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A REPORT TO

AVENIA CONSTRUCTION INC.

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

DUE DILIGENCE FOR LAND ACQUISITION

NORTH OF DOUG LEAVENS BOULEVARD AND LISGAR DRIVE

BLOCK 356, PLAN 43M-1052 & BLOCK 366, PLAN 43M-1066

CITY OF MISSISSAUGA

Reference No. 2302-E052

March 31, 2023

DISTRIBUTION

3 Copies - Avenia Construction Inc.

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One must understand that the mandate of Soil Engineers Ltd. is to obtain readily available past and present information pertinent to the subject site and to analyze representative soil samples for a Phase Two Environmental Site Assessment only. No other warranty or representation, expressed or implied, as to the accuracy of the information is included or intended by this assessment. Site conditions, environmental or otherwise, are not static and this report documents site conditions observed at the time of the last sampling.

It should be noted that the information supplied in this report is not sufficient to obtain approval for disposal of excess soil or materials generated during construction.

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1.0 EXECUTIVE SUMMARY

Soil Engineers Ltd. (SEL) was retained by Avenia Construction Inc. to carry out a Phase Two Environmental Site Assessment (Phase Two ESA), as defined by Ontario Regulation (O. Reg.) 153/04, as amended for a property located to the north of Doug Leavens Boulevard and Lisgar Drive (Block 356, Plan 43M-1052 & Block 366, Plan 43M-1066), in the City of Mississauga, Ontario (hereinafter referred to as "the subject site").

The purpose of the Phase Two ESA was to assess the soil quality at the subject site, as related to the environmental concerns identified in the SEL Phase One Environmental Site Assessment (Phase One ESA).

The field work for the Phase Two ESA was performed at the selected locations on the subject site. Soil samples were collected and submitted for chemical analyses for contaminants of concern. The results of the soil samples were reviewed in comparison with the Ministry of the Environment, Conservation and Parks (MECP) Table 2 Full Depth Generic Site Condition Standards in a Potable Ground Water Condition Residential/ Parks/ Insitutional property use for coarse textured soil (Table 2 Standards) as published in the "Soil, Groundwater, Sediment Standards for use under Part XV.1 of the Environmental Protection act" (EPA), April 15, 2011.

A review of the analytical test results of soil samples indicates the tested parameters at the test locations meet the Table 2 Standards. Consequently, there are no contaminants identified at the subject site at a concentration above the applicable site condition standards (Table 2 Standards) during the Phase Two ESA.

Based on the findings of the Phase Two ESA, it is our opinion that the subject site property is suitable for the proposed development. No further environmental investigation is recommended at this time.

2.0 INTRODUCTION

Soil Engineers Ltd. (SEL) has carried out a Phase Two Environmental Site Assessment (Phase Two ESA), as defined by Ontario Regulation (O. Reg.) 153/04, as amended by O. Regs. 366/05, 66/08, 511/09, 245/10, 179/11, 269/11 and 333/13, herein referred to as O. Reg. 153/04 for a property located to the north of Doug Leavens Boulevard and Lisgar Drive (Block 356, Plan 43M-1052 & Block 366, Plan 43M-1066), in the City of Mississauga, Ontario (hereinafter referred to as "subject site").

The purpose of the Phase Two ESA was to determine the soil quality at the subject site, as related to the areas of potential environmental concern (APECs) identified in the SEL Phase One Environmental Site Assessment (Phase One ESA) for the subject site.

2.1 Site Description

The subject site is irregular in shape, encompassing an approximate area of 6.53 hectares (ha) (16.14 acres (ac)). The Phase Two Property is located to the north of Doug Leavens Boulecard and Lisgar Drive, in the City of Mississauga. The subject site is comprised of a two (2) Property Identification Numbers (PINs), documented as 13247-0752 (LT) and 13247-0478 (LT). The legal description of the subject site retrieved from the parcel registeres of the subject site are "PCL BLOCK 356-1 SEC 43M1052; BLK 356, PL 43M1052; S/T LT1354992 MISSISSAUGA" and "PCL BLOCK 366-1, SEC 43M1066; BLK 366, PL 43M1066; MISSISSAUGA", respectively.

At the time of the this assessment, the subject site was found to be vacant and was historically used for agricultural purposes. The neighbouring properties consist of residential structures to the west, south and further to the east, institutional structures to the north and a recreational field adjacent to the east of the subject site within the Phase One Study Area. Two roadways (i.e. Lisgar Drive and Doug Leavens Boulevard) are located adjacent to the west and approximately 60m to the east of the subject site, respectively. The ground surface at the subject site determined to be gently descends towards the south/ southeast direction.

2.2 Property Ownership

This Phase Two ESA was commissioned to address the items of environmental concerns in association with the proposed residential development in accordance with our proposal, as approved by Ms. Lisa La Civita, the representative of Avenia Construction Inc. on March 16, 2023. Our client can be contacted at:

Avenia Construction Inc,
8700 Dufferin Street.
Concord, Ontario,
L4K 4S6

Attention: Ms. Lisa La Civita, MCIP, RPP

2.3 Current and Proposed Future Uses

The subject site is currently vacant and it was historically used for agricultural purposes. The neighbouring properties consist of residential structures to the west, south and further to the east, institutional structures to the north and a recreational field adjacent to the east of the subject site within the Phase One Study Area. Two roadways (i.e. Lisgar Drive and Doug Leavens Boulevard) are located adjacent to the west and approximately 60m to the east of the subject site, respectively.

2.4 Applicable Site Condition Standards

SEL has selected the applicable regulatory standard from O. Reg. 153/04, as amended, made under the Environmental Protection Act (EPA), to assess the analytical data from the submitted soil samples. The following information was used to select the appropriate standard:

- The subject site is not considered to be environmentally sensitive based on the definition set forth in Ontario Regulation 153/04 as amended, as the property is not within/adjacent/part of an area of natural significance and the analytical testing indicated the pH of tested soil samples is between 5 and 9 for surface samples, and 5 and 11 for subsurface samples.
- The property is not a shallow soil property, as the bedrock was not encountered within 2.0 metres (m) below ground surface (mbgs) during the investigation.
- No watercourses or water bodies are located at the subject site or within 30 metres (m) from the subject site.
- Based on the information obtained from the SEL Phase One ESA, there are records of water wells at the neighbouring properties within 250 metres (m) from the subject site boundaries.
- Full Depth Generic Site Condition Standards are to be used in this assessment.
- The intended property use of the subject site is residential use.
- No grain size analysis has been performed; therefore, coarse textured soils standards will be applied.

Based on the above information, the Ministry of the Environment, Conservation and Parks (MECP) Table 2 Full Depth Generic Site Condition Standards in a Potable Ground Water Condition Residential/ Parks/ Insitutional property use for coarse textured soil (Table 2 Standards) as published in the "Soil, Groundwater, Sediment Standards for use under Part XV.1 of the Environmental Protection act" (EPA), April 15, 2011 has been selected for evaluating the environmental conditions at the subject site.

3.0 BACKGROUND

3.1 Physical Setting

Based on the information obtained from the SEL Phase One ESA, the general physical setting of the subject site is summarized below:

The subject site is located within a residential area in the City of Mississauga. The neighbouring properties consist of residential structures to the west, south and further to the east, institutional structures to the north and a recreational field adjacent to the east of the subject site within the Phase One Study Area. Two roadways (i.e. Lisgar Drive and Doug Leavens Boulevard) are located adjacent to the west and approximately 60m to the east of the subject site, respectively. A watercourse is located at approximately 110m to the northeast of the subject site.

According to the Surface Geology Map of the Phase One Study Area, the subject site is underlain by Halton Till with material documented as predominantly silt to silty clay matrix, high in matrix carbonate content and clast poor. The Bedrock Geology Map shows that the subject site is underlain by bedrock of the Queenston Formation. The rock description is documented as shale, limestone, dolostone and siltstone. According to the Bedrock Topography Series, the depth to bedrock in general vicinity of the subject site is approximately 3 meters below ground surface (mbgs). The overall grade of the subject site generally descends to the south/southeast direction.

A watershed map obtained from the Land Information Ontario (LIO), in March 2023, reveals that the subject site is situated in the Sixteen Mile Creek, within the Credit River Watershed.

Based on the review of the Ontario Ministry of the Natural Resources and Forestry (OMNRF) and the LIO for listings of various classes of natural areas within the vicinity of the subject site, there is no Area of Natural Significance or waterbody are located at the subject site or within 30 m from the subject site boundaries.

3.2 Past Investigations

The following Previous Investigation Report was reviewed as part of this Phase Two ESA:

- Phase One Environmental Site Assessment (Phase One ESA), Avenia Construction Inc., Due Diligence for Land Acquisistion, North of Doug Leavens Boulevard and Lisgar Drive, in the City of Mississauga, Reference No. 2302-E052, dated March 16, 2023.

The SEL Phase One ESA identified a number of Potential Contaminating Activities (PCAs) at the subject and in the Phase One Study Area that may have contributed to Areas of Potential Environmental Concerns (APECs) at the subject site), based on records review, interviews and site reconnaissance. The findings of the Phase One ESA included following APECs::

APEC 1: Potential use of pesticides during historical agricultural activities at the subject site.

APEC 2: Presence of imported earth fill material of unknown quality at the subject site.

The locations of the PCAs and APEC are shown on Drawing Nos. 1 and 2, respectively.

4.0 SCOPE OF THE INVESTIGATION

4.1 Overview of Site Investigation

The purpose of this investigation (Phase Two ESA) was to assess the soil quality at the subject site, as related to the potential environmental concerns raised in the findings of the SEL Phase One ESA. This Phase Two ESA was conducted in general conformance with the CSA Standard Z769-00 (reaffirmed in 2018) and O. Reg. 153/04, as amended.

The scope of work for this investigation includes:

- Locate the underground and overhead utilities.
- Conduct six (6) hand-dug test pits samples to the depths of 0.3 meters below ground surface (mbgs) and advance boreholes (designated as BH1 to BH6) at all test-pits locations to the depths of approximately from 5.2 mbgs to 6.6 mbgs.
- Collect representative soil samples from the sampling locations.
- Undertake field examination of the retrieved soil samples for visual and olfactory evidence of potential contamination.
- Undertake soil vapour measurements for the retrieved soil samples using a combustible gas detector (RKI Eagle) in methane elimination mode, calibrated with hexane and having a minimum detection level of 2 ppmv (parts per million by volume).
- Carry out an analytical testing program on selected soil samples including quality assurance and quality control (QA/QC) samples for one or more of the following parameters: Petroleum Hydrocarbon (PHCs), Benzene, Toluene, Ethylbenzene, Xylene (BTEX), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs), Organochlorine Pesticides (OCs), Metals and/or Inorganics parameters.
- Review analytical testing results of submitted soil samples using applicable Site Condition Standards (Table 2 Standards).
- Prepare a Phase Two ESA report containing the findings of the investigation.

The rationale for the selection of sampling locations is presented in the Sampling and Analysis Plan in Appendix 'A'.

4.2 Media Investigated

Based on the findings of the SEL Phase One ESA, soil medium was investigated during the Phase Two ESA in accordance with the Sampling and Analysis Plan provided in Appendix 'A'. Groundwater and sediment were not identified as potentially contaminated media in the Phase One ESA. Consequently, no groundwater and sediment investigation were conducted as part of this Phase Two ESA.

It is to be noted that boreholes were advanced using a track-mounted Geoprobe drill rig, equipped with flight augers solid stem with split spoon sampler, supplied by a specialist drilling contractor, ACE Environmnetal Drilling Ltd., as part of concurrent SEL Geotechnical Investigation in February, 2023. The information from this Geotechnical Investigation was used for determining soil stratigraphy and chemical analyses for the soil samples collected at the subject site.

During this Phase Two ESA field work, hand-dug test pits were also carried out at the close proximities at the geotechnical borehole locations. Soil samples were logged in the field and headspace vapour screening was conducted for all retrieved soil samples using a combustible gas detector (RKI Eagle) in methane elimination mode, calibrated with hexane and having a minimum detection level of 2 parts per million by volume (ppmv).

4.3 Phase One Conceptual Site Model

A plan, illustrating the features of the subject site and surrounding areas within 250 m from the subject site boundaries including the locations of PCAs, is presented in Drawing No. 1.

4.4 Deviations From Sampling and Analysis Plan

No deviations from the sampling and analysis plan were encountered.

4.5 Impediments

No impediments were encountered during the investigation for the Phase Two ESA.

5.0 INVESTIGATION METHOD

5.1 General

The Phase Two ESA was carried out in accordance with the Sampling and Analysis Plan presented in Appendix 'A' and in accordance with the SEL Standard Operating Procedures (SOPs).

The field work for the Phase Two ESA consisted of conducting six (6) hand-dug test pits samples and advancing six (6) boreholes at all test pits locations as part of SEL Geotechnical Investigation at the subject site, field screening measurements, monitoring, and collection of soil samples from the soil sampling locations for chemical analyses. The soil samples were assessed for the potential contamination with respect to the APECs identified in the SEL Phase One ESA.

The sampling and decontamination procedures were conducted in accordance with the "Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario", May 1996, revised December 1996, as amended by O. Reg. 511/09.

Laboratory analytical methods, protocols and procedures were carried out in accordance with the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act", dated March 9, 2004, amended as of July 1, 2011, in accordance with O. Reg. 511/09 and O. Reg. 269/11.

5.2 Drilling and Excavating

Prior to the field work, the underground utilities were located and marked out in the field by representatives of the major utility companies through Ontario One Call initiative program and a private locator, All Clear Locates.

The field work consists of carrying out six (6) hand-dug test pits (designated as TP1 to TP6)

wth respect to the Phase Two ESA, up to a maximum depth of 0.3 mbgs and and advancing six (6) boreholes (designated BH 1 to BH6) to depths of ranging from aproximately 5.2 mbgs to 6.6 mbgs, at the approximate test pit locations.

The locations of the test pits and boreholes are shown on Drawing No. 2.

All boreholes were advanced using a track-mounted Geoprobe drill rig, equipped with flight augers and split spoon sampler, supplied by a specialist drilling contractor, ACE Environmental Drilling Ltd. Soil samples retrieved from boreholes were recovered continuously for soil vapour measurement, soil classification and visual and olfactory observations for potential contamination.

Drilling and sampling equipment such as drill rigs, augers, drill pipes, drilling rods, spade were decontaminated prior to initial use, between borehole locations and at the completion of drilling activities. The drilling equipment were manually scrubbed with a brush using a phosphate-free solution, and power washed to remove any adhered soils, foreign material and potential contaminants. In addition, all sampling equipment were decontaminated prior to each usage.

The field work was monitored by SEL environmental personnel who recorded the findings and observations.

5.3 Soil: Sampling

Soil samples from the test pits were collected using a steel spade, while samples from the boreholes were retrieved continuously with flight augers and split spoon sampler. Prior to recovering a sample, the sampling equipment was brushed clean using a solution of phosphate-free detergent and distilled water, and each discrete sample was handled by the sampler with new disposable gloves in order to avoid any risk of cross-contamination between the samples. Each soil sample was split with part of the sample sealed in a laboratory-prepared sampling media and stored in a cooler with ice, and the remainder of the sample sealed in a

double sealable bag for vapour measurement and soil classification.

The subsoil conditions at the borehole locations indicated layers of earth fill, silty clay till and sandy silt till underneath top soils at all borehole locations and depths. Bedrock was not encountered during the Geotechnical borehole investigation. Detailed descriptions of the encountered subsurface conditions are presented on the Borehole Logs provided in Appendix 'B'.

Generally the representative 'worst case' soil samples to determine the maximum concentrations from each test pit were selected and sent to the analytical laboratory for chemical analyses, based on the soil vapour measurements and visual and olfactory observations.

5.4 Field Screening Measurements

The headspace vapour concentrations were measured using a portable RKI Eagle gas detector, TYPE 101 and it was set to include combustible gases with the exception of methane (methane elimination mode), and having a minimum detection level of 2 ppmv. Prior to taking the measurements, the instrument was calibrated to hexane standards for both ppm and lower explosive level (LEL) according to the instruction manual for the instrument. Our field personnel are trained by the instrument supplier for the proper calibration procedure. The instrument is calibrated or tuned up by the supplier (Pine Environmental Services Inc.), seasonally.

The representative 'worst case' soil samples based on the visual and olfactory observations, were selected from each testpit and submitted to the laboratory for chemical analyses.

5.5 Groundwater: Monitoring Well Installation

Groundwater was not assessed as part of this investigation.

5.6 Groundwater: Field Measurement of Water Quality Parameters

Groundwater was not assessed as part of this investigation.

5.7 Groundwater: Sampling

Groundwater was not assessed as part of this investigation.

5.8 Sediment: Sampling

Sediment was not assessed as part of this investigation.

5.9 Analytical Testing

All the soil samples were analysed by Bureau Veritas Laboratories (BV Lab) in Mississauga, Ontario. The BV Lab is accredited by the Canadian Association for Laboratory Accreditation (CALA) in accordance with ISO/IEC 17025:2005, as amended – "General Requirements for the Competence of Testing and Calibration Laboratories" for all the parameters analysed during this investigation.

5.10 Residue Management Procedures

There was no significant volume of excess soil generated during the field investigation. Consequently, there was no residue management procedure required as part of this Phase Two ESA.

5.11 Elevation Surveying

The ground elevations of the borehole locations were surveyed using a hand-held (Trimble Geoexplorer 7000 series) Global Navigation Satellite System measurement equipment. The equipment is capable of having vertical and horizontal accuracy of 0.1± m.

The elevations at the borehole locations are presented in Borehole Logs in Appendix 'B'.

5.12 Quality Assurance/Quality Control (QA/QC) Measures

The soil Sampling and Analysis Plan provided in Appendix 'A' was prepared and executed based on the findings of the Phase One ESA.

The Phase Two ESA was carried out in accordance with the Sampling and Analysis Plan and in accordance with the SEL Standard Operating Procedures.

The sampling and decontamination procedures were conducted in accordance with the "Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario", May 1996, revised December 1996, as amended by O. Reg. 511/09.

Laboratory analytical methods, protocols and procedures were carried out in accordance with the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act", dated March 9, 2004, amended as of July 1, 2011, in accordance with O. Reg. 511/09 and O. Reg. 269/11.

Field observations were made and documented in a field book in accordance with generally accepted practices and with the procedures developed and utilized by SEL.

SEL field sampling QA/QC protocols, applied to the investigation, are as follows:

- The collection of at least one field duplicate sample per ten (10) samples for every sampling media (where three or more such samples are collected).
- Where volatile organic chemical analysis is required, the collection of discrete samples directly into laboratory-prepared sample vials and immediate placement into a cooler with ice to maintain the temperature at less than 10 ^{o}C for transport to the laboratory.
- If trace organics in the collected samples are anticipated (organic chemicals with a concentration of less than 1 µg/g), precautions are made to avoid any possible cross-

contamination (eliminating bare hand or latex glove contacts with the soil); soil sampling equipment used for the collection of trace organics are cleaned using a phosphate-free detergent and water, followed by a distilled water rinse and a methanol rinse between sampling locations.

The results of the QA/QC samples (i.e. field duplicate samples) are discussed in Section 6.9 of this report.

6.0 REVIEW AND EVALUATION

6.1 Geology

Detailed descriptions of the encountered subsoil conditions are presented on the Borehole Logs provided in Appendix 'B'. The subsoil conditions at all borehole locations indicate a layer of earth fill, silty clay till and sandy silt till underlain by topsoils, at various depths of all borehole locations. No bedrock was encountered during the Phase Two ESA. The locations of cross sections for soil stratigraphy at the subject site is presented on Drawing No. 3. Geological Cross Sections, A-A' and B-B', are presented on Drawing No. 4.

The descriptions of the strata, encountered at the borehole locations, are briefly discussed below.

Top Soil

A layer of top soil was encountered at the surface at all borehole locations and extended to the depth ranging from 0.08 mbgs to 0.13 mbgs.

Earth Fill

Earth fill deposits were encountered underneath top soils at all borehole locations, extending to the depths ranging from 1.6 mbgs to 3.3 mbgs.

Silty Clay Till

Silty clay till deposits were encountered underneath the top soil and earth fill layers at all borehole locations, extending to the depths of 4 mbgs.

Sandy Silt Til

Sandy silt till deposits were encountered underneath the top soil, earth fill, and silty clay till layers at all borehole locations, extending to the termination depths of the boreholes at 5.2 mbgs to 6.6 mbgs.

Hydrogeology

On completion of the drilling activities, no groundwater was detected in any of the boreholes during the boreholes advancement at the subject site on February 24, 2023. Groundwater was not investigated as part of this Phase Two ESA.

6.2 Groundwater: Elevations and Flow Direction

Groundwater was not assessed as part of this investigation.

6.3 Groundwater: Hydraulic Gradients

Groundwater was not assessed as part of this investigation.

6.4 Fine-Medium Soil Texture

No grain size analysis was performed as part of this investigation. Therefore, site condition standards for coarse textured soil have been applied.

