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A REPORT TO

GLOBAL PROPERTIES INC.

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

PROPOSED RESIDENTIAL DEVELOPMENT

12494 THE GORE ROAD

TOWN OF CALEDON

Reference No. 2009-E126

July 8, 2024

DISTRIBUTION

3 Copies - Global Properties Inc.

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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 Global Properties 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 at 12494 The Gore Road, in the Town of Caledon (hereinafter referred to as the 'subject site').

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

The field work was performed at selected locations on the subject site. Soil samples were collected and submitted for chemical analysis in accordance with the Table 8, Generic Site Condition Standards for Use within 30 m of a Water Body in a Potable Groundwater Condition for Residential/Parkland/Institutional/ Industrial/Commercial/Community Property Use (Table 8 Standards), as published in the "Soil, Ground Water and Sediment Standards for Use Under Part XV. 1 of the Environmental Protection Act" (EPA), April 15, 2011 (Table 8 Standards).

A review of the analytical test results of soil samples indicates the tested parameters at the test locations meet the Table 8 Standards. Consequently, there are no contaminants identified at the test locations at a concentration above the applicable site condition standards (Table 8 Standards) during the Phase Two ESA.

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

2.0 INTRODUCTION

Soil Engineers Ltd. (SEL) was retained by Global Properties Inc. to carry 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 on the southwest side of The Gore Road, approximately 1.2 km south of Healey Road, in the Town of Caledon (hereinafter referred to as the 'subject site').

The purpose of the Phase Two ESA is to determine the soil quality at the subject site, as related to the Areas of Potential Environmental Concerns (APECs) identified in our Phase One Environmental Site Assessment (Phase One ESA).

2.1 Site Description

The subject site , irregular in shape and approximately 39.88 hectares (98.55 acres) in area, is located on the southwest side of The Gore Road, approximately 1.2 km south of Healey Road, in the Town of Caledon. The Property Identification Number (PIN) of the subject site is 14348-0182 (LT). The municipal address and PIN along with their legal descriptions included in the subject site are summarized in the table below:

PIN	Property Description from Parcel Register	Municipal Address
14348-0182 (LT)	PT LT 3 CON 3 ALBION PT 5, 43R13343 ; CALEDON	12494 The Gore Road

At the time of the inspection, the subject site consists of a farm field with no structures. The neighbouring properties consist of agricultural properties to the northwest and southwest, agricultural and residential properties to the northeast and southeast.

2.2 Property Ownership

This Phase Two ESA was commissioned to address the APECs identified in Phase One ESA

and in accordance with our proposal approved by Mr. Luis Correia of Global Properties Inc. Our client can be contacted at:

Global Properties Inc.
122 Romina Drive
Concord, Ontario
L4k 4Z7

Attention: Mr. Luis Correia

2.3 Current and Proposed Future Uses

The subject site is currently used for agricultural purposes. The subject site is proposed to be developed for residential use.

2.4 Applicable Site Condition Standards

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

- The subject site is not considered to be sensitive based on the definition set forth in O. Reg. 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 the tested surface soil samples is between 5 and 9 and subsurface soil samples is between 5 and 11.
- The property is not a shallow soil property, as the bedrock was not encountered within 2.0 m below ground surface (mbgs) during the investigation.
- Water bodies are located on and within 30m of the subject site.
- Four (4) water well records are located within the Phase One Study Area.
- Generic Site Condition criteria for Use within 30 m of a Water Body is to be used in this assessment.
- The intended property use of the subject site is residential use.
- No grain size analysis has been performed during this investigation.

Based on the above evaluation, the Ministry of the Environment, Conservation and Parks (MECP) Table 8, Generic Site Condition Standards for Use within 30 m of a Water Body in a Potable Groundwater Condition for Residential/Parkland/Institutional/ Industrial/Commercial/ Community Property Use (Table 8 Standards), as published in the "Soil, Ground Water and Sediment Standards for Use Under Part XV. 1 of the Environmental Protection Act" (EPA), April 15, 2011, has been selected for assessing the soil condition at the subject site.

3.0 BACKGROUND

3.1 Physical Setting

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

The subject site is located within an agricultural and residential area in the Town of Caledon. At the time of the assessment, neighbouring properties consist of agricultural properties to the northwest and southwest, agricultural and residential properties to the northeast and southeast.

A geological map of the area located at the Ontario Geological Survey indicate that subject site is underlain predominately by Halton Till deposits of silt to silt clay. The subject site is underlain by bedrock of Georgian Bay Formation, Blue Mountain Formation, Billings Formation, Collingwood Member and Eastview Member (shale, limestone, dolostone and siltstone). According to the Ontario Geological Survey Bedrock Cross Section Viewer, the depth of bedrock in the general vicinity of the subject site is approximately 29 meters below ground surface (mbgs).

The subject site is located adjacent to a roadway i.e. The Gore Road to the northeast. The overall grade of the subject site generally descends towards east. The subject site is located in the larger hydrogeological region known as Southern Ontario Lowlands. A watershed map provided by Land Information Ontario shows the subject site is situated in the Humber River-Don River Watershed.

Based on the review of the Ontario Ministry of Natural Resources and Forestry Natural Heritage Information Centre for listings of the various classes of natural areas located within the vicinity of the subject site, there is no Area of Natural Significance located at the subject site or neighbouring properties within 30 m of the subject site boundary.

3.2 Past Investigations

The following previous investigation report prepared by SEL for the subject site was reviewed as part of this Phase Two ESA:

- Phase One Environmental Site Assessment, Reference No. 2009-E126, dated November 13, 2020
- Phase One Environmental Site Assessment Update, Reference No. 2009-E126, dated March 8, 2024
- Town of Caledon, Municipal Freedom of Information (Municipal FOI) Request # 2024-023 dated May 7, 2024

The Phase One ESA, Phase One ESA Update and Municipal FOI response identified the Potentially Contaminating Activities (PCAs) at the subject site and in the Phase One Study Area that may contribute to APECs at the subject site, based on records review, interviews and site reconnaissance. The findings of the Phase One ESA include the following APECs:

APEC 1: Potential soil impact due to pesticide use related to agricultural activities at the subject site

APEC 2: Potential soil impact due to dumping of soil loads in the central portion of the subject site.

The locations of PCAs and APECs are illustrated 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) is to assess the soil quality at the subject site, as related to the APECs raised in the findings of SEL Phase One ESA. This Phase Two ESA was conducted in general conformance with the CSA Standard Z769-00 and O. Reg. 153/04 as amended.

The scope of work for this investigation includes:

- Locate the underground and overhead utilities.
- Conduct a total of eight (8) boreholes BH1 to BH6, BH101 and BH102 to depths ranging to 3 mbgs and conducting five (5) hand dug test pits TP1to TP5.
- Collect representative soil samples from the boreholes.
- 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.
- Carry out analytical testing program on selected soil samples including Quality Control/ Quality Assurance (A/QC) samples for one or more of the following parameters: Metals and/or Inorganic parameters, Petroleum Hydrocarbons (PHCs), Volatile Organic Compounds (VOCs), Polycylic Aromtic Hydrocarbons (PAHs) and Organochlorine Pesticides (OCs).
- Review analytical testing results of submitted soil samples using applicable Site Condition 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, Appendix 'A'.

4.2 Media Investigated

Based on the findings of our Phase One ESA and the Municipal FOI Response, soil medium was investigated during the Phase Two ESA in accordance with the Sampling and Analysis Plan provided in Appendix 'A'. Groundwater and sediment was not identified as a potentially contaminated medium in our Phase One ESA.

Boreholes were advanced using a track-mounted drilling rig equipped with continuous shelby tube samplers and hand-dug test pits were conducted using a shovel. Soil samples were logged in the field and head space 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 ppm (parts per million by volume).

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 potentially contaminating activities (PCAs), is presented on 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 provided in Appendix 'A' and in accordance with the SEL Standard Operating Procedures.

The Phase Two ESA consisted of drilling eight (8) boreholes, carrying out five (5) hand dug test pits, field measurements and collection of soil samples from the boreholes and test pits for chemical analysis. The soil samples were assessed for potential contamination with respect to the APECs identified by our 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 and private locator (C & L Underground Locates Inc.).

The field work for this investigation was conducted on October 28, 2020, May 3 and June 5, 2024 and consisted of eight (8) boreholes BH1 to BH6, BH101 and BH102 to depths ranging to 3 mbgs and conducting five (5) hand dug test pits TP1to TP5.

Municipal FOI response indicated that several loads of soil were found approximately 250m

(800 feet) from The Gore Road entrance to the subject site i.e. in the central portion of the subject site in December 2020. No dumping material was found at the time of drilling. Our correspondence with the client disclosed that the dumped material was removed from the subject site. Based on this, two boreholes (BH101 and BH102) were drilled in the area of former dumping area to assess any soil impacts left over beneath the dumping soil.

The locations of the boreholes and test pits are shown on Drawing No. 2.
The boreholes were advanced using track-mounted drill rigs, equipped with continuous shelby tube samplers, supplied by specialist drilling contractor, Kodiak Drilling and Ace Environmental Drilling Ltd. Soil samples from the boreholes were recovered at regular intervals, using continuous shelby tube (thin-walled) samplers for soil vapour measurement, soil classification and visual and olfactory observations and from hand dug test pits with steel trowel.

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 power washed to remove any adhered soils, foreign material and potential contaminants. In addition, any sampling equipment is decontaminated prior to each usage.

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

5.3 Soil: Sampling

Soil samples from the boreholes were retrieved at regular intervals, using continuous shelby tube samplers and from hand-dug test pits using a steel trowel. 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 the risk of cross-contamination between the samples. Each soil sample was split with part of the sample sealed in a laboratory-prepared glass jar 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 condition at the borehole locations indicate that beneath a layer of topsoil, the subject site is generally underlain by silty clay which in turn is underlain by silty clay till deposits. No bedrock was encountered during the Phase Two ESA. Detailed descriptions of the encountered subsurface conditions are presented on the Borehole Logs provided in Appendix 'B'.

Based on the soil vapour measurements and visual and olfactory observations, representative worst case soil samples from each borehole were selected and sent to the laboratory for chemical analyses.

5.4 Field Screening Measurements

The headspace vapour concentrations were measured using a portable RKI Eagle gas detector, TYPE 101 (Serial Number: E091011) set to include flammable gases with the exception of methane (methane elimination mode), and having a minimum detection level of 2 ppmv (parts per million by volume). Prior to taking the measurements, the instrument was calibrated to hexane standards for both ppm and lower explosive limit (LEL) according to the instruction manual for the instrument. Our technician was trained by the supplier for the proper calibration procedure. The instrument is calibrated or tuned up by the supplier (Pine Environmental Services Inc.) seasonally. The results of the soil vapour measurement are presented in the Borehole Logs in Appendix 'B'.

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

The soil samples were sent to Bureau Veritas Laboratories in Mississauga, Ontario. Bureau Veritas is accredited by the Canadian Association for Laboratory Accreditation (CALA) in accordance with ISO/IEC 17025:2017 – "General Requirements for the Competence of Testing and Calibration Laboratories" for all the parameters analyzed during this investigation.

5.10 Residue Management Procedures

Excess soil generated from the drilling program for the investigation was stored at the subject site in metal buckets. The metal buckets are clearly marked and stored temporarily at the subject site for later disposal.

5.11 Elevation Surveying

The ground elevations of the borehole locations were surveyed on October 29, 2020 and June 13, 2024 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 present in the Borehole Logs in Appendix 'B'.

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

The soil sampling and analysis plan provided in Appendix 'A' was prepared and executed using based on the findings of our 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. Regs. 511/09 and 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 summarized as follows:

- The collection of at least one field duplicate sample per site 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°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 or water;

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 sites).

The results of the field duplicate samples are discussed later 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 condition at the borehole locations indicate that beneath a layer of topsoil, the subject site is generally underlain by silty clay which in turn is underlain by silty clay till deposits. No bedrock was encountered during the Phase Two ESA. The cross section showing the geological stratigraphy of the investigated area is illustrated in Drawing Nos. 3 and 4.

The descriptions of the strata, encountered at the borehole and test pit locations are briefly discussed below:

Topsoil

Topsoil layer approximately 0.1 to 0.2 m thick was encountered at the ground surface at the locations of all boreholes with the exception of BH101 and BH102.

Silty Clay

Brown silty clay was contacted at ground surface or below topsoil at the locations of all boreholes and extended to 0.8 to 1.8 mbgs. The silty clay was in damp condition.

