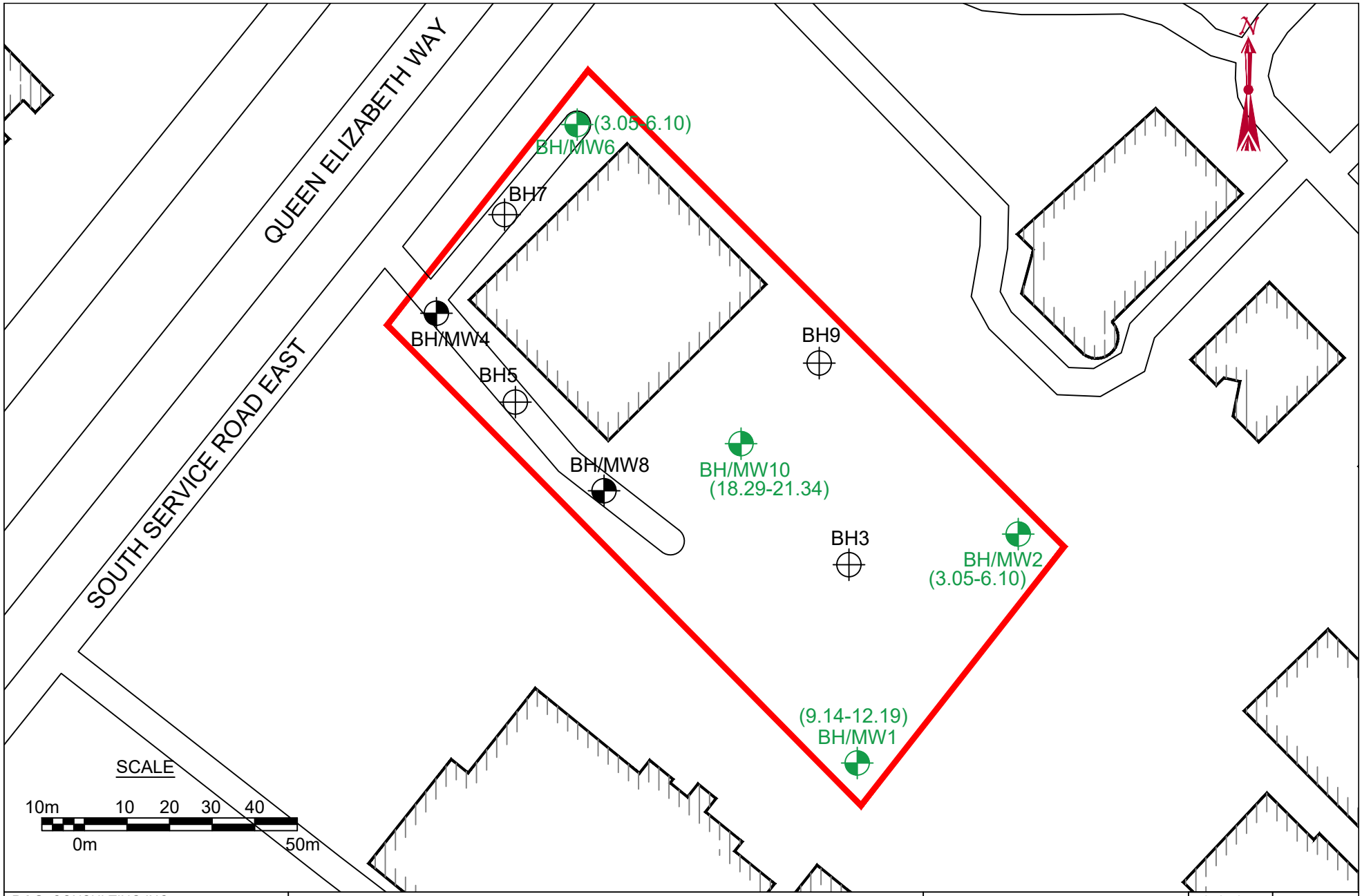
LEGEND

- SITE BOUNDARY
- BUILDING FOOTPRINT
- LOCATION OF BOREHOLE/MONITORING WELL
- LOCATION OF BOREHOLE
- EXCEEDS MECP TABLE 2 SCS
- MEETS MECP TABLE 2 SCS
- SAMPLE EXCEEDS TABLE 2 SCS HOWEVER NOT CONSIDERED AS A COC
- [xx.xx] SOIL SAMPLE DEPTH (m bgs)

TITLE AND LOCATION

INORGANICS IN SOIL
PHASE II ESA
166 SOUTH SERVICE ROAD EAST,
OAKVILLE, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-457A	L.C.K.
SCALE	CK.
AS NOTED	R.M.
DATE	FIG NO.
JUNE 2021	6



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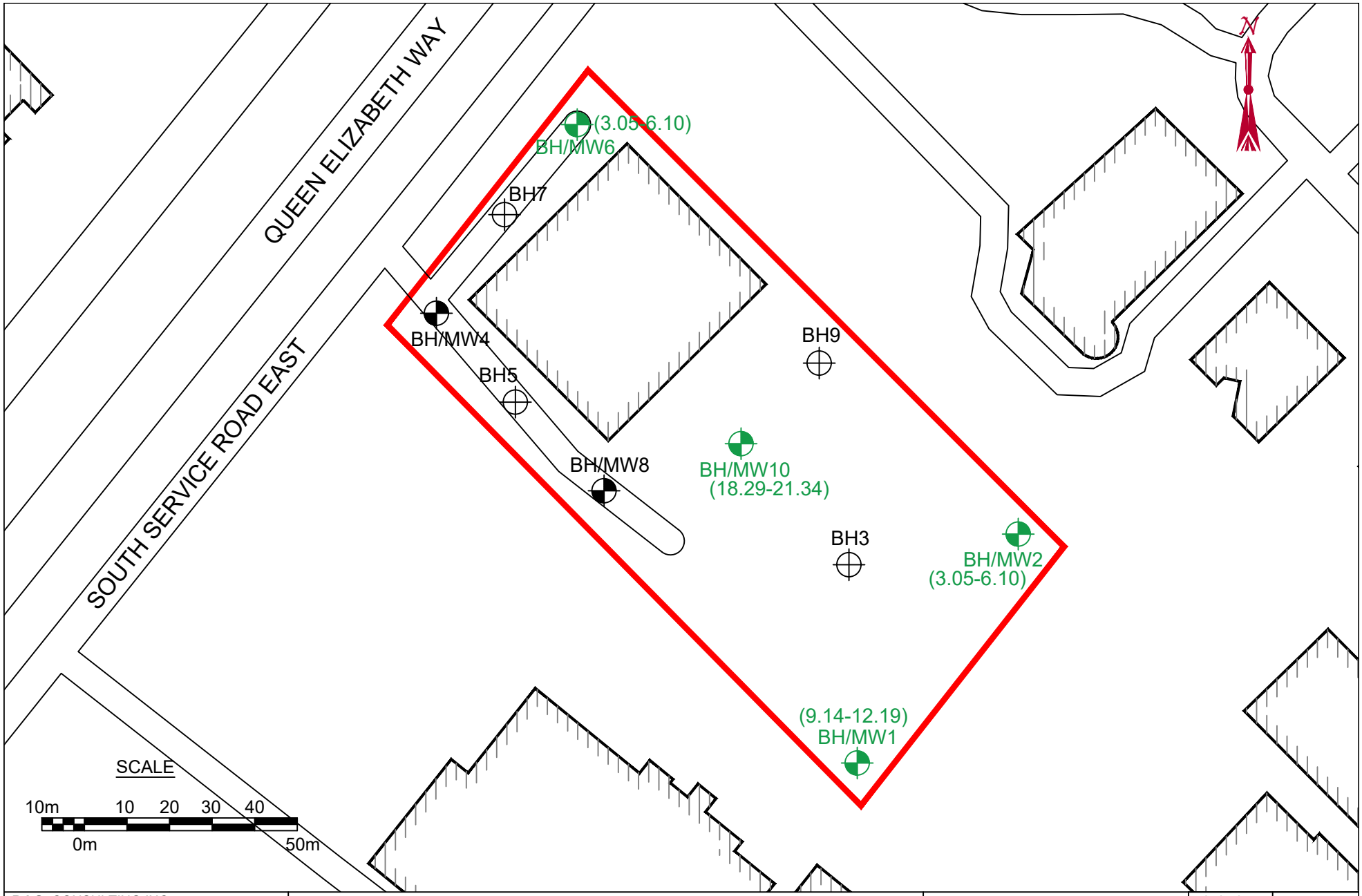
LEGEND

- SITE BOUNDARY
- BUILDING FOOTPRINT
- LOCATION OF BOREHOLE/MONITORING WELL
- LOCATION OF BOREHOLE
- EXCEEDS MECP TABLE 2 SCS
- MEETS MECP TABLE 2 SCS
- [xx.xx] WELL SCREEN DEPTH (m bgs)

TITLE AND LOCATION

PHCs IN GROUNDWATER
PHASE II ESA
166 SOUTH SERVICE ROAD EAST,
OAKVILLE, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-457A	L.C.K.
SCALE	CK.
AS NOTED	R.M.
DATE	FIG NO.
JUNE 2021	7



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LEGEND

- SITE BOUNDARY
- BUILDING FOOTPRINT
- LOCATION OF BOREHOLE/MONITORING WELL
- LOCATION OF BOREHOLE
- EXCEEDS MECP TABLE 2 SCS
- MEETS MECP TABLE 2 SCS
- [xx.xx] WELL SCREEN DEPTH (m bgs)

TITLE AND LOCATION

VOCs IN GROUNDWATER
PHASE II ESA
166 SOUTH SERVICE ROAD EAST,
OAKVILLE, ONTARIO

PROJECT NO.	DWN.
BIGC-ENV-457A	L.C.K.
SCALE	CK.
AS NOTED	R.M.
DATE	FIG NO.
JUNE 2021	8

Appendix A - Site Sampling and Analysis Plan

1. Introduction

This appendix presents the Sampling and Analysis Plan (SAAP) that was developed in support of the Phase II Environmental Site Assessment (ESA), which will be conducted to provide further characterization of the Site subsurface conditions. The SAAP 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 IIESA.

The SAAP 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 I 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 3 m long screens extending to a maximum depth of approximately 21.3 m 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 23.5 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 dedicated bailers. 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 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 head-space.

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 II 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 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 – Borehole Logs

RECORD OF BOREHOLE No. BH/MW1

Project Number:	BIGC-ENV-457A	Drilling Location:	See Borehole Location Plan	Logged by:	AB
Project Client:	Distrikt Capital	Drilling Method:	150 mm Hollow Stem Augering	Compiled by:	AB
Project Name:	Preliminary Geotechnical Investigation	Drilling Machine:	Truck Mounted Drill	Reviewed by:	SS
Project Location:	166 South Service Road East, Oakville, Ontario	Date Started:	27 Apr 21 Date Completed: 27 Apr 21	Revision No.:	0, 28/5/21

Geodetic Ground Surface Elevation: 104.79 m

Depth (m)	Elevation (m)	Description	Sample Type	Sample Number	Recovery (%)	SPT 'N' Value/RQD%
0.0	104.64	**TOPSOIL:** 150 mm				
0.2		**FILL:** clayey silt, trace sand, trace gravel, top soil inclusions, fragments of Shale, dark brown, damp, stiff	SS	1	95	8
			SS	2	84	9
1.5	103.27	**CLAYEY SILT TILL:** trace to some sand, trace gravel, fragments of Shale, reddish brown, moist, very stiff to hard	SS	3	92	29
		- grey	SS	4	70	41
3.1	101.74	**BEDROCK:** Shale, highly weathered, fragments of Limestone, reddish brown, moist, hard	SS	5	57	50/8
			SS	6	40	50/5
			SS	7	80	50/10
			SS	8	100	50/5
			SS	9	100	50/8
			SS	10	100	50/3
12.2	92.57		SS	11	100	50/3
		End of Borehole				

Notes:
1. Borehole open upon completion of drilling.
2. Ground water level reading at 3.66 m bgs upon completion of drilling.
3. Groundwater level reading at 6.25 m bgs on May 4, 2021.