6.5 Soil: Field Screening

Headspace vapour screening was conducted for all retrieved soil samples using a combustible gas detector (RKI Eagle) in methane elimination mode, calibrated with hexane and having a minimum detection level of 2 ppmv. No detectable soil vapour readings were recorded for the collected soil samples at the subject site.

6.6 Soil Quality

Representative "worst case" soil samples from each sampling location were selected based on the soil vapour measurements and visual and olfactory observations. The selected soil samples were submitted to the analytical laboratory for chemical analyses of Petroleum Hydrocarbon (PHCs), Benzene, Toluene, Ethylbenzene, Xylene (BTEX), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbon (PAHs), Organochlorine Pesticides (OCs), Metals and/or Inorganics parameters.

The soil test results were reviewed using the MECP Table 2 Full Depth Generic Site Condition Standards in a Potable Ground Water Condition Residential/ Parks/ Insitutional property use for coarse textured soil (Table 2 Standards) as published in the "Soil, Groundwater, Sediment Standards for use under Part XV.1 of the Environmental Protection act" (EPA), April 15, 2011.

Soil quality data containing results of the chemical analyses for the tested soil samples are presented in Table I. Maximum concentrations of the tested parameters in soil are presented in Table II.

A copy of the Certificate of Analysis for the soil samples is presented in Appendix 'C'.

The findings of the soil sampling results are summarized below.

Petroleum Hydrocarbons (PHCs) and Benzene, Toluene, Ethylbenzene, Xylene (BTEX)

Three (3) sets of original soil samples were submitted for analyses of PHCs and BTEX. The test results indicated that the tested parameters in the soil samples at tested locations met the Table 2 Standards.

Volatile Organic Compounds (VOCs)

Three (3) sets of original soil samples were submitted for VOCs. The test results indicated that the tested parameters in the soil samples at tested locations met the Table 2 Standards.

Polycyclic Aromatic Hydrocarbons (PAHs)

Three (3) sets of original soil samples and two (2) field duplicate samples were submitted for analysis of PAH parameters. The test results indicate that the tested parameters in the soil samples at tested locations met the Table 2 Standards.

Organochlorine Pesticides (OCs)

Five (5) original soil samples were submitted for analysis of OCs. The test results indicated that the tested parameters in the soil samples at tested locations met the Table 2 Standards.

Metals and/or Inorganics

Five (5) sets of original soil samples and one (1) field duplicate sample were submitted for analysis of Metals, CN^-, and pH parameters. The test results indicate that the tested parameters in the soil samples at tested locations met the Table 2 Standards.

6.7 Groundwater Quality

Groundwater was not assessed as part of this investigation.

6.8 Sediment Quality

Sediment was not assessed as part of this investigation.

6.9 Quality Assurance and Quality Control (QA/QC) Results

The Phase Two ESA was carried out in accordance with the Sampling and Analysis Plan and in accordance with the SEL SOPs.

The sampling and decontamination procedures were conducted in accordance with the "Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario", May 1996, revised December 1996, as amended by O. Reg. 511/09.

Laboratory analytical methods, protocols and procedures were carried out in accordance with the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act", dated March 9, 2004, amended as of July 1, 2011, in accordance with O. Reg. 511/09 and O. Reg. 269/11 (herein referred to as Analytical Protocol).

6.9.1 Field Quality Assurance and Quality Control (QA/QC) Samples

As part of the QA/QC program for the Phase Two ESA, QC sample in the form of field duplicate sample was analysed. Field duplicate sample was collected in the field for the analyses of metals and Polycyclic Aromatic Hydrocarbons (PAHs) in soil for analysis.

Field Duplicate

A total of three (3) field duplicate soil samples were collected and submitted for chemical analysis. Details of duplicate sampling and analysis are presented in the table below:

Duplicate Sample ID	Original Sample ID	Media	Test Conducted
Dup S1	TP 3	Soil	Metals
Dup S2	BH 2	Soil	PAHs
Dup S3	BH 5	Soil	PAHs

The relative percent differences (RPDs) between original samples and duplicate samples were

noted to be within the acceptable ranges. However, RPDs could not be calculated between the original and duplicate samples in the situation where the original and/or duplicate samples were below the reported laboratory detection limits.

The Certificates of Analysis for the QA/QC samples are included in Appendices 'C'.

6.9.2 Sample Handling in Accordance with the Analytical Protocol

The samples analyzed as part of the Phase Two ESA were handled in accordance with the Analytical Protocol as per O. Reg. 153/04 with respect to holding time, preservation method, storage requirement and sample container type.

6.9.3 Certification of Results

Based on the review of the QA/QC sample results for the soil samples in this investigation, the Chain of Custody forms and the laboratory Certificate of Analysis, it is certified that:

- All Certificates of Analysis or Analytical Reports were received pursuant to Section 47(2) of O. Reg. 153/04, as amended, comply with Section 47(3) of O. Reg. 153/04, as amended.
- A Certificate of Analysis or Analytical Report was received for each sample submitted for analysis.

Copies of all Certificates of Analysis are included in Appendix 'C'.

6.9.4 Data Validation

The Analytical Protocol establishes acceptance limits for use when assessing the reliability of data reported by analytical laboratories, including maximum holding times for the storage of samples/sample extracts between collection and analysis, analytical methods, field and/or laboratory quality assurance samples, recovery ranges for spiked samples and surrogates,

reporting detection limits (RDLs), mandatory maximum method detection limits and precision required when analyzing laboratory replicate and spiked samples.

The review of the data in the Certificate of Analysis indicates:

- All samples/sample extracts were analyzed within their applicable holding times using approved analytical methods.
- No tested parameters were detected in any laboratory blank samples.
- The RDLs were met for all tested parameters.
- The results of the laboratory duplicate samples are similar to the results for the original samples and relative percent differences for the detectable tested parameters are within the acceptable range.

6.9.5 **Data Quality Objectives**

In conclusion, the overall quality of field data did not affect decision making and the overall objectives of the investigation were met.

6.10 **Phase Two Conceptual Site Model**

The Phase Two Conceptual Site Model was prepared based on the findings of the Phase One Environmental Site Assessment (Phase One ESA) and this Phase Two Environmental site Assessment (Phase Two ESA).

6.10.1 **Description and Assessment**

The subject site, rectangular in shape, encompassing an approximate area of 6.53 hectares (ha) (16.14 acres (ac)). The Phase Two Property is located at the the north of Doug Leavens Boulevard and Lisgar Drive, in the City of Mississauga. The subject site is comprised of two (2) Property Identification Numbers (PINs), documented as 13247-0752 (LT) and 13247-0478 (LT). The legal description of the subject site retrieved from the parcel registers of the subject

site are "PCL BLOCK 356-1 SEC 43M1052; BLK 356, PL 43M1052; S/T LT1354992 MISSISSAUGA" and "PCL BLOCK 366-1, SEC 43M1066; BLK 366, PL 43M1066; MISSISSAUGA".

6.10.1.1 Areas where Potentially Contaminating Activity Has Occurred

Potentially Contaminating Activities (PCAs) were identified at the subject site and Phase One Study Area, based on the records review, the interview and the site reconnaissance. The locations of PCAs along with the corresponding list in Table 2 Schedule D of O. Reg. 153/04 are summarized below:

On-Site PCAs

The following on-site PCAs are considered to have contributed to the Areas of Potential Environmental Concern (APECs) at the subject site.

- Potential of pesticides during historical agricultural activities at the subject site. #40 – Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications.

- Presence of imported fill material of unknown quality at the subject site. #30 – Importation of Fill Material of Unknown Quality

Off-Site PCA

- One (1) record of private fuel storage tank was listed at a neighbouring property, at approximately 150m to the west-southwest of the subject site. #28 – Gasoline and Associated Products Storage in Fixed Tanks

- One (1) record of former carwash business was listed at a neighbouring property, at approximately 185m to the southeast of the subject site. #Other – Car Wash

The on-site PCAs weres considered to have contributed to the Areas of Potential Environmental Concern (APECs) at the subject site. However, the off-site PCAs are not considered to have contributed to the APECs at the subject site due to their relative distances and/or trans-gradient locations from the subject site.

The locations of the PCAs are shown on Drawing No. 1.

6.10.1.2 Areas of Potential Environmental Concern

The following Area of Potential Environmental Concern (APEC) was identified at the subject site.

APEC 1: Potential use of pesticides during historical agricultural activities at the subject site.

APEC 2: Presence of imported earth fill material of unknown quality at the subject site.

The locations of the APECs are shown on Drawing No. 2.

6.10.1.3 Subsurface Structures and Utilities

At the time of the assessment, no structures or buildings were located at the subject site. There were no underground structures/ utilities located at the subject site.

Since no contaminants are identified at the subject site at a concentration above the applicable site condition standard, no subsurface structures or utilities with potential to affect contaminatns distribution or transport are identified at the subject site.

6.10.2 **Physical Setting**

6.10.2.1 Stratigraphy

According to the Surface Geology Map of the area, the subject site is located on Halton Till with material documented as predominantly silt to silty clay matrix, high in matrix carbonate content and clast poor. The Bedrock Geology Map shows the subject site is is underlain by bedrock of the Queenston Formation. The rock description was documented as shale, limestone, dolostone and siltstone.

The field investigation for the Phase Two ESA consisted of conducting six (6) hand-dug test pits samples (designated as TP1 to TP6) up to a maximum depth of 0.3 mbgs and advancing. six (6) boreholes (designated BH1 to BH6) at the close proximities of the test pit locations as part of concurrent SEL Geotechnical Investigation on February 24, 2023. The subsoil conditions at all borehole locations indicate layers of earth fill, silty clay till and sandy silt till, underlain by topsoils at various depths. No bedrock was encountered during the geotechnical investigation.

The Sampling Location Plan is shown in Drawing No. 2. The locations of cross-sections for soil stratigraphy at the subject site are presented in Drawing No. 3. Geological Cross-sections A-A' and B-B' are presented in Drawing No. 4.

6.10.2.2 Hydrogeological Characteristics

The subject site is located in a larger hydrogeological region known as the Southern Ontario Lowlands. A Watershed Map provided by the Land Information Ontario (LIO), shows the subject site is situated in the Sixteen Mile Creek, within the Credit River Watershed.

The ground surface is relatively flat with minor undulations, and the grade of the subject site generally descends towards the south/southeast direction. Based on the topography of the subject site and vicinity of the subject site, precipitation runoff is expected to flow in

southerly/southeasterly direction.

6.10.2.3 Approximate Depth to Bedrock

Bedrock was not encountered at the subject site during the field investigation within the maximum drilling depth of 6.6 mbgs. According to the Bedrock Topography Series, a depth to bedrock in general vicinity of the subject site is approximately 3 mbgs.

6.10.2.4 Approximate Depth to Water Table

Groundwater was not investigated as part of the Phase Two ESA.

6.10.2.5 Section 35 and Section 41 or 43.1 of the Regulation

There are records of water wells located at neighbouring properties within 250 m from the subject site boundaries. Therefore, Section 35 of the Regulation (Non-Potable Site Condition Standards) does not apply to the subject site.

The subject site is not within/adjacent/part of an area of natural significance and the analytical testing indicated that pH of the tested soil samples is between 5 and 9 for surface samples, and 5 and 11 for subsurface samples. Section 41 of the regulation (Site Condition Standards, Environmental Sensitive Areas) does not apply to the subject site.

The property is not a shallow soil property, as the bedrock was not encountered within 2.0 mbgs during the investigation. In addion, no waterbody is located on the subject site or within 30 m to the site's boundaries. Therefore, Section 43.1 of the Regulation (Site Condition Standards, Shallow Soil Property or Water Body) does not apply to the subject site.

6.10.2.6 Soils Placed On, In or Under the Phase Two Property

The findings of Phase One ESA indicated presence of fill materials at the subject site. The fill

material was addressed during our Phase Two ESA investigation.

6.10.2.7 Proposed Building and Other Structures

A residential development is being proposed for the subject site. It is anticipated that the new development will be provided with municipal services meeting urban standards. The locations of proposed buildings or any other structures were not known at the time of preparation of this Phase Two Conceptual Site Model.

6.10.3 Contamination In or Under the Phase Two Property

Based on the findings of the Phase One ESA, contaminants of potential concern in soil with respect to the identified APECs at the subject site were assessed during the Phase Two ESA.

Based on the information obtained from the Phase One ESA and Phase Two ESA, the Ministry of the Environment, Conservation and Parks (MECP) Table 2 Full Depth Generic Site Condition Standards in a Potable Ground Water Condition Residential/ Parks/ Insitutional property use for coarse textured soil (Table 2 Standards) as published in the "Soil, Groundwater, Sediment Standards for use under Part XV.1 of the Environmental Protection act" (EPA), April 15, 2011 was selected for evaluating the environmental conditions at the subject site.

6.10.3.1 Area Where Contaminants are Present

Soil and groundwater samples were collected during the Phase Two ESA and submitted for chemical analysis of one or more of the following parameters:

APEC 1: Soil samples were submitted for chemical analyses of Metals, CN^-, OCs and pH parameters.

APEC 2: Soil samples were submitted for chemical analyses of PHCs, BTEX, VOCs, PAH, Metals and pH parameters.

A review of the analytical test results of soil samples indicated that the tested samples for the tested parameters at tested locations met the Table 2 Standards.

Consequently, there are no contaminants identified at the test locations at a concentration above the applicable site condition standards (Table 2 Standards) during the Phase Two ESA.

6.10.3.2 Distribution of Contaminants

No contaminants were identified at the subject site at a concentration above applicable site condition standards.

6.10.3.3 Contaminant Medium

No contaminants were identified at the subject site at a concentration above applicable site condition standards.

6.10.3.4 Reasons for Discharge

No contaminants were identified at the subject site at a concentration above applicable site condition standards.

6.10.3.5 Migration of Contaminants

No contaminants were identified at the subject site at a concentration above applicable site condition standards.

6.10.4 Potential Exposure Pathways and Receptors

Since no contaminants were identified at the subject site at a concentration above the applicable site condition standard (Table 2 Standards), no potential exposure pathways and receptors are identified.

7.0 CONCLUSIONS

The purpose of the Phase Two Environmental Site Assessment (Phase Two ESA) was to determine the soil quality at the subject site, as related to the following Area of Potential Environmental Concern (APECs) identified in the SEL Phase One Environmental Site Assessment (Phase One ESA) at the subject site:

APEC 1: Potential use of pesticides during historical agricultural activities at the subject site.
APEC 2: Presence of imported earth fill material of unknown quality at the subject site.

The findings of the field investigation and analytical results of the Phase Two ESA are summarized below:

- The field investigation for this Phase Two ESA consisted of conducting six (6) hand-dug test pits samples to the depths of 0.3 meters below ground surface (mbgs) and advancing boreholes (designated as BH1 to BH6) at all test-pits locations to the depths of approximately 5.2 mbgs to 6.6 mbgs.
- The subsoil conditions at all borehole locations indicate earth fill, silty clay till and sandy silt till underlain by topsoils at various depths.
- The soil samples were examined for visual and olfactory evidence of potential contamination. No evidence of potential contamination was documented in any of the retrieved soil samples.
- Headspace vapour screening was conducted for all retrieved soil samples using a combustible gas detector (RKI Eagle) in methane elimination mode, calibrated with hexane and having a minimum detection level of 2 parts per million by volume (ppmv). No detectable soil vapour readings were recorded for the collected soil samples.
- Based on the soil vapour measurements and visual and/or olfactory observations, representative "worst case" soil samples were selected from each sampling location for chemical analyses of Petroleum Hydrocarbon (PHCs), Benzene, Toluene, Ethylbenzene, Xylene (BTEX), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs), Organochlorine Pesticides (OCs), Metals and/or Inorganics.

- As part of the quality assurance/quality control (QA/QC) program for the investigation, QC samples in the form of field duplicate sample were analysed. Field duplicate samples were collected in the field for the analyses of Metals and PAHs in soil.
- The analytical test results were reviewed using the MECP Table 2 Full Depth Generic Site Condition Standards in a Potable Ground Water Condition Residential/ Parks/ Insitutional property use for coarse textured soil (Table 2 Standards) as published in the "Soil, Groundwater, Sediment Standards for use under Part XV.1 of the Environmental Protection act" (EPA), April 15, 2011.
- The results of the analyses of the duplicate samples are similar to the results for the original samples and the relative percent differences (RPDs) between original samples and duplicate samples were within the acceptable ranges. However, RPDs could not be calculated between the original and duplicate samples in the situation where the original and/or duplicate samples were below the reported laboratory detection limits
- The overall QA/QC results are considered reliable.
- A review of the analytical test results of soil samples indicated that the tested parameters at the test locations met the Table 2 Standards. Consequently, there are no contaminants identified at the subject site at a concentration above the applicable site condition standards (Table 2 Standards) during the Phase Two ESA

Based on the findings of the Phase Two ESA, it is our opinion that the property is suitable for the proposed development. No further environmental investigation is recommended at this time.

LICENSED PROFESSIONAL ENGINEER R. NDU 100061263 PROVINCE OF ONTARIO March 31, 2023

SOIL ENGINEERS LTD.

Annette Chan, H.B.A

Raj Kundu, M.Sc., P.Eng.

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Arshad Shaikh, M.Sc., P. Eng., QP_{ESA}
AC/RK/AS: ac

8.0 REFERENCES

MECP. "Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario", May 1996, revised December 1996, as amended by O. Reg. 511/09.

MECP. "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act", dated March 9, 2004, amended as of July 1, 2011, in accordance with O. Reg. 511/09 and O. Reg. 269/11.

MECP. "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" (EPA), April 15, 2011.

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TABLES

REFERENCE NO. 2302-E052

Soil Engineers Ltd.

Table I

SOIL CHEMICAL ANALYSIS - Inorganics Parameters

Project No. 2302-E052

Sample ID	RDL*	BH1/1	BH1/3	BH2/2	BH5/2	BH5/6	Ontario Regulation 153/04 Table 2 Standard**
Sample Date		VEN407	VEN408	VEN410	VEN414	VEN418	
Laboratory ID		24-February-2023	24-February-2023	24-February-2023	24-February-2023	24-February-2023	
Bore Hole No.		BH 1	BH 1	BH 2	BH 5	BH 5	
Depth (mbgs)		0.0 - 0.6	1.5 - 2.0	0.8 - 1.3	0.8 - 1.3	4.6 - 5.1	
Antimony	0.2	0.31	-	0.22	0.2	-	7.5
Arsenic	1	5.3	-	4.5	4.6	-	18
Barium	0.5	100	-	75	69	-	390
Beryllium	0.2	0.92	-	0.77	0.66	-	4
Boron (Hot Water Soluble)	0.05	0.17	-	0.26	0.33	-	1.5
Cadmium	0.1	0.22	-	0.13	0.12	-	1.2
Chromium	1	30	-	22	20	-	160
Chromium VI	0.18	<0.18	-	<0.18	<0.18	-	8
Cobalt	0.1	13	-	12	11	-	22
Copper	0.5	32	-	31	30	-	140
Lead	1	19	-	13	14	-	120
Mercury	0.05	0.078	-	<0.050	<0.050	-	0.27
Molybdenum	0.5	0.54	-	<0.50	0.84	-	6.9
Nickel	0.5	27	-	25	23	-	100
Selenium	0.5	<0.50	-	<0.50	<0.50	-	2.4
Silver	0.2	0.21	-	<0.20	<0.20	-	20
Thallium	0.05	0.18	-	0.16	0.13	-	1
Vanadium	5	37	-	32	30	-	86
Zinc	5	75	-	69	60	-	340
pH (pH Units)		-	7.61	-	-	7.89	NV
Cyanide, Free	-	-	-	-	-	-	
Boron (Total)	5	5.8	-	9.4	9.9	-	120
Uranium	0.05	0.94	-	0.6	0.68	-	23

Analysis by Bureau Veritas, all results in ppm (µg/g) unless otherwise stated

* Analytical Reportable Detection Limits (RDLs) are shown except as indicated in brackets.

** Standards shown are for Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for Residential/Parkland/Institutional property use for coarse grain soil

Soil Engineers Ltd.