Silty Clay Till

Brown to brown gray silty clay till was contacted below silty clay at the locations of all boreholes and extended to 3 mbgs. All boreholes were terminated in this stratum. The silty clay till was in damp condition.

Hydrogeology

On completion of drilling activities, no groundwater was detected in the boreholes during Phase Two investigation. 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.

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 (parts per million by volume).

Head space 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 ppm. Vapour readings recorded for the soil samples ranged from non-detect to 30 ppm.

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 laboratory for chemical analyses of Metals and/or Inorganics, PHCs, VOCs, PAHs and OCs.

The soil test results were reviewed using the Table 8, Generic Site Condition Standards for Use within 30 m of a Water Body in a Potable Groundwater Condition for Residential/ Parkland/Institutional/ Industrial/Commercial/Community Property Use f (Table 8 Standards), as published in the "Soil, Ground Water and Sediment Standards for Use Under Part XV. 1 of the EPA", April 15, 2011.

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

The Certificates of Analyses for the soil samples are presented in Appendix 'C'.

The findings of the soil test results are summarized below:

Metals and/or Inorganics

Twelve (12) original soil samples and three (3) field duplicate sample were submitted for analysis of metals and/or inorganics. The test results indicate that all soil samples for the tested parameters meet Table 8 Standards.

Petrolium Hydrocarbons (PHCs)

Two (2) original soil samples were submitted for analysis of PHCs/BTEX. The test results indicated that the soil samples meet the Table 8 Standards.

Volatile Organic Compounds (VOCs)

Two (2) original soil samples were submitted for analysis of VOCs. The test results indicated that the soil samples meet the Table 8 Standards

Polycyclic Aromatic Hydrocarbons (PAHs)

Two (2) original soil samples were submitted for analysis of VOCs. The test results indicated that the soil samples meet the Table 8 Standards.

Organochlorine Pesticides (OCs)

Ten (10) original soil samples were submitted for analysis of OCs. The test results indicate the tested soil samples were below the laboratory reported detection limits and meet the Table 8 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 Results

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 (herein referred to as Analytical

Protocol).

6.9.1 Field Quality Assurance/Quality Control Samples

As part of the QA/QC program for the Phase Two ESA, QC samples in the form of field duplicate samples were analysed. Field duplicate samples were collected in the field for metals in soil. Details of QC samples are presented in the table below.

Field Duplicate

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

Duplicate Sample ID	Original Sample ID	Media	Test Conducted
DUP S1	BH6/1A	Soil	Metals
DUP S2	TP-2	Soil	Metals
DUP S3	BH101/1	Soil	Metals

The result of the analysis of the field duplicate samples are similar to the results for the original samples and relative percent differences (RPDs) for the detectable tested parameters are within an acceptable range for all parameters The 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 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 of this investigation, the Chain of Custody forms and the laboratory Certificate of Analysis, it is certified that:

- All Certificates of Analysis or Analytical Reports 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 Appendices 'C' and 'D'.

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 analysis of the field duplicate samples are similar to the results for the original samples and relative percent differences (RPDs) for the detectable tested parameters are within an acceptable range for all parameters, therefore, data is considered reliable.

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**

This Phase Two Conceptual Site Model has been prepared as a part of the Phase Two Environmental Site Assessment (Phase Two ESA) for a Property located at 12494 The Gore Road, in the Town of Caledon, Ontario. (Hereinafter referred to as the 'subject site').

The Phase Two Conceptual Site Model is based on the findings of our Phase One Environmental Site Assessment (Phase One ESA, Reference No. 2009-E126, dated November 13, 2020), Phase One Environmental Site Assessment Update (Phase One ESA Update, Reference No. 2009-E126, dated March 8, 2024), Town of Caledon, Municipal Freedom of Information (Municipal FOI, Request # 2024-023 dated May 7, 2024) and Phase Two Environmental Site Assessment (Phase Two ESA, Reference No. 2009-E126, dated July 8, 2024).

6.10.1 **Description and Assessment**

The property, irregular in shape and approximately 39.88 hectares (98.55 acres) in area, is located on the southwest side of The Gore Road, approximately 1.2 km south of Healey Road, in the Town of Caledon. The Property Identification Number (PIN) of the subject site is 14348-0182 (LT). The municipal address and PIN along with their legal descriptions included in the subject site are summarized in the table below:

PIN	Property Description from Parcel Register	Municipal Address
14348-0154 (LT)	PT LT 3 CON 3 ALBION PT 5, 43R13343 ; CALEDON	12494 The Gore Road

6.10.1.1 Areas where Potentially Contaminating Activity Has Occurred

The Phase One ESA determined the Potentially Contaminating Activities (PCAs) at the subject site and in the Phase One Study Area based on records review, interview and site reconnaissance.

On-site PCAs

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

- Dumping of fill material in the central portion of the subject site. #30- Fill Material of Unknown Quality

Off-site PCAs

No off-site PCAs were identified in the Phase One Study Area.

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

6.10.1.2 Areas of Potential Environmental Concern

The following Areas of Potential Environmental Concern (APECs) were identified at the subject site.

APEC 1: Potential soil impact due to pesticide use related to agricultural activities at the subject site.

APEC 2: Potential soil impact due to dumping of soil in the central portion of the subject site

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

6.10.1.3 Subsurface Structures and Utilities

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

6.10.2 **Physical Setting**

6.10.2.1 Stratigraphy

A geological map of the area located at the Ontario Geological Survey indicate that subject site is underlain predominately by Halton Till deposits of silt to silt clay. The subject site is underlain by bedrock of Georgian Bay Formation, Blue Mountain Formation, Billings Formation, Collingwood Member and Eastview Member (shale, limestone, dolostone and siltstone). According to the Ontario Geological Survey Bedrock Cross Section Viewer, the depth of bedrock in the general vicinity of the subject site is approximately 29 meters below ground surface (mbgs).

The field investigation for the Phase Two ESA consisted of eight (8) boreholes BH1 to BH6, BH101 and BH102 to depth of 3 mbgs and carrying out five (5) hand dug test pits TP1 to TP6 to depth of 0.2 mbgs.

Please note that APEC 2 was identified after Municipal Freedom of Information response (FOI). FOI indicated that several loads of soil were found approximately 250m (800 feet) from The Gore Road entrance to the subject site i.e. in the central portion of the subject site in December 2020. No dumping material was found at the time of drilling. Our correspondence with the client disclosed that the dumped material was removed from the subject site. Based on this, two boreholes (BH101 and BH102) were drilled in the area of former dumping area to assess any soil impacts left over beneath the dumping soil. No fill material was identified in the BH101 and BH102.

The subsoil condition at the borehole locations indicate that beneath a layer of topsoil, the subject site is generally underlain by silty clay which in turn is underlain by silty clay till deposits. No bedrock was encountered during the Phase Two ESA.

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

6.10.2.2 Hydrogeological Characteristics

The subject site is located in the larger hydrogeological region known as Southern Ontario Lowlands. A watershed map provided by Land Information Ontario shows the subject site is situated in the Humber River-Don River Watershed. The overall grade of the subject site generally descends to the east.

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 3 mbgs. According to the Land Information Ontario (LIO), the depth of bedrock in the general vicinity of the subject site is approximately 29 mbgs.

6.10.2.4 Approximate Depth to Water Table

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

6.10.2.5 Section 35 and 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.

There is no area of natural significance at the subject site or within 30 m from the subject site boundaries. The analytical results indicated that the pH value of the tested soil samples is between 5 and 9 for surface soil, and between 5 and 11 for subsurface soil. Therefore, 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. Water bodies are located on and within 30m of the subject site boundaries. Therefore, Section 43.1 of the Regulation (Site Condition Standards, Shallow Soil Property or Water Body) applies to the subject site.

6.10.2.6 Areas On, In or Under the Phase Two Property Where Fill Placed

The findings of our Phase One ESA and the field investigation of the Phase Two ESA indicated that fill material is not present at the subject site. No soil has been brought on to the subject site as part of this Phase Two ESA.

6.10.2.7 Proposed Building and Other Structures

The subject site is proposed to be developed with a residential development. Plans for the proposed development are not available at this time. It is anticipated that the new development will be provided with municipal services meeting urban standards.

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 8, Generic Site Condition Standards for Use within 30 m of a Water Body in a Potable Groundwater Condition for Residential/Parkland/Institutional/ Industrial/Commercial/Community Property

Use (Table 8 Standards), as published in the "Soil, Ground Water and Sediment Standards for Use Under Part XV. 1 of the Environmental Protection Act" (EPA), April 15, 2011, has been selected for assessing the soil condition at the subject site.

6.10.3.1 Area Where Contaminants are Present

Soil 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, Arsenic (As), Selenium (Se), Antimony (Sb), pH, Mercury (Hg), Hexavalent Chromium Cr(VI), Cyanide and Organochlorine Pesticides (OCs). Soil samples were submitted from top soil (0.0 – 0.2 mbgs) from hand dug test pits and from topsoil (0.0 to 0.6 mbgs) at various borehole locations.

APEC 2: Soil samples were submitted for chemical analyses of Metals, As, Sb, Se, Boron- Hot Water Soluble (B-HWS), Hg, Cr(VI), Electrical Conductivity (EC), Sodium Adsorption Ration (SAR), pH, Cyanide, Petroleum Hydrocarbons (PHCs), Volatile Organic Compounds (VOCs) parameters and Polycyclic Aromatic Hydrocarbons (PAHs). Soil samples were submitted from the former dump area (0.0 to 0.8 mbgs) at various borehole locations.

A review of the analytical test results of soil samples indicates the tested samples for the tested parameters meet the Table 8 Standards.

Consequently, there are no contaminants identified at the test locations at a concentration above the applicable site condition standards (Table 8 Standards) during the Phase Two ESA.

6.10.3.2 Distribution of Contaminants

No contaminants are identified at the test locations at a concentration above applicable site condition standards.

6.10.3.3 Contaminant Medium

No contaminants are identified at the test locations at a concentration above applicable site condition standards.

6.10.3.4 Reasons for Discharge

No contaminants are identified at the test locations at a concentration above applicable site condition standards.

6.10.3.5 Migration of Contaminants

No contaminants are identified at the test locations at a concentration above applicable site condition standards.

6.10.4 Potential Exposure Pathways and Receptors

Since no contaminants are found at the test locations at a concentration above the applicable site condition standard (Table 8 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 Areas of Potential Environmental Concern (APECs) identified in our Phase One Environmental Site Assessment (Phase One ESA):

APEC 1: Potential soil impact due to pesticide use related to agricultural activities at the subject site.

APEC 2: Potential soil impact due to dumping of soil in the central portion of the subject site

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

- The field investigation for the Phase Two ESA consisted of of eight (8) boreholes BH1 to BH6, BH101 and BH102 to depth of 3 mbgs and carrying out five (5) hand dug test pits TP1 to TP6 to depth of 0.2 mbgs .
- The subsoil condition at the borehole locations indicate that beneath a layer of topsoil, the subject site is generally underlain by silty clay which in turn is underlain by silty clay till deposits. No bedrock was encountered during the Phase Two ESA.
- The soil samples retrieved from the sampling location were examined for visual and olfactory evidence of potential contamination. No evidence of contamination was documented in any of the retrieved soil samples.
- Head space vapour screening was conducted for all retrieved soil samples using a combustible gas detector (RKI Eagle) in methane elimination mode. Vapour readings recorded for the soil samples ranged from non-detect to 30 ppm.
- Based on the soil vapour measurements, visual and olfactory observations, representative soil samples were selected from each sampling location for chemical analyses of: Metals and inorganics, Petroleum Hydrocarbons (PHCs), Volatile Organic Compounds (VOCs) parameters, Polycyclic Aromatic Hydrocarbons (PAHs) and Organochlorine Pesticides (OCs).

- As part of the QA/QC program for the investigation, a QC sample in the form of field duplicate sample was analysed. Field duplicate sample was collected in the field for Metals in soil.
- The analytical test results were reviewed using the Table 8, Generic Site Condition Standards for Use within 30 m of a Water Body in a Potable Groundwater Condition for Residential/Parkland/Institutional/ Industrial/Commercial/Community Property Use (Table 8 Standards), as published in the "Soil, Ground Water and Sediment Standards for Use Under Part XV. 1 of the Environmental Protection Act" (EPA), April 15, 2011.
- The result of the analysis of the field duplicate sample was satisfactory and QA/QC data was acceptable.

A review of the analytical test results of soil samples indicates the tested parameters at the test locations meet the Table 8 Standards.

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

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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. 2009-E126

Soil Engineers Ltd.