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

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Canada
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F: 416-551-2633

▽ Groundwater depth on completion of drilling: 3.66 m. ■ Cave in depth recorded on completion of drilling: Open m.

▼ Groundwater depth observed on 04/05/2021 at a depth of: 6.25 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/MW2

Project Number:	BIGC-ENV-457A	Drilling Location:	See Borehole Location Plan	Logged by:	AB
Project Client:	Distrikt Capital	Drilling Method:	150 mm Hollow Stem Augering	Compiled by:	AB
Project Name:	Preliminary Geotechnical Investigation	Drilling Machine:	Truck Mounted Drill	Reviewed by:	SS
Project Location:	166 South Service Road East, Oakville, Ontario	Date Started:	27 Apr 21	Date Completed: 27 Apr 21	Revision No.: 0, 28/5/21

Geodetic Ground Surface Elevation: 104.63 m

Depth (m)	Description	Elevation (m)	Sample Type	Sample Number	Recovery (%)	SPT 'N' Value/RQD%	Field Testing (Undrained Shear Strength (kPa))	Lab Testing	Instrumentation Installation	Comments
0	**TOPSOIL:** 150 mm (104.48)									
0.2	**FILL:** clayey silt, trace gravel, top soil inclusions, fragments of Shale, dark brown, moist, very soft to stiff		SS	1	51	2				
1.1	**CLAYEY SILT TILL:** trace sand, trace gravel, fragments of Shale, light brown, moist, stiff to hard (103.56)		SS	2	84	15				
	- sandy - possible cobble/boulder		SS	3	90	50/15				Gr-1%; Sa-24%; Si-51%; Cl-25%
			SS	4	0	50/15				
3.3	**BEDROCK:** Shale, highly weathered, fragments of Limestone, reddish brown, moist, hard (101.33)		SS	5	32	50/10				
	------- grey		SS	6	63	50/8				
6.2	**End of Borehole** (98.48)		SS	7	100	50/5				

Notes:
1. Borehole open upon completion of drilling.
2. Ground water level reading at 3.66 m bgs upon completion of drilling.
3. Groundwater level reading at 2.64 m bgs on May 4, 2021.

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Groundwater depth on completion of drilling: 3.66 m.

Groundwater depth observed on 04/05/2021 at a depth of: 2.64 m.

Cave in depth recorded on completion of drilling: Open 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. BH3

Project Number:	BIGC-ENV-457A	Drilling Location:	See Borehole Location Plan	Logged by:	AB
Project Client:	Distrikt Capital	Drilling Method:	150 mm Hollow Stem Augering	Compiled by:	AB
Project Name:	Preliminary Geotechnical Investigation	Drilling Machine:	Truck Mounted Drill	Reviewed by:	SS
Project Location:	166 South Service Road East, Oakville, Ontario	Date Started:	27 Apr 21 Date Completed: 27 Apr 21	Revision No.:	0, 28/5/21

Geodetic Ground Surface Elevation: 105.12 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: 150 mm 104.97										
	FILL: clayey silt, trace gravel, top soil inclusions, fragments of Shale, dark brown, damp, hard 0.2	SS	1	70	32		105	○	▲ 18		
	- sand and gravel, brown, moist, dense - silty sand, trace gravel, topsoil inclusions, dark brown moist, compact 103.85 1.1	SS	2	95	10	1	104	○	▲ 14		
	CLAYEY SILT TILL: trace to some sand, trace gravel, fragments of Shale, brown, moist, stiff to hard - sandy silt/silty sand till, trace gravel, fragments of Shale, light brown, , moist, compact	SS	3	95	28	2	103	○	▲ 13		
		SS	4	54	45			○	▲ 13		
	102.07					3	102	○ 50/15			
	BEDROCK: Shale, highly weathered, fragments of Limestone, grey, moist to damp, hard 3.1	SS	5	53	50/15						
	100.50	SS	6	100	50/5	4	101	○ 50/5			
	End of Borehole 4.6										

Notes:
1. Borehole open upon completion of drilling.
2. Borehole dry upon completion of drilling.

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▽ Groundwater depth on completion of drilling: Dry m.

Cave in depth recorded on completion of drilling: Open 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'.

Scale: 1 : 74

RECORD OF BOREHOLE No. BH/MW4

Project Number:	BIGC-ENV-457A	Drilling Location:	See Borehole Location Plan	Logged by:	AB
Project Client:	Distrikt Capital	Drilling Method:	150 mm Hollow Stem Augering	Compiled by:	AB
Project Name:	Preliminary Geotechnical Investigation	Drilling Machine:	Truck Mounted Drill	Reviewed by:	SS
Project Location:	166 South Service Road East, Oakville, Ontario	Date Started:	27 Apr 21 Date Completed: 27 Apr 21	Revision No.:	0, 28/5/21

Geodetic Ground Surface Elevation: 105.59 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
	ASPHALT PAVEMENT: 200 mm asphalt over 200 mm granular bases 105.19	SS	1	59	4	0	105	○ 50	○ 17		
	FILL: clayey silt, trace sand, trace gravel, grey, very moist, soft 0.4 104.83										
	CLAYEY SILT TILL: trace sand, trace gravel, fragments of Shale, reddish brown, moist, hard 0.8	SS	2	59	38	1		○ 50	○ 10		
		SS	3	33	53	2	104	○ 50	○ 14		
	103.30										
	BEDROCK: Shale, highly weathered, fragments of Limestone, reddish brown, moist to damp, hard 2.3	SS	4	29	50/13		103	○ 50/13	○ 12		
		SS	5	33	50/15	3		○ 50/15			
						4	102				
		SS	6	100	50/13		101	○ 50/13			
						5					
		SS	7	63	50/8	6	100	○ 50/8			
		SS	8	60	50/5		99	○ 50/5			
						7					
		SS	9	100	50/3	8	98	○ 50/3			
		SS	10	100	50/3	9	97	○ 50/3			
						10	96				
		SS	11	100	50/3	11	95	○ 50/3			
	93.37						94				
	End of Borehole 12.2					12					

Notes:
1. Borehole open upon completion of drilling.
2. Ground water level reading at 4.57 m bgs upon completion of drilling.
3. Groundwater level reading at 3.46 m bgs on May 4, 2021.

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▽ Groundwater depth on completion of drilling: 4.57 m.

▼ Groundwater depth observed on 04/05/2021 at a depth of: 3.46 m.

■ Cave in depth recorded on completion of drilling: Open 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. BH5

Project Number:	BIGC-ENV-457A	Drilling Location:	See Borehole Location Plan	Logged by:	AB
Project Client:	Distrikt Capital	Drilling Method:	150 mm Hollow Stem Augering	Compiled by:	AB
Project Name:	Preliminary Geotechnical Investigation	Drilling Machine:	Truck Mounted Drill	Reviewed by:	SS
Project Location:	166 South Service Road East, Oakville, Ontario	Date Started:	27 Apr 21	Date Completed: 27 Apr 21	Revision No.: 0, 28/5/21

Geodetic Ground Surface Elevation: 105.62 m

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT 'N' Value/RQD%	DEPTH (m)	ELEVATION (m)
	ASPHALT PAVEMENT: 200 mm asphalt over 200 mm granular bases 105.22	SS	1	67	9		
	FILL: clayey silt, trace sand, trace gravel, grey, very moist, form 0.4	SS	2	75	6	1	105
	104.10						
	CLAYEY SILT TILL: trace sand, trace gravel, fragements of Shale, reddish brown, moist, hard 1.5	SS	3	95	35	2	104
	103.33						
	BEDROCK: Shale, highly weathered, fragments of Limestone, reddish brown, moist to damp 2.3	SS	4	38	50/13		103
	------- grey	SS	5	20	50/5	3	
	101.00	SS	6	60	50/3	4	102
	End of Borehole 4.6						101

Notes:
1. Borehole open upon completion of drilling.
2. Brehole dry upon completion of drilling.

FIELD TESTING

Penetration Testing: ○ SPT ● DCPT

MTO Vane*: △ Intact ▲ Remould

Nilcon Vane*: ◇ Intact ◆ Remould

* Undrained Shear Strength (kPa): 20 40 60 80

SPT 'N' values: 9, 6, 35, 50/13, 50/5, 50/3

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

Moisture content: 20, 20, 13

INSTRUMENTATION INSTALLATION

COMMENTS

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▽ Groundwater depth on completion of drilling: Dry m.

Cave in depth recorded on completion of drilling: Open 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'.

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RECORD OF BOREHOLE No. BH/MW6

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Project Number:	BIGC-ENV-457A	Drilling Location:	See Borehole Location Plan	Logged by:	AB
Project Client:	Distrikt Capital	Drilling Method:	150 mm Hollow Stem Augering	Compiled by:	AB
Project Name:	Preliminary Geotechnical Investigation	Drilling Machine:	Truck Mounted Drill	Reviewed by:	SS
Project Location:	166 South Service Road East, Oakville, Ontario	Date Started: 27 Apr 21	Date Completed: 27 Apr 21	Revision No.:	0, 28/5/21

LITHOLOGY PROFILE

Geodetic Ground Surface Elevation: 105.66 m

DESCRIPTION	Elevation (m)	Depth (m)
ASPHALT PAVEMENT: 200 mm asphalt over 200 mm granular bases	105.26	0.4
FILL: silty sand, some gravel, brown, moist, very loose	104.90	0.8
CLAYEY SILT TILL: trace sand, trace gravel, fragments of Shale, reddish brown, moist, hard	104.14	1.5
BEDROCK: Shale, highly weathered, occasional Limestone layers, reddish brown, moist, hard	99.53	6.1
End of Borehole		

Notes:
1. Borehole open upon completion of drilling.
2. Ground water level reading at 4.27 m bgs upon completion of drilling.
3. Groundwater level reading at 3.39 m bgs on May 4, 2021.

SOIL SAMPLING / FIELD TESTING / LAB TESTING

Sample Type	Sample Number	Recovery (%)	SPT 'N' Value/RQD%	Soil Vapour Reading (ppm)
SS	1	62	2	25
SS	2	67	36	19
SS	3	81	50/15	6
~~SS~~	~~4~~	~~60~~	~~50/5~~	11
SS	5	53	50/15	5
~~SS~~	~~6~~	~~100~~	~~50/3~~	
~~SS~~	~~7~~	~~100~~	~~50/3~~	

Field Testing legend: Penetration Testing: ○ SPT, ● DCPT; MTO Vane*: △ Intact, ▲ Remould; Nilcon Vane*: ◇ Intact, ◆ Remould; * Undrained Shear Strength (kPa) 20 40 60 80

Lab Testing legend: ★ 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

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Groundwater depth on completion of drilling: 4.27 m.

Groundwater depth observed on 04/05/2021 at a depth of: 3.39 m.

Cave in depth recorded on completion of drilling: Open 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'.