Table I

SOIL CHEMICAL ANALYSIS - Inorganics Parameters

Project No. 2302-E052

Sample ID	RDL*	TP1	TP2	TP3	DUPS1	TP4	TP6	Ontario Regulation 153/04 Table 2 Standard**
Sample Date		VEI986	01-March-2023	01-March-2023	01-March-2023	01-March-2023	01-March-2023	
Laboratory ID		01-March-2023	VEI987	VEI988	VEI992	VEI989	VEI991	
Bore Hole No.		TP 1	TP 2	TP 3	TP 3	TP 4	TP 6	
Depth (mbgs)		0.0 - 0.3	0.0 - 0.3	0.0 - 0.3	0.0 - 0.3	0.0 - 0.3	0.0 - 0.3	
Antimony	0.2	<0.20	<0.20	<0.20	0.21	<0.20	<0.20	7.5
Arsenic	1	4.5	4.4	4.3	4.5	4.3	4	18
Barium	0.5	84	77	87	86	85	84	390
Beryllium	0.2	0.81	0.75	0.81	0.77	0.82	0.78	4
Boron (Hot Water Soluble)	0.05	0.2	0.22	0.36	-	0.34	0.47	1.5
Cadmium	0.1	0.19	0.16	0.2	0.19	0.23	0.24	1.2
Chromium	1	25	22	25	24	24	23	160
Chromium VI	0.18	<0.18	<0.18	<0.18	-	<0.18	<0.18	8
Cobalt	0.1	12	10	10	11	9.2	9.8	22
Copper	0.5	28	31	25	27	26	24	140
Lead	1	18	14	17	16	16	17	120
Mercury	0.05	<0.050	<0.050	0.057	<0.050	<0.050	0.056	0.27
Molybdenum	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	6.9
Nickel	0.5	25	24	23	24	24	23	100
Selenium	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	2.4
Silver	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	20
Thallium	0.05	0.17	0.13	0.12	0.13	0.13	0.12	1
Vanadium	5	34	31	33	33	32	30	86
Zinc	5	71	70	75	75	76	76	340
pH (pH Units)		7.4	-	7.34	-	-	-	NV
Cyanide, Free	-	<0.01	<0.01	<0.01	-	-	<0.01	
Boron (Total)	5	6.7	7	7.7	6.1	6.6	6.3	120
Uranium	0.05	0.77	0.83	0.96	0.75	1	0.99	23

Analysis by Bureau Veritas, all results in ppm (µg/g) unless otherwise stated

* Analytical Reportable Detection Limits (RDLs) are shown except as indicated in brackets.

** Standards shown are for Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for Residential/Parkland/Institutional property use for coarse grain soil

SOIL CHEMICAL ANALYSIS - Volatile Organic Compound (VOCs) Parameters

Sample ID	RDL*	BH1/3	BH4/1	BH6/2	Ontario Regulation 153/04 Table 2 Standard**
Sample Date		24-February-2023	24-February-2023	24-February-2023	
Laboratory ID		VEN408	VEN412	VEN415	
Bore Hole No.		BH 1	BH 4	BH 6	
Depth (mbgs)		1.5 - 2.0	0.0 - 0.6	0.8 - 1.3	
Acetone	0.49	<0.49	<0.49	<0.49	16
Benzene	0.006	<0.0060	<0.0060	<0.0060	0.21
Bromodichloromethane	0.04	<0.040	<0.040	<0.040	1.5
Bromoform	0.04	<0.040	<0.040	<0.040	0.27
Bromomethane	0.04	<0.040	<0.040	<0.040	0.05
Carbon Tetrachloride	0.04	<0.040	<0.040	<0.040	0.05
Chlorobenzene	0.04	<0.040	<0.040	<0.040	2.4
Chloroform	0.04	<0.040	<0.040	<0.040	0.05
Dibromochloromethane	0.04	<0.040	<0.040	<0.040	2.3
1,2-Dichlorobenzene	0.04	<0.040	<0.040	<0.040	1.2
1,3-Dichlorobenzene	0.04	<0.040	<0.040	<0.040	4.8
1,4-Dichlorobenzene	0.04	<0.040	<0.040	<0.040	0.083
1,1-Dichloroethane	0.04	<0.040	<0.040	<0.040	0.47
1,2-Dichloroethane	0.049	<0.049	<0.049	<0.049	0.05
1,1-Dichloroethylene	0.04	<0.040	<0.040	<0.040	0.05
Cis-1,2-Dichloroethylene	0.04	<0.040	<0.040	<0.040	1.9
Trans-1,2-Dichloroethylene	0.04	<0.040	<0.040	<0.040	0.084
1,2-Dichloropropane	0.04	<0.040	<0.040	<0.040	0.05
Cis-1,3-Dichloropropylene	0.03	<0.030	<0.030	<0.030	NV
Trans-1,3-Dichloropropylene	0.04	<0.040	<0.040	<0.040	NV
Ethylbenzene	0.01	<0.010	<0.010	<0.010	1.1
Ethylene Dibromide	0.04	<0.040	<0.040	<0.040	0.05
Methyl Ethyl Ketone	0.4	<0.40	<0.40	<0.40	16
Methylene Chloride	0.049	<0.049	<0.049	<0.049	0.1
Methyl Isobutyl Ketone	0.4	<0.40	<0.40	<0.40	1.7
Methyl-t-Butyl Ether	0.04	<0.040	<0.040	<0.040	0.75
Styrene	0.04	<0.040	<0.040	<0.040	0.7
1,1,1,2-Tetrachloroethane	0.04	<0.040	<0.040	<0.040	0.058
1,1,2,2-Tetrachloroethane	0.04	<0.040	<0.040	<0.040	0.05
Toluene	0.02	<0.020	<0.020	<0.020	2.3
Tetrachloroethylene	0.04	<0.040	<0.040	<0.040	0.28
1,1,1-Trichloroethane	0.04	<0.040	<0.040	<0.040	0.38
1,1,2-Trichloroethane	0.04	<0.040	<0.040	<0.040	0.05
Trichloroethylene	0.01	<0.010	<0.010	<0.010	0.061
Vinyl Chloride	0.019	<0.019	<0.019	<0.019	0.02
m-Xylene & p-Xylene	0.02	<0.020	<0.020	<0.020	NV
o-Xylene	0.02	<0.020	<0.020	<0.020	NV
Total Xylenes	0.02	<0.020	<0.020	<0.020	3.1
Dichlorodifluoromethane	0.04	<0.040	<0.040	<0.040	16
Hexane(n)	0.04	<0.040	<0.040	<0.040	2.8
Trichlorofluoromethane	0.04	<0.040	<0.040	<0.040	4
1,3-Dichloropropene (cis + trans)	0.05	<0.050	<0.050	<0.050	0.05

Analysis by Bureau Veritas, all results in ppm (µg/g) unless otherwise stated

* Analytical Reportable Detection Limits (RDLs) are shown except as indicated in brackets.

** Standards shown are for Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for Residential/Parkland/Institutional property use for coarse grain soil

Soil Engineers Ltd.

SOIL CHEMICAL ANALYSIS - Polycyclic Aromatic Hydrocarbons (PAHs) Parameters

Project No. 2302-E052

Sample ID	RDL*	BH2/1	DUP S2	BH3/1	BH5/1	DUP S3	Ontario Regulation 153/04 Table 2 Standard**
Sample Date		24-February-2023	24-February-2023	24-February-2023	24-February-2023	24-February-2023	
Laboratory ID		VEN409	VEN416	VEN411	VEN413	VEN417	
Bore Hole No.		BH 2	BH 2	BH 3	BH 5	BH 5	
Depth (mbgs)		0.0 - 0.6	0.0 - 0.6	0.0 - 0.6	0.0 - 0.6	0.0 - 0.6	
Acenaphthene	0.005	<0.0050	<0.0050	<0.0050	0.013	<0.0050	7.9
Acenaphthylene	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.15
Anthracene	0.005	<0.0050	<0.0050	<0.0050	0.028	<0.0050	0.67
Benzo(a)anthracene	0.005	<0.0050	0.013	<0.0050	0.11	0.01	0.5
Benzo(a)pyrene	0.005	<0.0050	0.011	<0.0050	0.099	0.0083	0.3
Benzo(b/j)fluoranthene	0.005	<0.0050	0.016	<0.0050	0.12	0.012	0.78
Benzo(ghi)perylene	0.005	<0.0050	0.0093	<0.0050	0.064	0.0059	6.6
Benzo(k)fluoranthene	0.005	<0.0050	0.0058	<0.0050	0.043	<0.0050	0.78
Chrysene	0.005	<0.0050	0.012	<0.0050	0.087	0.0086	7
Dibenzo(a,h)anthracene	0.005	<0.0050	<0.0050	<0.0050	0.014	<0.0050	0.1
Fluoranthene	0.005	<0.0050	0.028	<0.0050	0.25	0.024	0.69
Fluorene	0.005	<0.0050	<0.0050	<0.0050	0.0096	<0.0050	62
Indeno(1,2,3-cd)pyrene	0.005	<0.0050	0.0077	<0.0050	0.065	0.0055	0.38
1-Methylnaphthalene	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.99
2-Methylnaphthalene	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.99
Naphthalene	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.6
Phenanthrene	0.005	<0.0050	0.019	<0.0050	0.14	0.012	6.2
Pyrene	0.005	<0.0050	0.023	<0.0050	0.2	0.02	78
Methylnaphthalene, 2-(1-)	0.0071	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	0.99

Analysis by Bureau Veritas, all results in ppm (µg/g) unless otherwise stated

* Analytical Reportable Detection Limits (RDLs) are shown except as indicated in brackets.

** Standards shown are for Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for Residential/Parkland/Institutional property use for coarse grain soil

Soil Engineers Ltd.

SOIL CHEMICAL ANALYSIS - Petroleum Hydrocarbons (PHCs) Parameters

Project No. 2302-E052

Sample ID	RDL*	BH1/3	BH4/1	BH6/2	Ontario Regulation 153/04 Table 2 Standard**
Sample Date		24-February-2023	24-February-2023	24-February-2023	
Laboratory ID		VEN408	VEN412	VEN415	
Bore Hole No.		BH 1	BH 4	BH 6	
Depth (mbgs)		1.5 - 2.0	0.0 - 0.6	0.8 - 1.3	
Benzene	-	-	-	-	0.21
Toluene	-	-	-	-	2.3
Ethylbenzene	-	-	-	-	1.1
m/p xylenes	-	-	-	-	NV
o xylene	-	-	-	-	NV
Total Xylenes	-	-	-	-	3.1
F1 (C6-C10)	10	<10	<10	<10	55
F1 (C6-C10) - BTEX	10	<10	<10	<10	55
F2 (C10-C16)	10	<10	<10	<10	98
F3 (C16-C34)	50	<50	<50	<50	300
F4 (C34-C50)	50	<50	<50	<50	2800
Reached Baseline at C50		YES	YES	YES	NV

Analysis by Bureau Veritas, all results in ppm (µg/g) unless otherwise stated

* Analytical Reportable Detection Limits (RDLs) are shown except as indicated in brackets.

** Standards shown are for Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for Residential/Parkland/Institutional property use for coarse grain soil

Soil Engineers Ltd.

Table I

SOIL CHEMICAL ANALYSIS - Organochlorine Pesticides (OCs) Parameters

Project No. 2302-E052

Sample ID	RDL*	TP1	TP2	TP3	TP4	TP5	Ontario Regulation 153/04 Table 2 Standard**
Sample Date		01-March-2023	01-March-2023	01-March-2023	01-March-2023	01-March-2023	
Laboratory ID		VEI986	VEI987	VEI988	VEI989	VEI990	
Test Pit No.		TP 1	TP 2	TP 3	TP 4	TP 5	
Depth (mbgs)		0.0 - 0.3	0.0 - 0.3	0.0 - 0.3	0.0 - 0.3	0.0 - 0.3	
Aldrin	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.05
Chlordane (alpha)	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	NV
Chlordane (gamma)	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	NV
Chlordane (total)	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.05
o,p DDD	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	NV
p,p-DDD	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	NV
DDD (total)	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	3.3
o,p DDE	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	NV
p,p-DDE	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	NV
DDE (total)	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.26
op-DDT	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	NV
pp-DDT	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	NV
DDT (total)	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	1.4
Dieldrin	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.05
Endosulphan I	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	NV
Endosulphan II	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	NV
Total Endosulphan	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.04
Endrin	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.04
Heptachlor	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.15
Heptachlor Epoxide	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.05
Lindane	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.056
Methoxychlor	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.13
Hexachlorobenzene	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.52
Hexachlorobutadiene	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.012
Hexachloroethane	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.089

Analysis by Bureau Veritas, all results in ppm (µg/g) unless otherwise stated

* Analytical Reportable Detection Limits (RDLs) are shown except as indicated in brackets.

** Standards shown are for Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for Residential/Parkland/Institutional property use for coarse grain soil

Project No. 2302-E052

Table II – Maximum Concentration (Soil)

Summary of Metals and Inorganics

Parameter	Unit	Maximum Concentration	Sample ID	Sampling Depth (m)
Antimony	ug/g	0.31	BH1/1	0.0 - 0.6
Arsenic	ug/g	5.3	BH1/1	0.0 - 0.6
Barium	ug/g	100	BH1/1	0.0 - 0.6
Beryllium	ug/g	0.92	BH1/1	0.0 - 0.6
Boron (Hot Water Soluble)	ug/g	0.47	TP6	0.0 - 0.3
Cadmium	ug/g	0.24	TP6	0.0 - 0.3
Chromium	ug/g	30	BH1/1	0.0 - 0.6
Chromium VI	ug/g	<0.18	-	-
Cobalt	ug/g	13	BH1/1	0.0 - 0.6
Copper	ug/g	32	BH1/1	0.0 - 0.6
Lead	ug/g	19	BH1/1	0.0 - 0.6
Mercury	ug/g	0.078	BH1/1	0.0 - 0.6
Molybdenum	ug/g	0.84	BH5/2	0.8 - 1.3
Nickel	ug/g	27	BH1/1	0.0 - 0.6
Selenium	ug/g	<0.5	-	-
Silver	ug/g	0.21	BH1/1	0.0 - 0.6
Thallium	ug/g	0.18	BH1/1	0.0 - 0.6
Vanadium	ug/g	37	BH1/1	0.0 - 0.6
Zinc	ug/g	76	TP4, TP6	0.0 - 0.3
pH (pH Units)	ug/g	7.89	BH5/6	4.6 - 5.1
Cyanide, Free	ug/g	<-	-	-
Boron (Total)	ug/g	9.9	BH5/2	0.8 - 1.3
Uranium	ug/g	1	TP4	0.0 - 0.3

Project No. 2302-E052

Table II – Maximum Concentration (Soil)

Summary of VOCs

Parameter	Unit	Maximum Concentration	Sample ID	Sampling Depth (m)
Acetone	ug/g	<0.49	-	-
Benzene	ug/g	<0.006	-	-
Bromodichloromethane	ug/g	<0.04	-	-
Bromoform	ug/g	<0.04	-	-
Bromomethane	ug/g	<0.04	-	-
Carbon Tetrachloride	ug/g	<0.04	-	-
Chlorobenzene	ug/g	<0.04	-	-
Chloroform	ug/g	<0.04	-	-
Dibromochloromethane	ug/g	<0.04	-	-
1,2-Dichlorobenzene	ug/g	<0.04	-	-
1,3-Dichlorobenzene	ug/g	<0.04	-	-
1,4-Dichlorobenzene	ug/g	<0.04	-	-
1,1-Dichloroethane	ug/g	<0.04	-	-
1,2-Dichloroethane	ug/g	<0.049	-	-
1,1-Dichloroethylene	ug/g	<0.04	-	-
Cis-1,2-Dichloroethylene	ug/g	<0.04	-	-
Trans-1,2-Dichloroethylene	ug/g	<0.04	-	-
1,2-Dichloropropane	ug/g	<0.04	-	-
Cis-1,3-Dichloropropylene	ug/g	<0.03	-	-
Trans-1,3-Dichloropropylene	ug/g	<0.04	-	-
Ethylbenzene	ug/g	<0.01	-	-
Ethylene Dibromide	ug/g	<0.04	-	-
Methyl Ethyl Ketone	ug/g	<0.4	-	-
Methylene Chloride	ug/g	<0.049	-	-
Methyl Isobutyl Ketone	ug/g	<0.4	-	-
Methyl-t-Butyl Ether	ug/g	<0.04	-	-
Styrene	ug/g	<0.04	-	-
1,1,1,2-Tetrachloroethane	ug/g	<0.04	-	-

Project No. 2302-E052

Table II – Maximum Concentration (Soil)

Summary of VOCs (continued)

Parameter	Unit	Maximum Concentration	Sample ID	Sampling Depth (m)
1,1,2,2-Tetrachloroethane	ug/g	<0.04	-	-
Toluene	ug/g	<0.02	-	-
Tetrachloroethylene	ug/g	<0.04	-	-
1,1,1-Trichloroethane	ug/g	<0.04	-	-
1,1,2-Trichloroethane	ug/g	<0.04	-	-
Trichloroethylene	ug/g	<0.01	-	-
Vinyl Chloride	ug/g	<0.019	-	-
m-Xylene & p-Xylene	ug/g	<0.02	-	-
o-Xylene	ug/g	<0.02	-	-
Total Xylenes	ug/g	<0.02	-	-
Dichlorodifluoromethane	ug/g	<0.04	-	-
Hexane(n)	ug/g	<0.04	-	-
Trichlorofluoromethane	ug/g	<0.04	-	-
1,3-Dichloropropene (cis + trans)	ug/g	<0.05	-	-

Project No. 2302-E052

Table II – Maximum Concentration (Soil)

Summary of PAHs

Parameter	Unit	Maximum Concentration	Sample ID	Sampling Depth (m)
Acenaphthene	ug/g	0.013	BH5/1	0.0 - 0.6
Acenaphthylene	ug/g	<0.005	-	-
Anthracene	ug/g	0.028	BH5/1	0.0 - 0.6
Benzo(a)anthracene	ug/g	0.11	BH5/1	0.0 - 0.6
Benzo(a)pyrene	ug/g	0.099	BH5/1	0.0 - 0.6
Benzo(b/j)fluoranthene	ug/g	0.12	BH5/1	0.0 - 0.6
Benzo(ghi)perylene	ug/g	0.064	BH5/1	0.0 - 0.6
Benzo(k)fluoranthene	ug/g	0.043	BH5/1	0.0 - 0.6
Chrysene	ug/g	0.087	BH5/1	0.0 - 0.6
Dibenzo(a,h)anthracene	ug/g	0.014	BH5/1	0.0 - 0.6
Fluoranthene	ug/g	0.25	BH5/1	0.0 - 0.6
Fluorene	ug/g	0.0096	BH5/1	0.0 - 0.6
Indeno(1,2,3-cd)pyrene	ug/g	0.065	BH5/1	0.0 - 0.6
1-Methylnaphthalene	ug/g	<0.005	-	-
2-Methylnaphthalene	ug/g	<0.005	-	-
Naphthalene	ug/g	<0.005	-	-
Phenanthrene	ug/g	0.14	BH5/1	0.0 - 0.6
Pyrene	ug/g	0.2	BH5/1	0.0 - 0.6
Methylnaphthalene, 2-(1-)	ug/g	<0.0071	-	-

Project No. 2302-E052

Table II – Maximum Concentration (Soil)

Summary of CCME F1-F4

Parameter	Unit	Maximum Concentration	Sample ID	Sampling Depth (m)
Benzene	ug/g	<-	-	-
Toluene	ug/g	<-	-	-
Ethylbenzene	ug/g	<-	-	-
m/p xylenes	ug/g	<-	-	-
o xylene	ug/g	<-	-	-
Total Xylenes	ug/g	<-	-	-
F1 (C6-C10)	ug/g	<10	-	-
F1 (C6-C10) - BTEX	ug/g	<10	-	-
F2 (C10-C16)	ug/g	<10	-	-
F3 (C16-C34)	ug/g	<50	-	-
F4 (C34-C50)	ug/g	<50	-	-
Reached Baseline at C50	ug/g	<	-	-

Project No. 2302-E052

Table II – Maximum Concentration (Soil)

Summary of OCs

Parameter	Unit	Maximum Concentration	Sample ID	Sampling Depth (m)
Aldrin	ug/g	<0.002	-	-
Chlordane (alpha)	ug/g	<0.002	-	-
Chlordane (gamma)	ug/g	<0.002	-	-
Chlordane (total)	ug/g	<0.002	-	-
o,p DDD	ug/g	<0.002	-	-
p,p-DDD	ug/g	<0.002	-	-
DDD (total)	ug/g	<0.002	-	-
o,p DDE	ug/g	<0.002	-	-
p,p-DDE	ug/g	<0.002	-	-
DDE (total)	ug/g	<0.002	-	-
op-DDT	ug/g	<0.002	-	-
pp-DDT	ug/g	<0.002	-	-
DDT (total)	ug/g	<0.002	-	-
Dieldrin	ug/g	<0.002	-	-
Endosulphan I	ug/g	<0.002	-	-
Endosulphan II	ug/g	<0.002	-	-
Total Endosulphan	ug/g	<0.002	-	-
Endrin	ug/g	<0.002	-	-
Heptachlor	ug/g	<0.002	-	-
Heptachlor Epoxide	ug/g	<0.002	-	-
Lindane	ug/g	<0.002	-	-
Methoxychlor	ug/g	<0.005	-	-
Hexachlorobenzene	ug/g	<0.002	-	-
Hexachlorobutadiene	ug/g	<0.002	-	-
Hexachloroethane	ug/g	<0.002	-	-

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DRAWINGS

REFERENCE NO. 2302-E052

N

Subject Site

Phase One Study Area

Waterbody

Major Road

Local Road

Potentially Contaminating Activities (PCAs)

(28) Gasoline and Associated Products Storage in Fixed Tanks

(30) Importation of Fill Material of Unknown Quality

(40) Pesticides (including Herbicides, Fungicides, and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage, and Large-Scale Applications

Additional Potential Sources of Contamination

Other - Car Wash

Soil Engineers Ltd.