SOIL CHEMICAL ANALYSIS - Inorganics Parameters

Project No. 2009-E126

Sample ID	RDL*	BH1/1A	BH2/1A	BH3/1A	BH4/1A	BH5/1A	BH6/1A	DUP S1	BH6/3	Ontario Regulation 153/04 Table 8 Standard**
Sample Date		28-Oct-2020	28-Oct-2020	28-Oct-2020	28-Oct-2020	28-Oct-2020	28-Oct-2020	28-Oct-2020	28-Oct-2020	
Laboratory ID		OAQ110	OAQ111	OAQ112	OAQ113	OAQ114	OAQ115	OAQ116	OAQ117	
Bore Hole No.		BH1	BH2	BH3	BH4	BH5	BH6	BH6	BH6	
Depth (mbgs)		0.0 - 0.6	0.0 - 0.6	0.0 - 0.6	0.0 - 0.6	0.0 - 0.6	0.0 - 0.6	0.0 - 0.6	0.0 - 0.6	
Antimony	0.2	<0.20	<0.20	<0.20	<0.20	-	<0.20	<0.20	-	1.3
Arsenic	1	3.5	8.4	2.4	3.3	-	3	3.7	-	18
Barium	0.5	98	120	56	100	-	100	76	-	220
Beryllium	0.2	0.84	1.2	0.6	0.65	-	0.7	0.58	-	2.5
Boron (Hot Water Soluble)	0.05	-	-	-	-	-	-	-	-	1.5
Cadmium	0.1	0.11	0.21	<0.10	0.12	-	<0.10	<0.10	-	1.2
Chromium	1	27	36	21	22	-	24	20	-	70
Chromium VI	0.18	<0.2	0.29	<0.2	<0.2	-	<0.2	-	-	0.66
Cobalt	0.1	12	20	8.5	11	-	11	10	-	22
Copper	0.5	23	30	10	20	-	21	22	-	92
Lead	1	11	16	9.1	9	-	9.3	8.3	-	120
Mercury	0.05	<0.050	<0.050	<0.050	<0.050	-	<0.050	<0.050	-	0.27
Molybdenum	0.5	0.57	0.5	<0.50	<0.50	-	<0.50	<0.50	-	2
Nickel	0.5	27	43	15	25	-	25	23	-	82
Selenium	0.5	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50	-	1.5
Silver	0.2	<0.20	<0.20	<0.20	<0.20	-	<0.20	<0.20	-	0.5
Thallium	0.05	0.16	0.21	0.12	0.13	-	0.19	0.15	-	1
Vanadium	5	35	50	38	31	-	35	28	-	86
Zinc	5	58	81	41	46	-	54	51	-	290
pH (pH Units)	-	7.48	7.14	-	7.68	-	-	-	7.66	NV
Conductivity (ms/cm)	0.002	-	-	-	-	-	-	-	-	0.7
Sodium Adsorption Ratio		-	-	-	-	-	-	-	-	5
Cyanide, Free	-	<0.01	<0.01	-	<0.01	<0.01	<0.01	-	-	0.051
Boron (Total)	5	0.59	0.62	0.58	0.55	-	0.52	0.49	-	36
Uranium	0.05	8.4	8	<5.0	7.8	-	9.3	6.8	-	2.5

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 Generic Site Condition Standards within 30m of a Water Body in a Potable Ground Water Condition for Residential/Parkland/Institutional/Industrial/Commercial/Community property use for coarse grained soil

Soil Engineers Ltd.

SOIL CHEMICAL ANALYSIS - Inorganics Parameters

Project No. 2009-E126

Sample ID	RDL*	TP-1	TP-2	DUP S2	TP-3	TP-4	TP-5	BH101/1	DUP S3	BH102/1	Ontario Regulation 153/04 Table 8 Standard**
Sample Date		03-May-2024	03-May-2024	03-May-2024	03-May-2024	03-May-2024	03-May-2024	07-June-2024	07-June-2024	07-June-2024	
Laboratory ID		ZCA727	ZCA728	ZCA732	ZCA729	ZCA730	ZCA731	ZKZ614	ZKZ620	ZKZ619	
Bore Hole No.		-	-	-	-	-	-	BH 101	BH 102	BH 102	
Depth (mbgs)		0.0 - 0.2	0.0 - 0.2	0.0 - 0.2	0.0 - 0.2	0.0 - 0.2	0.0 - 0.2	0.0 - 0.8	0.0 - 0.8	0.0 - 0.8	
Antimony	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	1.3
Arsenic	1	2.9	3.4	3.3	3.1	2.9	3.9	4	4.1	3.9	18
Barium	0.5	91	120	100	93	85	97	110	97	94	220
Beryllium	0.2	0.73	0.81	0.78	0.77	0.75	0.88	1.1	0.99	0.82	2.5
Boron (Hot Water Soluble)	0.05	-	-	-	-	-	-	0.11	-	0.055	1.5
Cadmium	0.1	0.23	0.21	0.19	0.15	0.22	0.19	<0.10	<0.10	<0.10	1.2
Chromium	1	22	24	25	24	22	25	29	28	25	70
Chromium VI	0.18	<0.18	<0.18	-	<0.18	<0.18	<0.18	<0.18	-	<0.18	0.66
Cobalt	0.1	8.7	11	11	9.6	8.7	10	14	15	13	22
Copper	0.5	14	17	17	16	15	20	25	22	23	92
Lead	1	14	16	16	15	14	17	12	12	10	120
Mercury	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.27
Molybdenum	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	2
Nickel	0.5	18	22	21	20	17	24	31	28	30	82
Selenium	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.5
Silver	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.5
Thallium	0.05	0.14	0.16	0.16	0.16	0.15	0.16	0.17	0.16	0.18	1
Vanadium	5	34	37	38	37	34	36	39	38	35	86
Zinc	5	62	81	85	67	63	75	68	68	59	290
pH (pH Units)	-	6.72	7.21	-	7.15	6.78	7.34	-	-	-	NV
Conductivity (ms/cm)	0.002	-	-	-	-	-	-	0.31	-	0.29	0.7
Sodium Adsorption Ratio		-	-	-	-	-	-	0.3	-	1.1	5
Cyanide, Free	-	<0.01	<0.01	-	<0.01	<0.01	<0.01	-	-	-	0.051
Boron (Total)	5	6.2	5.9	6.6	6	<5.0	6.7	6.4	6	10	36
Uranium	0.05	0.82	0.56	0.55	0.57	0.94	0.71	0.62	0.58	0.67	2.5

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 Generic Site Condition Standards within 30m of a Water Body in a Potable Ground Water Condition for Residential/Parkland/Institutional/Industrial/Commercial/Community property use for coarse grained soil

SOIL CHEMICAL ANALYSIS - Volatile Organic Compound (VOCs) Parameters

Sample ID	RDL*	BH101/1	BH102/1	Ontario Regulation 153/04 Table 8 Standard**
Sample Date		07-June-2024	07-June-2024	
Laboratory ID		ZKZ614	ZKZ619	
Bore Hole No.		BH 101	BH 102	
Depth (mbgs)		0.0 - 0.8	0.0 - 0.8	
Acetone	0.49	<0.49	<0.49	0.5
Benzene	0.006	<0.0060	<0.0060	0.02
Bromodichloromethane	0.04	<0.040	<0.040	0.05
Bromoform	0.04	<0.040	<0.040	0.05
Bromomethane	0.04	<0.040	<0.040	0.05
Carbon Tetrachloride	0.04	<0.040	<0.040	0.05
Chlorobenzene	0.04	<0.040	<0.040	0.05
Chloroform	0.04	<0.040	<0.040	0.05
Dibromochloromethane	0.04	<0.040	<0.040	0.05
1,2-Dichlorobenzene	0.04	<0.040	<0.040	0.05
1,3-Dichlorobenzene	0.04	<0.040	<0.040	0.05
1,4-Dichlorobenzene	0.04	<0.040	<0.040	0.05
1,1-Dichloroethane	0.04	<0.040	<0.040	0.05
1,2-Dichloroethane	0.049	<0.049	<0.049	0.05
1,1-Dichloroethylene	0.04	<0.040	<0.040	0.05
Cis-1,2-Dichloroethylene	0.04	<0.040	<0.040	0.05
Trans-1,2-Dichloroethylene	0.04	<0.040	<0.040	0.05
1,2-Dichloropropane	0.04	<0.040	<0.040	0.05
Cis-1,3-Dichloropropylene	0.03	<0.030	<0.030	NV
Trans-1,3-Dichloropropylene	0.04	<0.040	<0.040	NV
Ethylbenzene	0.01	<0.010	<0.010	0.05
Ethylene Dibromide	0.04	<0.040	<0.040	0.05
Methyl Ethyl Ketone	0.4	<0.40	<0.40	0.5
Methylene Chloride	0.049	<0.049	<0.049	0.05
Methyl Isobutyl Ketone	0.4	<0.40	<0.40	0.5
Methyl-t-Butyl Ether	0.04	<0.040	<0.040	0.05
Styrene	0.04	<0.040	<0.040	0.05
1,1,1,2-Tetrachloroethane	0.04	<0.040	<0.040	0.05
1,1,2,2-Tetrachloroethane	0.04	<0.040	<0.040	0.05
Toluene	0.02	<0.020	<0.020	0.2
Tetrachloroethylene	0.04	<0.040	<0.040	0.05
1,1,1-Trichloroethane	0.04	<0.040	<0.040	0.05
1,1,2-Trichloroethane	0.04	<0.040	<0.040	0.05
Trichloroethylene	0.01	<0.010	<0.010	0.05
Vinyl Chloride	0.019	<0.019	<0.019	0.02
m-Xylene & p-Xylene	0.02	<0.020	<0.020	NV
o-Xylene	0.02	<0.020	<0.020	NV
Total Xylenes	0.02	<0.020	<0.020	0.05
Dichlorodifluoromethane	0.04	<0.040	<0.040	0.05
Hexane(n)	0.04	<0.040	<0.040	0.05
Trichlorofluoromethane	0.04	<0.040	<0.040	0.25
1,3-Dichloropropene (cis + trans)	0.05	<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 Generic Site Condition Standards within 30m of a Water Body in a Potable Ground Water Condition for Residential/Parkland/Institutional/Industrial/Commercial/Community property use for coarse grained soil

Soil Engineers Ltd.

SOIL CHEMICAL ANALYSIS - Polycyclic Aromatic Hydrocarbons (PAHs) Parameters

Project No. 2009-E126

Sample ID	RDL*	BH101/1	BH102/1	Ontario Regulation 153/04 Table 8 Standard**
Sample Date		07-June-2024	07-June-2024	
Laboratory ID		ZKZ614	ZKZ619	
Bore Hole No.		BH 101	BH 102	
Depth (mbgs)		0.0 - 0.8	0.0 - 0.8	
Acenaphthene	0.005	<0.0050	<0.0050	0.072
Acenaphthylene	0.005	<0.0050	<0.0050	0.093
Anthracene	0.005	<0.0050	<0.0050	0.22
Benzo(a)anthracene	0.005	<0.0050	<0.0050	0.36
Benzo(a)pyrene	0.005	<0.0050	<0.0050	0.3
Benzo(b/j)fluoranthene	0.005	<0.0050	<0.0050	0.47
Benzo(ghi)perylene	0.005	<0.0050	<0.0050	0.68
Benzo(k)fluoranthene	0.005	<0.0050	<0.0050	0.48
Chrysene	0.005	<0.0050	<0.0050	2.8
Dibenzo(a,h)anthracene	0.005	<0.0050	<0.0050	0.1
Fluoranthene	0.005	<0.0050	<0.0050	0.69
Fluorene	0.005	<0.0050	<0.0050	0.19
Indeno(1,2,3-cd)pyrene	0.005	<0.0050	<0.0050	0.23
1-Methylnaphthalene	0.005	<0.0050	<0.0050	0.59
2-Methylnaphthalene	0.005	<0.0050	<0.0050	0.59
Naphthalene	0.005	<0.0050	<0.0050	0.09
Phenanthrene	0.005	<0.0050	<0.0050	0.69
Pyrene	0.005	<0.0050	<0.0050	1
Methylnaphthalene, 2-(1-)	0.0071	<0.0071	<0.0071	0.59

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 Generic Site Condition Standards within 30m of a Water Body in a Potable Ground Water Condition for Residential/Parkland/Institutional/Industrial/Commercial/Community property use for coarse grained soil

Soil Engineers Ltd.