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RECORD OF BOREHOLE No. BH7

Project Number:	BIGC-ENV-457A	Drilling Location:	See Borehole Location Plan	Logged by:	AB
Project Client:	Distrikt Capital	Drilling Method:	150 mm Hollow Stem Augering	Compiled by:	AB
Project Name:	Preliminary Geotechnical Investigation	Drilling Machine:	Truck Mounted Drill	Reviewed by:	SS
Project Location:	166 South Service Road East, Oakville, Ontario	Date Started:	28 Apr 21	Date Completed: 28 Apr 21	Revision No.: 0, 28/5/21

Geodetic Ground Surface Elevation: 105.80 m

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT 'N' Value/RQD%	DEPTH (m)	ELEVATION (m)
	ASPHALT PAVEMENT: 200 mm asphalt over 200 mm granular bases 105.40	SS	1	25	4		
	FILL: clayey silt, trace sand, some sand, trace gravel, dark brown, moist, soft 0.4 105.04						
	CLAYEY SILT TILL: trace sand, trace gravel, fragments of Shale, reddish brown, moist, hard 0.8	SS	2	75	44	1	105
		SS	3	71	50/13		
						2	104
		SS	4	42	50/15		
	102.75						
	BEDROCK: Shale, highly weathered, occasional Limestone layers, reddish brown, damp, hard 3.1	SS	5	63	50/8	3	103
						4	102
	101.20	SS	6	100	50/3		
	End of Borehole 4.6						

Notes:
1. Borehole open upon completion of drilling.
2. Borehole dry upon completion of drilling.

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

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Groundwater depth on completion of drilling: Dry m.

Cave in depth recorded on completion of drilling: Open 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/MW8

Project Number:	BIGC-ENV-457A	Drilling Location:	See Borehole Location Plan	Logged by:	AB
Project Client:	Distrikt Capital	Drilling Method:	150 mm Hollow Stem Augering	Compiled by:	AB
Project Name:	Preliminary Geotechnical Investigation	Drilling Machine:	Truck Mounted Drill	Reviewed by:	SS
Project Location:	166 South Service Road East, Oakville, Ontario	Date Started:	28 Apr 21 Date Completed: 28 Apr 21	Revision No.:	0, 28/5/21

Geodetic Ground Surface Elevation: 105.63 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)	LAB TESTING: Rinse pH Values; Soil Vapour Reading (parts per million (ppm)); Lower Explosive Limit (LEL); W_P, W, W_L; Plastic / Liquid	INSTRUMENTATION INSTALLATION	COMMENTS
	ASPHALT PAVEMENT: 200 mm asphalt over 200 mm granular bases (105.23)	SS	1	13	7		105	50	8		
	FILL: sand and gravel, dark brown, moist, loose (0.4)										
	- clayey silt, some sand, trace gravel, dark brown, moist, soft (104.11)	SS	2	75	6	1	104		26		
	CLAYEY SILT TILL: trace sand, trace gravel, fragments of Shale, reddish brown, moist, very stiff to hard (1.5)	SS	3	84	26	2			18		Gr-2%; Sa-3%; Si-63%; Cl-35%
	(102.58)	SS	4	79	40	3 ▼	103		10		
	BEDROCK: Shale, highly weathered, occasional Limestone layers, reddish brown, moist to damp, hard (3.1)	SS	5	70	49		102		16		
		SS	6	60	50/5	4	101	50/5			
	(99.50)	SS	7	100	50/3	5 ▽ 6	100	50/3			
	End of Borehole (6.1)										

Notes:
1. Borehole open upon completion of drilling.
2. Ground water level reading at 4.88 m bgs upon completion of drilling.
3. Groundwater level reading at 3.01 m bgs on May 4, 2021.

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▽ Groundwater depth on completion of drilling: 4.88 m. ■ Cave in depth recorded on completion of drilling: Open m.

▼ Groundwater depth observed on 04/05/2021 at a depth of: 3.01 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. BH9

Project Number:	BIGC-ENV-457A	Drilling Location:	See Borehole Location Plan	Logged by:	AB
Project Client:	Distrikt Capital	Drilling Method:	150 mm Hollow Stem Augering	Compiled by:	AB
Project Name:	Preliminary Geotechnical Investigation	Drilling Machine:	Truck Mounted Drill	Reviewed by:	SS
Project Location:	166 South Service Road East, Oakville, Ontario	Date Started:	28 Apr 21 Date Completed: 28 Apr 21	Revision No.:	0, 28/5/21

LITHOLOGY PROFILE		SOIL SAMPLING						FIELD TESTING	LAB TESTING		
Lithology Plot	DESCRIPTION Geodetic Ground Surface Elevation: 105.46 m	Sample Type	Sample Number	Recovery (%)	SPT 'N' Value/RQD%	DEPTH (m)	ELEVATION (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	INSTRUMENTATION INSTALLATION	COMMENTS
	ASPHALT PAVEMENT: 200 mm asphalt over 200 mm granular bases 105.06	SS	1	67	6						
	FILL: silty sand, trace gravel, brown, moist, loose 0.4 - clayey silt, some sand, trace gravel, dark brown, moist, soft 103.94	SS	2	75	4	1	105				
	SILTY CLAY/ CLAYEY SILT TILL: trace sand, trace gravel, fragments of Shale, reddish brown, moist to damp, firm to hard 1.5	SS	3	207	8	2	104				
	102.41	SS	4	83	50/31	3	103				
	BEDROCK: Shale, highly weathered, fragments of Limestone, reddish brown, damp, hard 3.1	SS	5	80	50/10	4	102				
	100.84	SS	6	60	50/5		101				
	End of Borehole 4.6										

Notes:
1. Borehole open upon completion of drilling.
2. Borehole dry upon completion of drilling.

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▽ Groundwater depth on completion of drilling: Dry m.

Cave in depth recorded on completion of drilling: Open 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/MW10

Project Number:	BIGC-ENV-457A	Drilling Location:	See Borehole Location Plan	Logged by:	AB
Project Client:	Distrikt Capital	Drilling Method:	150 mm Hollow Stem Augering + Rock Coring	Compiled by:	AB
Project Name:	Preliminary Geotechnical Investigation	Drilling Machine:	Truck Mounted Drill	Reviewed by:	SS
Project Location:	166 South Service Road East, Oakville, Ontario	Date Started:	28 Apr 21	Date Completed: 28 Apr 21	Revision No.: 0, 28/5/21

Geodetic Ground Surface Elevation: 105.44 m

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT 'N' Value/RQD%	DEPTH (m)	ELEVATION (m)	FIELD TESTING	LAB TESTING	INSTRUMENTATION INSTALLATION	COMMENTS
	ASPHALT PAVEMENT: 200 mm asphalt over 200 mm granular bases 105.04	SS	1	62	9	0	105				
	FILL: silty sand, some gravel, brown to grey, moist, loose 0.4 104.68										
	CLAYEY SILT TILL: trace sand, trace gravel, reddish brown, moist, firm 0.8	SS	2	95	6	1	104				
	- very stiff	SS	3	62	21	2					Gr-1%; Sa-2%; Si-58%; Cl-39%
	- occasional fragments of Shale, hard	SS	4	67	50/15		103				
	102.39					3					
	BEDROCK: Shale, highly weathered to excellent quality, occasional limestone layers, reddish brown to grey, damp to moist 3.1	SS	5	77	50/13		102				
		SS	6	63	50/8	4					
						5	101				
		SS	7	60	50/5	6					
							100				
		SS	8	0	50/3	7					
							99				
		SS	9	100	50/3	8					
							98				
		SS	10	60	50/5	9					
	ROCK CORE BEGINS						97				
	- Very Poor Quality	RC	1	57	0	10					
	grey						96				
	- Good Quality	RC	2	96	86	11					
							95				
	- Good Quality	RC	3	100	87	12					
							94				
						13					
							93				
						14					
							92				

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

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Groundwater depth on completion of drilling: Core water m.

Groundwater depth observed on 04/05/2021 at a depth of: 18.28 m.

Cave in depth recorded on completion of drilling: Open 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'.

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Continued on Next Page

RECORD OF BOREHOLE No. BH/MW10

Project Number: **BIGC-ENV-457A** Drilling Location: **See Borehole Location Plan** Logged by: **AB**

Lithology Plot	DESCRIPTION	Sample Type	Sample Number	Recovery (%)	SPT 'N' Value/RQD%	DEPTH (m)	ELEVATION (m)	FIELD TESTING	LAB TESTING	INSTRUMENTATION INSTALLATION	COMMENTS
	BEDROCK: Shale, highly weathered to excellent quality, occasional limestone layers, reddish brown to grey, damp to moist										
	- Good Quality	RC	4	100	81	15	91				
	- Good Quality	RC	5	100	85	16	90				
	- Excellent Quality	RC	6	100	95	17	89				
	- Good Quality	RC	7	100	84	18	88				
	------- clay seam, trace gravel, shale inclusion, grey, very moist ------- - Fair Quality	RC	8	79	54	19	87				
	- Excellent Quality	RC	9	100	91	20	86				
	81.97					21	85				
	End of Borehole 23.5					22	84				
						23	83				
							82				

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

Notes:
1. Borehole open upon completion of drilling.
2. Ground water level reading not measured due to core water upon completion of drilling.
3. Groundwater level reading at 18.28 m bgs on May 4, 2021.

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'.

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Appendix C – Analytical Results

Sample ID	MECP (2011) Table 2: Full Dpeth Generic SCS in a Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	BH9- SS2	BH10-SS1
Lab ID		2416765	2416771
Sampling Date		28-Apr-21	28-Apr-21
Soil Sample Depth (m)		0.76-1.37	0.0-0.61
Consultant		BIG	BIG
Laboratory		AGAT	AGAT
Benzene	0.21	<0.02	<0.02
Toluene	2.3	<0.05	<0.05
Ethylbenzene	2	<0.05	<0.05
Xylenes (Total)	3.1	<0.05	<0.05
PHC F1 (C6-C10)	65	<5	<5
PHC F1 (C6-C10) - BTEX	65	<5	<5
PHC F2 (C10-C16)	150	<10	<10
PHC F3 (C16-C34)	1300	<50	<50
PHC F4 (C34-C50)	5600	<50	<50
Reached baseline at C50?	-	Yes	Yes
PHC F4 (C34-C50)-gravimetric	5600	-	-

All soil concentrations reported in µg/g.
'<' = 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 2: Full Depth Generic SCS in a Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	BH1- SS1	BH2- SS1	BH3- SS2	BH4- SS1	BH5- SS2	BH6- SS2	BH7- SS1	BH8- SS2	BH9- SS1
Lab ID		2416477	2416488	2416489	2416490	2416491	2416651	2416722	2416725	2416728
Sampling Date		27-Apr-21	27-Apr-21	27-Apr-21	27-Apr-21	27-Apr-21	27-Apr-21	28-Apr-21	28-Apr-21	28-Apr-21
Soil Sample Depth (m)		0.0-0.61	0.0-0.61	0.76-1.37	0.0-0.61	0.76-1.37	0.76-1.37	0.0-0.61	0.76-1.37	0.0-0.61
Consultant		BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG
Laboratory		AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	AGAT
Acenaphthene	29	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	0.17	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	0.74	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)anthracene	0.63	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	0.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.21	<0.05
Benzo(b)fluoranthene	0.78	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(ghi)perylene	7.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	0.78	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	7.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz(a,h)anthracene	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	0.69	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	69	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	0.48	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1-Methylnaphthalene		-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	3.4	-	-	-	-	-	-	-	-	-
1&2-Methylnaphthalene		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Naphthalene	0.75	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	7.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	78	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