Title: Site Location Plan

Project:
Due Diligence for Land Acquisition
North of Doug Leavens Boulevard and
Lisgar Drive, Block 356, Plan 43M-1052 &
Block 366, Plan 43M-1066
City of Mississauga

Reference No. 2302-E052

Date: March 24, 2023

Scale:
0 25 50 100 150 200 250
Metres

Drawing No. 1

N

Subject Site

Borehole

Test Pit

Waterbody

Local Road

Areas of Potential Environmental Concern (APEC)

APEC 1

APEC 2

Soil Engineers Ltd.

Title: Sampling Location Plan

Project:
Due Diligence for Land Acquisition
North of Doug Leavens Boulevard and
Lisgar Drive, Block 356, Plan 43M-1052 &
Block 366, Plan 43M-1066
City of Mississauga

Reference No. 2302-E052

Date: March 24, 2023

Scale:
0 10 20 40 60 80 100
Metres

Drawing No. 2

Source: Ontario Ministry of Natural Resources and Forestry

N

- Subject Site
- Borehole
- Test Pit
- Waterbody
- Local Road
- A — A' Cross-Section Direction

Soil Engineers Ltd.

Title: Cross-Section Key Plan

Project:
Due Diligence for Land Acquisition
North of Doug Leavens Boulevard and
Lisgar Drive, Block 356, Plan 43M-1052 &
Block 366, Plan 43M-1066
City of Mississauga

Reference No. 2302-E052

Date: March 24, 2023

Scale:
0 10 20 40 60 80 100
Metres

Drawing No. 3

Source: Ontario Ministry of Natural Resources and Forestry

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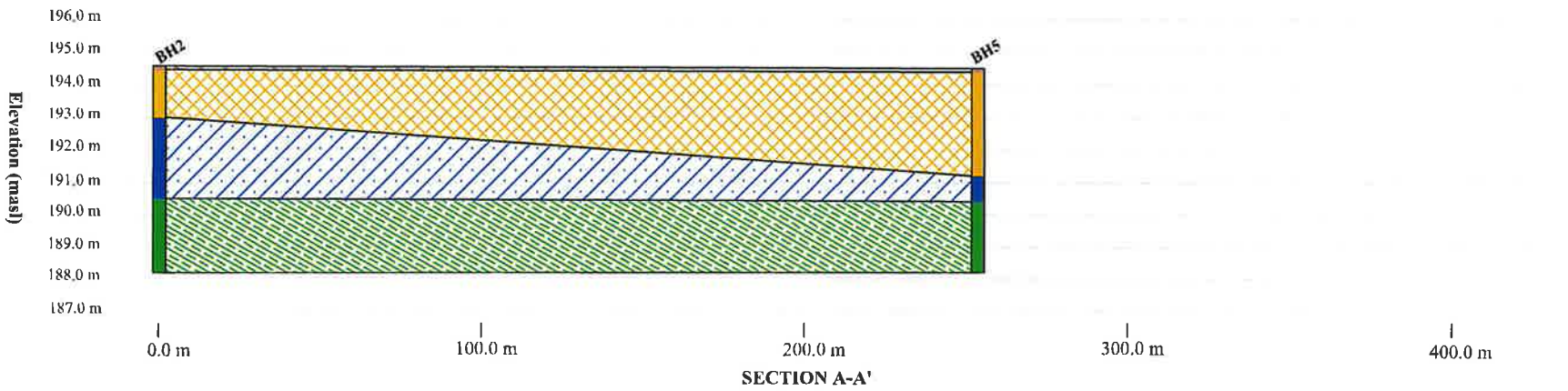
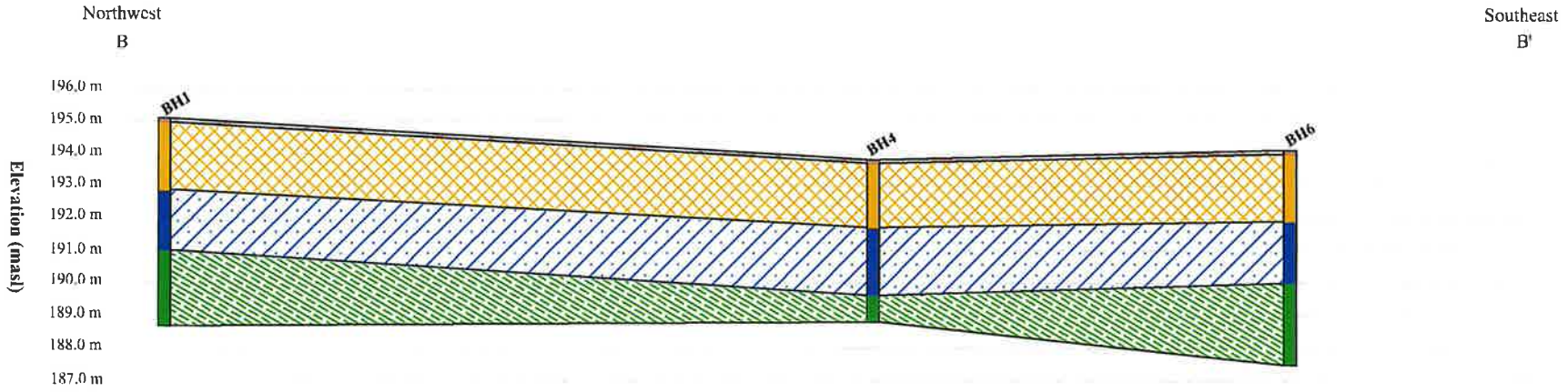


SECTION A-A'



SECTION B-B'

Soil Engineers Ltd.
CONSULTING SOIL, FOUNDATION & ENVIRONMENTAL ENGINEERS

Title: Geological Cross-Sections A-A' and B-B'

Project: Due Diligence for Land Acquisition
North of Doug Leavens Boulevard and Lisgar Drive
Block 356, Plan 43M-1052 and Block 366, Plan 43M-1066
City of Mississauga

Reference No:	Date:	Scale: V	Scale: H	Drawing No.
2302-E052	March 24, 2023	1:200	1:200	4

Soil Engineers Ltd.
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APPENDIX 'A'

SAMPLING AND ANALYSIS PLAN

REFERENCE NO. 2302-E052

This Sampling and Analysis Plan was prepared for the Phase Two Environmental Site Assessment (Phase Two ESA), as defined by Ontario Regulation (O. Reg.) 153/04, as amended. The Phase Two Property is located at the north of Doug Leavens Boulevard and Lisgar Drive, in the City of Mississauga (hereinafter referred to as "subject site"). The Sampling and Analysis Plan is based on the findings of SEL Phase One Environmental Site Assessment (Reference No. 2302-E052), dated March 23, 2023.

1) OBJECTIVE

The objective of the Phase Two ESA was to determine the soil quality at the subject site, as related to the following Areas of Potential Environmental Concerns (APECs) at the subject site:

APEC 1: Potential use of pesticides during historical agricultural activities at the subject site.

APEC 2: Presence of imported earth fill material of unknown quality at the subject site.

2) SCOPE OF WORK

The scope of work for this investigation includes:

- Locate the underground and overhead utilities.
- Conduct six (6) hand-dug test pits samples to the depths of 0.3 meters below ground surface (mbgs), and advance boreholes (designated as BH1 to BH6) at all test-pits locations to the depths of approximately 5.2 mbgs to 6.6 mbgs, during the Geotechnical investigation.
- Collect representative soil samples from the sampling locations.
- Undertake field examination of the retrieved soil samples for visual and olfactory evidence of potential contamination.
- Undertake soil vapour measurements for the retrieved soil samples using a combustible gas detector (RKI Eagle) in methane elimination mode, calibrated with hexane and having a minimum detection level of 2 ppm (parts per million by volume).

- Carry out an analytical testing program on selected soil samples including quality assurance and quality control (QA/QC) samples for one or more of the following parameters: Petroleum Hydrocarbon (PHCs), Benzene, Toluene, Ethylbenzene, Xylene (BTEX), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbon (PAH), Organochlorine Pesticides (OCs), Metals and/or Inorganics parameters.
- Review analytical testing results of submitted soil samples using the applicable Site Condition Standards as it has been selected.
- Prepare a Phase Two ESA report containing the findings of the investigation.

3) RATIONALE FOR BOREHOLE LOCATIONS

The rationale for the selection of the borehole locations is presented in the table below:

Areas of Potential Environmental Concerns (APECs)	Borehole ID
APEC 1: Potential use of pesticides during historical agricultural activities at the subject site.	TP1 to 6, BH1 to 6
APEC 2: Presence of imported fill material of unknown quality at the subject site.	TP1 to 6, BH1 to 6

The locations of proposed sampling locations for the Phase Two ESA are shown in Drawing No. 2.

4) SOIL SAMPLES (INCLUDING QA/QC SAMPLES) ANALYTICAL SCHEDULE

A summary of soil samples (including QA/QC samples) to be submitted is presented in the table below:

	PHC and/or BTEX	VOCs	PAH	OCs	Metals and/or Inorganics
Soil Samples (Test Pits and Boreholes) (QA/QC Samples)					
TP 1	-	-	-	1	1
TP 2	-	-	-	1	1
TP 3	-	-	-	1	1
TP 4	-	-	-	1	1
TP 5	-	-	-	1	-
TP 6	-	-	-	-	1
BH 1	1	1	-	-	1

BH 2	-	-	1	-	1
BH 3	-	-	1	-	-
BH 4	1	1	-	-	-
BH 5	-	-	1	-	1
BH 6	1	1	-	-	-
Dup S1	-	-	-	-	1
Dup S2	-	-	1	-	-
Dup S3	-	-	1	-	-

It should be noted that based on the analytical results of the submitted soil samples, if further activities of Phase Two ESA such as re-sampling and testing is required, additional samples from the area of interest will be submitted for analysis of contaminants of concern.

5) SOIL SAMPLING PROCEDURES

Soil Engineers Ltd.'s (SEL) Standard Operation Procedures (SOPs) will be followed throughout the field investigation (sampling, decontamination of equipment, observation and documentation) including the field QA/QC program. SEL SOPs are presented in Section 7 of this sampling and analysis plan.

6) DATA QUALITY OBJECTIVES

Sampling and decontamination procedures including QA/QC program should be carried out in accordance with:

- SEL SOPs, as presented in Section 7.
- The "Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario", May 1996, revised December 1996, as amended by O. Reg. 511/09.

Laboratory analytical methods, protocols and procedures should be carried out in accordance with the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act", dated March 9, 2004, amended as of July 1, 2011, in accordance with O. Reg. 511/09 and O. Reg. 269/11.

7) STANDARD OPERATING PROCEDURES (SOPs)

7.1) Borehole Drilling

The purpose of borehole drilling is to provide access to subsurface soils at specified locations and depths. Soil borings also allow for installation of groundwater monitoring wells.

7.1.1) Underground Utilities

Prior to drilling, the public utility service (One Call) and private utility services are contacted. The underground utility services are located and marked out in the field.

7.1.2) Drilling Methods

Direct Push Drilling (i.e. Geoprobe, Powerprobe, Pionjar, etc.)

The direct push drilling machine is a hydraulically powered hammer/ram sampling device. The unit is designed so that the weight of the vehicle provides the majority of downward force. The hydraulics, with the aid of a percussion hammer, push lengths of specially modified 54 mm (2.125 inch) outside diameter (OD), hardened steel rod into the ground. The rod is advanced to target sampling depth is reached. The steel rod has been specially modified for specific types of sample collection.

Flight-Auger Drilling

The flight-auger drilling machine is a hydraulically powered feed and retract system that provides 28,275 pounds (12,826 kg) of retract force and 18,650 pounds (8,460 kg) of down pressure. The 183 cm (72 inch) stroke, hydraulic vertical drive system has no chains or cables which can stretch. It is equipped with solid or hollow-stem augers. It is extended to pre-determined sampling intervals using conventional drilling methods, at which time a decontaminated 51 mm split-spoon sampler is extended ahead of the lead auger to collect a soil

sample. The split-spoon sampler is then brought to surface and opened, exposing the soil core sample.

Hand Dug Test Pit

Shovel was used for the hand-dug test pits. Prior to digging and sampling at each test pit location, the shovel was brushed clean using a solution of phosphate-free detergent and distilled water.

7.1.3) Occupational Health and Safety

Prior to drilling, the site is inspected to ensure that no potentially hazardous material is present near/around the drilling area. Safety procedures are reviewed and a safety check of the equipment is conducted including locating the emergency stop button on the drill rig, checking personal protective equipment (hard hats, safety shoes, eye/ear protection), locating the first aid kit and confirming the location of the nearest hospital, and verifying the standard procedure in case of injury.

7.1.4) Drilling Spoils

Excess soil generated during sampling and drilling procedure is stored at the site in metal barrels. If the analytical results indicate the soil is contaminated, a licensed disposal company is notified to collect the barrels of soil for proper disposal.

7.1.5) Borehole Abandonment

After drilling, logging and/or sampling, boreholes will be backfilled by the method described below:

- Bentonite is thoroughly mixed into the grout within the specified percentage range. The tremie grout is usually placed into the hole; however, for selected boreholes (e.g., shallow

borings well above the water table) at certain sites, the grout may be allowed to free fall, taking care to ensure the grout does not bridge and form gaps or voids in the grout column.

- The volume of the borehole is calculated and compared to the grout volume used during grouting to aid in verifying that bridging did not occur.
- When using a tremie to place grout in the borehole, the bottom of the tremie is submerged into the grout column and withdrawn slowly as the hole fills with grout. If allowing the grout to free fall (and not using a tremie), the grout is poured slowly into the boring. The rise of the grout column is visually monitored or sounded with a weighted tape.
- If the method used to drill the boring utilized a drive casing, the casing is slowly extracted during grouting such that the bottom of the casing does not come above the top of the grout column.
- During the grouting process, no contaminating material (oil, grease, or fuels from gloves, pumps, hoses, et. al) is permitted to enter the grout mix and personnel wear personal protective equipment as specified in the Project Health and Safety Plan.
- Following grouting, barriers are placed over grouted boreholes as the grout is likely to settle in time, creating a physical hazard. Grouted boreholes typically require at least a second visit to 'top off' the hole.
- The surface hole condition should match the pre-drilling condition (asphalt, concrete, or smoothed flush with native surface), unless otherwise specified in the project work plans.

7.1.6) Subsurface Obstruction

Where refusal to drilling occurs due to rock, foundation or underground services, the borehole is relocated within 2.0 m downstream from the original borehole location.

7.2) Soil Sampling

7.2.1) Introduction

Soil sampling is conducted in accordance with the "Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario, May 1996" as revised December 1996 (MOE Guidance Manual) and as amended by O. Reg. 366/05, 66/08, 511/09, 245/10, 179/11, 269/11 and 333/13. The sampling procedures are described herein.

Drilling Rig Decontamination

Geoprobe

One-time use Shelby tube (thin-walled) samples are recovered from the boreholes in clear disposable PVC liners to prevent cross-contamination.

CME 55

Drilling equipment such as drill rigs, augers, drill pipes, drilling rods and split-spoons are decontaminated prior to initial use, between borehole locations and at the completion of drilling activities. The drilling equipment is manually scrubbed with a brush using a phosphate-free solution and thoroughly steam cleaned and/or power washed to remove any foreign material and potential contaminants.

In addition, the spilt-spoon sampler and any sub-sampling equipment are decontaminated prior to each usage. Various solutions are used for sampling equipment decontamination as described below:

- Phosphate-free soap solution (i.e., Alconox), tap water and distilled water are used for suspected petroleum hydrocarbon soil sampling.

- A reagent-grade methanol solution and distilled water are used for suspected VOCs soil sampling. The reinstate waste is collected.
- Reagent-grade 10% nitric acid solution and distilled water are used for suspected metals soil sampling. The reinstate waste will be collected.

7.2.2) Sample Logging and Field Screening

Samples are typically collected at 1.5 m intervals in the overburden. Tactile examination of the samples is made to classify the soil, and a log is recorded for each borehole detailing the physical characteristics of the soil including colour, soil type, structure, and any observed staining or odour. The organic vapour readings, the moisture content of the samples as determined in the laboratory, the groundwater and cave-in levels measured at the time of investigation, and the groundwater monitoring well construction details are given on the borehole logs.

7.2.3) Field Screening and Calibration Procedures

The soil samples are classified based on physical characteristics including colour, soil type, moisture, and visible observation of staining and/or odour. In addition, the organic vapour reading for each soil sample is determined using a gas detector. Based on the overall soil physical characteristics, representative soil samples are selected for chemical analysis.

The organic vapour readings are measured using a portable RKI Eagle gas detector, TYPE 101 (Serial Number: E091011) set to include all gases, and having a minimum detection of 2 ppm. Prior to measurement, the detector is calibrated using a Hexane 40% LEL gas. The allowable range of calibration is 38% to 42%.

7.2.4) Soil Sampling

The soil from the disposable sampler liner is handled using new disposable gloves in order to avoid the risk of cross-contamination between the samples. Sufficient amounts of the soil

samples are placed into clean glass jars with Teflon lined lids for analyses for moisture content, medium to heavy PHCs, and Metals and Inorganics.

Small amounts of the soil samples are collected using a disposable 'T'-shaped Terracore sampler and stored in methanol or sodium bisulfate vials for light PHCs (CCME F1) and VOCs analysis, respectively; the remainder of the samples is placed into a sealable bag for vapour measurement and soil classification. The samples are stored in an insulated container with ice after sampling and during shipment to the laboratory.

The minimum requirements for the number, type and frequency of field quality control are given below:

i. Field Duplicates: At least 1 field duplicate sample is collected and submitted for laboratory analysis for every 10 soil samples that are collected to ensure the soil sampling technique is accurate.

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FAX: (705) 721-7864	FAX: (905) 542-2769	FAX: (905) 725-1315	FAX: (905) 881-8335	FAX: (705) 684-8522	FAX: (905) 725-1315	FAX: (905) 542-2769

APPENDIX 'B'

BOREHOLE LOGS

REFERENCE NO. 2302-E052

JOB NO.: 2302-E052

LOG OF BOREHOLE NO.: 1

FIGURE NO.: 1

PROJECT DESCRIPTION: Due Diligence for Land Acquisition

METHOD OF BORING: Flight Auger (Solid Stem)

PROJECT LOCATION: North of Doug Leavens Boulevard and Lisgar Drive
Block 356, Plan 43M-1052 & Block 366, Plan 43M-1066
City of Mississauga

DRILLING DATE: February 24, 2023

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES Number	Type	Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm) 20 60 100 140 180	REMARKS	WATER LEVEL
195.1	Ground Surface							
0.1	8 cm of Topsoil EARTH FILL Brown Silty Clay traces of gravel and sand occ. rootlets and wood fragments	1	DO	0	0		BH1/1: Metals	
		2	DO	0	1			
		3	DO	0			BH1/3: PHCs, BTEX, VOCs, pH	
192.9					2			
2.1	Brown, very stiff to hard SILTY CLAY TILL traces of gravel and sand	4	DO	0				
		5	DO	0	3			
191.0					4			
4.0	Brown, dense to very dense SANDY SILT TILL traces of gravel and clay	6	DO	0	5			
					6			
188.7		7	DO	0				
6.4	END OF BOREHOLE				7			
					8			

Soil Engineers Ltd.

JOB NO.: 2302-E052

LOG OF BOREHOLE NO.: 2

FIGURE NO.: 2

PROJECT DESCRIPTION: Due Diligence for Land Acquisition

METHOD OF BORING: Flight Auger (Solid Stem)

PROJECT LOCATION: North of Doug Leavens Boulevard and Lisgar Drive
Block 356, Plan 43M-1052 & Block 366, Plan 43M-1066
City of Mississauga

DRILLING DATE: February 24, 2023

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES: Number	SAMPLES: Type	SAMPLES: Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm)	REMARKS	WATER LEVEL
194.6 / 0.0	Ground Surface 10 cm of Topsoil							
0.1	EARTH FILL Brown Silty Clay traces of gravel and sand occ. rootlets and wood fragments	1	DO	0	0		BH2/1: PAHs DUPS2	
		2	DO	0	1		BH2/2: Metals	
193.0 / 1.6	Brown, stiff to very stiff SILTY CLAY TILL traces of gravel and sand	3	DO	0	2			
		4	DO	0				
		5	DO	0	3			
190.5 / 4.0	Brown, dense to very dense SANDY SILT TILL traces of gravel and clay	6	DO	0	4			
					5			
					6			
188.2 / 6.4	END OF BOREHOLE	7	DO	0	7			
					8			

Combustible Headspace Reading (ppm): 20 60 100 140 180

Soil Engineers Ltd.