SOIL CHEMICAL ANALYSIS - Petroleum Hydrocarbons (PHCs) Parameters

Project No. 2009-E126

Sample ID	RDL*	BH101/1	BH102/1	Ontario Regulation 153/04 Table 8 Standard**
Sample Date		07-June-2024	07-June-2024	
Laboratory ID		ZKZ614	ZKZ619	
Bore Hole No.		BH 101	BH 102	
Depth (mbgs)		0.0 - 0.8	0.0 - 0.8	
Benzene	-	-	-	0.02
Toluene	-	-	-	0.2
Ethylbenzene	-	-	-	0.05
m/p xylenes	-	-	-	NV
o xylene	-	-	-	NV
Total Xylenes	-	-	-	0.05
F1 (C6-C10)	10	<10	<10	25
F1 (C6-C10) - BTEX	10	<10	<10	25
F2 (C10-C16)	10	<10	<10	10
F3 (C16-C34)	50	<50	<50	240
F4 (C34-C50)	50	<50	<50	120

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 Generic Site Condition Standards within 30m of a Water Body in a Potable Ground Water Condition for Residential/Parkland/Institutional/Industrial/Commercial/Community property use for coarse grained soil

SOIL CHEMICAL ANALYSIS - Organochlorine Pesticides (OCs) Parameters

Project No. 2009-E126

Sample ID	RDL*	BH1/1A	BH2/1A	BH4/1A	BH5/1A	BH6/1A	TP-1	TP-2	TP-3	TP-4	TP-5	Ontario Regulation 153/04 Table 8 Standard**
Sample Date		28-Oct-2020	28-Oct-2020	28-Oct-2020	28-Oct-2020	28-Oct-2020	03-May-2024	03-May-2024	03-May-2024	03-May-2024	03-May-2024	
Laboratory ID		OAQ110	OAQ111	OAQ113	OAQ114	OAQ115	ZCA727	ZCA728	ZCA729	ZCA730	ZCA731	
Bore Hole No.		BH1	BH2	BH4	BH5	BH6	-	-	-	-	-	
Depth (mbgs)		0.0 - 0.6	0.0 - 0.6	0.0 - 0.6	0.0 - 0.6	0.0 - 0.6	0.0 - 0.2	0.0 - 0.2	0.0 - 0.2	0.0 - 0.2	0.0 - 0.2	
Aldrin	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<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	<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	<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	<0.0020	<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	<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	<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	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.05
o,p DDE	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<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	<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	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.05
op-DDT	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<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	<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	<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	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.05
Endosulphan I	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<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	<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	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.04
Endrin	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.04
Heptachlor	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.05
Heptachlor Epoxide	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<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	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.01
Methoxychlor	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.05
Hexachlorobenzene	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.02
Hexachlorobutadiene	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.01
Hexachloroethane	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.01

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 Generic Site Condition Standards within 30m of a Water Body in a Potable Ground Water Condition for Residential/Parkland/Institutional/Industrial/Commercial/Community property use for coarse grained soil

Project No. 2009-E126

Table II – Maximum Concentration (Soil)

Summary of Metals and Inorganics

Parameter	Unit	Maximum Concentration	Sample ID	Sampling Depth (m)
Antimony	ug/g	<0.2	-	-
Arsenic	ug/g	8.4	BH2/1A	0.0 - 0.6
Barium	ug/g	120	BH2/1A, TP-2	0.0 - 0.6, 0.0 - 0.2
Beryllium	ug/g	1.2	BH2/1A	0.0 - 0.6
Boron (Hot Water Soluble)	ug/g	0.11	BH101/1	0.0 - 0.8
Cadmium	ug/g	0.23	TP-1	0.0 - 0.2
Chromium	ug/g	36	BH2/1A	0.0 - 0.6
Chromium VI	ug/g	0.29	BH2/1A	0.0 - 0.6
Cobalt	ug/g	20	BH2/1A	0.0 - 0.6
Copper	ug/g	30	BH2/1A	0.0 - 0.6
Lead	ug/g	17	TP-5	0.0 - 0.2
Mercury	ug/g	<0.05	-	-
Molybdenum	ug/g	0.57	BH1/1A	0.0 - 0.6
Nickel	ug/g	43	BH2/1A	0.0 - 0.6
Selenium	ug/g	<0.5	-	-
Silver	ug/g	<0.2	-	-
Thallium	ug/g	0.21	BH2/1A	0.0 - 0.6
Vanadium	ug/g	50	BH2/1A	0.0 - 0.6
Zinc	ug/g	85	DUP S2	0.0 - 0.2
pH (pH Units)	-	7.68	BH4/1A	0.0 - 0.6
Conductivity (ms/cm)	mS/cm	0.31	BH101/1	0.0 - 0.8
Sodium Adsorption Ratio	-	1.1	BH102/1	0.0 - 0.8
Cyanide, Free	ug/g	<0.01	-	-
Boron (Total)	ug/g	10	BH102/1	0.0 - 0.8
Uranium	ug/g	9.3	BH6/1A	0.0 - 0.6

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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	-	-

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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. 2009-E126

Table II – Maximum Concentration (Soil)

Summary of PAHs

Parameter	Unit	Maximum Concentration	Sample ID	Sampling Depth (m)
Acenaphthene	ug/g	<0.005	-	-
Acenaphthylene	ug/g	<0.005	-	-
Anthracene	ug/g	<0.005	-	-
Benzo(a)anthracene	ug/g	<0.005	-	-
Benzo(a)pyrene	ug/g	<0.005	-	-
Benzo(b/j)fluoranthene	ug/g	<0.005	-	-
Benzo(ghi)perylene	ug/g	<0.005	-	-
Benzo(k)fluoranthene	ug/g	<0.005	-	-
Chrysene	ug/g	<0.005	-	-
Dibenzo(a,h)anthracene	ug/g	<0.005	-	-
Fluoranthene	ug/g	<0.005	-	-
Fluorene	ug/g	<0.005	-	-
Indeno(1,2,3-cd)pyrene	ug/g	<0.005	-	-
1-Methylnaphthalene	ug/g	<0.005	-	-
2-Methylnaphthalene	ug/g	<0.005	-	-
Naphthalene	ug/g	<0.005	-	-
Phenanthrene	ug/g	<0.005	-	-
Pyrene	ug/g	<0.005	-	-
Methylnaphthalene, 2-(1-)	ug/g	<0.0071	-	-

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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	-	-

Project No. 2009-E126

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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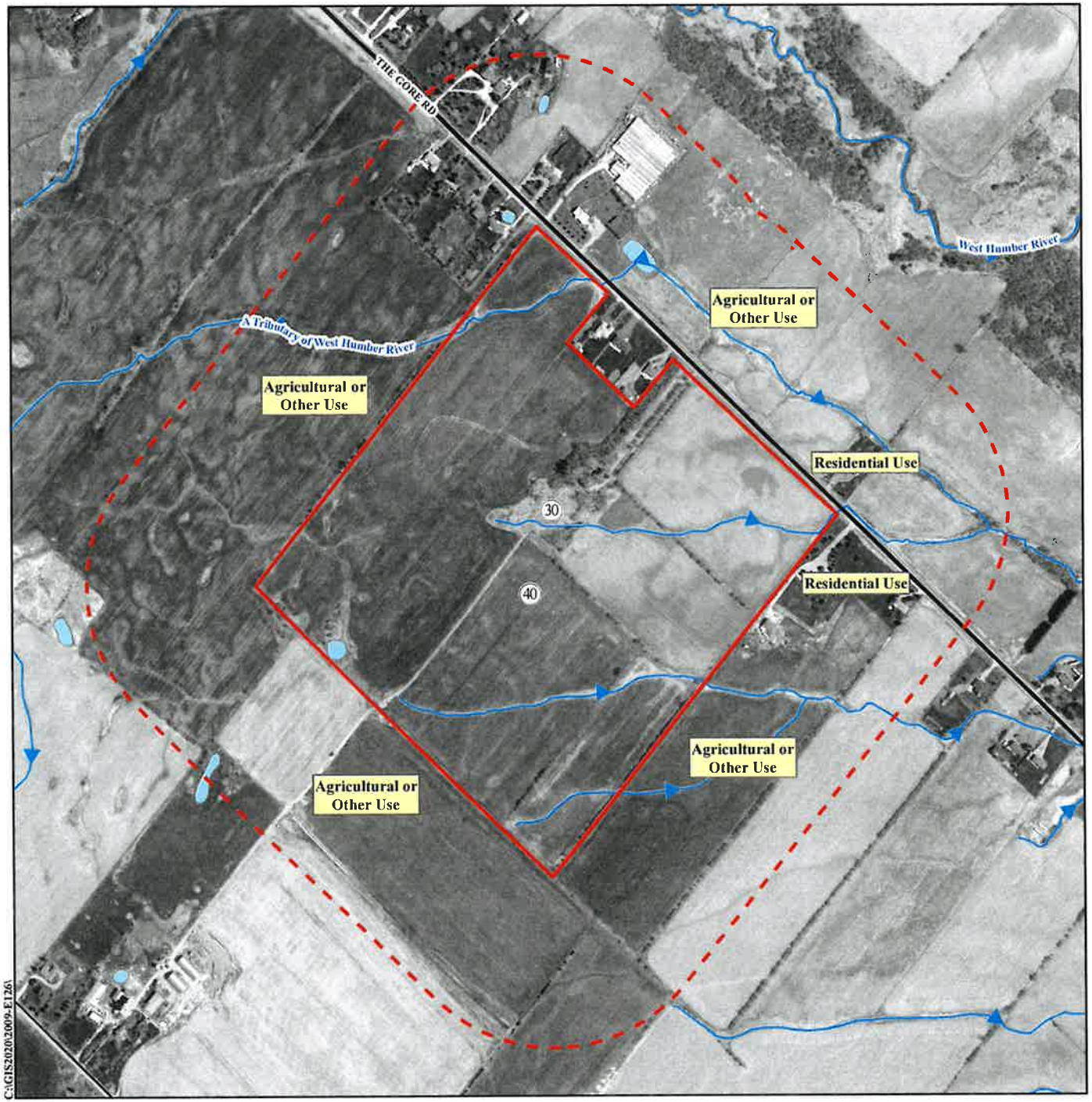
DRAWINGS

REFERENCE NO. 2009-E126



N

Subject Site

Phase One Study Area

Waterbody

Major Road

Local Road

Potentially Contaminating Activities (PCAs)

(30) Importation of Fill Material of Unknown Quality

(40) Pesticides Manufacturing, Processing, Bulk Storage, and Applications

Soil Engineers Ltd.