All soil concentrations reported in µg/g.
'<' = 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 2: Full Depth Generic SCS in a Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	BH1- SS1	BH2- SS1	BH3- SS2	BH4- SS1	BH5- SS2	BH6- SS1	BH7- SS1	BH8- SS2	BH9- SS1	BH10-SS4
Lab ID		2416477	2416488	2416489	2416490	2416491	2416504	2416722	2416725	2416728	2416786
Sampling Date		27-Apr-21	27-Apr-21	27-Apr-21	27-Apr-21	27-Apr-21	27-Apr-21	28-Apr-21	28-Apr-21	28-Apr-21	28-Apr-21
Soil Sample Depth (m)		0.0-0.61	0.0-0.61	0.76-1.37	0.0-0.61	0.76-1.37	0.0-0.61	0.0-0.61	0.76-1.37	0.0-0.61	2.29-2.90
Consultant		BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG	BIG
Laboratory		AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	AGAT	AGAT
Antimony	7.5	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	
Arsenic	18	8	6	7	2	4	6	8	7	6	
Barium	390	119	95	116	87	81	82	177	175	47	-
Beryllium	5	0.90	0.70	0.90	0.90	1.2	0.80	1.2	1.2	0.4	-
Boron (Total)	120	13	9	9	12	19	23	28	22	<5	-
Boron (Hot water soluble)	1.5	0.29	0.54	0.53	0.63	0.56	0.41	0.56	0.65	<0.10	-
Cadmium	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
Chromium (total)	160	24	41	23	20	26	21	30	28	12	-
Chromium VI	10	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-
Cobalt	22	12.6	8.7	11.8	8.3	13.5	11.2	15.9	14.1	5.6	-
Copper	180	56	48	42	10	24	27	37	17	37	-
Lead	120	15	17	10	5	7	9	7	7	9	-
Mercury	1.8	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	-
Molybdenum	6.9	0.80	1.1	1.3	<0.5	1.6	1.5	2.9	1.8	<0.5	-
Nickel	130	27	20	27	22	31	25	37	34	12	-
Selenium	2.4	<0.8	<0.8	<0.8	1.1	<0.8	<0.8	<0.8	<0.8	<0.8	-
Silver	25	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
Thallium	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
Uranium	23	0.70	1.0	1.3	1.4	1.7	0.70	0.85	1.5	<0.50	-
Vanadium	86	37	32	40	26	40	34	48	49	21	-
Zinc	340	76	68	58	66	74	76	72	62	37	-
Electrical Conductivity (mS/cm)	0.7	0.182	0.231	0.289	0.497	0.497	0.418	0.354	0.331	0.142	-
Sodium Adsorption Ratio (unitless)	5	0.693	0.992	1.380	4.710	4.130	**5.110**	4.350	2.780	0.740	-
Free Cyanide	0.051	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	-
pH (pH units)	5-9 (surface soil); 5-11 (subsurface soil)	7.71	7.60	7.52	7.60	7.62	7.89	7.93	7.18	7.68	7.76

All soil concentrations reported in µg/g.
'<' = 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.
pH level outside of the acceptable MOECC range

Sample ID	MOECC (2011) Table 2: Full Depth Generic SCS in a Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW1	MW2	MW6	MW10
Lab ID		2430912	2430930	2430931	2430932
Sampling Date		5-May-21	5-May-21	5-May-21	5-May-21
Screen Depth Interval (m)		9.14-12.19	3.05-6.10	3.05-6.10	18.29-21.34
Consultant		BIG	BIG	BIG	BIG
Laboratory		AGAT	AGAT	AGAT	AGAT
PHC F1 (C6-C10)	750	<25	<25	<25	<25
PHC F1 (C6-C10) - BTEX	750	<25	<25	<25	<25
PHC F2 (C10-C16)	150	<100	<100	<100	<100
PHC F3 (C16-C34)	500	<100	<100	<100	<100
PHC F4 (C34-C50)	500	<100	<100	<100	<100
Reached baseline at C50?	-	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 2: Full Depth Generic SCS in a Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW1	MW2	MW6	MW10
Lab ID		2430912	2430930	2430931	2430932
Sampling Date		5-May-21	5-May-21	5-May-21	5-May-21
Screen Depth Interval (m)		9.14-12.19	3.05-6.10	3.05-6.10	18.29-21.34
Consultant		BIG	BIG	BIG	BIG
Laboratory		AGAT	AGAT	AGAT	AGAT
Acetone	2700	<1.0	<1.0	<1.0	<4.0
Benzene	5	0.62	<0.20	<0.20	<0.80
Bromodichloromethane	16	<0.20	<0.20	<0.20	<0.80
Bromoform	25	<0.10	<0.10	<0.10	<0.40
Bromomethane	0.89	<0.20	<0.20	<0.20	<0.80
Carbon Tetrachloride	5	<0.20	<0.20	<0.20	<0.79
Chlorobenzene	30	<0.10	<0.10	<0.10	<0.40
Chloroform	22	<0.20	<0.20	<0.20	<0.80
Dibromochloromethane	25	<0.10	<0.10	<0.10	<0.40
1,2-Dichlorobenzene	3	<0.10	<0.10	<0.10	<0.40
1,3-Dichlorobenzene	59	<0.10	<0.10	<0.10	<0.40
1,4-Dichlorobenzene	1	<0.10	<0.10	<0.10	<0.40
Dichlorodifluoromethane	590	<0.20	<0.20	<0.20	<0.80
1,1-Dichloroethane	5	<0.30	<0.30	<0.30	<1.20
1,2-Dichloroethane	5	<0.20	<0.20	<0.20	<0.80
1,1-Dichloroethylene	14	<0.30	<0.30	<0.30	<1.20
cis-1,2-Dichloroethylene	17	<0.20	<0.20	<0.20	<0.80
trans-1,2-Dichloroethylene	17	<0.20	<0.20	<0.20	<0.80
1,2-Dichloropropane	5	<0.20	<0.20	<0.20	<0.80
cis-1,3-Dichloropropene	0.5	<0.30	<0.30	<0.30	<1.20
trans-1,3-Dichloropropene	0.5				
Ethylbenzene	2.4	<0.10	<0.10	<0.10	<0.40
Ethylene Dibromide (1,2-Dibromoethan	0.2	<0.10	<0.10	<0.10	<0.25
Hexane (n)	520	<0.20	<0.20	<0.20	<0.80
Methylene chloride (Dichloromethane)	50	<0.30	<0.30	<0.30	<1.20
Methyl ethyl ketone (2-Butanone)	1800	<1.0	<1.0	<1.0	<4.0
Methyl Isobutyl Ketone	640	<1.0	<1.0	<1.0	<4.0
Methyl t-butyl ether (MTBE)	15	<0.20	<0.20	<0.20	<0.80
Styrene	5.4	<0.10	<0.10	<0.10	<0.40
1,1,1,2-Tetrachloroethane	1.1	<0.10	<0.10	<0.10	<0.40
1,1,2,2-Tetrachloroethane	1	<0.10	<0.10	<0.10	<0.40
Tetrachloroethylene	17	<0.20	<0.20	<0.20	<0.80
Toluene	24	<0.20	<0.20	<0.20	<0.80
1,1,1-Trichloroethane	200	<0.30	<0.30	<0.30	<1.20
1,1,2-Trichloroethane	5	<0.20	<0.20	<0.20	<0.80
Trichloroethylene	5	<0.20	<0.20	<0.20	<0.80
Trichlorofluoromethane	150	<0.40	<0.40	<0.40	<1.60
Vinyl Chloride	1.7	<0.17	<0.17	<0.17	<0.50
m-Xylene + p-Xylene	NV	<0.20	<0.20	<0.20	<0.80
o-Xylene	NV	<0.10	<0.10	<0.10	<0.40
Xylenes (total)	300	<0.20	<0.20	<0.20	<0.80

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.

Appendix D - Laboratory Certificates of Analysis

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

CLIENT NAME: B.I.G. CONSULTING INC.
12-5500 TOMKEN ROAD
MISSISSAUGA, ON L4W 2Z4
416-214-4880
ATTENTION TO: Rebecca Morrison
PROJECT: BIGC-ENV-457A
AGAT WORK ORDER: 21T742871
TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist
DATE REPORTED: May 13, 2021
PAGES (INCLUDING COVER): 9
VERSION*: 1

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

Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days following analysis, unless expressly agreed otherwise in writing. Please contact your Client Project Manager if you require additional sample storage time.
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Western Enviro-Agricultural Laboratory Association (WEALA)
Environmental Services Association of Alberta (ESAA)

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AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 21T742871

PROJECT: BIGC-ENV-457A

CLIENT NAME: B.I.G. CONSULTING INC.

ATTENTION TO: Rebecca Morrison

SAMPLING SITE:166 South Service Road East

SAMPLED BY:AB

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

DATE RECEIVED: 2021-05-05

DATE REPORTED: 2021-05-13

				SAMPLE DESCRIPTION:	MW1	MW2	MW6	MW10
				SAMPLE TYPE:	Water	Water	Water	Water
				DATE SAMPLED:	2021-05-05 13:00	2021-05-05 13:15	2021-05-05 13:30	2021-05-05 13:45
Parameter	**Unit**	**G / S**	**RDL**		**2430912**	**2430930**	**2430931**	**2430932**
F1 (C6 - C10)	µg/L	750	25		<25	<25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L	750	25		<25	<25	<25	<25
F2 (C10 to C16)	µg/L	150	100		<100	<100	<100	<100
F3 (C16 to C34)	µg/L	500	100		<100	<100	<100	<100
F4 (C34 to C50)	µg/L	500	100		<100	<100	<100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500		NA	NA	NA	NA
Sediment					No	No	No	No
Surrogate	**Unit**	**Acceptable Limits**						
Toluene-d8	% Recovery	50-140			92.8	98.5	94.2	98.5
Terphenyl	%	60-140			74	111	120	100

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ON T2 PGW MFT
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

2430912-2430932 The C6-C10 fraction is calculated using Toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and nC34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16 - C50 and are only determined if the chromatogram of the C34 - C50 Hydrocarbons indicated that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6-C50 results are corrected for BTEX contribution.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.
Fractions 1-4 are quantified with the contribution of PAHs. Under Ontario Regulation 153, results are considered valid without determining the PAH contribution if not requested by the client.
Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: NPopowkolof

Results relate only to the items tested. Results apply to samples as received.

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 21T742871

PROJECT: BIGC-ENV-457A

CLIENT NAME: B.I.G. CONSULTING INC.

ATTENTION TO: Rebecca Morrison

SAMPLING SITE:166 South Service Road East

SAMPLED BY:AB

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

DATE RECEIVED: 2021-05-05 **DATE REPORTED: 2021-05-13**

		SAMPLE DESCRIPTION:		MW1	MW2	MW6		MW10
		SAMPLE TYPE:		Water	Water	Water		Water
		DATE SAMPLED:		2021-05-05 13:00	2021-05-05 13:15	2021-05-05 13:30		2021-05-05 13:45
Parameter	Unit	G / S	RDL	2430912	2430930	2430931	RDL	2430932
Dichlorodifluoromethane	µg/L	590	0.20	<0.20	<0.20	<0.20	0.80	<0.80
Vinyl Chloride	µg/L	1.7	0.17	<0.17	<0.17	<0.17	0.50	<0.50
Bromomethane	µg/L	0.89	0.20	<0.20	<0.20	<0.20	0.80	<0.80
Trichlorofluoromethane	µg/L	150	0.40	<0.40	<0.40	<0.40	1.60	<1.60
Acetone	µg/L	2700	1.0	<1.0	<1.0	<1.0	4.0	<4.0
1,1-Dichloroethylene	µg/L	14	0.30	<0.30	<0.30	<0.30	1.20	<1.20
Methylene Chloride	µg/L	50	0.30	<0.30	<0.30	<0.30	1.20	<1.20
trans- 1,2-Dichloroethylene	µg/L	17	0.20	<0.20	<0.20	<0.20	0.80	<0.80
Methyl tert-butyl ether	µg/L	15	0.20	<0.20	<0.20	<0.20	0.80	<0.80
1,1-Dichloroethane	µg/L	5	0.30	<0.30	<0.30	<0.30	1.20	<1.20
Methyl Ethyl Ketone	µg/L	1800	1.0	<1.0	<1.0	<1.0	4.0	<4.0
cis- 1,2-Dichloroethylene	µg/L	17	0.20	<0.20	<0.20	<0.20	0.80	<0.80
Chloroform	µg/L	22	0.20	<0.20	<0.20	<0.20	0.80	<0.80
1,2-Dichloroethane	µg/L	5	0.20	<0.20	<0.20	<0.20	0.80	<0.80
1,1,1-Trichloroethane	µg/L	200	0.30	<0.30	<0.30	<0.30	1.20	<1.20
Carbon Tetrachloride	µg/L	5.0	0.20	<0.20	<0.20	<0.20	0.79	<0.79
Benzene	µg/L	5.0	0.20	0.62	<0.20	<0.20	0.80	<0.80
1,2-Dichloropropane	µg/L	5	0.20	<0.20	<0.20	<0.20	0.80	<0.80
Trichloroethylene	µg/L	5	0.20	<0.20	<0.20	<0.20	0.80	<0.80
Bromodichloromethane	µg/L	16	0.20	<0.20	<0.20	<0.20	0.80	<0.80
Methyl Isobutyl Ketone	µg/L	640	1.0	<1.0	<1.0	<1.0	4.0	<4.0
1,1,2-Trichloroethane	µg/L	5	0.20	<0.20	<0.20	<0.20	0.80	<0.80
Toluene	µg/L	24	0.20	<0.20	<0.20	<0.20	0.80	<0.80
Dibromochloromethane	µg/L	25	0.10	<0.10	<0.10	<0.10	0.40	<0.40
Ethylene Dibromide	µg/L	0.2	0.10	<0.10	<0.10	<0.10	**0.25**	<0.25
Tetrachloroethylene	µg/L	17	0.20	<0.20	<0.20	<0.20	0.80	<0.80
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.10	<0.10	<0.10	<0.10	0.40	<0.40
Chlorobenzene	µg/L	30	0.10	<0.10	<0.10	<0.10	0.40	<0.40
Ethylbenzene	µg/L	2.4	0.10	<0.10	<0.10	<0.10	0.40	<0.40