JOB NO.: 2302-E052

LOG OF BOREHOLE NO.: 3

FIGURE NO.: 3

PROJECT DESCRIPTION: Due Diligence for Land Acquisition

METHOD OF BORING: Flight Auger (Solid Stem)

PROJECT LOCATION: North of Doug Leavens Boulevard and Lisgar Drive
Block 356, Plan 43M-1052 & Block 366, Plan 43M-1066
City of Mississauga

DRILLING DATE: February 24, 2023

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES Number	Type	Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm) 20 60 100 140 180	REMARKS	WATER LEVEL
194.5	Ground Surface							
0.0	10 cm of Topsoil				0			
0.1	EARTH FILL Brown Silty Clay traces of gravel and sand occ. rootlets and wood fragments	1	DO	0			BH3/1: PAHs	
		2	DO	0	1			
192.7		3	DO	0				
1.8	Brown, very stiff to hard SILTY CLAY TILL traces of gravel and sand	4	DO	0	2			
		5	DO	0	3			
190.4								
4.0	Very dense SANDY SILT TILL traces of gravel and clay				4			
	brown / grey	6	DO	0	5			
188.3		7	DO	0	6			
6.2	END OF BOREHOLE				7			
					8			

Soil Engineers Ltd.

JOB NO.: 2302-E052

LOG OF BOREHOLE NO.: 4

FIGURE NO.: 4

PROJECT DESCRIPTION: Due Diligence for Land Acquisition

METHOD OF BORING: Flight Auger (Solid Stem)

PROJECT LOCATION: North of Doug Leavens Boulevard and Lisgar Drive
Block 356, Plan 43M-1052 & Block 366, Plan 43M-1066
City of Mississauga

DRILLING DATE: February 24, 2023

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES: Number	SAMPLES: Type	SAMPLES: Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm)	REMARKS	WATER LEVEL
193.8	Ground Surface							
0.0	10 cm of Topsoil				0			
0.1	EARTH FILL Brown Silty Clay traces of gravel and sand occ. rootlets and wood fragments	1	DO	0			BH4/1: PHCs, BTEX, VOCs	
		2	DO	0	1			
		3	DO	0				
191.7					2			
2.1	Brown, stiff to very stiff SILTY CLAY TILL traces of gravel and sand	4	DO	0				
		5	DO	0	3			
189.8								
4.0	Grey, dense SANDY SILT TILL traces of gravel and clay	6	DO	0	4			
					5			
188.6								
5.2	END OF BOREHOLE				6			
					7			
					8			

Combustible Headspace Reading (ppm): 20 60 100 140 180

Soil Engineers Ltd.

JOB NO.: 2302-E052

LOG OF BOREHOLE NO.: 5

FIGURE NO.: 5

PROJECT DESCRIPTION: Due Diligence for Land Acquisition

METHOD OF BORING: Flight Auger (Solid Stem)

PROJECT LOCATION: North of Doug Leavens Boulevard and Lisgar Drive
Block 356, Plan 43M-1052 & Block 366, Plan 43M-1066
City of Mississauga

DRILLING DATE: February 24, 2023

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES Number	Type	Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm) 20 60 100 140 180	REMARKS	WATER LEVEL
194.5	Ground Surface							
0.0	13 cm of Topsoil							
0.1	EARTH FILL Reddish Brown to Brown Silty Clay traces of gravel and sand occ. rootlets and wood fragments	1	DO	0	0		BH5/1: PAHs DUPS3	
		2	DO	0	1		BH5/2: Metals	
		3	DO	0	2			
		4	DO	0				
191.2		5	DO	0	3			
3.3	Brown, very stiff SILTY CLAY TILL traces of gravel and sand							
190.4					4			
4.0	Brown, compact to very dense SANDY SILT TILL traces of gravel and clay	6	DO	0	5		BH5/6: pH	
					6			
188.2		7	DO	0				
6.3	END OF BOREHOLE				7			
					8			

Soil Engineers Ltd.

JOB NO.: 2302-E052

LOG OF BOREHOLE NO.: 6

FIGURE NO.: 6

PROJECT DESCRIPTION: Due Diligence for Land Acquisition

METHOD OF BORING: Flight Auger (Solid Stem)

PROJECT LOCATION: North of Doug Leavens Boulevard and Lisgar Drive
Block 356, Plan 43M-1052 & Block 366, Plan 43M-1066
City of Mississauga

DRILLING DATE: February 24, 2023

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES Number	Type	Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm) 20 60 100 140 180	REMARKS	WATER LEVEL
194.1	Ground Surface							
0.0	10 cm of Topsoil							
0.1	EARTH FILL Brown Silty Clay traces of gravel and sand occ. rootlets and wood fragments	1	DO	0	0			
		2	DO	0	1		BH6/2: PHCs, BTEX, VOCs	
		3	DO	0	2			
191.9								
2.1	Brown, stiff SILTY CLAY TILL traces of gravel and sand	4	DO	0	3			
		5	DO	0	4			
190.0								
4.0	Brown, compact to very dense SANDY SILT TILL traces of gravel and clay	6	DO	0	5			
		7	DO	0	6			
187.5								
6.6	END OF BOREHOLE				7			
					8			

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APPENDIX 'C'

CERTIFICATE OF ANALYSIS
(SOIL SAMPLES)

REFERENCE NO. 2302-E052

Your Project #: 2302-E052
Site Location: LISGAR DRIVE
Your C.O.C. #: n/a

Attention: Annette Chan

Soil Engineers Ltd
90 West Beaver Creek Road
Unit 100
Richmond Hill, ON
CANADA L4B 1E7

Report Date: 2023/03/03
Report #: R7531728
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C359110
Received: 2023/03/01, 15:27

Sample Matrix: Soil
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Hot Water Extractable Boron	5	2023/03/03	2023/03/03	CAM SOP-00408	R153 Ana. Prot. 2011
Free (WAD) Cyanide	4	2023/03/03	2023/03/03	CAM SOP-00457	OMOE E3015 m
Hexavalent Chromium in Soil by IC (1)	5	2023/03/03	2023/03/03	CAM SOP-00436	EPA 3060/7199 m
Acid Extractable Metals by ICPMS	6	2023/03/03	2023/03/03	CAM SOP-00447	EPA 6020B m
Moisture	6	N/A	2023/03/02	CAM SOP-00445	Carter 2nd ed 51.2 m
OC Pesticides (Selected) & PCB (2)	5	2023/03/02	2023/03/03	CAM SOP-00307	EPA 8081B/ 8082A
OC Pesticides Summed Parameters	5	N/A	2023/03/03	CAM SOP-00307	EPA 8081B/ 8082A
pH CaCl2 EXTRACT	2	2023/03/02	2023/03/02	CAM SOP-00413	EPA 9045 D m

Remarks:

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

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

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

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Soils are reported on a dry weight basis unless otherwise specified.
(2) Chlordane (Total) = Alpha Chlordane + Gamma Chlordane

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

Your Project #: 2302-E052
Site Location: LISGAR DRIVE
Your C.O.C. #: n/a

Attention: Annette Chan

Soil Engineers Ltd
90 West Beaver Creek Road
Unit 100
Richmond Hill, ON
CANADA L4B 1E7

Report Date: 2023/03/03
Report #: R7531728
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C359110
Received: 2023/03/01, 15:27

Encryption Key

AUTHORIZED REPORT
RAPPORT AUTORISÉ

Bureau Veritas
03 Mar 2023 18:29:00

Please direct all questions regarding this Certificate of Analysis to:
Antonella Brasil, Senior Project Manager
Email: Antonella.Brasil@bureauveritas.com
Phone# (905)817-5817

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

O.REG 153 ICPMS METALS (SOIL)

Bureau Veritas ID		VEI992	VEI992			
Sampling Date		2023/03/01	2023/03/01			
COC Number		n/a	n/a			
	UNITS	DUPS1	DUPS1 Lab-Dup	RDL	MDL	QC Batch
Metals						
Acid Extractable Antimony (Sb)	ug/g	0.21	0.23	0.20	0.10	8532884
Acid Extractable Arsenic (As)	ug/g	4.5	4.6	1.0	0.10	8532884
Acid Extractable Barium (Ba)	ug/g	86	85	0.50	0.30	8532884
Acid Extractable Beryllium (Be)	ug/g	0.77	0.81	0.20	0.020	8532884
Acid Extractable Boron (B)	ug/g	6.1	5.9	5.0	1.0	8532884
Acid Extractable Cadmium (Cd)	ug/g	0.19	0.21	0.10	0.030	8532884
Acid Extractable Chromium (Cr)	ug/g	24	24	1.0	0.20	8532884
Acid Extractable Cobalt (Co)	ug/g	11	11	0.10	0.020	8532884
Acid Extractable Copper (Cu)	ug/g	27	26	0.50	0.20	8532884
Acid Extractable Lead (Pb)	ug/g	16	16	1.0	0.10	8532884
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	<0.50	0.50	0.10	8532884
Acid Extractable Nickel (Ni)	ug/g	24	23	0.50	0.20	8532884
Acid Extractable Selenium (Se)	ug/g	<0.50	<0.50	0.50	0.10	8532884
Acid Extractable Silver (Ag)	ug/g	<0.20	<0.20	0.20	0.040	8532884
Acid Extractable Thallium (Tl)	ug/g	0.13	0.13	0.050	0.010	8532884
Acid Extractable Uranium (U)	ug/g	0.75	0.78	0.050	0.030	8532884
Acid Extractable Vanadium (V)	ug/g	33	31	5.0	0.50	8532884
Acid Extractable Zinc (Zn)	ug/g	75	73	5.0	0.50	8532884
Acid Extractable Mercury (Hg)	ug/g	<0.050	<0.050	0.050	0.030	8532884

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID		VEI986				VEI986			
Sampling Date		2023/03/01				2023/03/01			
COC Number		n/a				n/a			
	UNITS	TP1	RDL	MDL	QC Batch	TP1 Lab-Dup	RDL	MDL	QC Batch
Inorganics									
Available (CaCl2) pH	pH	7.40			8531520				
WAD Cyanide (Free)	ug/g	<0.01	0.01	0.005	8532407	<0.01	0.01	0.005	8532407
Chromium (VI)	ug/g	<0.18	0.18	0.050	8532512				
Metals									
Hot Water Ext. Boron (B)	ug/g	0.20	0.050	0.030	8532892				
Acid Extractable Antimony (Sb)	ug/g	<0.20	0.20	0.10	8532894				
Acid Extractable Arsenic (As)	ug/g	4.5	1.0	0.10	8532894				
Acid Extractable Barium (Ba)	ug/g	84	0.50	0.30	8532894				
Acid Extractable Beryllium (Be)	ug/g	0.81	0.20	0.020	8532894				
Acid Extractable Boron (B)	ug/g	6.7	5.0	1.0	8532894				
Acid Extractable Cadmium (Cd)	ug/g	0.19	0.10	0.030	8532894				
Acid Extractable Chromium (Cr)	ug/g	25	1.0	0.20	8532894				
Acid Extractable Cobalt (Co)	ug/g	12	0.10	0.020	8532894				
Acid Extractable Copper (Cu)	ug/g	28	0.50	0.20	8532894				
Acid Extractable Lead (Pb)	ug/g	18	1.0	0.10	8532894				
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	0.50	0.10	8532894				
Acid Extractable Nickel (Ni)	ug/g	25	0.50	0.20	8532894				
Acid Extractable Selenium (Se)	ug/g	<0.50	0.50	0.10	8532894				
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	0.040	8532894				
Acid Extractable Thallium (Tl)	ug/g	0.17	0.050	0.010	8532894				
Acid Extractable Uranium (U)	ug/g	0.77	0.050	0.030	8532894				
Acid Extractable Vanadium (V)	ug/g	34	5.0	0.50	8532894				
Acid Extractable Zinc (Zn)	ug/g	71	5.0	0.50	8532894				
Acid Extractable Mercury (Hg)	ug/g	<0.050	0.050	0.030	8532894				

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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Bureau Veritas Job #: C359110
Report Date: 2023/03/03

Soil Engineers Ltd
Client Project #: 2302-E052
Site Location: LISGAR DRIVE
Sampler Initials: VR

O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID		VEI987		VEI988		VEI991			
Sampling Date		2023/03/01		2023/03/01		2023/03/01			
COC Number		n/a		n/a		n/a			
	UNITS	TP2	QC Batch	TP3	QC Batch	TP6	RDL	MDL	QC Batch
Inorganics									
Available (CaCl2) pH	pH			7.34	8531520				
WAD Cyanide (Free)	ug/g	<0.01	8532407	<0.01	8532407	<0.01	0.01	0.005	8532407
Chromium (VI)	ug/g	<0.18	8532512	<0.18	8532512	<0.18	0.18	0.050	8532512
Metals									
Hot Water Ext. Boron (B)	ug/g	0.22	8532892	0.36	8532892	0.47	0.050	0.030	8532892
Acid Extractable Antimony (Sb)	ug/g	<0.20	8532884	<0.20	8532894	<0.20	0.20	0.10	8532894
Acid Extractable Arsenic (As)	ug/g	4.4	8532884	4.3	8532894	4.0	1.0	0.10	8532894
Acid Extractable Barium (Ba)	ug/g	77	8532884	87	8532894	84	0.50	0.30	8532894
Acid Extractable Beryllium (Be)	ug/g	0.75	8532884	0.81	8532894	0.78	0.20	0.020	8532894
Acid Extractable Boron (B)	ug/g	7.0	8532884	7.7	8532894	6.3	5.0	1.0	8532894
Acid Extractable Cadmium (Cd)	ug/g	0.16	8532884	0.20	8532894	0.24	0.10	0.030	8532894
Acid Extractable Chromium (Cr)	ug/g	22	8532884	25	8532894	23	1.0	0.20	8532894
Acid Extractable Cobalt (Co)	ug/g	10	8532884	10	8532894	9.8	0.10	0.020	8532894
Acid Extractable Copper (Cu)	ug/g	31	8532884	25	8532894	24	0.50	0.20	8532894
Acid Extractable Lead (Pb)	ug/g	14	8532884	17	8532894	17	1.0	0.10	8532894
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	8532884	<0.50	8532894	<0.50	0.50	0.10	8532894
Acid Extractable Nickel (Ni)	ug/g	24	8532884	23	8532894	23	0.50	0.20	8532894
Acid Extractable Selenium (Se)	ug/g	<0.50	8532884	<0.50	8532894	<0.50	0.50	0.10	8532894
Acid Extractable Silver (Ag)	ug/g	<0.20	8532884	<0.20	8532894	<0.20	0.20	0.040	8532894
Acid Extractable Thallium (Tl)	ug/g	0.13	8532884	0.12	8532894	0.12	0.050	0.010	8532894
Acid Extractable Uranium (U)	ug/g	0.83	8532884	0.96	8532894	0.99	0.050	0.030	8532894
Acid Extractable Vanadium (V)	ug/g	31	8532884	33	8532894	30	5.0	0.50	8532894
Acid Extractable Zinc (Zn)	ug/g	70	8532884	75	8532894	76	5.0	0.50	8532894
Acid Extractable Mercury (Hg)	ug/g	<0.050	8532884	0.057	8532894	0.056	0.050	0.030	8532894

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Bureau Veritas Job #: C359110
Report Date: 2023/03/03

Soil Engineers Ltd
Client Project #: 2302-E052
Site Location: LISGAR DRIVE
Sampler Initials: VR

O.REG 153 METALS PACKAGE (SOIL)

Bureau Veritas ID		VEI989				VEI989			
Sampling Date		2023/03/01				2023/03/01			
COC Number		n/a				n/a			
	UNITS	TP4	RDL	MDL	QC Batch	TP4 Lab-Dup	RDL	MDL	QC Batch
Inorganics									
Chromium (VI)	ug/g	<0.18	0.18	0.050	8532512				
Metals									
Hot Water Ext. Boron (B)	ug/g	0.34	0.050	0.030	8532892				
Acid Extractable Antimony (Sb)	ug/g	<0.20	0.20	0.10	8532894	<0.20	0.20	0.10	8532894
Acid Extractable Arsenic (As)	ug/g	4.3	1.0	0.10	8532894	4.5	1.0	0.10	8532894
Acid Extractable Barium (Ba)	ug/g	85	0.50	0.30	8532894	87	0.50	0.30	8532894
Acid Extractable Beryllium (Be)	ug/g	0.82	0.20	0.020	8532894	0.84	0.20	0.020	8532894
Acid Extractable Boron (B)	ug/g	6.6	5.0	1.0	8532894	7.1	5.0	1.0	8532894
Acid Extractable Cadmium (Cd)	ug/g	0.23	0.10	0.030	8532894	0.22	0.10	0.030	8532894
Acid Extractable Chromium (Cr)	ug/g	24	1.0	0.20	8532894	24	1.0	0.20	8532894
Acid Extractable Cobalt (Co)	ug/g	9.2	0.10	0.020	8532894	8.9	0.10	0.020	8532894
Acid Extractable Copper (Cu)	ug/g	26	0.50	0.20	8532894	26	0.50	0.20	8532894
Acid Extractable Lead (Pb)	ug/g	16	1.0	0.10	8532894	16	1.0	0.10	8532894
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	0.50	0.10	8532894	<0.50	0.50	0.10	8532894
Acid Extractable Nickel (Ni)	ug/g	24	0.50	0.20	8532894	24	0.50	0.20	8532894
Acid Extractable Selenium (Se)	ug/g	<0.50	0.50	0.10	8532894	<0.50	0.50	0.10	8532894
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	0.040	8532894	<0.20	0.20	0.040	8532894
Acid Extractable Thallium (Tl)	ug/g	0.13	0.050	0.010	8532894	0.13	0.050	0.010	8532894
Acid Extractable Uranium (U)	ug/g	1.0	0.050	0.030	8532894	1.1	0.050	0.030	8532894
Acid Extractable Vanadium (V)	ug/g	32	5.0	0.50	8532894	33	5.0	0.50	8532894
Acid Extractable Zinc (Zn)	ug/g	76	5.0	0.50	8532894	75	5.0	0.50	8532894
Acid Extractable Mercury (Hg)	ug/g	<0.050	0.050	0.030	8532894	<0.050	0.050	0.030	8532894

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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O.REG 153 OC PESTICIDES (SOIL)

Bureau Veritas ID		VEI986	VEI987	VEI988	VEI989	VEI990			
Sampling Date		2023/03/01	2023/03/01	2023/03/01	2023/03/01	2023/03/01			
COC Number		n/a	n/a	n/a	n/a	n/a			
	UNITS	TP1	TP2	TP3	TP4	TP5	RDL	MDL	QC Batch
Calculated Parameters									
Chlordane (Total)	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	N/A	8530267
o,p-DDD + p,p-DDD	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	N/A	8530267
o,p-DDE + p,p-DDE	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	N/A	8530267
o,p-DDT + p,p-DDT	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	N/A	8530267
Total Endosulfan	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	N/A	8530267
Pesticides & Herbicides									
Aldrin	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	8531463
a-Chlordane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	8531463
g-Chlordane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	8531463
o,p-DDD	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	8531463
p,p-DDD	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	8531463
o,p-DDE	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	8531463
p,p-DDE	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	8531463
o,p-DDT	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	8531463
p,p-DDT	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	8531463
Dieldrin	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	8531463
Lindane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	8531463
Endosulfan I (alpha)	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	8531463
Endosulfan II (beta)	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	8531463
Endrin	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	8531463
Heptachlor	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	8531463
Heptachlor epoxide	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	8531463
Hexachlorobenzene	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	8531463
Hexachlorobutadiene	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	N/A	8531463
Hexachloroethane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	N/A	8531463
Methoxychlor	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	0.0016	8531463
Surrogate Recovery (%)									
2,4,5,6-Tetrachloro-m-xylene	%	78	80	76	79	79			8531463
Decachlorobiphenyl	%	95	100	100	106	106			8531463

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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Bureau Veritas Job #: C359110
Report Date: 2023/03/03

Soil Engineers Ltd
Client Project #: 2302-E052
Site Location: LISGAR DRIVE
Sampler Initials: VR

RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID		VEI986	VEI987	VEI988	VEI989	VEI990	VEI990	VEI991			
Sampling Date		2023/03/01	2023/03/01	2023/03/01	2023/03/01	2023/03/01	2023/03/01	2023/03/01			
COC Number		n/a	n/a	n/a	n/a	n/a	n/a	n/a			
	UNITS	TP1	TP2	TP3	TP4	TP5	TP5 Lab-Dup	TP6	RDL	MDL	QC Batch
Inorganics											
Moisture	%	16	19	23	26	23	23	24	1.0	0.50	8531359

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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TEST SUMMARY