Title: Site Location Plan

Project:
Proposed Residential Development
12494 The Gore Road
Town of Caledon

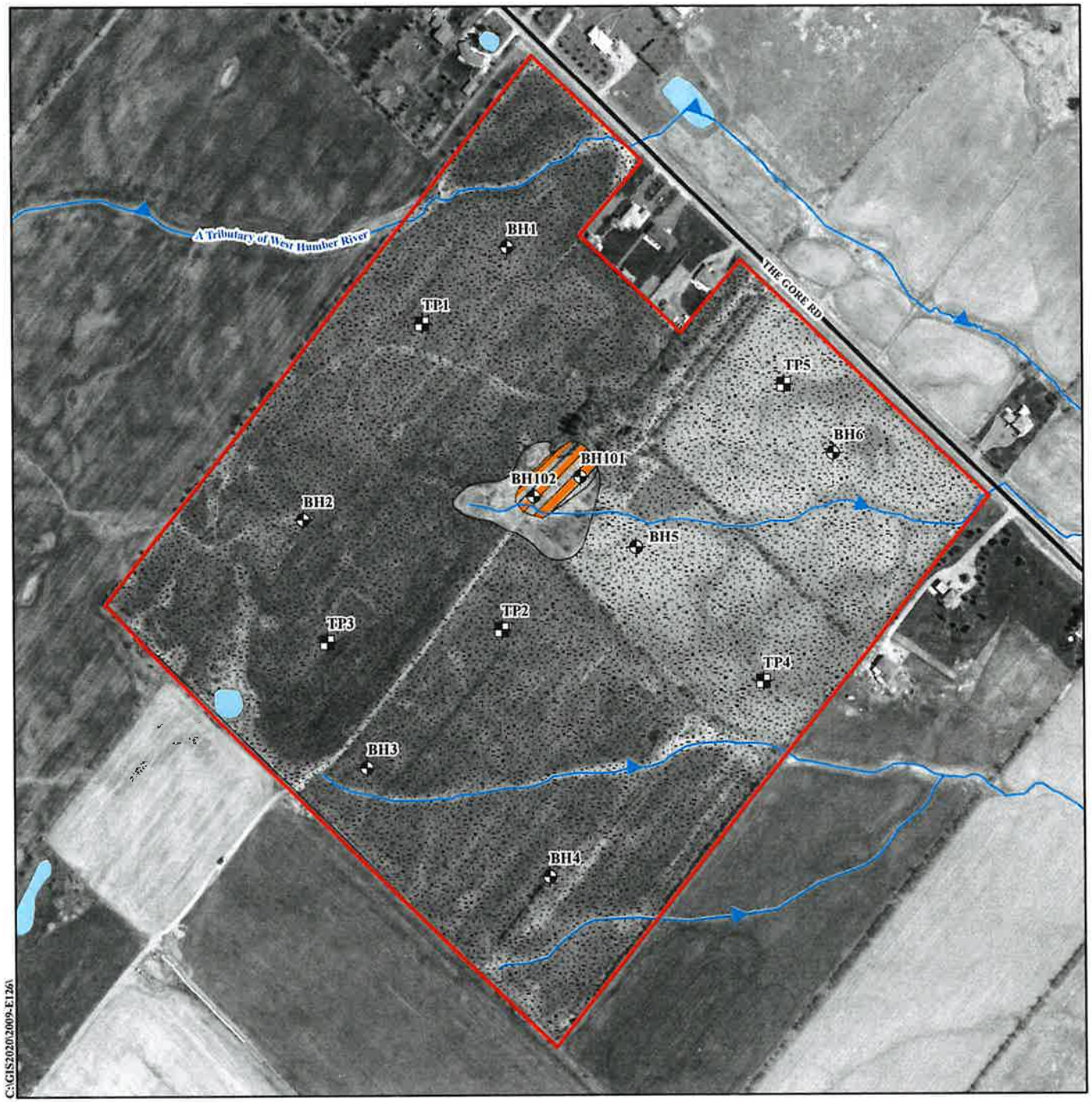
Reference No. 2009-E126

Date: June 28, 2024

Scale:
0 40 80 160 240 320 400
Metres

Drawing No. 1

Source: Ministry of Natural Resources and Forestry



N

Subject Site

Borehole

Test Pit

Waterbody

Major Road

Areas of Potential Environmental Concern (APEC)

APEC 1

APEC 2

Soil Engineers Ltd.

Title: Sampling Location Plan

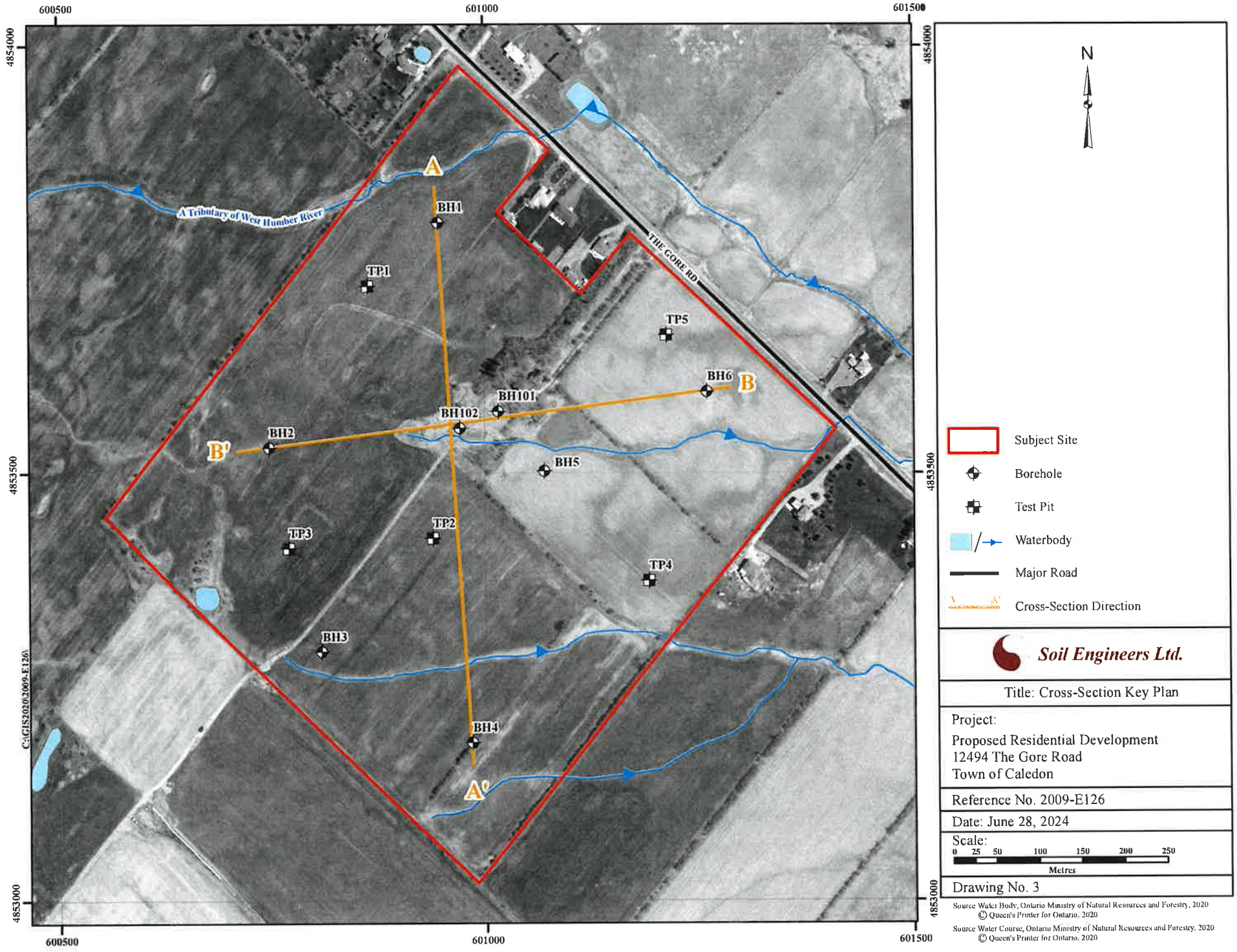
Project:
Proposed Residential Development
12494 The Gore Road
Town of Caledon

Reference No. 2009-E126

Date: June 28, 2024

Scale:
0 25 50 100 150 200 250
Metres

Drawing No. 2


600500
601000
601500
4854000
4853500
4853000
A
A'
B
B'
BH1
BH2
BH3
BH4
BH5
BH6
BH101
BH102
TP1
TP2
TP3
TP4
TP5
A Tributary of West Humber River
THE GORE RD
C:\GIS\2020\2009-E126\
N
Subject Site
Borehole
Test Pit
Waterbody
Major Road
Cross-Section Direction
Soil Engineers Ltd.
Title: Cross-Section Key Plan
Project:
Proposed Residential Development
12494 The Gore Road
Town of Caledon
Reference No. 2009-E126
Date: June 28, 2024
Scale:
0 25 50 100 150 200 250
Metres
Drawing No. 3
Source Water Body, Ontario Ministry of Natural Resources and Forestry, 2020
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Source Water Course, Ontario Ministry of Natural Resources and Forestry, 2020
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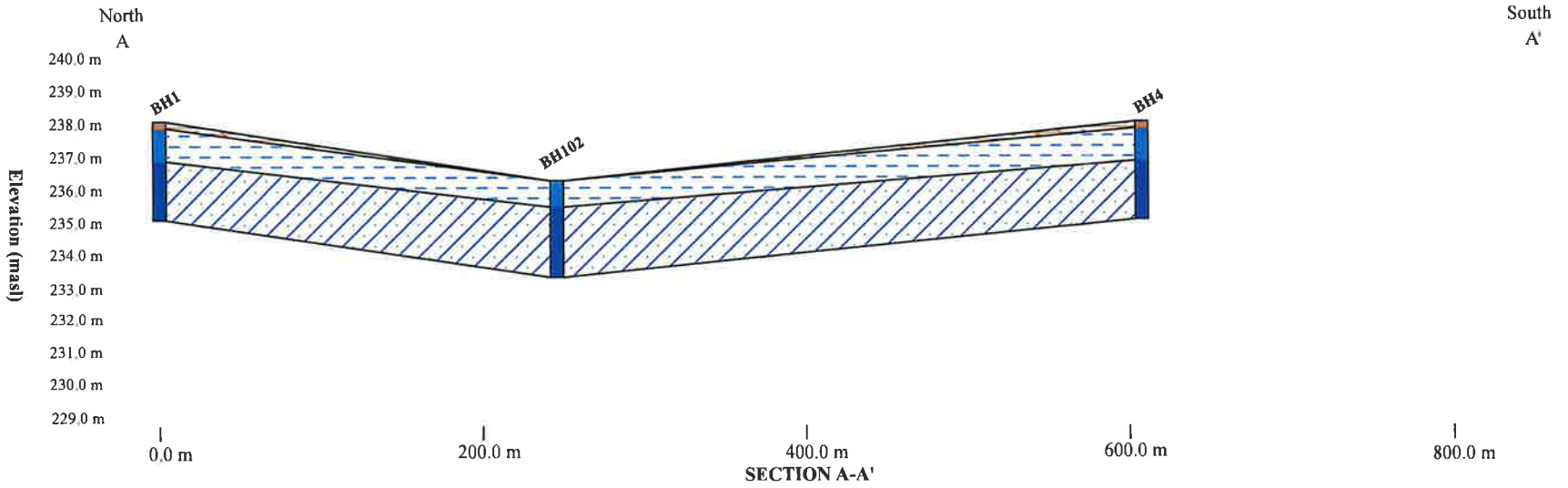
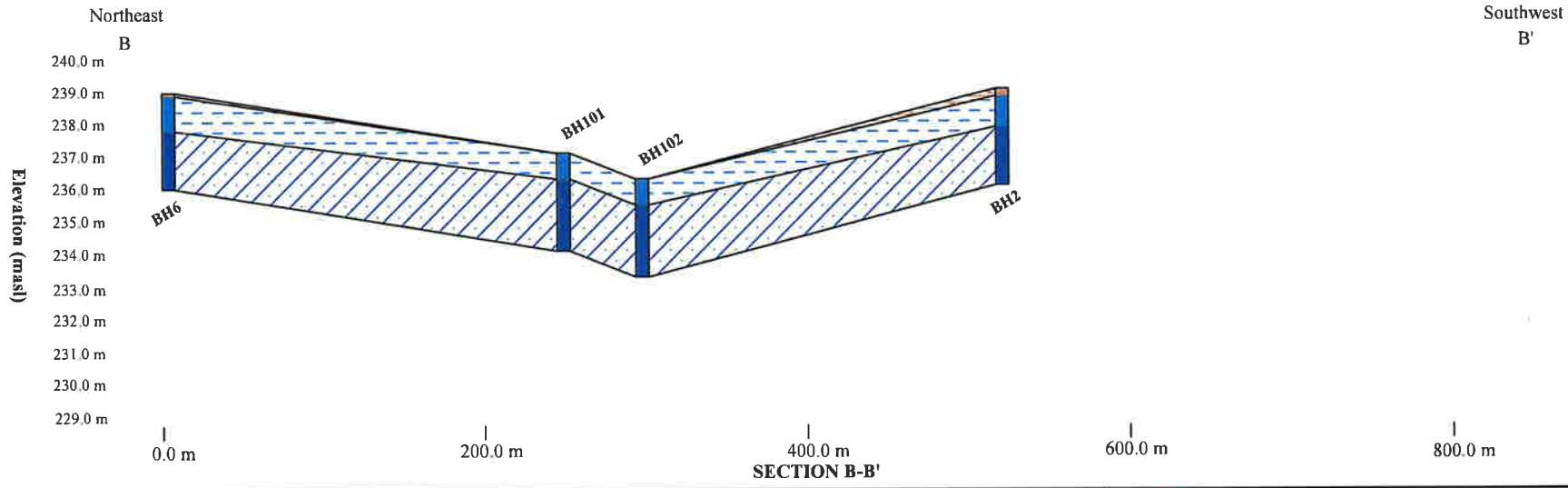


SECTION A-A'



SECTION B-B'

Topsoil

Silty Clay

Silty Clay, Till

C: Projects/2019Jobs/1909-E083

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

Project: Proposed Residential Development
12494 The Gore Road
Town of Caledon

Reference No:	Date:	Scale: V	Scale: H	Drawing No.
2009-E126	June 28, 2024	1:200	1:4000	4

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APPENDIX 'A'

SAMPLING AND ANALYSIS PLAN

REFERENCE NO. 2009-E126

This Sampling and Analysis Plan is prepared for the Phase Two Environmental Site Assessment (Phase Two ESA) as defined by Ontario Regulation (O. Reg.) 153/04, as amended. The subject site is located at 12494 The Gore Road, in the Town of Caledon , Ontario (hereinafter referred to as the subject site).