Certified By: N Popnikolof

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AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 21T742871

PROJECT: BIGC-ENV-457A

CLIENT NAME: B.I.G. CONSULTING INC.

ATTENTION TO: Rebecca Morrison

SAMPLING SITE:166 South Service Road East

SAMPLED BY:AB

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

DATE RECEIVED: 2021-05-05 **DATE REPORTED: 2021-05-13**

		SAMPLE DESCRIPTION:		MW1	MW2	MW6		MW10
		SAMPLE TYPE:		Water	Water	Water		Water
		DATE SAMPLED:		2021-05-05 13:00	2021-05-05 13:15	2021-05-05 13:30		2021-05-05 13:45
Parameter	**Unit**	**G / S**	**RDL**	**2430912**	**2430930**	**2430931**	**RDL**	**2430932**
m & p-Xylene	µg/L		0.20	<0.20	<0.20	<0.20	0.80	<0.80
Bromoform	µg/L	25	0.10	<0.10	<0.10	<0.10	0.40	<0.40
Styrene	µg/L	5.4	0.10	<0.10	<0.10	<0.10	0.40	<0.40
1,1,2,2-Tetrachloroethane	µg/L	1	0.10	<0.10	<0.10	<0.10	0.40	<0.40
o-Xylene	µg/L		0.10	<0.10	<0.10	<0.10	0.40	<0.40
1,3-Dichlorobenzene	µg/L	59	0.10	<0.10	<0.10	<0.10	0.40	<0.40
1,4-Dichlorobenzene	µg/L	1	0.10	<0.10	<0.10	<0.10	0.40	<0.40
1,2-Dichlorobenzene	µg/L	3	0.10	<0.10	<0.10	<0.10	0.40	<0.40
1,3-Dichloropropene	µg/L	0.5	0.30	<0.30	<0.30	<0.30	**1.20**	<1.20
Xylenes (Total)	µg/L	300	0.20	<0.20	<0.20	<0.20	0.80	<0.80
n-Hexane	µg/L	520	0.20	<0.20	<0.20	<0.20	0.80	<0.80
Surrogate	**Unit**	**Acceptable Limits**						
Toluene-d8	% Recovery	50-140		100	95	95	**4**	95
4-Bromofluorobenzene	% Recovery	50-140		100	99	97	**4**	98

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ON T2 PGW MFT
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

2430912-2430931 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

2430932 Dilution factor=4
The sample was diluted because it was foamy. The reporting detection limit has been corrected for the dilution factor used.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popnikolof

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Quality Assurance

CLIENT NAME: B.I.G. CONSULTING INC.

AGAT WORK ORDER: 21T742871

PROJECT: BIGC-ENV-457A

ATTENTION TO: Rebecca Morrison

SAMPLING SITE:166 South Service Road East

SAMPLED BY:AB

Trace Organics Analysis

RPT Date: May 13, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (-BTEX) (Water)															
F1 (C6 - C10)	2429567		<25	<25	NA	< 25	81%	60%	140%	81%	60%	140%	69%	60%	140%
F2 (C10 to C16)	2440398		< 100	< 100	NA	< 100	111%	60%	140%	81%	60%	140%	70%	60%	140%
F3 (C16 to C34)	2440398		< 100	< 100	NA	< 100	101%	60%	140%	100%	60%	140%	71%	60%	140%
F4 (C34 to C50)	2440398		< 100	< 100	NA	< 100	105%	60%	140%	93%	60%	140%	100%	60%	140%
O. Reg. 153(511) - VOCs (Water)															
Dichlorodifluoromethane	2442663		<0.20	<0.20	NA	< 0.20	79%	50%	140%	99%	50%	140%	82%	50%	140%
Vinyl Chloride	2442663		<0.17	<0.17	NA	< 0.17	113%	50%	140%	103%	50%	140%	92%	50%	140%
Bromomethane	2442663		<0.20	<0.20	NA	< 0.20	102%	50%	140%	100%	50%	140%	97%	50%	140%
Trichlorofluoromethane	2442663		<0.40	<0.40	NA	< 0.40	98%	50%	140%	109%	50%	140%	117%	50%	140%
Acetone	2442663		<1.0	<1.0	NA	< 1.0	100%	50%	140%	95%	50%	140%	95%	50%	140%
1,1-Dichloroethylene	2442663		<0.30	<0.30	NA	< 0.30	95%	50%	140%	100%	60%	130%	106%	50%	140%
Methylene Chloride	2442663		<0.30	<0.30	NA	< 0.30	105%	50%	140%	95%	60%	130%	100%	50%	140%
trans- 1,2-Dichloroethylene	2442663		<0.20	<0.20	NA	< 0.20	90%	50%	140%	92%	60%	130%	107%	50%	140%
Methyl tert-butyl ether	2442663		<0.20	<0.20	NA	< 0.20	101%	50%	140%	102%	60%	130%	91%	50%	140%
1,1-Dichloroethane	2442663		<0.30	<0.30	NA	< 0.30	101%	50%	140%	101%	60%	130%	110%	50%	140%
Methyl Ethyl Ketone	2442663		<1.0	<1.0	NA	< 1.0	116%	50%	140%	99%	50%	140%	93%	50%	140%
cis- 1,2-Dichloroethylene	2442663		<0.20	<0.20	NA	< 0.20	96%	50%	140%	87%	60%	130%	91%	50%	140%
Chloroform	2442663		<0.20	<0.20	NA	< 0.20	97%	50%	140%	96%	60%	130%	104%	50%	140%
1,2-Dichloroethane	2442663		<0.20	<0.20	NA	< 0.20	101%	50%	140%	101%	60%	130%	80%	50%	140%
1,1,1-Trichloroethane	2442663		<0.30	<0.30	NA	< 0.30	106%	50%	140%	109%	60%	130%	108%	50%	140%
Carbon Tetrachloride	2442663		<0.20	<0.20	NA	< 0.20	112%	50%	140%	111%	60%	130%	94%	50%	140%
Benzene	2442663		<0.20	<0.20	NA	< 0.20	103%	50%	140%	90%	60%	130%	90%	50%	140%
1,2-Dichloropropane	2442663		<0.20	<0.20	NA	< 0.20	90%	50%	140%	105%	60%	130%	97%	50%	140%
Trichloroethylene	2442663		<0.20	<0.20	NA	< 0.20	98%	50%	140%	95%	60%	130%	91%	50%	140%
Bromodichloromethane	2442663		<0.20	<0.20	NA	< 0.20	100%	50%	140%	116%	60%	130%	109%	50%	140%
Methyl Isobutyl Ketone	2442663		<1.0	<1.0	NA	< 1.0	88%	50%	140%	87%	50%	140%	111%	50%	140%
1,1,2-Trichloroethane	2442663		<0.20	<0.20	NA	< 0.20	99%	50%	140%	91%	60%	130%	115%	50%	140%
Toluene	2442663		<0.20	<0.20	NA	< 0.20	88%	50%	140%	98%	60%	130%	104%	50%	140%
Dibromochloromethane	2442663		<0.10	<0.10	NA	< 0.10	105%	50%	140%	95%	60%	130%	91%	50%	140%
Ethylene Dibromide	2442663		<0.10	<0.10	NA	< 0.10	85%	50%	140%	99%	60%	130%	75%	50%	140%
Tetrachloroethylene	2442663		<0.20	<0.20	NA	< 0.20	82%	50%	140%	94%	60%	130%	100%	50%	140%
1,1,1,2-Tetrachloroethane	2442663		<0.10	<0.10	NA	< 0.10	99%	50%	140%	97%	60%	130%	100%	50%	140%
Chlorobenzene	2442663		<0.10	<0.10	NA	< 0.10	104%	50%	140%	95%	60%	130%	100%	50%	140%
Ethylbenzene	2442663		<0.10	<0.10	NA	< 0.10	93%	50%	140%	96%	60%	130%	112%	50%	140%
m & p-Xylene	2442663		<0.20	<0.20	NA	< 0.20	101%	50%	140%	93%	60%	130%	114%	50%	140%
Bromoform	2442663		<0.10	<0.10	NA	< 0.10	92%	50%	140%	104%	60%	130%	97%	50%	140%
Styrene	2442663		<0.10	<0.10	NA	< 0.10	90%	50%	140%	89%	60%	130%	97%	50%	140%
1,1,2,2-Tetrachloroethane	2442663		<0.10	<0.10	NA	< 0.10	97%	50%	140%	91%	60%	130%	113%	50%	140%
o-Xylene	2442663		<0.10	<0.10	NA	< 0.10	80%	50%	140%	87%	60%	130%	105%	50%	140%

AGAT Laboratories is accredited to ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA) and/or Standards Council of Canada (SCC) for specific tests listed on the scope of accreditation. AGAT Laboratories (Mississauga) is also accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) for specific drinking water tests. Accreditations are location and parameter specific. A complete listing of parameters for each location is available from www.cala.ca and/or www.scc.ca. The tests in this report may not necessarily be included in the scope of accreditation. RPDs calculated using raw data. The RPD may not be reflective of duplicate values shown, due to rounding of final results.

Results relate only to the items tested. Results apply to samples as received.

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Quality Assurance

CLIENT NAME: B.I.G. CONSULTING INC.

AGAT WORK ORDER: 21T742871

PROJECT: BIGC-ENV-457A

ATTENTION TO: Rebecca Morrison

SAMPLING SITE:166 South Service Road East

SAMPLED BY:AB

Trace Organics Analysis (Continued)

RPT Date: May 13, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
1,3-Dichlorobenzene	2442663		<0.10	<0.10	NA	< 0.10	100%	50%	140%	86%	60%	130%	84%	50%	140%
1,4-Dichlorobenzene	2442663		<0.10	<0.10	NA	< 0.10	104%	50%	140%	89%	60%	130%	83%	50%	140%
1,2-Dichlorobenzene	2442663		<0.10	<0.10	NA	< 0.10	102%	50%	140%	100%	60%	130%	95%	50%	140%
n-Hexane	2442663		<0.20	<0.20	NA	< 0.20	100%	50%	140%	100%	60%	130%	77%	50%	140%

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

Certified By: N Popnikolof

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Method Summary

CLIENT NAME: B.I.G. CONSULTING INC.