Bureau Veritas ID: VEI986 **Collected:** 2023/03/01
Sample ID: TP1 **Shipped:**
Matrix: Soil **Received:** 2023/03/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8532892	2023/03/03	2023/03/03	Jaswinder Kaur
Free (WAD) Cyanide	TECH	8532407	2023/03/03	2023/03/03	Kruti Jitesh Patel
Hexavalent Chromium in Soil by IC	IC/SPEC	8532512	2023/03/03	2023/03/03	Sousan Besharatlou
Acid Extractable Metals by ICPMS	ICP/MS	8532894	2023/03/03	2023/03/03	Daniel Teclu
Moisture	BAL	8531359	N/A	2023/03/02	Rajkumar Patel
OC Pesticides (Selected) & PCB	GC/ECD	8531463	2023/03/02	2023/03/03	Li Peng
OC Pesticides Summed Parameters	CALC	8530267	N/A	2023/03/03	Automated Statchk
pH CaCl2 EXTRACT	AT	8531520	2023/03/02	2023/03/02	Taslima Aktar

Bureau Veritas ID: VEI986 Dup **Collected:** 2023/03/01
Sample ID: TP1 **Shipped:**
Matrix: Soil **Received:** 2023/03/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	8532407	2023/03/03	2023/03/03	Kruti Jitesh Patel

Bureau Veritas ID: VEI987 **Collected:** 2023/03/01
Sample ID: TP2 **Shipped:**
Matrix: Soil **Received:** 2023/03/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8532892	2023/03/03	2023/03/03	Jaswinder Kaur
Free (WAD) Cyanide	TECH	8532407	2023/03/03	2023/03/03	Kruti Jitesh Patel
Hexavalent Chromium in Soil by IC	IC/SPEC	8532512	2023/03/03	2023/03/03	Sousan Besharatlou
Acid Extractable Metals by ICPMS	ICP/MS	8532884	2023/03/03	2023/03/03	Indira HarryPaul
Moisture	BAL	8531359	N/A	2023/03/02	Rajkumar Patel
OC Pesticides (Selected) & PCB	GC/ECD	8531463	2023/03/02	2023/03/03	Li Peng
OC Pesticides Summed Parameters	CALC	8530267	N/A	2023/03/03	Automated Statchk

Bureau Veritas ID: VEI988 **Collected:** 2023/03/01
Sample ID: TP3 **Shipped:**
Matrix: Soil **Received:** 2023/03/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8532892	2023/03/03	2023/03/03	Jaswinder Kaur
Free (WAD) Cyanide	TECH	8532407	2023/03/03	2023/03/03	Kruti Jitesh Patel
Hexavalent Chromium in Soil by IC	IC/SPEC	8532512	2023/03/03	2023/03/03	Sousan Besharatlou
Acid Extractable Metals by ICPMS	ICP/MS	8532894	2023/03/03	2023/03/03	Daniel Teclu
Moisture	BAL	8531359	N/A	2023/03/02	Rajkumar Patel
OC Pesticides (Selected) & PCB	GC/ECD	8531463	2023/03/02	2023/03/03	Li Peng
OC Pesticides Summed Parameters	CALC	8530267	N/A	2023/03/03	Automated Statchk
pH CaCl2 EXTRACT	AT	8531520	2023/03/02	2023/03/02	Taslima Aktar

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Bureau Veritas Job #: C359110
Report Date: 2023/03/03

Soil Engineers Ltd
Client Project #: 2302-E052
Site Location: LISGAR DRIVE
Sampler Initials: VR

TEST SUMMARY

Bureau Veritas ID: VEI989
Sample ID: TP4
Matrix: Soil

Collected: 2023/03/01
Shipped:
Received: 2023/03/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8532892	2023/03/03	2023/03/03	Jaswinder Kaur
Hexavalent Chromium in Soil by IC	IC/SPEC	8532512	2023/03/03	2023/03/03	Sousan Besharatlou
Acid Extractable Metals by ICPMS	ICP/MS	8532894	2023/03/03	2023/03/03	Daniel Teclu
Moisture	BAL	8531359	N/A	2023/03/02	Rajkumar Patel
OC Pesticides (Selected) & PCB	GC/ECD	8531463	2023/03/02	2023/03/03	Li Peng
OC Pesticides Summed Parameters	CALC	8530267	N/A	2023/03/03	Automated Statchk

Bureau Veritas ID: VEI989 Dup
Sample ID: TP4
Matrix: Soil

Collected: 2023/03/01
Shipped:
Received: 2023/03/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractable Metals by ICPMS	ICP/MS	8532894	2023/03/03	2023/03/03	Daniel Teclu

Bureau Veritas ID: VEI990
Sample ID: TP5
Matrix: Soil

Collected: 2023/03/01
Shipped:
Received: 2023/03/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	8531359	N/A	2023/03/02	Rajkumar Patel
OC Pesticides (Selected) & PCB	GC/ECD	8531463	2023/03/02	2023/03/03	Li Peng
OC Pesticides Summed Parameters	CALC	8530267	N/A	2023/03/03	Automated Statchk

Bureau Veritas ID: VEI990 Dup
Sample ID: TP5
Matrix: Soil

Collected: 2023/03/01
Shipped:
Received: 2023/03/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	8531359	N/A	2023/03/02	Rajkumar Patel

Bureau Veritas ID: VEI991
Sample ID: TP6
Matrix: Soil

Collected: 2023/03/01
Shipped:
Received: 2023/03/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8532892	2023/03/03	2023/03/03	Jaswinder Kaur
Free (WAD) Cyanide	TECH	8532407	2023/03/03	2023/03/03	Kruti Jitesh Patel
Hexavalent Chromium in Soil by IC	IC/SPEC	8532512	2023/03/03	2023/03/03	Sousan Besharatlou
Acid Extractable Metals by ICPMS	ICP/MS	8532894	2023/03/03	2023/03/03	Daniel Teclu
Moisture	BAL	8531359	N/A	2023/03/02	Rajkumar Patel

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Bureau Veritas Job #: C359110
Report Date: 2023/03/03

Soil Engineers Ltd
Client Project #: 2302-E052
Site Location: LISGAR DRIVE
Sampler Initials: VR

TEST SUMMARY

Bureau Veritas ID: VEI992
Sample ID: DUPS1
Matrix: Soil

Collected: 2023/03/01
Shipped:
Received: 2023/03/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractable Metals by ICPMS	ICP/MS	8532884	2023/03/03	2023/03/03	Indira HarryPaul

Bureau Veritas ID: VEI992 Dup
Sample ID: DUPS1
Matrix: Soil

Collected: 2023/03/01
Shipped:
Received: 2023/03/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractable Metals by ICPMS	ICP/MS	8532884	2023/03/03	2023/03/03	Indira HarryPaul

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GENERAL COMMENTS

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

Package 1	1.0°C

Cooler custody seal was not present and not intact.

Results relate only to the items tested.

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Bureau Veritas Job #: C359110
Report Date: 2023/03/03

QUALITY ASSURANCE REPORT

Soil Engineers Ltd
Client Project #: 2302-E052
Site Location: LISGAR DRIVE
Sampler Initials: VR

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8531463	2,4,5,6-Tetrachloro-m-xylene	2023/03/03	73	50 - 130	78	50 - 130	73	%		
8531463	Decachlorobiphenyl	2023/03/03	116	50 - 130	119	50 - 130	113	%		
8531359	Moisture	2023/03/02							0.44	20
8531463	a-Chlordane	2023/03/03	64	50 - 130	59	50 - 130	<0.0020	ug/g	NC	40
8531463	Aldrin	2023/03/03	71	50 - 130	66	50 - 130	<0.0020	ug/g	NC	40
8531463	Dieldrin	2023/03/03	62	50 - 130	65	50 - 130	<0.0020	ug/g	NC	40
8531463	Endosulfan I (alpha)	2023/03/03	66	50 - 130	58	50 - 130	<0.0020	ug/g	NC	40
8531463	Endosulfan II (beta)	2023/03/03	61	50 - 130	59	50 - 130	<0.0020	ug/g	NC	40
8531463	Endrin	2023/03/03	72	50 - 130	70	50 - 130	<0.0020	ug/g	NC	40
8531463	g-Chlordane	2023/03/03	58	50 - 130	53	50 - 130	<0.0020	ug/g	NC	40
8531463	Heptachlor epoxide	2023/03/03	59	50 - 130	56	50 - 130	<0.0020	ug/g	NC	40
8531463	Heptachlor	2023/03/03	76	50 - 130	76	50 - 130	<0.0020	ug/g	NC	40
8531463	Hexachlorobenzene	2023/03/03	75	50 - 130	74	50 - 130	<0.0020	ug/g	NC	40
8531463	Hexachlorobutadiene	2023/03/03	78	50 - 130	90	50 - 130	<0.0020	ug/g	NC	40
8531463	Hexachloroethane	2023/03/03	54	50 - 130	58	50 - 130	<0.0020	ug/g	NC	40
8531463	Lindane	2023/03/03	54	50 - 130	57	50 - 130	<0.0020	ug/g	NC	40
8531463	Methoxychlor	2023/03/03	84	50 - 130	82	50 - 130	<0.0050	ug/g	NC	40
8531463	o,p-DDD	2023/03/03	70	50 - 130	75	50 - 130	<0.0020	ug/g	NC	40
8531463	o,p-DDE	2023/03/03	82	50 - 130	76	50 - 130	<0.0020	ug/g	NC	40
8531463	o,p-DDT	2023/03/03	92	50 - 130	92	50 - 130	<0.0020	ug/g	NC	40
8531463	p,p-DDD	2023/03/03	74	50 - 130	71	50 - 130	<0.0020	ug/g	NC	40
8531463	p,p-DDE	2023/03/03	82	50 - 130	73	50 - 130	<0.0020	ug/g	NC	40
8531463	p,p-DDT	2023/03/03	102	50 - 130	96	50 - 130	<0.0020	ug/g	NC	40
8531520	Available (CaCl2) pH	2023/03/02			100	97 - 103			1.0	N/A
8532407	WAD Cyanide (Free)	2023/03/03	97	75 - 125	101	80 - 120	<0.01	ug/g	NC	35
8532512	Chromium (VI)	2023/03/03	79	70 - 130	92	80 - 120	<0.18	ug/g	0.53	35
8532884	Acid Extractable Antimony (Sb)	2023/03/03	98	75 - 125	101	80 - 120	<0.20	ug/g	11	30
8532884	Acid Extractable Arsenic (As)	2023/03/03	107	75 - 125	100	80 - 120	<1.0	ug/g	2.1	30
8532884	Acid Extractable Barium (Ba)	2023/03/03	NC	75 - 125	97	80 - 120	<0.50	ug/g	1.0	30
8532884	Acid Extractable Beryllium (Be)	2023/03/03	106	75 - 125	95	80 - 120	<0.20	ug/g	5.0	30
8532884	Acid Extractable Boron (B)	2023/03/03	90	75 - 125	98	80 - 120	<5.0	ug/g	2.6	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8532884	Acid Extractable Cadmium (Cd)	2023/03/03	108	75 - 125	99	80 - 120	<0.10	ug/g	8.6	30
8532884	Acid Extractable Chromium (Cr)	2023/03/03	110	75 - 125	99	80 - 120	<1.0	ug/g	0.027	30
8532884	Acid Extractable Cobalt (Co)	2023/03/03	109	75 - 125	102	80 - 120	<0.10	ug/g	2.6	30
8532884	Acid Extractable Copper (Cu)	2023/03/03	NC	75 - 125	103	80 - 120	<0.50	ug/g	3.5	30
8532884	Acid Extractable Lead (Pb)	2023/03/03	112	75 - 125	105	80 - 120	<1.0	ug/g	0.62	30
8532884	Acid Extractable Mercury (Hg)	2023/03/03	110	75 - 125	104	80 - 120	<0.050	ug/g	NC	30
8532884	Acid Extractable Molybdenum (Mo)	2023/03/03	110	75 - 125	100	80 - 120	<0.50	ug/g	NC	30
8532884	Acid Extractable Nickel (Ni)	2023/03/03	110	75 - 125	101	80 - 120	<0.50	ug/g	2.2	30
8532884	Acid Extractable Selenium (Se)	2023/03/03	114	75 - 125	103	80 - 120	<0.50	ug/g	NC	30
8532884	Acid Extractable Silver (Ag)	2023/03/03	111	75 - 125	102	80 - 120	<0.20	ug/g	NC	30
8532884	Acid Extractable Thallium (Tl)	2023/03/03	114	75 - 125	108	80 - 120	<0.050	ug/g	4.2	30
8532884	Acid Extractable Uranium (U)	2023/03/03	114	75 - 125	105	80 - 120	<0.050	ug/g	4.3	30
8532884	Acid Extractable Vanadium (V)	2023/03/03	NC	75 - 125	99	80 - 120	<5.0	ug/g	5.2	30
8532884	Acid Extractable Zinc (Zn)	2023/03/03	NC	75 - 125	107	80 - 120	<5.0	ug/g	3.0	30
8532892	Hot Water Ext. Boron (B)	2023/03/03	97	75 - 125	97	75 - 125	<0.050	ug/g	22	40
8532894	Acid Extractable Antimony (Sb)	2023/03/03	100	75 - 125	104	80 - 120	<0.20	ug/g	NC	30
8532894	Acid Extractable Arsenic (As)	2023/03/03	112	75 - 125	101	80 - 120	<1.0	ug/g	4.2	30
8532894	Acid Extractable Barium (Ba)	2023/03/03	NC	75 - 125	94	80 - 120	<0.50	ug/g	1.9	30
8532894	Acid Extractable Beryllium (Be)	2023/03/03	105	75 - 125	96	80 - 120	<0.20	ug/g	2.1	30
8532894	Acid Extractable Boron (B)	2023/03/03	97	75 - 125	99	80 - 120	<5.0	ug/g	7.1	30
8532894	Acid Extractable Cadmium (Cd)	2023/03/03	109	75 - 125	100	80 - 120	<0.10	ug/g	3.2	30
8532894	Acid Extractable Chromium (Cr)	2023/03/03	115	75 - 125	101	80 - 120	<1.0	ug/g	1.1	30
8532894	Acid Extractable Cobalt (Co)	2023/03/03	112	75 - 125	103	80 - 120	<0.10	ug/g	4.2	30
8532894	Acid Extractable Copper (Cu)	2023/03/03	NC	75 - 125	103	80 - 120	<0.50	ug/g	2.5	30
8532894	Acid Extractable Lead (Pb)	2023/03/03	109	75 - 125	103	80 - 120	<1.0	ug/g	1.3	30
8532894	Acid Extractable Mercury (Hg)	2023/03/03	112	75 - 125	102	80 - 120	<0.050	ug/g	NC	30
8532894	Acid Extractable Molybdenum (Mo)	2023/03/03	108	75 - 125	100	80 - 120	<0.50	ug/g	NC	30
8532894	Acid Extractable Nickel (Ni)	2023/03/03	111	75 - 125	101	80 - 120	<0.50	ug/g	0.24	30
8532894	Acid Extractable Selenium (Se)	2023/03/03	113	75 - 125	107	80 - 120	<0.50	ug/g	NC	30
8532894	Acid Extractable Silver (Ag)	2023/03/03	112	75 - 125	105	80 - 120	<0.20	ug/g	NC	30
8532894	Acid Extractable Thallium (Tl)	2023/03/03	114	75 - 125	107	80 - 120	<0.050	ug/g	4.5	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8532894	Acid Extractable Uranium (U)	2023/03/03	113	75 - 125	104	80 - 120	<0.050	ug/g	2.9	30
8532894	Acid Extractable Vanadium (V)	2023/03/03	NC	75 - 125	102	80 - 120	<5.0	ug/g	3.3	30
8532894	Acid Extractable Zinc (Zn)	2023/03/03	NC	75 - 125	102	80 - 120	<5.0	ug/g	1.3	30

N/A = Not Applicable

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

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

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

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

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

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

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

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Bureau Veritas Job #: C359110
Report Date: 2023/03/03

Soil Engineers Ltd
Client Project #: 2302-E052
Site Location: LISGAR DRIVE
Sampler Initials: VR

VALIDATION SIGNATURE PAGE

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

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

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Your Project #: 2302-E052
Site Location: LISGAR DRIVE, CITY OF MISSISSAUGA
Your C.O.C. #: n/a

Attention: Annette Chan

Soil Engineers Ltd
90 West Beaver Creek Road
Unit 100
Richmond Hill, ON
CANADA L4B 1E7

Report Date: 2023/03/03
Report #: R7531658
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C359961
Received: 2023/03/02, 14:26

Sample Matrix: Soil
Samples Received: 12

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum	5	N/A	2023/03/03	CAM SOP-00301	EPA 8270D m
Hot Water Extractable Boron	3	2023/03/03	2023/03/03	CAM SOP-00408	R153 Ana. Prot. 2011
1,3-Dichloropropene Sum	3	N/A	2023/03/03		EPA 8260C m
Hexavalent Chromium in Soil by IC (1)	3	2023/03/03	2023/03/03	CAM SOP-00436	EPA 3060/7199 m
Petroleum Hydrocarbons F2-F4 in Soil (2)	3	2023/03/02	2023/03/03	CAM SOP-00316	CCME CWS m
Acid Extractable Metals by ICPMS	3	2023/03/03	2023/03/03	CAM SOP-00447	EPA 6020B m
Moisture	11	N/A	2023/03/02	CAM SOP-00445	Carter 2nd ed 51.2 m
PAH Compounds in Soil by GC/MS (SIM)	5	2023/03/02	2023/03/03	CAM SOP-00318	EPA 8270E
pH CaCl2 EXTRACT	2	2023/03/03	2023/03/03	CAM SOP-00413	EPA 9045 D m
Volatile Organic Compounds and F1 PHCs	3	N/A	2023/03/02	CAM SOP-00230	EPA 8260C m

Remarks:

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

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

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

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

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

Your Project #: 2302-E052
Site Location: LISGAR DRIVE, CITY OF MISSISSAUGA
Your C.O.C. #: n/a

Attention: Annette Chan

Soil Engineers Ltd
90 West Beaver Creek Road
Unit 100
Richmond Hill, ON
CANADA L4B 1E7

Report Date: 2023/03/03
Report #: R7531658
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C359961
Received: 2023/03/02, 14:26

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

Encryption Key

Bureau Veritas
03 Mar 2023 17:56:51

Please direct all questions regarding this Certificate of Analysis to:
Antonella Brasil, Senior Project Manager
Email: Antonella.Brasil@bureauveritas.com
Phone# (905)817-5817

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Bureau Veritas Job #: C359961
Report Date: 2023/03/03

Soil Engineers Ltd
Client Project #: 2302-E052
Site Location: LISGAR DRIVE, CITY OF MISSISSAUGA
Sampler Initials: AC

O.REG 153 METALS PACKAGE (SOIL)

Bureau Veritas ID		VEN407				VEN407			
Sampling Date		2023/02/24				2023/02/24			
COC Number		n/a				n/a			
	UNITS	BH1/1	RDL	MDL	QC Batch	BH1/1 Lab-Dup	RDL	MDL	QC Batch
Inorganics									
Chromium (VI)	ug/g	<0.18	0.18	0.050	8532512				
Metals									
Hot Water Ext. Boron (B)	ug/g	0.17	0.050	0.030	8532892	0.21	0.050	0.030	8532892
Acid Extractable Antimony (Sb)	ug/g	0.31	0.20	0.10	8532884				
Acid Extractable Arsenic (As)	ug/g	5.3	1.0	0.10	8532884				
Acid Extractable Barium (Ba)	ug/g	100	0.50	0.30	8532884				
Acid Extractable Beryllium (Be)	ug/g	0.92	0.20	0.020	8532884				
Acid Extractable Boron (B)	ug/g	5.8	5.0	1.0	8532884				
Acid Extractable Cadmium (Cd)	ug/g	0.22	0.10	0.030	8532884				
Acid Extractable Chromium (Cr)	ug/g	30	1.0	0.20	8532884				
Acid Extractable Cobalt (Co)	ug/g	13	0.10	0.020	8532884				
Acid Extractable Copper (Cu)	ug/g	32	0.50	0.20	8532884				
Acid Extractable Lead (Pb)	ug/g	19	1.0	0.10	8532884				
Acid Extractable Molybdenum (Mo)	ug/g	0.54	0.50	0.10	8532884				
Acid Extractable Nickel (Ni)	ug/g	27	0.50	0.20	8532884				
Acid Extractable Selenium (Se)	ug/g	<0.50	0.50	0.10	8532884				
Acid Extractable Silver (Ag)	ug/g	0.21	0.20	0.040	8532884				
Acid Extractable Thallium (Tl)	ug/g	0.18	0.050	0.010	8532884				
Acid Extractable Uranium (U)	ug/g	0.94	0.050	0.030	8532884				
Acid Extractable Vanadium (V)	ug/g	37	5.0	0.50	8532884				
Acid Extractable Zinc (Zn)	ug/g	75	5.0	0.50	8532884				
Acid Extractable Mercury (Hg)	ug/g	0.078	0.050	0.030	8532884				

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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O.REG 153 METALS PACKAGE (SOIL)