The Sampling and Analysis Plan is based on the findings of our Phase One Environmental Site Assessment (Phase One ESA, 2009-E126 dated November 13, 2020), Phase One Environmental Site Assessment Update (Phase One ESA Update, 2009-E126 dated March 8, 2024) and Town of Caledon, Municipal Freedom of Information (Municipal FOI) Request # 2024-023 dated May 7, 2024 (Municipal FOI).

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 soil impact due to pesticide use related to agricultural activities at the subject site.

APEC 2: Potential soil impact due to dumping of soil in the central portion of the subject site.

2) SCOPE OF WORK

The scope of work for the initial investigation of the Phase Two ESA includes:

- Locate the underground and overhead utilities.
- Conduct a total of eight (8) boreholes BH1 to BH6, BH101 and BH102 to depth of 3 mbgs and carrying out five (5) hand dug test pits TP1 to TP6 to depth of 0.2 mbgs .
- Collect representative soil samples from the boreholes.
- 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.
- Carry out analytical testing program on selected soil samples including Quality Control/ Quality Assurance (A/QC) samples for one or more of the following parameters: Metals and/or Inorganic parameters, Petroleum Hydrocarbons (PHCs), Volatile Organic Compounds (VOCs), Polycylic Aromtic Hydrocarbons (PAHs) and Organochlorine Pesticides (OCs).
- Review analytical testing results of submitted soil samples using applicable Site Condition Standards.
- Prepare a Phase Two ESA report containing the findings of the investigation.

3) RATIONALE FOR BOREHOLE / MONITORING WELL LOCATIONS

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

Area of potential environmental concern (APEC)	**Borehole / Monitoring Well/ Test Pit Location**
APEC 1 (Potential soil impact due to pesticide use related to agricultural activities at the subject site)	BH1 to BH6, TP1 to TP5
APEC 2 (Potential soil impact due to dumping of soil in the central portion of the subject site)	BH101 and BH102

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

4) SOIL AND GROIUNDWATER 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:

Soil Sample (i/c QA/QC Samples)

Borehole	M and/or I	PHCs	VOCs	PAHs	OCs
BH1	1				1
BH2	1				1
BH3	1				
BH4	1				1
BH5					1
BH6	1				1
TP1	1				1
TP2	1				1
TP3	1				1
TP4	1				1
TP5	1				1
BH101	1	1	1	1	
BH102	1	1	1	1	
Duplicate Soil Sample	3				

M and/or I = Metals and/or Inorganics

Groundwater will not be investigated during this assessment.

5) SOIL AND GROUNDWATER 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 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

The hand-dug test pits are hand-dug using shovel. Prior to digging and sampling at each test pit location, the shovel is 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 is 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 sample are selected for chemical analysis.

The organic vapour readings are measured using a portable RKI Eagle gas detector, TYPE 101 (Serial Number: E091015) 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 Polychlorinated Biphenyls, Polyaromatic Hydrocarbons, 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.

7.3) **Well Installation**

7.3.1) Introduction

The well installation procedures are described herein.

7.3.2) Screen and Riser Pipe

Monitoring wells are constructed from individually wrapped 38 or 50 mm inside diameter (ID) schedule 40 polyvinyl chloride (PVC) flush threaded casing equipped with O-rings. The screen consists of casing material which is factory slotted (slot width = 0.25 mm) to permit the entry of

water into the well. The bottom of the screens are equipped with threaded end caps. The appropriate number of risers are coupled with the screen section(s) via threaded joints to construct the well. The top of the wells are tightly capped using a locking well cap, which prevents the infiltration of surface water and foreign material into the well and also provides security. A watertight, traffic-rated protective casing is installed over each monitoring well within a concrete pad extending approximately 0.5 mbgs. No PVC cements or other solvent based cements are used in the construction of the monitoring wells.

7.3.3) Well Materials Decontamination

Dedicated sampling equipment, such as submersible pumps, are decontaminated prior to installation inside monitoring wells.

Where factory-cleaned, hermetically sealed materials are used, no decontamination is conducted.

Setting Screen, Riser Casings and Filter Materials

At total depth, the soil cuttings are removed through circulation or rapidly spinning the augers prior to constructing the well. The drill pipe and bit or centre bit boring is removed. The well construction materials are then installed inside the open borehole or through the centre of the drive casing or augers.

After the monitoring well assembly is lowered to the bottom of the borehole, the filter pack is added until its height is approximately two feet above the top of the screen, and placement is verified. The filter pack is then surged using a surge block or swab in order to settle the pack material and reduce the possibility of bridging.

Setting Seals and Grouting

Once the top of the filter pack is verified to be in the correct position, a bentonite seal is placed above the filter pack. The seal is allowed to hydrate for at least one hour before proceeding with the grouting operation.

After hydration of the bentonite seal, grout is then pumped through a tremie pipe and filled from the top of the bentonite seal upward. The bottom of the tremie pipe should be maintained below the top of the grout to prevent free fall and bridging. When using drive casing or hollow-stem auger techniques, the drive casing/augers should be raised in incremental intervals, keeping the bottom of the drive casing/augers below the top of the grout. Grouting will cease when the grout level has risen to within approximately one to two feet of the ground surface, depending on the surface completion type (flush-mount versus above-ground). Grout levels are monitored to assure that grout taken into the formation is replaced by additional grout.

Capping the Wells

For above-ground completions, the protective steel casing will be centered on the well casing and inserted into the grouted annulus. Prior to installation, a 2-inch deep temporary spacer may be placed between the PVC well cap and the bottom of the protective casing cover to keep the protective casing from settling onto the well cap. A minimum of 24 hours after grouting should elapse before installation of the concrete pad and steel guard posts for above-ground completions, or street boxes or vaults for flush mount completions. For above-ground completions, a concrete pad, usually 3-foot by 3-foot by 4-inch thick, is constructed at ground surface around the protective steel casing. The concrete is sloped away from the protective casing to promote surface drainage from the well.

For flush-mount (or subgrade) completions, a street box or vault is set and cemented in position. The top of the street box or vault will be raised slightly above grade and the cement sloped to grade to promote surface drainage away from the well.

7.3.4) Documentation of Monitoring Well Configuration

The following information is recorded:

- Length of well screen
- Total depth of well boring

- Depth from ground surface to top of grout or bentonite plug in bottom of borehole (if present)
- Depth to base of well string
- Depth to top and bottom of well screen

7.3.5) Monitoring Well Development/Purging

Installed monitoring wells will have to be developed to remove any fluids that may have been introduced into the well during drilling and to remove particles that may have become entrained in the well and filter pack (a minimum of three (3) well casing volumes of groundwater from each well will have to be developed).

Prior to each groundwater sampling event, groundwater will be purged from each monitoring well utilizing the three well casing volumes method. The monitoring wells will be instrumented with dedicated low-density polyethylene tubing to facilitate well development, purging and sampling requirements. Purged water will be contained and stored at the site for future disposal.

7.3.6) Water Level Measurements and Field Observation/Measurement of Water Quality Parameters

Water level measurements and water temperature will be taken using a water level meter (Dipper-T) equipped with a thermometer. Groundwater observations will be recorded for colour, clarity, the presence or absence of any free product/surface sheen and any odours present during purging the wells. The water level measuring device will be cleaned after each measurement using Alconox solution and water, followed by a distilled water rinse and a methanol rinse, in order to prevent cross-contamination between monitoring wells.

7.3.7) Groundwater Sampling

Prior to each groundwater sampling event, groundwater will have to be purged from each monitoring well utilizing the three well casing volumes method. The monitoring wells will be instrumented with dedicated low-density polyethylene tubing to facilitate well development, purging and sampling requirements. Purged water will be contained and stored at the site for future disposal.

Groundwater sampling will be conducted after purging and allowing the water to stabilize. The groundwater purging and sampling activities will be carried out using dedicated low-density polyethylene tubing. Groundwater samples will be collected into laboratory-supplied containers, prepared with preservative for the analysis being conducted. The samples scheduled for analysis of metals will be passed through a 0.45 micron filter as part of the sampling process.

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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. 2009-E126

JOB NO.: 2009-E126

LOG OF BOREHOLE NO.: 1

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Direct Push (MiniMole)

PROJECT LOCATION: 12494 The Gore Road
Town of Caledon

DRILLING DATE: October 28, 2020

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES: Number	SAMPLES: Type	SAMPLES: Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm) (20 60 100 140 180)	REMARKS	WATER LEVEL
238.2 / 0.0	Ground Surface **15 cm TOPSOIL**				0			
	Brown, damp **SILTY CLAY**	1A	TO	0			BH1/1A: Metals & Inorganics, OC	
		1B		0	1			
237.0 / 1.2	Brown, damp **SILTY CLAY, Till**	2	TO	0				
		3	TO	0	2			
		4	TO	0				
235.2 / 3.0	END OF BOREHOLE				3			
					4			
					5			
					6			

Soil Engineers Ltd.

JOB NO.: 2009-E126

LOG OF BOREHOLE NO.: 2

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Direct Push (MiniMole)

PROJECT LOCATION: 12494 The Gore Road
Town of Caledon

DRILLING DATE: October 28, 2020

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES: Number	SAMPLES: Type	SAMPLES: Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm) (20 60 100 140 180)	REMARKS	WATER LEVEL
239.2 / 0.0	Ground Surface **22.5 cm TOPSOIL**				0			
	Brown, damp **SILTY CLAY** trace of organics	1A	TO	0			BH2/1A: Metals & Inorganics, OC	
		1B		0	1			
238.0 / 1.2	Brown, damp **SILTY CLAY, Till**	2	TO	0				
		3	TO	0	2			
		4	TO	0				
236.2 / 3.0	END OF BOREHOLE				3			
					4			
					5			
					6			

Soil Engineers Ltd.

JOB NO.: 2009-E126

LOG OF BOREHOLE NO.: 3

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Direct Push (MiniMole)

PROJECT LOCATION: 12494 The Gore Road
Town of Caledon

DRILLING DATE: October 28, 2020

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
239.1 / 0.0	Ground Surface							
	12.5 cm TOPSOIL				0			
	Brown, damp **SILTY CLAY**	1A	TO	0			BH3/1A: Metals	
		1B		0	1			
237.9 / 1.2	Brown, damp **SILTY CLAY, Till**	2	TO	0				
		3	TO	0	2			
		4	TO	0	3			
236.1 / 3.0	END OF BOREHOLE				4			
					5			
					6			

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

Soil Engineers Ltd.

JOB NO.: 2009-E126

LOG OF BOREHOLE NO.: 4

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Direct Push (MiniMole)

PROJECT LOCATION: 12494 The Gore Road, Town of Caledon

DRILLING DATE: October 28, 2020

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES: Number	SAMPLES: Type	SAMPLES: Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm) (20 60 100 140 180)	REMARKS	WATER LEVEL
230.2 / 0.0	Ground Surface **17.5 cm TOPSOIL**				0			
	Brown, damp **SILTY CLAY**	1A	TO	0			BH4/1A: Metals & Inorganics, OC	
		1B		0	1			
237.0 / 1.2	Brown, damp **SILTY CLAY, Till**	2	TO	0				
		3	TO	0	2			
		4	TO	0				
235.2 / 3.0	END OF BOREHOLE				3			
					4			
					5			
					6			

Soil Engineers Ltd.

JOB NO.: 2009-E126

LOG OF BOREHOLE NO.: 5

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Direct Push (MiniMole)

PROJECT LOCATION: 12494 The Gore Road
Town of Caledon

DRILLING DATE: October 28, 2020

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES: Number	SAMPLES: Type	SAMPLES: Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm) (20 60 100 140 180)	REMARKS	WATER LEVEL
234.7	Ground Surface							
0.0	**10 cm TOPSOIL**				0			
	Brown, damp **SILTY CLAY**	1A	TO	0			BH5/1A: OC	
		1B		0	1			
233.5 1.2	Brown/grey, damp **SILTY CLAY, Till**	2	TO	0				
		3	TO	0	2			
		4	TO	0				
231.7 3.0	END OF BOREHOLE				3			
					4			
					5			
					6			

JOB NO.: 2009-E126

LOG OF BOREHOLE NO.: 6

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Direct Push (MiniMole)

PROJECT LOCATION: 12494 The Gore Road
Town of Caledon

DRILLING DATE: October 28, 2020

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES: Number	SAMPLES: Type	SAMPLES: Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm) (20 60 100 140 180)	REMARKS	WATER LEVEL
232.0 / 0.0	Ground Surface **12.5 cm TOPSOIL**				0			
	Brown, damp **SILTY CLAY**	1A	TO	0			BH6/1A: Metals, OC DUP S1: Metals	
		1B		0	1			
231.0		2	TO	0				
1.8	Brown/grey, damp **SILTY CLAY, Till**	3	TO	0	2		BH6/3: pH	
		4	TO	0				
229.8 / 3.0	END OF BOREHOLE				3			
					4			
					5			
					6			

Soil Engineers Ltd.