AGAT WORK ORDER: 21T742871

PROJECT: BIGC-ENV-457A

ATTENTION TO: Rebecca Morrison

SAMPLING SITE:166 South Service Road East

SAMPLED BY:AB

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Toluene-d8	VOL-91-5009	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
F1 (C6 - C10)	VOL-91- 5010	modified from MOE PHC E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	modified from MOE PHC E3421	(P&T)GC/FID
F2 (C10 to C16)	VOL-91-5010	modified from MOE PHC E3421	GC / FID
F3 (C16 to C34)	VOL-91-5010	modified from MOE PHC E3421	GC / FID
F4 (C34 to C50)	VOL-91-5010	modified from MOE PHC E3421	GC / FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	modified from MOE PHC E3421	BALANCE
Terphenyl	VOL-91-5009	modified from MOE PHC E3421	GC/FID
Sediment			
Dichlorodifluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Vinyl Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
trans- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl tert-butyl ether	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
cis- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: B.I.G. CONSULTING INC.

AGAT WORK ORDER: 21T742871

PROJECT: BIGC-ENV-457A

ATTENTION TO: Rebecca Morrison

SAMPLING SITE:166 South Service Road East

SAMPLED BY:AB

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

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Chain of Custody Record

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

Laboratory Use Only
Work Order #: 21T742871
Cooler Quantity: 1 Med Blue Cbag of ice
Arrival Temperatures: 9.3 | 9.4 | 9.1
Custody Seal Intact: ☑ Yes ☐ No ☐ N/A
Notes:

Report Information:
Company: BIG Consulting Inc
Contact: Rebecca Morrison
Address: 6500 Tomken Road, Unit 12,
Mississauga, Ontario
Phone: Fax:
Reports to be sent to:
1. Email: R.Morrison@brownfield.ca
2. Email:

Regulatory Requirements:
(Please check all applicable boxes)

☒ Regulation 153/04
Table 3 (Indicate One)
☐ Ind/Com
☒ Res/Park
☐ Agriculture
Soil Texture (Check One)
☒ Coarse
☐ Fine

☐ Excess Soils R406
Table (Indicate One)
☐ Regulation 558
☐ CCME

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

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

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

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

Project Information:
Project: BIGC-EMW-45FA
Site Location: 166 South Service Road East
Sampled By: AB
AGAT ID #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:
Bill To Same: Yes ☒ No ☐
Company: Same as Report
Contact: Laine Dougherty
Address: Same as Report
Email: L.Dougherty@brownfield.ca

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC Y/N	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs, Analyze F4G if required ☑ Yes ☐ No	O. Reg 153: PAHs	O. Reg 153: Total PCBs ☐ Aroclor	O. Reg 153: VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	Potentially Hazardous or High Concentration (Y/N)
MW1	May 5, 2021	1:00 AM/PM	4	GW					X			X					
MW2	↓	1:15 AM/PM	3	GW					X			X					
MW6		1:30 AM/PM	3	GW					X			X					
MW10		1:45 AM/PM	3	GW					X			X					
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
[signature]	May 5, 2021	15:30	Neil Ramnarain		
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time

21 MAY 5 3:35PM
Page 1 of 1
N°: T 118259

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CANADA L4Z 1Y2
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CLIENT NAME: B.I.G. CONSULTING INC.
12-5500 TOMKEN ROAD
MISSISSAUGA, ON L4W 2Z4
416-214-4880
ATTENTION TO: Rebecca Morrison
PROJECT: BIGC-ENV-457A
AGAT WORK ORDER: 21T741387
SOIL ANALYSIS REVIEWED BY: Nivine Basily, Inorganics Report Writer
TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist
DATE REPORTED: May 10, 2021
PAGES (INCLUDING COVER): 17
VERSION*: 1

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

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days following analysis, unless expressly agreed otherwise in writing. Please contact your Client Project Manager if you require additional sample storage time.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This report shall not be reproduced or distributed, in whole or in part, without the prior written consent of AGAT Laboratories.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the information contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.

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AGAT Laboratories is accredited to ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA) and/or Standards Council of Canada (SCC) for specific tests listed on the scope of accreditation. AGAT Laboratories (Mississauga) is also accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) for specific drinking water tests. Accreditations are location and parameter specific. A complete listing of parameters for each location is available from www.cala.ca and/or www.scc.ca. The tests in this report may not necessarily be included in the scope of accreditation. Measurement Uncertainty is not taken into consideration when stating conformity with a specified requirement.

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Certificate of Analysis

AGAT WORK ORDER: 21T741387

PROJECT: BIGC-ENV-457A

CLIENT NAME: B.I.G. CONSULTING INC.

ATTENTION TO: Rebecca Morrison

SAMPLING SITE:166 South Service Road East

SAMPLED BY:AB

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

DATE RECEIVED: 2021-05-03

DATE REPORTED: 2021-05-10

SAMPLE DESCRIPTION:				BH1- SS1	BH2- SS1	BH3- SS2	BH4- SS1	BH5- SS2	BH6- SS1	BH7- SS1	BH8- SS2
SAMPLE TYPE:				Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
DATE SAMPLED:				2021-04-27 09:30	2021-04-27 12:15	2021-04-27 13:35	2021-04-27 14:25	2021-04-27 16:50	2021-04-27 17:30	2021-04-28 10:05	2021-04-28 11:15
Parameter	Unit	G / S	RDL	2416477	2416488	2416489	2416490	2416491	2416504	2416722	2416725
Antimony	µg/g	7.5	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	1	8	6	7	2	4	6	8	7
Barium	µg/g	390	2.0	119	95.3	116	87.1	80.7	81.5	177	175
Beryllium	µg/g	5	0.4	0.9	0.7	0.9	0.9	1.2	0.8	1.2	1.2
Boron	µg/g	120	5	13	9	9	12	19	23	28	22
Boron (Hot Water Soluble)	µg/g	1.5	0.10	0.29	0.54	0.53	0.63	0.56	0.41	0.56	0.65
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	160	5	24	41	23	20	26	21	30	28
Cobalt	µg/g	22	0.5	12.6	8.7	11.8	8.3	13.5	11.2	15.9	14.1
Copper	µg/g	180	1.0	55.7	48.4	41.5	10.3	23.6	27.2	37.4	17.0
Lead	µg/g	120	1	15	17	10	5	7	9	7	7
Molybdenum	µg/g	6.9	0.5	0.8	1.1	1.3	<0.5	1.6	1.5	2.9	1.8
Nickel	µg/g	130	1	27	20	27	22	31	25	37	34
Selenium	µg/g	2.4	0.8	<0.8	<0.8	<0.8	1.1	<0.8	<0.8	<0.8	<0.8
Silver	µg/g	25	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Thallium	µg/g	1	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Uranium	µg/g	23	0.50	0.70	0.99	1.29	1.40	1.68	0.70	0.85	1.47
Vanadium	µg/g	86	0.4	37.2	31.7	39.5	25.6	40.1	33.7	47.5	49.2
Zinc	µg/g	340	5	76	68	58	66	74	76	72	62
Chromium, Hexavalent	µg/g	10	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Cyanide, Free	µg/g	0.051	0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Mercury	µg/g	1.8	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	0.7	0.005	0.182	0.231	0.289	0.497	0.497	0.418	0.354	0.331
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	N/A	0.693	0.992	1.38	4.71	4.13	5.11	4.35	2.78
pH, 2:1 CaCl2 Extraction	pH Units	5.0-9.0	NA	7.71	7.60	7.52	7.60	7.62	7.89	7.93	7.18

Certified By:

Results relate only to the items tested. Results apply to samples as received.

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Certificate of Analysis

AGAT WORK ORDER: 21T741387

PROJECT: BIGC-ENV-457A

CLIENT NAME: B.I.G. CONSULTING INC.

ATTENTION TO: Rebecca Morrison

SAMPLING SITE:166 South Service Road East

SAMPLED BY:AB

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

DATE RECEIVED: 2021-05-03

DATE REPORTED: 2021-05-10

		SAMPLE DESCRIPTION:		BH9- SS1
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2021-04-28 12:25
Parameter	Unit	G / S	RDL	2416728
Antimony	µg/g	7.5	0.8	<0.8
Arsenic	µg/g	18	1	6
Barium	µg/g	390	2.0	47.1
Beryllium	µg/g	5	0.4	0.4
Boron	µg/g	120	5	<5
Boron (Hot Water Soluble)	µg/g	1.5	0.10	<0.10
Cadmium	µg/g	1.2	0.5	<0.5
Chromium	µg/g	160	5	12
Cobalt	µg/g	22	0.5	5.6
Copper	µg/g	180	1.0	36.9
Lead	µg/g	120	1	9
Molybdenum	µg/g	6.9	0.5	<0.5
Nickel	µg/g	130	1	12
Selenium	µg/g	2.4	0.8	<0.8
Silver	µg/g	25	0.5	<0.5
Thallium	µg/g	1	0.5	<0.5
Uranium	µg/g	23	0.50	<0.50
Vanadium	µg/g	86	0.4	21.4
Zinc	µg/g	340	5	37
Chromium, Hexavalent	µg/g	10	0.2	<0.2
Cyanide, Free	µg/g	0.051	0.040	<0.040
Mercury	µg/g	1.8	0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	0.7	0.005	0.142
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	N/A	0.740
pH, 2:1 CaCl2 Extraction	pH Units	5.0-9.0	NA	7.68

Certified By:

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AGAT WORK ORDER: 21T741387

PROJECT: BIGC-ENV-457A

CLIENT NAME: B.I.G. CONSULTING INC.

ATTENTION TO: Rebecca Morrison

SAMPLING SITE:166 South Service Road East

SAMPLED BY:AB

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

DATE RECEIVED: 2021-05-03

DATE REPORTED: 2021-05-10

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ON T2 S RPI MFT
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

2416477-2416728 EC was determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil). pH was determined on the 0.01M CaCl2 extract prepared at 2:1 ratio. SAR is a calculated parameter.

Analysis performed at AGAT Toronto (unless marked by *)

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AGAT WORK ORDER: 21T741387

PROJECT: BIGC-ENV-457A

CLIENT NAME: B.I.G. CONSULTING INC.

ATTENTION TO: Rebecca Morrison

SAMPLING SITE:166 South Service Road East

SAMPLED BY:AB

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

DATE RECEIVED: 2021-05-03

DATE REPORTED: 2021-05-10

				SAMPLE DESCRIPTION:	BH10-SS4
				SAMPLE TYPE:	Soil
				DATE SAMPLED:	2021-04-28 14:20
Parameter	Unit	G / S	RDL	2416786	
pH, 2:1 CaCl2 Extraction	pH Units	5.0-9.0	NA	7.76	

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ON T2 S RPI MFT
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

2416786 pH was determined on the 0.01M CaCl2 extract obtained from 2:1 leaching procedure (2 parts extraction fluid:1 part wet soil).

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

Results relate only to the items tested. Results apply to samples as received.

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AGAT WORK ORDER: 21T741387

PROJECT: BIGC-ENV-457A

CLIENT NAME: B.I.G. CONSULTING INC.