Bureau Veritas ID		VEN410	VEN414			
Sampling Date		2023/02/24	2023/02/24			
COC Number		n/a	n/a			
	UNITS	BH2/2	BH5/2	RDL	MDL	QC Batch
Inorganics						
Chromium (VI)	ug/g	<0.18	<0.18	0.18	0.050	8532512
Metals						
Hot Water Ext. Boron (B)	ug/g	0.26	0.33	0.050	0.030	8532892
Acid Extractable Antimony (Sb)	ug/g	0.22	0.20	0.20	0.10	8532884
Acid Extractable Arsenic (As)	ug/g	4.5	4.6	1.0	0.10	8532884
Acid Extractable Barium (Ba)	ug/g	75	69	0.50	0.30	8532884
Acid Extractable Beryllium (Be)	ug/g	0.77	0.66	0.20	0.020	8532884
Acid Extractable Boron (B)	ug/g	9.4	9.9	5.0	1.0	8532884
Acid Extractable Cadmium (Cd)	ug/g	0.13	0.12	0.10	0.030	8532884
Acid Extractable Chromium (Cr)	ug/g	22	20	1.0	0.20	8532884
Acid Extractable Cobalt (Co)	ug/g	12	11	0.10	0.020	8532884
Acid Extractable Copper (Cu)	ug/g	31	30	0.50	0.20	8532884
Acid Extractable Lead (Pb)	ug/g	13	14	1.0	0.10	8532884
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	0.84	0.50	0.10	8532884
Acid Extractable Nickel (Ni)	ug/g	25	23	0.50	0.20	8532884
Acid Extractable Selenium (Se)	ug/g	<0.50	<0.50	0.50	0.10	8532884
Acid Extractable Silver (Ag)	ug/g	<0.20	<0.20	0.20	0.040	8532884
Acid Extractable Thallium (Tl)	ug/g	0.16	0.13	0.050	0.010	8532884
Acid Extractable Uranium (U)	ug/g	0.60	0.68	0.050	0.030	8532884
Acid Extractable Vanadium (V)	ug/g	32	30	5.0	0.50	8532884
Acid Extractable Zinc (Zn)	ug/g	69	60	5.0	0.50	8532884
Acid Extractable Mercury (Hg)	ug/g	<0.050	<0.050	0.050	0.030	8532884

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O.REG 153 PAHS (SOIL)

Bureau Veritas ID		VEN409	VEN411	VEN413	VEN416	VEN417			
Sampling Date		2023/02/24	2023/02/24	2023/02/24	2023/02/24	2023/02/24			
COC Number		n/a	n/a	n/a	n/a	n/a			
	UNITS	BH2/1	BH3/1	BH5/1	DUP S2	DUP S3	RDL	MDL	QC Batch
Calculated Parameters									
Methylnaphthalene, 2-(1-)	ug/g	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	0.0071	N/A	8530659
Polyaromatic Hydrocarbons									
Acenaphthene	ug/g	<0.0050	<0.0050	0.013	<0.0050	<0.0050	0.0050	0.0020	8532254
Acenaphthylene	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	0.0010	8532254
Anthracene	ug/g	<0.0050	<0.0050	0.028	<0.0050	<0.0050	0.0050	0.0010	8532254
Benzo(a)anthracene	ug/g	<0.0050	<0.0050	0.11	0.013	0.010	0.0050	0.0020	8532254
Benzo(a)pyrene	ug/g	<0.0050	<0.0050	0.099	0.011	0.0083	0.0050	0.0010	8532254
Benzo(b/j)fluoranthene	ug/g	<0.0050	<0.0050	0.12	0.016	0.012	0.0050	0.0020	8532254
Benzo(g,h,i)perylene	ug/g	<0.0050	<0.0050	0.064	0.0093	0.0059	0.0050	0.0040	8532254
Benzo(k)fluoranthene	ug/g	<0.0050	<0.0050	0.043	0.0058	<0.0050	0.0050	0.0020	8532254
Chrysene	ug/g	<0.0050	<0.0050	0.087	0.012	0.0086	0.0050	0.0020	8532254
Dibenzo(a,h)anthracene	ug/g	<0.0050	<0.0050	0.014	<0.0050	<0.0050	0.0050	0.0040	8532254
Fluoranthene	ug/g	<0.0050	<0.0050	0.25	0.028	0.024	0.0050	0.0010	8532254
Fluorene	ug/g	<0.0050	<0.0050	0.0096	<0.0050	<0.0050	0.0050	0.0010	8532254
Indeno(1,2,3-cd)pyrene	ug/g	<0.0050	<0.0050	0.065	0.0077	0.0055	0.0050	0.0040	8532254
1-Methylnaphthalene	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	0.0010	8532254
2-Methylnaphthalene	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	0.0010	8532254
Naphthalene	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	0.0010	8532254
Phenanthrene	ug/g	<0.0050	<0.0050	0.14	0.019	0.012	0.0050	0.0010	8532254
Pyrene	ug/g	<0.0050	<0.0050	0.20	0.023	0.020	0.0050	0.0010	8532254
Surrogate Recovery (%)									
D10-Anthracene	%	107	106	101	105	112			8532254
D14-Terphenyl (FS)	%	108	109	102	107	114			8532254
D8-Acenaphthylene	%	102	102	99	103	109			8532254

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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

Bureau Veritas ID		VEN408				VEN408			
Sampling Date		2023/02/24				2023/02/24			
COC Number		n/a				n/a			
	UNITS	BH1/3	RDL	MDL	QC Batch	BH1/3 Lab-Dup	RDL	MDL	QC Batch
Calculated Parameters									
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	0.050	0.010	8530617				
Volatile Organics									
Acetone (2-Propanone)	ug/g	<0.49	0.49	0.49	8531998	<0.49	0.49	0.49	8531998
Benzene	ug/g	<0.0060	0.0060	0.0060	8531998	<0.0060	0.0060	0.0060	8531998
Bromodichloromethane	ug/g	<0.040	0.040	0.040	8531998	<0.040	0.040	0.040	8531998
Bromoform	ug/g	<0.040	0.040	0.040	8531998	<0.040	0.040	0.040	8531998
Bromomethane	ug/g	<0.040	0.040	0.040	8531998	<0.040	0.040	0.040	8531998
Carbon Tetrachloride	ug/g	<0.040	0.040	0.040	8531998	<0.040	0.040	0.040	8531998
Chlorobenzene	ug/g	<0.040	0.040	0.040	8531998	<0.040	0.040	0.040	8531998
Chloroform	ug/g	<0.040	0.040	0.040	8531998	<0.040	0.040	0.040	8531998
Dibromochloromethane	ug/g	<0.040	0.040	0.040	8531998	<0.040	0.040	0.040	8531998
1,2-Dichlorobenzene	ug/g	<0.040	0.040	0.040	8531998	<0.040	0.040	0.040	8531998
1,3-Dichlorobenzene	ug/g	<0.040	0.040	0.040	8531998	<0.040	0.040	0.040	8531998
1,4-Dichlorobenzene	ug/g	<0.040	0.040	0.040	8531998	<0.040	0.040	0.040	8531998
Dichlorodifluoromethane (FREON 12)	ug/g	<0.040	0.040	0.040	8531998	<0.040	0.040	0.040	8531998
1,1-Dichloroethane	ug/g	<0.040	0.040	0.040	8531998	<0.040	0.040	0.040	8531998
1,2-Dichloroethane	ug/g	<0.049	0.049	0.049	8531998	<0.049	0.049	0.049	8531998
1,1-Dichloroethylene	ug/g	<0.040	0.040	0.040	8531998	<0.040	0.040	0.040	8531998
cis-1,2-Dichloroethylene	ug/g	<0.040	0.040	0.040	8531998	<0.040	0.040	0.040	8531998
trans-1,2-Dichloroethylene	ug/g	<0.040	0.040	0.040	8531998	<0.040	0.040	0.040	8531998
1,2-Dichloropropane	ug/g	<0.040	0.040	0.040	8531998	<0.040	0.040	0.040	8531998
cis-1,3-Dichloropropene	ug/g	<0.030	0.030	0.030	8531998	<0.030	0.030	0.030	8531998
trans-1,3-Dichloropropene	ug/g	<0.040	0.040	0.040	8531998	<0.040	0.040	0.040	8531998
Ethylbenzene	ug/g	<0.010	0.010	0.010	8531998	<0.010	0.010	0.010	8531998
Ethylene Dibromide	ug/g	<0.040	0.040	0.040	8531998	<0.040	0.040	0.040	8531998
Hexane	ug/g	<0.040	0.040	0.040	8531998	<0.040	0.040	0.040	8531998
Methylene Chloride(Dichloromethane)	ug/g	<0.049	0.049	0.049	8531998	<0.049	0.049	0.049	8531998
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.40	0.40	0.40	8531998	<0.40	0.40	0.40	8531998
Methyl Isobutyl Ketone	ug/g	<0.40	0.40	0.40	8531998	<0.40	0.40	0.40	8531998
Methyl t-butyl ether (MTBE)	ug/g	<0.040	0.040	0.040	8531998	<0.040	0.040	0.040	8531998
Styrene	ug/g	<0.040	0.040	0.040	8531998	<0.040	0.040	0.040	8531998
1,1,1,2-Tetrachloroethane	ug/g	<0.040	0.040	0.040	8531998	<0.040	0.040	0.040	8531998
1,1,2,2-Tetrachloroethane	ug/g	<0.040	0.040	0.040	8531998	<0.040	0.040	0.040	8531998
Tetrachloroethylene	ug/g	<0.040	0.040	0.040	8531998	<0.040	0.040	0.040	8531998

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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

Bureau Veritas ID		VEN408				VEN408			
Sampling Date		2023/02/24				2023/02/24			
COC Number		n/a				n/a			
	UNITS	BH1/3	RDL	MDL	QC Batch	BH1/3 Lab-Dup	RDL	MDL	QC Batch
Toluene	ug/g	<0.020	0.020	0.020	8531998	<0.020	0.020	0.020	8531998
1,1,1-Trichloroethane	ug/g	<0.040	0.040	0.040	8531998	<0.040	0.040	0.040	8531998
1,1,2-Trichloroethane	ug/g	<0.040	0.040	0.040	8531998	<0.040	0.040	0.040	8531998
Trichloroethylene	ug/g	<0.010	0.010	0.010	8531998	<0.010	0.010	0.010	8531998
Trichlorofluoromethane (FREON 11)	ug/g	<0.040	0.040	0.040	8531998	<0.040	0.040	0.040	8531998
Vinyl Chloride	ug/g	<0.019	0.019	0.019	8531998	<0.019	0.019	0.019	8531998
p+m-Xylene	ug/g	<0.020	0.020	0.020	8531998	<0.020	0.020	0.020	8531998
o-Xylene	ug/g	<0.020	0.020	0.020	8531998	<0.020	0.020	0.020	8531998
Total Xylenes	ug/g	<0.020	0.020	0.020	8531998	<0.020	0.020	0.020	8531998
F1 (C6-C10)	ug/g	<10	10	2.0	8531998	<10	10	2.0	8531998
F1 (C6-C10) - BTEX	ug/g	<10	10	2.0	8531998	<10	10	2.0	8531998
F2-F4 Hydrocarbons									
F2 (C10-C16 Hydrocarbons)	ug/g	<10	10	5.0	8532271				
F3 (C16-C34 Hydrocarbons)	ug/g	<50	50	5.0	8532271				
F4 (C34-C50 Hydrocarbons)	ug/g	<50	50	10	8532271				
Reached Baseline at C50	ug/g	Yes			8532271				
Surrogate Recovery (%)									
o-Terphenyl	%	95			8532271				
4-Bromofluorobenzene	%	94			8531998	94			8531998
D10-o-Xylene	%	95			8531998	94			8531998
D4-1,2-Dichloroethane	%	107			8531998	108			8531998
D8-Toluene	%	95			8531998	95			8531998

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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

Bureau Veritas ID		VEN412				VEN412			
Sampling Date		2023/02/24				2023/02/24			
COC Number		n/a				n/a			
	UNITS	BH4/1	RDL	MDL	QC Batch	BH4/1 Lab-Dup	RDL	MDL	QC Batch
Calculated Parameters									
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	0.050	0.010	8530617				
Volatile Organics									
Acetone (2-Propanone)	ug/g	<0.49	0.49	0.49	8531998				
Benzene	ug/g	<0.0060	0.0060	0.0060	8531998				
Bromodichloromethane	ug/g	<0.040	0.040	0.040	8531998				
Bromoform	ug/g	<0.040	0.040	0.040	8531998				
Bromomethane	ug/g	<0.040	0.040	0.040	8531998				
Carbon Tetrachloride	ug/g	<0.040	0.040	0.040	8531998				
Chlorobenzene	ug/g	<0.040	0.040	0.040	8531998				
Chloroform	ug/g	<0.040	0.040	0.040	8531998				
Dibromochloromethane	ug/g	<0.040	0.040	0.040	8531998				
1,2-Dichlorobenzene	ug/g	<0.040	0.040	0.040	8531998				
1,3-Dichlorobenzene	ug/g	<0.040	0.040	0.040	8531998				
1,4-Dichlorobenzene	ug/g	<0.040	0.040	0.040	8531998				
Dichlorodifluoromethane (FREON 12)	ug/g	<0.040	0.040	0.040	8531998				
1,1-Dichloroethane	ug/g	<0.040	0.040	0.040	8531998				
1,2-Dichloroethane	ug/g	<0.049	0.049	0.049	8531998				
1,1-Dichloroethylene	ug/g	<0.040	0.040	0.040	8531998				
cis-1,2-Dichloroethylene	ug/g	<0.040	0.040	0.040	8531998				
trans-1,2-Dichloroethylene	ug/g	<0.040	0.040	0.040	8531998				
1,2-Dichloropropane	ug/g	<0.040	0.040	0.040	8531998				
cis-1,3-Dichloropropene	ug/g	<0.030	0.030	0.030	8531998				
trans-1,3-Dichloropropene	ug/g	<0.040	0.040	0.040	8531998				
Ethylbenzene	ug/g	<0.010	0.010	0.010	8531998				
Ethylene Dibromide	ug/g	<0.040	0.040	0.040	8531998				
Hexane	ug/g	<0.040	0.040	0.040	8531998				
Methylene Chloride(Dichloromethane)	ug/g	<0.049	0.049	0.049	8531998				
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.40	0.40	0.40	8531998				
Methyl Isobutyl Ketone	ug/g	<0.40	0.40	0.40	8531998				
Methyl t-butyl ether (MTBE)	ug/g	<0.040	0.040	0.040	8531998				
Styrene	ug/g	<0.040	0.040	0.040	8531998				
1,1,1,2-Tetrachloroethane	ug/g	<0.040	0.040	0.040	8531998				
1,1,2,2-Tetrachloroethane	ug/g	<0.040	0.040	0.040	8531998				
Tetrachloroethylene	ug/g	<0.040	0.040	0.040	8531998				

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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Bureau Veritas Job #: C359961
Report Date: 2023/03/03

Soil Engineers Ltd
Client Project #: 2302-E052
Site Location: LISGAR DRIVE, CITY OF MISSISSAUGA
Sampler Initials: AC

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

Bureau Veritas ID		VEN412				VEN412			
Sampling Date		2023/02/24				2023/02/24			
COC Number		n/a				n/a			
	UNITS	BH4/1	RDL	MDL	QC Batch	BH4/1 Lab-Dup	RDL	MDL	QC Batch
Toluene	ug/g	<0.020	0.020	0.020	8531998				
1,1,1-Trichloroethane	ug/g	<0.040	0.040	0.040	8531998				
1,1,2-Trichloroethane	ug/g	<0.040	0.040	0.040	8531998				
Trichloroethylene	ug/g	<0.010	0.010	0.010	8531998				
Trichlorofluoromethane (FREON 11)	ug/g	<0.040	0.040	0.040	8531998				
Vinyl Chloride	ug/g	<0.019	0.019	0.019	8531998				
p+m-Xylene	ug/g	<0.020	0.020	0.020	8531998				
o-Xylene	ug/g	<0.020	0.020	0.020	8531998				
Total Xylenes	ug/g	<0.020	0.020	0.020	8531998				
F1 (C6-C10)	ug/g	<10	10	2.0	8531998				
F1 (C6-C10) - BTEX	ug/g	<10	10	2.0	8531998				
F2-F4 Hydrocarbons									
F2 (C10-C16 Hydrocarbons)	ug/g	<10	10	5.0	8532271	<10	10	5.0	8532271
F3 (C16-C34 Hydrocarbons)	ug/g	<50	50	5.0	8532271	<50	50	5.0	8532271
F4 (C34-C50 Hydrocarbons)	ug/g	<50	50	10	8532271	<50	50	10	8532271
Reached Baseline at C50	ug/g	Yes			8532271	Yes			8532271
Surrogate Recovery (%)									
o-Terphenyl	%	93			8532271	93			8532271
4-Bromofluorobenzene	%	94			8531998				
D10-o-Xylene	%	87			8531998				
D4-1,2-Dichloroethane	%	109			8531998				
D8-Toluene	%	95			8531998				

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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

Bureau Veritas ID		VEN415			
Sampling Date		2023/02/24			
COC Number		n/a			
	UNITS	BH6/2	RDL	MDL	QC Batch
Calculated Parameters					
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	0.050	0.010	8530617
Volatile Organics					
Acetone (2-Propanone)	ug/g	<0.49	0.49	0.49	8531998
Benzene	ug/g	<0.0060	0.0060	0.0060	8531998
Bromodichloromethane	ug/g	<0.040	0.040	0.040	8531998
Bromoform	ug/g	<0.040	0.040	0.040	8531998
Bromomethane	ug/g	<0.040	0.040	0.040	8531998
Carbon Tetrachloride	ug/g	<0.040	0.040	0.040	8531998
Chlorobenzene	ug/g	<0.040	0.040	0.040	8531998
Chloroform	ug/g	<0.040	0.040	0.040	8531998
Dibromochloromethane	ug/g	<0.040	0.040	0.040	8531998
1,2-Dichlorobenzene	ug/g	<0.040	0.040	0.040	8531998
1,3-Dichlorobenzene	ug/g	<0.040	0.040	0.040	8531998
1,4-Dichlorobenzene	ug/g	<0.040	0.040	0.040	8531998
Dichlorodifluoromethane (FREON 12)	ug/g	<0.040	0.040	0.040	8531998
1,1-Dichloroethane	ug/g	<0.040	0.040	0.040	8531998
1,2-Dichloroethane	ug/g	<0.049	0.049	0.049	8531998
1,1-Dichloroethylene	ug/g	<0.040	0.040	0.040	8531998
cis-1,2-Dichloroethylene	ug/g	<0.040	0.040	0.040	8531998
trans-1,2-Dichloroethylene	ug/g	<0.040	0.040	0.040	8531998
1,2-Dichloropropane	ug/g	<0.040	0.040	0.040	8531998
cis-1,3-Dichloropropene	ug/g	<0.030	0.030	0.030	8531998
trans-1,3-Dichloropropene	ug/g	<0.040	0.040	0.040	8531998
Ethylbenzene	ug/g	<0.010	0.010	0.010	8531998
Ethylene Dibromide	ug/g	<0.040	0.040	0.040	8531998
Hexane	ug/g	<0.040	0.040	0.040	8531998
Methylene Chloride(Dichloromethane)	ug/g	<0.049	0.049	0.049	8531998
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.40	0.40	0.40	8531998
Methyl Isobutyl Ketone	ug/g	<0.40	0.40	0.40	8531998
Methyl t-butyl ether (MTBE)	ug/g	<0.040	0.040	0.040	8531998
Styrene	ug/g	<0.040	0.040	0.040	8531998
1,1,1,2-Tetrachloroethane	ug/g	<0.040	0.040	0.040	8531998
1,1,2,2-Tetrachloroethane	ug/g	<0.040	0.040	0.040	8531998
Tetrachloroethylene	ug/g	<0.040	0.040	0.040	8531998

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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

Bureau Veritas ID		VEN415			
Sampling Date		2023/02/24			
COC Number		n/a			
	UNITS	BH6/2	RDL	MDL	QC Batch
Toluene	ug/g	<0.020	0.020	0.020	8531998
1,1,1-Trichloroethane	ug/g	<0.040	0.040	0.040	8531998
1,1,2-Trichloroethane	ug/g	<0.040	0.040	0.040	8531998
Trichloroethylene	ug/g	<0.010	0.010	0.010	8531998
Trichlorofluoromethane (FREON 11)	ug/g	<0.040	0.040	0.040	8531998
Vinyl Chloride	ug/g	<0.019	0.019	0.019	8531998
p+m-Xylene	ug/g	<0.020	0.020	0.020	8531998
o-Xylene	ug/g	<0.020	0.020	0.020	8531998
Total Xylenes	ug/g	<0.020	0.020	0.020	8531998
F1 (C6-C10)	ug/g	<10	10	2.0	8531998
F1 (C6-C10) - BTEX	ug/g	<10	10	2.0	8531998
F2-F4 Hydrocarbons					
F2 (C10-C16 Hydrocarbons)	ug/g	<10	10	5.0	8532271
F3 (C16-C34 Hydrocarbons)	ug/g	<50	50	5.0	8532271
F4 (C34-C50 Hydrocarbons)	ug/g	<50	50	10	8532271
Reached Baseline at C50	ug/g	Yes			8532271
Surrogate Recovery (%)					
o-Terphenyl	%	96			8532271
4-Bromofluorobenzene	%	93			8531998
D10-o-Xylene	%	86			8531998
D4-1,2-Dichloroethane	%	109			8531998
D8-Toluene	%	95			8531998