JOB NO.: 2009-E126

LOG OF BOREHOLE NO.: 101

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Direct Push

PROJECT LOCATION: 12494 The Gore Road
Town of Caledon

DRILLING DATE: June 7, 2024

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
237.2 / 0.0	Ground Surface				0			
	Brown **SILTY CLAY** trace of organics	1	TO	25			BH101/1: Metals and Inorganics, PHCs, VOCs, PAHs DUPS3: Metals	
236.4 / 0.8	Brown **SILTY CLAY, TILL** trace of gravel	2	TO	25	1			
		3	TO	30	2			
		4	TO	15				
234.2 / 3.0	END OF BOREHOLE				3			
					4			
					5			
					6			

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

Soil Engineers Ltd.

JOB NO.: 2009-E126

LOG OF BOREHOLE NO.: 102

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Direct Push

PROJECT LOCATION: 12494 The Gore Road
Town of Caledon

DRILLING DATE: June 7, 2024

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
236.4 / 0.0	Ground Surface				0	20 60 100 140 180		
	Brown **SILTY CLAY** trace of organics	1	TO	30			BH102/1: Metals and Inorganics, PHCs, VOCs, PAHs	
235.6 / 0.8	Brown **SILTY CLAY, TILL** trace of gravel	2	TO	15	1			
		3	TO	20	2			
		4	TO	25	3			
233.4 / 3.0	END OF BOREHOLE				4			
					5			
					6			

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APPENDIX 'C'

CERTIFICATE OF ANALYSIS
(SOIL SAMPLES)

REFERENCE NO. 2009-E126

Your Project #: 2009-E126
Site Location: 12494 THE GORE ROAD
Your C.O.C. #: N/A

Attention: Munir Ahmad

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

Report Date: 2020/11/27
Report #: R6428218
Version: 3 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C0S8046
Received: 2020/10/29, 16:05

Sample Matrix: Soil
Samples Received: 8

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Free (WAD) Cyanide	2	2020/11/26	2020/11/27	CAM SOP-00457	OMOE E3015 m
Free (WAD) Cyanide	3	2020/11/03	2020/11/04	CAM SOP-00457	OMOE E3015 m
Hexavalent Chromium in Soil by IC (1)	5	2020/11/03	2020/11/05	CAM SOP-00436	EPA 3060/7199 m
Strong Acid Leachable Metals by ICPMS	6	2020/11/02	2020/11/03	CAM SOP-00447	EPA 6020B m
Moisture	6	N/A	2020/11/02	CAM SOP-00445	Carter 2nd ed 51.2 m
OC Pesticides (Selected) & PCB (2)	5	2020/11/06	2020/11/07	CAM SOP-00307	SW846 8081, 8082
OC Pesticides Summed Parameters	5	N/A	2020/11/03	CAM SOP-00307	EPA 8081/8082 m
pH CaCl2 EXTRACT	4	2020/11/03	2020/11/03	CAM SOP-00413	EPA 9045 D m

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs 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 BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs 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.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs 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 BV Labs, unless otherwise agreed in writing. BV Labs 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 BV Labs, 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 Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

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

Your Project #: 2009-E126
Site Location: 12494 THE GORE ROAD
Your C.O.C. #: N/A

Attention: Munir Ahmad

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

Report Date: 2020/11/27
Report #: R6428218
Version: 3 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C0S8046
Received: 2020/10/29, 16:05

Encryption Key

Ashton Gibson
Project Manager
27 Nov 2020 18:56:48

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

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BV Labs Job #: C0S8046
Report Date: 2020/11/27

Soil Engineers Ltd
Client Project #: 2009-E126
Site Location: 12494 THE GORE ROAD
Sampler Initials: EL

O.REG 153 ICPMS METALS (SOIL)

BV Labs ID		OAQ116		
Sampling Date		2020/10/28		
COC Number		N/A		
	UNITS	DUP S1	RDL	QC Batch
Metals				
Acid Extractable Antimony (Sb)	ug/g	<0.20	0.20	7033161
Acid Extractable Arsenic (As)	ug/g	3.7	1.0	7033161
Acid Extractable Barium (Ba)	ug/g	76	0.50	7033161
Acid Extractable Beryllium (Be)	ug/g	0.58	0.20	7033161
Acid Extractable Boron (B)	ug/g	6.8	5.0	7033161
Acid Extractable Cadmium (Cd)	ug/g	<0.10	0.10	7033161
Acid Extractable Chromium (Cr)	ug/g	20	1.0	7033161
Acid Extractable Cobalt (Co)	ug/g	10	0.10	7033161
Acid Extractable Copper (Cu)	ug/g	22	0.50	7033161
Acid Extractable Lead (Pb)	ug/g	8.3	1.0	7033161
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	0.50	7033161
Acid Extractable Nickel (Ni)	ug/g	23	0.50	7033161
Acid Extractable Selenium (Se)	ug/g	<0.50	0.50	7033161
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	7033161
Acid Extractable Thallium (Tl)	ug/g	0.15	0.050	7033161
Acid Extractable Uranium (U)	ug/g	0.49	0.050	7033161
Acid Extractable Vanadium (V)	ug/g	28	5.0	7033161
Acid Extractable Zinc (Zn)	ug/g	51	5.0	7033161
Acid Extractable Mercury (Hg)	ug/g	<0.050	0.050	7033161

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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BV Labs Job #: C0S8046
Report Date: 2020/11/27

Soil Engineers Ltd
Client Project #: 2009-E126
Site Location: 12494 THE GORE ROAD
Sampler Initials: EL

O.REG 153 METALS & INORGANICS PKG (SOIL)

BV Labs ID		OAQ110			OAQ110		OAQ111	OAQ113		
Sampling Date		2020/10/28			2020/10/28		2020/10/28	2020/10/28		
COC Number		N/A			N/A		N/A	N/A		
	UNITS	BH1/1A	RDL	QC Batch	BH1/1A Lab-Dup	QC Batch	BH2/1A	BH4/1A	RDL	QC Batch
Inorganics										
Available (CaCl2) pH	pH	7.48		7035108	7.60	7035108	7.14	7.68		7035108
WAD Cyanide (Free)	ug/g	<0.01	0.01	7035278			<0.01	<0.01	0.01	7035278
Chromium (VI)	ug/g	<0.18	0.18	7034794			0.29	<0.18	0.18	7034794
Metals										
Acid Extractable Antimony (Sb)	ug/g	<0.20	0.20	7033161			<0.20	<0.20	0.20	7033161
Acid Extractable Arsenic (As)	ug/g	3.5	1.0	7033161			8.4	3.3	1.0	7033161
Acid Extractable Barium (Ba)	ug/g	98	0.50	7033161			120	100	0.50	7033161
Acid Extractable Beryllium (Be)	ug/g	0.84	0.20	7033161			1.2	0.65	0.20	7033161
Acid Extractable Boron (B)	ug/g	8.4	5.0	7033161			8.0	7.8	5.0	7033161
Acid Extractable Cadmium (Cd)	ug/g	0.11	0.10	7033161			0.21	0.12	0.10	7033161
Acid Extractable Chromium (Cr)	ug/g	27	1.0	7033161			36	22	1.0	7033161
Acid Extractable Cobalt (Co)	ug/g	12	0.10	7033161			20	11	0.10	7033161
Acid Extractable Copper (Cu)	ug/g	23	0.50	7033161			30	20	0.50	7033161
Acid Extractable Lead (Pb)	ug/g	11	1.0	7033161			16	9.0	1.0	7033161
Acid Extractable Molybdenum (Mo)	ug/g	0.57	0.50	7033161			0.50	<0.50	0.50	7033161
Acid Extractable Nickel (Ni)	ug/g	27	0.50	7033161			43	25	0.50	7033161
Acid Extractable Selenium (Se)	ug/g	<0.50	0.50	7033161			<0.50	<0.50	0.50	7033161
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	7033161			<0.20	<0.20	0.20	7033161
Acid Extractable Thallium (Tl)	ug/g	0.16	0.050	7033161			0.21	0.13	0.050	7033161
Acid Extractable Uranium (U)	ug/g	0.59	0.050	7033161			0.62	0.55	0.050	7033161
Acid Extractable Vanadium (V)	ug/g	35	5.0	7033161			50	31	5.0	7033161
Acid Extractable Zinc (Zn)	ug/g	58	5.0	7033161			81	46	5.0	7033161
Acid Extractable Mercury (Hg)	ug/g	<0.050	0.050	7033161			<0.050	<0.050	0.050	7033161

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

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BV Labs Job #: C0S8046
Report Date: 2020/11/27

Soil Engineers Ltd
Client Project #: 2009-E126
Site Location: 12494 THE GORE ROAD
Sampler Initials: EL

O.REG 153 METALS PACKAGE (SOIL)

BV Labs ID		OAQ112			OAQ115		
Sampling Date		2020/10/28			2020/10/28		
COC Number		N/A			N/A		
	UNITS	BH3/1A	RDL	QC Batch	BH6/1A	RDL	QC Batch
Inorganics							
Moisture	%	10	1.0	7032814			
Chromium (VI)	ug/g	<0.18	0.18	7034794	<0.18	0.18	7034794
Metals							
Acid Extractable Antimony (Sb)	ug/g	<0.20	0.20	7033161	<0.20	0.20	7033161
Acid Extractable Arsenic (As)	ug/g	2.4	1.0	7033161	3.0	1.0	7033161
Acid Extractable Barium (Ba)	ug/g	56	0.50	7033161	100	0.50	7033161
Acid Extractable Beryllium (Be)	ug/g	0.60	0.20	7033161	0.70	0.20	7033161
Acid Extractable Boron (B)	ug/g	<5.0	5.0	7033161	9.3	5.0	7033161
Acid Extractable Cadmium (Cd)	ug/g	<0.10	0.10	7033161	<0.10	0.10	7033161
Acid Extractable Chromium (Cr)	ug/g	21	1.0	7033161	24	1.0	7033161
Acid Extractable Cobalt (Co)	ug/g	8.5	0.10	7033161	11	0.10	7033161
Acid Extractable Copper (Cu)	ug/g	10	0.50	7033161	21	0.50	7033161
Acid Extractable Lead (Pb)	ug/g	9.1	1.0	7033161	9.3	1.0	7033161
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	0.50	7033161	<0.50	0.50	7033161
Acid Extractable Nickel (Ni)	ug/g	15	0.50	7033161	25	0.50	7033161
Acid Extractable Selenium (Se)	ug/g	<0.50	0.50	7033161	<0.50	0.50	7033161
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	7033161	<0.20	0.20	7033161
Acid Extractable Thallium (Tl)	ug/g	0.12	0.050	7033161	0.19	0.050	7033161
Acid Extractable Uranium (U)	ug/g	0.58	0.050	7033161	0.52	0.050	7033161
Acid Extractable Vanadium (V)	ug/g	38	5.0	7033161	35	5.0	7033161
Acid Extractable Zinc (Zn)	ug/g	41	5.0	7033161	54	5.0	7033161
Acid Extractable Mercury (Hg)	ug/g	<0.050	0.050	7033161	<0.050	0.050	7033161

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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BV Labs Job #: C0S8046
Report Date: 2020/11/27

Soil Engineers Ltd
Client Project #: 2009-E126
Site Location: 12494 THE GORE ROAD
Sampler Initials: EL

O.REG 153 OC PESTICIDES (SOIL)