ATTENTION TO: Rebecca Morrison

SAMPLING SITE:166 South Service Road East

SAMPLED BY:AB

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

DATE RECEIVED: 2021-05-03

DATE REPORTED: 2021-05-10

SAMPLE DESCRIPTION:				BH1- SS1	BH2- SS1	BH3- SS2	BH4- SS1	BH5- SS2	BH6- SS2	BH7- SS1	BH8- SS2
SAMPLE TYPE:				Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
DATE SAMPLED:				2021-04-27 09:30	2021-04-27 12:15	2021-04-27 13:35	2021-04-27 14:25	2021-04-27 16:50	2021-04-27 17:40	2021-04-28 10:05	2021-04-28 11:15
Parameter	Unit	G / S	RDL	2416477	2416488	2416489	2416490	2416491	2416651	2416722	2416725
Naphthalene	µg/g	0.75	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	µg/g	0.17	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene	µg/g	29	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	µg/g	69	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	µg/g	7.8	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	µg/g	0.74	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	µg/g	0.69	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	µg/g	78	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benz(a)anthracene	µg/g	0.63	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	µg/g	7.8	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.78	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/g	0.78	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g	0.3	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.21
Indeno(1,2,3-cd)pyrene	µg/g	0.48	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g	0.1	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	7.8	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1 and 2 Methlynaphthalene	µg/g	3.4	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	13.7	14.3	9.7	12.5	17.9	13.6	16.1	17.9
Surrogate	Unit	Acceptable Limits									
Naphthalene-d8	%	50-140		72	90	105	84	75	86	80	67
Acenaphthene-d10	%	50-140		75	113	107	100	88	101	85	88
Chrysene-d12	%	50-140		82	105	111	110	98	109	92	95

Certified By: NPopnikolof

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Certificate of Analysis

AGAT WORK ORDER: 21T741387

PROJECT: BIGC-ENV-457A

CLIENT NAME: B.I.G. CONSULTING INC.

ATTENTION TO: Rebecca Morrison

SAMPLING SITE:166 South Service Road East

SAMPLED BY:AB

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

DATE RECEIVED: 2021-05-03

DATE REPORTED: 2021-05-10

				SAMPLE DESCRIPTION:	BH9- SS1
				SAMPLE TYPE:	Soil
				DATE SAMPLED:	2021-04-28 12:25
Parameter	Unit	G / S	RDL		2416728
Naphthalene	µg/g	0.75	0.05		<0.05
Acenaphthylene	µg/g	0.17	0.05		<0.05
Acenaphthene	µg/g	29	0.05		<0.05
Fluorene	µg/g	69	0.05		<0.05
Phenanthrene	µg/g	7.8	0.05		<0.05
Anthracene	µg/g	0.74	0.05		<0.05
Fluoranthene	µg/g	0.69	0.05		<0.05
Pyrene	µg/g	78	0.05		<0.05
Benz(a)anthracene	µg/g	0.63	0.05		<0.05
Chrysene	µg/g	7.8	0.05		<0.05
Benzo(b)fluoranthene	µg/g	0.78	0.05		<0.05
Benzo(k)fluoranthene	µg/g	0.78	0.05		<0.05
Benzo(a)pyrene	µg/g	0.3	0.05		<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.48	0.05		<0.05
Dibenz(a,h)anthracene	µg/g	0.1	0.05		<0.05
Benzo(g,h,i)perylene	µg/g	7.8	0.05		<0.05
1 and 2 Methlynaphthalene	µg/g	3.4	0.05		<0.05
Moisture Content	%		0.1		12.1
Surrogate	Unit	Acceptable Limits			
Naphthalene-d8	%	50-140			99
Acenaphthene-d10	%	50-140			105
Chrysene-d12	%	50-140			108

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ON T2 S RPI MFT
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

2416477-2416728 Results are based on the dry weight of the soil.
Note: The result for Benzo(b)Fluoranthene is the total of the Benzo(b)&j)Fluoranthene isomers because the isomers co-elute on the GC column.
2- and 1-Methyl Naphthalene is a calculated parameter. The calculated value is the sum of 2-Methyl Naphthalene and 1-Methyl Naphthalene.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popnikolof

Results relate only to the items tested. Results apply to samples as received.

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Certificate of Analysis

AGAT WORK ORDER: 21T741387

PROJECT: BIGC-ENV-457A

CLIENT NAME: B.I.G. CONSULTING INC.

ATTENTION TO: Rebecca Morrison

SAMPLING SITE:166 South Service Road East

SAMPLED BY:AB

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

DATE RECEIVED: 2021-05-03

DATE REPORTED: 2021-05-10

				SAMPLE DESCRIPTION:	BH9- SS2	BH10-SS1
				SAMPLE TYPE:	Soil	Soil
				DATE SAMPLED:	2021-04-28 12:30	2021-04-28 14:05
Parameter	Unit	G / S	RDL		2416765	2416771
Benzene	µg/g	0.17	0.02		<0.02	<0.02
Toluene	µg/g	6	0.05		<0.05	<0.05
Ethylbenzene	µg/g	1.6	0.05		<0.05	<0.05
m & p-Xylene	µg/g		0.05		<0.05	<0.05
o-Xylene	µg/g		0.05		<0.05	<0.05
Xylenes (Total)	µg/g	25	0.05		<0.05	<0.05
F1 (C6 - C10)	µg/g	65	5		<5	<5
F1 (C6 to C10) minus BTEX	µg/g	65	5		<5	<5
F2 (C10 to C16)	µg/g	150	10		<10	<10
F3 (C16 to C34)	µg/g	1300	50		<50	<50
F4 (C34 to C50)	µg/g	5600	50		<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	5600	50		NA	NA
Moisture Content	%		0.1		16.8	12.6
Surrogate	Unit	Acceptable Limits				
Toluene-d8	% Recovery	60-140			96	84
Terphenyl	%	60-140			117	95

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 21T741387

PROJECT: BIGC-ENV-457A

CLIENT NAME: B.I.G. CONSULTING INC.

ATTENTION TO: Rebecca Morrison

SAMPLING SITE:166 South Service Road East

SAMPLED BY:AB

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

DATE RECEIVED: 2021-05-03

DATE REPORTED: 2021-05-10

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ON T2 S RPI MFT
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

2416765-2416771 Results are based on sample dry weight.
The C6-C10 fraction is calculated using Toluene response factor.
Xylenes is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX contribution.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.
Fractions 1-4 are quantified with the contribution of PAHs. Under Ontario Regulation 153, results are considered valid without determining the PAH contribution if not requested by the client.
Quality Control Data is available upon request.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: 

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AGAT Laboratories

Guideline Violation

AGAT WORK ORDER: 21T741387

PROJECT: BIGC-ENV-457A

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CLIENT NAME: B.I.G. CONSULTING INC.

ATTENTION TO: Rebecca Morrison

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
2416504	BH6- SS1	ON T2 S RPI MFT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	5.11

Results relate only to the items tested. Results apply to samples as received.

AGAT Laboratories

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Quality Assurance

CLIENT NAME: B.I.G. CONSULTING INC.
AGAT WORK ORDER: 21T741387

PROJECT: BIGC-ENV-457A
ATTENTION TO: Rebecca Morrison

SAMPLING SITE:166 South Service Road East
SAMPLED BY:AB

Soil Analysis

RPT Date: May 10, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals & Inorganics (Soil)															
Antimony	2428862		<0.8	<0.8	NA	< 0.8	111%	70%	130%	109%	80%	120%	76%	70%	130%
Arsenic	2428862		3	3	NA	< 1	129%	70%	130%	105%	80%	120%	111%	70%	130%
Barium	2428862		84.0	82.8	1.4%	< 2.0	100%	70%	130%	102%	80%	120%	92%	70%	130%
Beryllium	2428862		0.7	0.7	NA	< 0.4	120%	70%	130%	109%	80%	120%	120%	70%	130%
Boron	2428862		7	7	NA	< 5	93%	70%	130%	101%	80%	120%	100%	70%	130%
Boron (Hot Water Soluble)	2416477	2416477	0.29	0.25	NA	< 0.10	84%	60%	140%	97%	70%	130%	98%	60%	140%
Cadmium	2428862		<0.5	<0.5	NA	< 0.5	123%	70%	130%	106%	80%	120%	106%	70%	130%
Chromium	2428862		21	21	NA	< 5	114%	70%	130%	106%	80%	120%	109%	70%	130%
Cobalt	2428862		8.1	7.9	2.5%	< 0.5	122%	70%	130%	108%	80%	120%	109%	70%	130%
Copper	2428862		17.6	17.3	1.7%	< 1.0	102%	70%	130%	106%	80%	120%	99%	70%	130%
Lead	2428862		10	9	10.5%	< 1	103%	70%	130%	87%	80%	120%	84%	70%	130%
Molybdenum	2428862		<0.5	<0.5	NA	< 0.5	122%	70%	130%	103%	80%	120%	107%	70%	130%
Nickel	2428862		16	16	0.0%	< 1	119%	70%	130%	108%	80%	120%	107%	70%	130%
Selenium	2428862		1.0	1.1	NA	< 0.8	93%	70%	130%	101%	80%	120%	103%	70%	130%
Silver	2428862		<0.5	<0.5	NA	< 0.5	119%	70%	130%	108%	80%	120%	101%	70%	130%
Thallium	2428862		<0.5	<0.5	NA	< 0.5	101%	70%	130%	100%	80%	120%	91%	70%	130%
Uranium	2428862		<0.50	<0.50	NA	< 0.50	102%	70%	130%	84%	80%	120%	83%	70%	130%
Vanadium	2428862		32.3	32.1	0.6%	< 0.4	127%	70%	130%	108%	80%	120%	113%	70%	130%
Zinc	2428862		58	57	1.7%	< 5	113%	70%	130%	108%	80%	120%	107%	70%	130%
Chromium, Hexavalent	2412351		<0.2	<0.2	NA	< 0.2	100%	70%	130%	97%	80%	120%	95%	70%	130%
Cyanide, Free	2375900		<0.040	<0.040	NA	< 0.040	106%	70%	130%	114%	80%	120%	88%	70%	130%
Mercury	2428862		<0.10	<0.10	NA	< 0.10	112%	70%	130%	99%	80%	120%	98%	70%	130%
Electrical Conductivity (2:1)	2416477	2416477	0.182	0.186	2.2%	< 0.005	101%	80%	120%						
Sodium Adsorption Ratio (2:1) (Calc.)	2416477	2416477	0.693	0.704	1.6%	NA									
pH, 2:1 CaCl2 Extraction	2375900		7.50	7.45	0.7%	NA	100%	80%	120%						

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

O. Reg. 153(511) - ORPs (Soil)															
pH, 2:1 CaCl2 Extraction	2375900		7.50	7.45	0.7%	NA	100%	80%	120%						

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

Certified By:

AGAT Laboratories is accredited to ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA) and/or Standards Council of Canada (SCC) for specific tests listed on the scope of accreditation. AGAT Laboratories (Mississauga) is also accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) for specific drinking water tests. Accreditations are location and parameter specific. A complete listing of parameters for each location is available from www.cala.ca and/or www.scc.ca. The tests in this report may not necessarily be included in the scope of accreditation. RPDs calculated using raw data. The RPD may not be reflective of duplicate values shown, due to rounding of final results.