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Bureau Veritas Job #: C359961
Report Date: 2023/03/03

Soil Engineers Ltd
Client Project #: 2302-E052
Site Location: LISGAR DRIVE, CITY OF MISSISSAUGA
Sampler Initials: AC

RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID		VEN407	VEN407		VEN408		VEN409	VEN410			
Sampling Date		2023/02/24	2023/02/24		2023/02/24		2023/02/24	2023/02/24			
COC Number		n/a	n/a		n/a		n/a	n/a			
	UNITS	BH1/1	BH1/1 Lab-Dup	QC Batch	BH1/3	QC Batch	BH2/1	BH2/2	RDL	MDL	QC Batch
Inorganics											
Moisture	%	19	19	8531810	14	8531810	13	17	1.0	0.50	8531810
Available (CaCl2) pH	pH				7.61	8532676					

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

Bureau Veritas ID		VEN411	VEN412	VEN413	VEN414	VEN415	VEN416	VEN417			
Sampling Date		2023/02/24	2023/02/24	2023/02/24	2023/02/24	2023/02/24	2023/02/24	2023/02/24			
COC Number		n/a	n/a	n/a	n/a	n/a	n/a	n/a			
	UNITS	BH3/1	BH4/1	BH5/1	BH5/2	BH6/2	DUP S2	DUP S3	RDL	MDL	QC Batch
Inorganics											
Moisture	%	17	11	14	17	17	12	14	1.0	0.50	8531810

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas ID		VEN418		
Sampling Date		2023/02/24		
COC Number		n/a		
	UNITS	BH5/6	MDL	QC Batch
Inorganics				
Available (CaCl2) pH	pH	7.89		8532676

QC Batch = Quality Control Batch

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TEST SUMMARY

Bureau Veritas ID: VEN407
Sample ID: BH1/1
Matrix: Soil
Collected: 2023/02/24
Shipped:
Received: 2023/03/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8532892	2023/03/03	2023/03/03	Jaswinder Kaur
Hexavalent Chromium in Soil by IC	IC/SPEC	8532512	2023/03/03	2023/03/03	Sousan Besharatlou
Acid Extractable Metals by ICPMS	ICP/MS	8532884	2023/03/03	2023/03/03	Indira HarryPaul
Moisture	BAL	8531810	N/A	2023/03/02	Simrat Bhathal

Bureau Veritas ID: VEN407 Dup
Sample ID: BH1/1
Matrix: Soil
Collected: 2023/02/24
Shipped:
Received: 2023/03/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8532892	2023/03/03	2023/03/03	Jaswinder Kaur
Moisture	BAL	8531810	N/A	2023/03/02	Simrat Bhathal

Bureau Veritas ID: VEN408
Sample ID: BH1/3
Matrix: Soil
Collected: 2023/02/24
Shipped:
Received: 2023/03/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	8530617	N/A	2023/03/03	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8532271	2023/03/02	2023/03/03	Anna Stuglik-Rolland
Moisture	BAL	8531810	N/A	2023/03/02	Simrat Bhathal
pH CaCl2 EXTRACT	AT	8532676	2023/03/03	2023/03/03	Taslima Aktar
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8531998	N/A	2023/03/02	Anna Gabrielyan

Bureau Veritas ID: VEN408 Dup
Sample ID: BH1/3
Matrix: Soil
Collected: 2023/02/24
Shipped:
Received: 2023/03/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8531998	N/A	2023/03/02	Anna Gabrielyan

Bureau Veritas ID: VEN409
Sample ID: BH2/1
Matrix: Soil
Collected: 2023/02/24
Shipped:
Received: 2023/03/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8530659	N/A	2023/03/03	Automated Statchk
Moisture	BAL	8531810	N/A	2023/03/02	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8532254	2023/03/02	2023/03/03	Jonghan Yoon

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TEST SUMMARY

Bureau Veritas ID: VEN410
Sample ID: BH2/2
Matrix: Soil

Collected: 2023/02/24
Shipped:
Received: 2023/03/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8532892	2023/03/03	2023/03/03	Jaswinder Kaur
Hexavalent Chromium in Soil by IC	IC/SPEC	8532512	2023/03/03	2023/03/03	Sousan Besharatlou
Acid Extractable Metals by ICPMS	ICP/MS	8532884	2023/03/03	2023/03/03	Indira HarryPaul
Moisture	BAL	8531810	N/A	2023/03/02	Simrat Bhathal

Bureau Veritas ID: VEN411
Sample ID: BH3/1
Matrix: Soil

Collected: 2023/02/24
Shipped:
Received: 2023/03/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8530659	N/A	2023/03/03	Automated Statchk
Moisture	BAL	8531810	N/A	2023/03/02	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8532254	2023/03/02	2023/03/03	Jonghan Yoon

Bureau Veritas ID: VEN412
Sample ID: BH4/1
Matrix: Soil

Collected: 2023/02/24
Shipped:
Received: 2023/03/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	8530617	N/A	2023/03/03	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8532271	2023/03/02	2023/03/03	Anna Stuglik-Rolland
Moisture	BAL	8531810	N/A	2023/03/02	Simrat Bhathal
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8531998	N/A	2023/03/02	Anna Gabrielyan

Bureau Veritas ID: VEN412 Dup
Sample ID: BH4/1
Matrix: Soil

Collected: 2023/02/24
Shipped:
Received: 2023/03/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8532271	2023/03/02	2023/03/03	Anna Stuglik-Rolland

Bureau Veritas ID: VEN413
Sample ID: BH5/1
Matrix: Soil

Collected: 2023/02/24
Shipped:
Received: 2023/03/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8530659	N/A	2023/03/03	Automated Statchk
Moisture	BAL	8531810	N/A	2023/03/02	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8532254	2023/03/02	2023/03/03	Jonghan Yoon

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TEST SUMMARY

Bureau Veritas ID: VEN414
Sample ID: BH5/2
Matrix: Soil
Collected: 2023/02/24
Shipped:
Received: 2023/03/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8532892	2023/03/03	2023/03/03	Jaswinder Kaur
Hexavalent Chromium in Soil by IC	IC/SPEC	8532512	2023/03/03	2023/03/03	Sousan Besharatlou
Acid Extractable Metals by ICPMS	ICP/MS	8532884	2023/03/03	2023/03/03	Indira HarryPaul
Moisture	BAL	8531810	N/A	2023/03/02	Simrat Bhathal

Bureau Veritas ID: VEN415
Sample ID: BH6/2
Matrix: Soil
Collected: 2023/02/24
Shipped:
Received: 2023/03/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	8530617	N/A	2023/03/03	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8532271	2023/03/02	2023/03/03	Anna Stuglik-Rolland
Moisture	BAL	8531810	N/A	2023/03/02	Simrat Bhathal
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8531998	N/A	2023/03/02	Anna Gabrielyan

Bureau Veritas ID: VEN416
Sample ID: DUP S2
Matrix: Soil
Collected: 2023/02/24
Shipped:
Received: 2023/03/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8530659	N/A	2023/03/03	Automated Statchk
Moisture	BAL	8531810	N/A	2023/03/02	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8532254	2023/03/02	2023/03/03	Jonghan Yoon

Bureau Veritas ID: VEN417
Sample ID: DUP S3
Matrix: Soil
Collected: 2023/02/24
Shipped:
Received: 2023/03/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8530659	N/A	2023/03/03	Automated Statchk
Moisture	BAL	8531810	N/A	2023/03/02	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8532254	2023/03/02	2023/03/03	Jonghan Yoon

Bureau Veritas ID: VEN418
Sample ID: BH5/6
Matrix: Soil
Collected: 2023/02/24
Shipped:
Received: 2023/03/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	8532676	2023/03/03	2023/03/03	Taslima Aktar

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GENERAL COMMENTS

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

Package 1	0.7°C

Cooler custody seal was present and intact.

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8531998	4-Bromofluorobenzene	2023/03/02	102	60 - 140	102	60 - 140	93	%		
8531998	D10-o-Xylene	2023/03/02	103	60 - 130	101	60 - 130	88	%		
8531998	D4-1,2-Dichloroethane	2023/03/02	103	60 - 140	104	60 - 140	108	%		
8531998	D8-Toluene	2023/03/02	104	60 - 140	106	60 - 140	95	%		
8532254	D10-Anthracene	2023/03/03	100	50 - 130	106	50 - 130	101	%		
8532254	D14-Terphenyl (FS)	2023/03/03	102	50 - 130	103	50 - 130	98	%		
8532254	D8-Acenaphthylene	2023/03/03	98	50 - 130	101	50 - 130	95	%		
8532271	o-Terphenyl	2023/03/02	93	60 - 130	89	60 - 130	93	%		
8531810	Moisture	2023/03/02							0.54	20
8531998	1,1,1,2-Tetrachloroethane	2023/03/02	94	60 - 140	94	60 - 130	<0.040	ug/g	NC	50
8531998	1,1,1-Trichloroethane	2023/03/02	97	60 - 140	96	60 - 130	<0.040	ug/g	NC	50
8531998	1,1,2,2-Tetrachloroethane	2023/03/02	87	60 - 140	89	60 - 130	<0.040	ug/g	NC	50
8531998	1,1,2-Trichloroethane	2023/03/02	98	60 - 140	101	60 - 130	<0.040	ug/g	NC	50
8531998	1,1-Dichloroethane	2023/03/02	90	60 - 140	89	60 - 130	<0.040	ug/g	NC	50
8531998	1,1-Dichloroethylene	2023/03/02	94	60 - 140	93	60 - 130	<0.040	ug/g	NC	50
8531998	1,2-Dichlorobenzene	2023/03/02	89	60 - 140	91	60 - 130	<0.040	ug/g	NC	50
8531998	1,2-Dichloroethane	2023/03/02	94	60 - 140	96	60 - 130	<0.049	ug/g	NC	50
8531998	1,2-Dichloropropane	2023/03/02	92	60 - 140	91	60 - 130	<0.040	ug/g	NC	50
8531998	1,3-Dichlorobenzene	2023/03/02	85	60 - 140	87	60 - 130	<0.040	ug/g	NC	50
8531998	1,4-Dichlorobenzene	2023/03/02	99	60 - 140	102	60 - 130	<0.040	ug/g	NC	50
8531998	Acetone (2-Propanone)	2023/03/02	95	60 - 140	97	60 - 140	<0.49	ug/g	NC	50
8531998	Benzene	2023/03/02	85	60 - 140	85	60 - 130	<0.0060	ug/g	NC	50
8531998	Bromodichloromethane	2023/03/02	95	60 - 140	95	60 - 130	<0.040	ug/g	NC	50
8531998	Bromoform	2023/03/02	91	60 - 140	92	60 - 130	<0.040	ug/g	NC	50
8531998	Bromomethane	2023/03/02	88	60 - 140	94	60 - 140	<0.040	ug/g	NC	50
8531998	Carbon Tetrachloride	2023/03/02	96	60 - 140	94	60 - 130	<0.040	ug/g	NC	50
8531998	Chlorobenzene	2023/03/02	93	60 - 140	94	60 - 130	<0.040	ug/g	NC	50
8531998	Chloroform	2023/03/02	92	60 - 140	92	60 - 130	<0.040	ug/g	NC	50
8531998	cis-1,2-Dichloroethylene	2023/03/02	94	60 - 140	93	60 - 130	<0.040	ug/g	NC	50
8531998	cis-1,3-Dichloropropene	2023/03/02	92	60 - 140	93	60 - 130	<0.030	ug/g	NC	50
8531998	Dibromochloromethane	2023/03/02	90	60 - 140	90	60 - 130	<0.040	ug/g	NC	50

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8531998	Dichlorodifluoromethane (FREON 12)	2023/03/02	109	60 - 140	102	60 - 140	<0.040	ug/g	NC	50
8531998	Ethylbenzene	2023/03/02	84	60 - 140	86	60 - 130	<0.010	ug/g	NC	50
8531998	Ethylene Dibromide	2023/03/02	88	60 - 140	90	60 - 130	<0.040	ug/g	NC	50
8531998	F1 (C6-C10) - BTEX	2023/03/02					<10	ug/g	NC	30
8531998	F1 (C6-C10)	2023/03/02	97	60 - 140	93	80 - 120	<10	ug/g	NC	30
8531998	Hexane	2023/03/02	99	60 - 140	97	60 - 130	<0.040	ug/g	NC	50
8531998	Methyl Ethyl Ketone (2-Butanone)	2023/03/02	98	60 - 140	100	60 - 140	<0.40	ug/g	NC	50
8531998	Methyl Isobutyl Ketone	2023/03/02	97	60 - 140	101	60 - 130	<0.40	ug/g	NC	50
8531998	Methyl t-butyl ether (MTBE)	2023/03/02	93	60 - 140	93	60 - 130	<0.040	ug/g	NC	50
8531998	Methylene Chloride(Dichloromethane)	2023/03/02	93	60 - 140	91	60 - 130	<0.049	ug/g	NC	50
8531998	o-Xylene	2023/03/02	91	60 - 140	93	60 - 130	<0.020	ug/g	NC	50
8531998	p+m-Xylene	2023/03/02	90	60 - 140	92	60 - 130	<0.020	ug/g	NC	50
8531998	Styrene	2023/03/02	101	60 - 140	103	60 - 130	<0.040	ug/g	NC	50
8531998	Tetrachloroethylene	2023/03/02	84	60 - 140	86	60 - 130	<0.040	ug/g	NC	50
8531998	Toluene	2023/03/02	90	60 - 140	91	60 - 130	<0.020	ug/g	NC	50
8531998	Total Xylenes	2023/03/02					<0.020	ug/g	NC	50
8531998	trans-1,2-Dichloroethylene	2023/03/02	90	60 - 140	88	60 - 130	<0.040	ug/g	NC	50
8531998	trans-1,3-Dichloropropene	2023/03/02	100	60 - 140	102	60 - 130	<0.040	ug/g	NC	50
8531998	Trichloroethylene	2023/03/02	96	60 - 140	95	60 - 130	<0.010	ug/g	NC	50
8531998	Trichlorofluoromethane (FREON 11)	2023/03/02	94	60 - 140	97	60 - 130	<0.040	ug/g	NC	50
8531998	Vinyl Chloride	2023/03/02	85	60 - 140	90	60 - 130	<0.019	ug/g	NC	50
8532254	1-Methylnaphthalene	2023/03/03	112	50 - 130	114	50 - 130	<0.0050	ug/g	NC	40
8532254	2-Methylnaphthalene	2023/03/03	102	50 - 130	104	50 - 130	<0.0050	ug/g	NC	40
8532254	Acenaphthene	2023/03/03	106	50 - 130	106	50 - 130	<0.0050	ug/g	31	40
8532254	Acenaphthylene	2023/03/03	104	50 - 130	105	50 - 130	<0.0050	ug/g	NC	40
8532254	Anthracene	2023/03/03	108	50 - 130	106	50 - 130	<0.0050	ug/g	114 (1)	40
8532254	Benzo(a)anthracene	2023/03/03	120	50 - 130	107	50 - 130	<0.0050	ug/g	124 (1)	40
8532254	Benzo(a)pyrene	2023/03/03	103	50 - 130	100	50 - 130	<0.0050	ug/g	130 (1)	40
8532254	Benzo(b/j)fluoranthene	2023/03/03	102	50 - 130	106	50 - 130	<0.0050	ug/g	130 (1)	40
8532254	Benzo(g,h,i)perylene	2023/03/03	99	50 - 130	107	50 - 130	<0.0050	ug/g	138 (1)	40
8532254	Benzo(k)fluoranthene	2023/03/03	96	50 - 130	103	50 - 130	<0.0050	ug/g	127 (1)	40

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8532254	Chrysene	2023/03/03	110	50 - 130	108	50 - 130	<0.0050	ug/g	129 (1)	40
8532254	Dibenzo(a,h)anthracene	2023/03/03	93	50 - 130	96	50 - 130	<0.0050	ug/g	24	40
8532254	Fluoranthene	2023/03/03	124	50 - 130	113	50 - 130	<0.0050	ug/g	135 (1)	40
8532254	Fluorene	2023/03/03	104	50 - 130	104	50 - 130	<0.0050	ug/g	NC	40
8532254	Indeno(1,2,3-cd)pyrene	2023/03/03	99	50 - 130	106	50 - 130	<0.0050	ug/g	137 (1)	40
8532254	Naphthalene	2023/03/03	100	50 - 130	105	50 - 130	<0.0050	ug/g	NC	40
8532254	Phenanthrene	2023/03/03	108	50 - 130	105	50 - 130	<0.0050	ug/g	164 (1)	40
8532254	Pyrene	2023/03/03	119	50 - 130	110	50 - 130	<0.0050	ug/g	137 (1)	40
8532271	F2 (C10-C16 Hydrocarbons)	2023/03/03	103	60 - 130	100	80 - 120	<10	ug/g	NC	30
8532271	F3 (C16-C34 Hydrocarbons)	2023/03/03	105	60 - 130	100	80 - 120	<50	ug/g	NC	30
8532271	F4 (C34-C50 Hydrocarbons)	2023/03/03	106	60 - 130	101	80 - 120	<50	ug/g	NC	30
8532512	Chromium (VI)	2023/03/03	79	70 - 130	92	80 - 120	<0.18	ug/g	0.53	35
8532676	Available (CaCl2) pH	2023/03/03			99	97 - 103			0.34	N/A
8532884	Acid Extractable Antimony (Sb)	2023/03/03	98	75 - 125	101	80 - 120	<0.20	ug/g	11	30
8532884	Acid Extractable Arsenic (As)	2023/03/03	107	75 - 125	100	80 - 120	<1.0	ug/g	2.1	30
8532884	Acid Extractable Barium (Ba)	2023/03/03	NC	75 - 125	97	80 - 120	<0.50	ug/g	1.0	30
8532884	Acid Extractable Beryllium (Be)	2023/03/03	106	75 - 125	95	80 - 120	<0.20	ug/g	5.0	30
8532884	Acid Extractable Boron (B)	2023/03/03	90	75 - 125	98	80 - 120	<5.0	ug/g	2.6	30
8532884	Acid Extractable Cadmium (Cd)	2023/03/03	108	75 - 125	99	80 - 120	<0.10	ug/g	8.6	30
8532884	Acid Extractable Chromium (Cr)	2023/03/03	110	75 - 125	99	80 - 120	<1.0	ug/g	0.027	30
8532884	Acid Extractable Cobalt (Co)	2023/03/03	109	75 - 125	102	80 - 120	<0.10	ug/g	2.6	30
8532884	Acid Extractable Copper (Cu)	2023/03/03	NC	75 - 125	103	80 - 120	<0.50	ug/g	3.5	30
8532884	Acid Extractable Lead (Pb)	2023/03/03	112	75 - 125	105	80 - 120	<1.0	ug/g	0.62	30
8532884	Acid Extractable Mercury (Hg)	2023/03/03	110	75 - 125	104	80 - 120	<0.050	ug/g	NC	30
8532884	Acid Extractable Molybdenum (Mo)	2023/03/03	110	75 - 125	100	80 - 120	<0.50	ug/g	NC	30
8532884	Acid Extractable Nickel (Ni)	2023/03/03	110	75 - 125	101	80 - 120	<0.50	ug/g	2.2	30
8532884	Acid Extractable Selenium (Se)	2023/03/03	114	75 - 125	103	80 - 120	<0.50	ug/g	NC	30
8532884	Acid Extractable Silver (Ag)	2023/03/03	111	75 - 125	102	80 - 120	<0.20	ug/g	NC	30
8532884	Acid Extractable Thallium (Tl)	2023/03/03	114	75 - 125	108	80 - 120	<0.050	ug/g	4.2	30
8532884	Acid Extractable Uranium (U)	2023/03/03	114	75 - 125	105	80 - 120	<0.050	ug/g	4.3	30
8532884	Acid Extractable Vanadium (V)	2023/03/03	NC	75 - 125	99	80 - 120	<5.0	ug/g	5.2	30

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8532884	Acid Extractable Zinc (Zn)	2023/03/03	NC	75 - 125	107	80 - 120	<5.0	ug/g	3.0	30
8532892	Hot Water Ext. Boron (B)	2023/03/03	97	75 - 125	97	75 - 125	<0.050	ug/g	22	40

N/A = Not Applicable

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

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

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

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

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

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

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

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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Bureau Veritas Job #: C359961
Report Date: 2023/03/03

Soil Engineers Ltd
Client Project #: 2302-E052
Site Location: LISGAR DRIVE, CITY OF MISSISSAUGA
Sampler Initials: AC

VALIDATION SIGNATURE PAGE

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

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

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