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Quality Assurance

CLIENT NAME: B.I.G. CONSULTING INC.
AGAT WORK ORDER: 21T741387
PROJECT: BIGC-ENV-457A
ATTENTION TO: Rebecca Morrison
SAMPLING SITE:166 South Service Road East
SAMPLED BY:AB

Trace Organics Analysis

RPT Date: May 10, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	2416489	2416489	<0.05	<0.05	NA	< 0.05	92%	50%	140%	88%	50%	140%	92%	50%	140%
Acenaphthylene	2416489	2416489	<0.05	<0.05	NA	< 0.05	109%	50%	140%	76%	50%	140%	105%	50%	140%
Acenaphthene	2416489	2416489	<0.05	<0.05	NA	< 0.05	115%	50%	140%	77%	50%	140%	105%	50%	140%
Fluorene	2416489	2416489	<0.05	<0.05	NA	< 0.05	115%	50%	140%	73%	50%	140%	99%	50%	140%
Phenanthrene	2416489	2416489	<0.05	<0.05	NA	< 0.05	112%	50%	140%	74%	50%	140%	89%	50%	140%
Anthracene	2416489	2416489	<0.05	<0.05	NA	< 0.05	117%	50%	140%	74%	50%	140%	98%	50%	140%
Fluoranthene	2416489	2416489	<0.05	<0.05	NA	< 0.05	107%	50%	140%	86%	50%	140%	107%	50%	140%
Pyrene	2416489	2416489	<0.05	<0.05	NA	< 0.05	115%	50%	140%	85%	50%	140%	106%	50%	140%
Benz(a)anthracene	2416489	2416489	<0.05	<0.05	NA	< 0.05	104%	50%	140%	102%	50%	140%	102%	50%	140%
Chrysene	2416489	2416489	<0.05	<0.05	NA	< 0.05	105%	50%	140%	93%	50%	140%	114%	50%	140%
Benzo(b)fluoranthene	2416489	2416489	<0.05	<0.05	NA	< 0.05	109%	50%	140%	93%	50%	140%	98%	50%	140%
Benzo(k)fluoranthene	2416489	2416489	<0.05	<0.05	NA	< 0.05	79%	50%	140%	69%	50%	140%	87%	50%	140%
Benzo(a)pyrene	2416489	2416489	<0.05	<0.05	NA	< 0.05	100%	50%	140%	77%	50%	140%	91%	50%	140%
Indeno(1,2,3-cd)pyrene	2416489	2416489	<0.05	<0.05	NA	< 0.05	103%	50%	140%	58%	50%	140%	72%	50%	140%
Dibenz(a,h)anthracene	2416489	2416489	<0.05	<0.05	NA	< 0.05	112%	50%	140%	74%	50%	140%	95%	50%	140%
Benzo(g,h,i)perylene	2416489	2416489	<0.05	<0.05	NA	< 0.05	88%	50%	140%	73%	50%	140%	76%	50%	140%
O. Reg. 153(511) - PHCs F1 - F4 (Soil)															
Benzene	2414866		< 0.02	< 0.02	NA	< 0.02	86%	60%	140%	81%	60%	140%	116%	60%	140%
Toluene	2414866		< 0.05	< 0.05	NA	< 0.05	83%	60%	140%	95%	60%	140%	77%	60%	140%
Ethylbenzene	2414866		< 0.05	< 0.05	NA	< 0.05	90%	60%	140%	85%	60%	140%	107%	60%	140%
m & p-Xylene	2414866		< 0.05	< 0.05	NA	< 0.05	99%	60%	140%	99%	60%	140%	101%	60%	140%
o-Xylene	2414866		< 0.05	< 0.05	NA	< 0.05	98%	60%	140%	98%	60%	140%	107%	60%	140%
F1 (C6 - C10)	2414866		< 5	< 5	NA	< 5	99%	60%	140%	106%	60%	140%	103%	60%	140%
F2 (C10 to C16)	2415417		< 10	< 10	NA	< 10	93%	60%	140%	92%	60%	140%	92%	60%	140%
F3 (C16 to C34)	2415417		< 50	< 50	NA	< 50	87%	60%	140%	84%	60%	140%	76%	60%	140%
F4 (C34 to C50)	2415417		< 50	< 50	NA	< 50	82%	60%	140%	80%	60%	140%	84%	60%	140%

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

Certified By: N Popowkolof

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Results relate only to the items tested. Results apply to samples as received.

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CANADA L4Z 1Y2
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Method Summary

CLIENT NAME: B.I.G. CONSULTING INC.

AGAT WORK ORDER: 21T741387

PROJECT: BIGC-ENV-457A

ATTENTION TO: Rebecca Morrison

SAMPLING SITE:166 South Service Road East

SAMPLED BY:AB

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Antimony	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Arsenic	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Barium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Beryllium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron (Hot Water Soluble)	MET-93-6104	modified from EPA 6010D and MSA PART 3, CH 21	ICP/OES
Cadmium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Cobalt	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Copper	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Lead	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Molybdenum	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Nickel	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Selenium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Silver	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Thallium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Uranium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Vanadium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Zinc	MET 93 -6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium, Hexavalent	INOR-93-6068	modified from EPA 3060 and EPA 7196	SPECTROPHOTOMETER
Cyanide, Free	INOR-93-6052	modified from ON MOECC E3015, SM 4500-CN- I, G-387	TECHNICON AUTO ANALYZER
Mercury	MET-93-6103	modified from EPA 7471B and SM 3112 B	ICP-MS
Electrical Conductivity (2:1)	INOR-93-6036	modified from MSA PART 3, CH 14 and SM 2510 B	EC METER
Sodium Adsorption Ratio (2:1) (Calc.)	INOR-93-6007	modified from EPA 6010D & Analytical Protocol	ICP/OES
pH, 2:1 CaCl2 Extraction	INOR-93-6031	modified from EPA 9045D and MCKEAGUE 3.11	PH METER

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Method Summary

CLIENT NAME: B.I.G. CONSULTING INC.
AGAT WORK ORDER: 21T741387
PROJECT: BIGC-ENV-457A
ATTENTION TO: Rebecca Morrison
SAMPLING SITE:166 South Service Road East
SAMPLED BY:AB

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluorene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benz(a)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Chrysene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
1 and 2 Methlynaphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5106	modified from EPA 3541 and EPA 8270E	GC/MS
Acenaphthene-d10	ORG-91-5106	modified from EPA 3541 and EPA 8270E	GC/MS
Chrysene-d12	ORG-91-5106	modified from EPA 3541 and EPA 8270E	GC/MS
Moisture Content	ORG-91-5009	CCME Tier 1 Method	BALANCE
Benzene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Toluene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Ethylbenzene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
m & p-Xylene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
o-Xylene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Xylenes (Total)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
F1 (C6 - C10)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	P&T GC/FID
Toluene-d8	VOL-91-5009	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F4 (C34 to C50)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID

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Method Summary

CLIENT NAME: B.I.G. CONSULTING INC.

AGAT WORK ORDER: 21T741387

PROJECT: BIGC-ENV-457A

ATTENTION TO: Rebecca Morrison

SAMPLING SITE:166 South Service Road East

SAMPLED BY:AB

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Gravimetric Heavy Hydrocarbons	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Terphenyl	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID

Results relate only to the items tested. Results apply to samples as received.

AGAT Laboratories
5835 Coopers Avenue
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webearth.agatlabs.com

Chain of Custody Record

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

Report Information:

Company: BIG Consulting Inc.
Contact: Rebecca Morrison
Address: 5500 Tomken Road, Unit 12, Mississauga, Ontario, L4W 2Z4,
Phone: Fax:
Reports to be sent to:
1. Email: rmorrison@brownfieldgi.com
2. Email:

Project Information:

Project: BIGC-ENV-457A
Site Location: 166 South Service Road East
Samplod By: AB
AGAT ID #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☑ No ☐

Company: BIG Consulting Inc.
Contact: Laura Dougherty
Address: 5500 Tomken Road, Unit 12, Miss Ontario
Email: LDougherty@brownfieldgi.com

Regulatory Requirements:

(Please check all applicable boxes)

☑ Regulation 153/04 — Table 3 (Indicate One) — ☐ Ind/Com ☑ Res/Park ☐ Agriculture
Soil Texture (Check One): ☑ Coarse ☐ Fine
☐ Excess Soils R406 — Table (Indicate One)
☐ Regulation 558
☐ CCME
☐ Sewer Use ☐ Sanitary ☐ Storm — (Region)
☐ Prov. Water Quality Objectives (PWQO)
☐ Other (Indicate One)

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

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

Laboratory Use Only

Work Order #: 21T741387
Cooler Quantity: 1 Cooler / Bags Ice
Arrival Temperatures: 7.9 | 8.8 | 17.2
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes:

Turnaround Time (TAT) Required:

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

Sample Matrix Legend

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	BTEX, F1-F4 PHCs Analyze F4G if required ☑ Yes ☐ No	PAHs	Total PCBs ☐ Arocolor	VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	Potentially Hazardous or High Concentration (Y/N)
BH1-SS1	Apr 27, 2021	9:30 AM/PM	2	Soil			X			X							
BH2-SS1	Apr 27, 2021	12:15 AM/PM	2	Soil			X			X							
BH3-SS2	Apr 27, 2021	13:35 AM/PM	2	Soil			X			X							
BH4-SS1	Apr 27, 2021	14:25 AM/PM	2	Soil			X			X							
BH5-SS2	Apr 27, 2021	16:50 AM/PM	2	Soil			X			X							
BH6-SS1	Apr 27, 2021	17:30 AM/PM	1	Soil	Limited sample recovery		X										
BH6-SS2	Apr 27, 2021	17:40 AM/PM	1	Soil	limited sample recovery					X							
BH7-SS1	Apr 28, 2021	10:05 AM/PM	2	Soil			X			X							
BH8-SS2	Apr 28, 2021	11:15 AM/PM	2	Soil			X			X							
BH9-SS1	Apr 28, 2021	12:05 AM/PM	2	Soil			X			X							
BH9-SS2	Apr 28, 2021	12:30 AM/PM	3	Soil					X								

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
[signature]	May 3, 2021	13:15	Hadi Dawoud [signature]		
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time

'21 MAY 3 1:20PM

N°: T 116209

AGAT Laboratories
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Mississauga, Ontario L4Z 1Y2
Ph: 905.712.5100 Fax: 905.712.5122
webearth.agatlabs.com

Chain of Custody Record

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

Report Information:

Company: BIG Consulting Inc.
Contact: Rebecca Morrison
Address: 5500 Tomken Road, Unit 12, Mississauga Ontario, L4W 2Z4
Phone: _____ Fax: _____
Reports to be sent to:
1. Email: r.morrison@brownfieldgi.com
2. Email: _____

Project Information:

Project: BIGC-EAW-457A
Site Location: 166 South Service Road East
Sampled By: AB
AGAT ID #: _____ PO: _____
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☐ No ☐
Company: BIG Consulting Inc.
Contact: Laine Doughurty
Address: Same as report Info
Email: L Doughurty@brownfieldgi.com

Regulatory Requirements:

(Please check all applicable boxes)

- ☒ Regulation 153/04 — Table 3 (Indicate One) — ☐ Ind/Com ☒ Res/Park ☐ Agriculture — Soil Texture (Check One): ☒ Coarse ☐ Fine
- ☐ Excess Soils R406 — Table _____ (Indicate One)
- ☐ Regulation 558
- ☐ CCME
- ☐ Sewer Use ☐ Sanitary ☐ Storm — _____ Region
- ☐ Prov. Water Quality Objectives (PWQO)
- ☐ Other — _____ Indicate One

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

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

Laboratory Use Only

Work Order #: _____
Cooler Quantity: 1 Cooler / Bagged Ice
Arrival Temperatures: _____
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes: _____

Turnaround Time (TAT) Required:

Regular TAT (Most Analysis) ☒ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply): _____

Please provide prior notification for rush TAT
**TAT is exclusive of weekends and statutory holidays*

For 'Same Day' analysis, please contact your AGAT CPM

Sample Matrix Legend

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC Y/N	O. Reg 153: Metals & Inorganics	Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	BTEX, F1-F4 PHCs — Analyze F4G if required ☒ Yes ☐ No	PAHs	Total PCBs ☐ Aroclor	VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B/aP ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	pH	Potentially Hazardous or High Concentration (Y/N)
BH10-SS1	Apr 28, 2021	14:05 AM/PM	3	Soil					X									
BH10-SS4	Apr 28, 2021	14:20 AM/PM	1	Soil	Limited Sample recovery												X	
		AM/PM																
		AM/PM																
		AM/PM																
		AM/PM																
		AM/PM																
		AM/PM																
		AM/PM																
		AM/PM																
		AM/PM																

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
[signature]	May 3, 2021	13:14	Heidi Dawadi		
Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time

'21 MAY 3 1250

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