BV Labs ID		OAQ110	OAQ111	OAQ113	OAQ114			OAQ114		
Sampling Date		2020/10/28	2020/10/28	2020/10/28	2020/10/28			2020/10/28		
COC Number		N/A	N/A	N/A	N/A			N/A		
	UNITS	BH1/1A	BH2/1A	BH4/1A	BH5/1A	RDL	QC Batch	BH5/1A Lab-Dup	RDL	QC Batch
Inorganics										
Moisture	%	28	24	14	16	1.0	7033522	16	1.0	7033522
Calculated Parameters										
Chlordane (Total)	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	7031591			
o,p-DDD + p,p-DDD	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	7031591			
o,p-DDE + p,p-DDE	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	7031591			
o,p-DDT + p,p-DDT	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	7031591			
Total Endosulfan	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	7031591			
Pesticides & Herbicides										
Aldrin	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	7042852			
a-Chlordane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	7042852			
g-Chlordane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	7042852			
o,p-DDD	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	7042852			
p,p-DDD	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	7042852			
o,p-DDE	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	7042852			
p,p-DDE	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	7042852			
o,p-DDT	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	7042852			
p,p-DDT	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	7042852			
Dieldrin	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	7042852			
Lindane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	7042852			
Endosulfan I (alpha)	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	7042852			
Endosulfan II (beta)	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	7042852			
Endrin	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	7042852			
Heptachlor	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	7042852			
Heptachlor epoxide	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	7042852			
Hexachlorobenzene	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	7042852			
Hexachlorobutadiene	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	7042852			
Hexachloroethane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	7042852			
Methoxychlor	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7042852			
Surrogate Recovery (%)										
2,4,5,6-Tetrachloro-m-xylene	%	97	89	116	114		7042852			
Decachlorobiphenyl	%	91	88	98	96		7042852			

RDL = Reportable Detection Limit
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BV Labs Job #: C0S8046
Report Date: 2020/11/27

Soil Engineers Ltd
Client Project #: 2009-E126
Site Location: 12494 THE GORE ROAD
Sampler Initials: EL

O.REG 153 OC PESTICIDES (SOIL)

BV Labs ID		OAQ115		
Sampling Date		2020/10/28		
COC Number		N/A		
	UNITS	BH6/1A	RDL	QC Batch
Inorganics				
Moisture	%	15	1.0	7033522
Calculated Parameters				
Chlordane (Total)	ug/g	<0.0020	0.0020	7031591
o,p-DDD + p,p-DDD	ug/g	<0.0020	0.0020	7031591
o,p-DDE + p,p-DDE	ug/g	<0.0020	0.0020	7031591
o,p-DDT + p,p-DDT	ug/g	<0.0020	0.0020	7031591
Total Endosulfan	ug/g	<0.0020	0.0020	7031591
Pesticides & Herbicides				
Aldrin	ug/g	<0.0020	0.0020	7042852
a-Chlordane	ug/g	<0.0020	0.0020	7042852
g-Chlordane	ug/g	<0.0020	0.0020	7042852
o,p-DDD	ug/g	<0.0020	0.0020	7042852
p,p-DDD	ug/g	<0.0020	0.0020	7042852
o,p-DDE	ug/g	<0.0020	0.0020	7042852
p,p-DDE	ug/g	<0.0020	0.0020	7042852
o,p-DDT	ug/g	<0.0020	0.0020	7042852
p,p-DDT	ug/g	<0.0020	0.0020	7042852
Dieldrin	ug/g	<0.0020	0.0020	7042852
Lindane	ug/g	<0.0020	0.0020	7042852
Endosulfan I (alpha)	ug/g	<0.0020	0.0020	7042852
Endosulfan II (beta)	ug/g	<0.0020	0.0020	7042852
Endrin	ug/g	<0.0020	0.0020	7042852
Heptachlor	ug/g	<0.0020	0.0020	7042852
Heptachlor epoxide	ug/g	<0.0020	0.0020	7042852
Hexachlorobenzene	ug/g	<0.0020	0.0020	7042852
Hexachlorobutadiene	ug/g	<0.0020	0.0020	7042852
Hexachloroethane	ug/g	<0.0020	0.0020	7042852
Methoxychlor	ug/g	<0.0050	0.0050	7042852
Surrogate Recovery (%)				
2,4,5,6-Tetrachloro-m-xylene	%	101		7042852
Decachlorobiphenyl	%	100		7042852

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

BV Labs Job #: C0S8046
Report Date: 2020/11/27

Soil Engineers Ltd
Client Project #: 2009-E126
Site Location: 12494 THE GORE ROAD
Sampler Initials: EL

RESULTS OF ANALYSES OF SOIL

BV Labs ID		OAQ114	OAQ115			OAQ117	
Sampling Date		2020/10/28	2020/10/28			2020/10/28	
COC Number		N/A	N/A			N/A	
	UNITS	BH5/1A	BH6/1A	RDL	QC Batch	BH6/3	QC Batch
Inorganics							
Available (CaCl2) pH	pH					7.66	7035108
WAD Cyanide (Free)	ug/g	<0.01	<0.01	0.01	7078042		

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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BV Labs Job #: C0S8046
Report Date: 2020/11/27

Soil Engineers Ltd
Client Project #: 2009-E126
Site Location: 12494 THE GORE ROAD
Sampler Initials: EL

TEST SUMMARY

BV Labs ID: OAQ110
Sample ID: BH1/1A
Matrix: Soil

Collected: 2020/10/28
Shipped:
Received: 2020/10/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	7035278	2020/11/03	2020/11/04	Gnana Thomas
Hexavalent Chromium in Soil by IC	IC/SPEC	7034794	2020/11/03	2020/11/05	Violeta Porcila
Strong Acid Leachable Metals by ICPMS	ICP/MS	7033161	2020/11/02	2020/11/03	Daniel Teclu
Moisture	BAL	7033522	N/A	2020/11/02	Gurpreet Kaur (ONT)
OC Pesticides (Selected) & PCB	GC/ECD	7042852	2020/11/06	2020/11/07	Joy Zhang
OC Pesticides Summed Parameters	CALC	7031591	N/A	2020/11/03	Automated Statchk
pH CaCl2 EXTRACT	AT	7035108	2020/11/03	2020/11/03	Neil Dassanayake

BV Labs ID: OAQ110 Dup
Sample ID: BH1/1A
Matrix: Soil

Collected: 2020/10/28
Shipped:
Received: 2020/10/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	7035108	2020/11/03	2020/11/03	Neil Dassanayake

BV Labs ID: OAQ111
Sample ID: BH2/1A
Matrix: Soil

Collected: 2020/10/28
Shipped:
Received: 2020/10/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	7035278	2020/11/03	2020/11/04	Gnana Thomas
Hexavalent Chromium in Soil by IC	IC/SPEC	7034794	2020/11/03	2020/11/05	Violeta Porcila
Strong Acid Leachable Metals by ICPMS	ICP/MS	7033161	2020/11/02	2020/11/03	Daniel Teclu
Moisture	BAL	7033522	N/A	2020/11/02	Gurpreet Kaur (ONT)
OC Pesticides (Selected) & PCB	GC/ECD	7042852	2020/11/06	2020/11/07	Joy Zhang
OC Pesticides Summed Parameters	CALC	7031591	N/A	2020/11/03	Automated Statchk
pH CaCl2 EXTRACT	AT	7035108	2020/11/03	2020/11/03	Neil Dassanayake

BV Labs ID: OAQ112
Sample ID: BH3/1A
Matrix: Soil

Collected: 2020/10/28
Shipped:
Received: 2020/10/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hexavalent Chromium in Soil by IC	IC/SPEC	7034794	2020/11/03	2020/11/05	Violeta Porcila
Strong Acid Leachable Metals by ICPMS	ICP/MS	7033161	2020/11/02	2020/11/03	Daniel Teclu
Moisture	BAL	7032814	N/A	2020/11/02	Chun Yan

BV Labs ID: OAQ113
Sample ID: BH4/1A
Matrix: Soil

Collected: 2020/10/28
Shipped:
Received: 2020/10/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	7035278	2020/11/03	2020/11/04	Gnana Thomas
Hexavalent Chromium in Soil by IC	IC/SPEC	7034794	2020/11/03	2020/11/05	Violeta Porcila
Strong Acid Leachable Metals by ICPMS	ICP/MS	7033161	2020/11/02	2020/11/03	Daniel Teclu

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Soil Engineers Ltd
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TEST SUMMARY

BV Labs ID: OAQ113
Sample ID: BH4/1A
Matrix: Soil

Collected: 2020/10/28
Shipped:
Received: 2020/10/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	7033522	N/A	2020/11/02	Gurpreet Kaur (ONT)
OC Pesticides (Selected) & PCB	GC/ECD	7042852	2020/11/06	2020/11/07	Joy Zhang
OC Pesticides Summed Parameters	CALC	7031591	N/A	2020/11/03	Automated Statchk
pH CaCl2 EXTRACT	AT	7035108	2020/11/03	2020/11/03	Neil Dassanayake

BV Labs ID: OAQ114
Sample ID: BH5/1A
Matrix: Soil

Collected: 2020/10/28
Shipped:
Received: 2020/10/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	7078042	2020/11/26	2020/11/27	Gnana Thomas
Moisture	BAL	7033522	N/A	2020/11/02	Gurpreet Kaur (ONT)
OC Pesticides (Selected) & PCB	GC/ECD	7042852	2020/11/06	2020/11/07	Joy Zhang
OC Pesticides Summed Parameters	CALC	7031591	N/A	2020/11/03	Automated Statchk

BV Labs ID: OAQ114 Dup
Sample ID: BH5/1A
Matrix: Soil

Collected: 2020/10/28
Shipped:
Received: 2020/10/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	7033522	N/A	2020/11/02	Gurpreet Kaur (ONT)

BV Labs ID: OAQ115
Sample ID: BH6/1A
Matrix: Soil

Collected: 2020/10/28
Shipped:
Received: 2020/10/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	7078042	2020/11/26	2020/11/27	Gnana Thomas
Hexavalent Chromium in Soil by IC	IC/SPEC	7034794	2020/11/03	2020/11/05	Violeta Porcila
Strong Acid Leachable Metals by ICPMS	ICP/MS	7033161	2020/11/02	2020/11/03	Daniel Teclu
Moisture	BAL	7033522	N/A	2020/11/02	Gurpreet Kaur (ONT)
OC Pesticides (Selected) & PCB	GC/ECD	7042852	2020/11/06	2020/11/07	Joy Zhang
OC Pesticides Summed Parameters	CALC	7031591	N/A	2020/11/03	Automated Statchk

BV Labs ID: OAQ116
Sample ID: DUP S1
Matrix: Soil

Collected: 2020/10/28
Shipped:
Received: 2020/10/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Strong Acid Leachable Metals by ICPMS	ICP/MS	7033161	2020/11/02	2020/11/03	Daniel Teclu

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BV Labs Job #: C0S8046
Report Date: 2020/11/27

Soil Engineers Ltd
Client Project #: 2009-E126
Site Location: 12494 THE GORE ROAD
Sampler Initials: EL

TEST SUMMARY

BV Labs ID: OAQ117
Sample ID: BH6/3
Matrix: Soil

Collected: 2020/10/28
Shipped:
Received: 2020/10/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	7035108	2020/11/03	2020/11/03	Neil Dassanayake

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BV Labs Job #: C0S8046
Report Date: 2020/11/27

Soil Engineers Ltd
Client Project #: 2009-E126
Site Location: 12494 THE GORE ROAD
Sampler Initials: EL

GENERAL COMMENTS

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

Package 1	3.0°C

Cooler custody seal was present and intact.

Results relate only to the items tested.

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BV Labs Job #: C0S8046
Report Date: 2020/11/27

QUALITY ASSURANCE REPORT

Soil Engineers Ltd
Client Project #: 2009-E126
Site Location: 12494 THE GORE ROAD
Sampler Initials: EL

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7042852	2,4,5,6-Tetrachloro-m-xylene	2020/11/07	100	50 - 130	90	50 - 130	86	%		
7042852	Decachlorobiphenyl	2020/11/07	114	50 - 130	102	50 - 130	100	%		
7032814	Moisture	2020/11/02							2.1	20
7033161	Acid Extractable Antimony (Sb)	2020/11/03	92	75 - 125	105	80 - 120	<0.20	ug/g	23	30
7033161	Acid Extractable Arsenic (As)	2020/11/03	99	75 - 125	104	80 - 120	<1.0	ug/g	0.66	30
7033161	Acid Extractable Barium (Ba)	2020/11/03	NC	75 - 125	102	80 - 120	<0.50	ug/g	0.41	30
7033161	Acid Extractable Beryllium (Be)	2020/11/03	97	75 - 125	100	80 - 120	<0.20	ug/g	3.6	30
7033161	Acid Extractable Boron (B)	2020/11/03	91	75 - 125	99	80 - 120	<5.0	ug/g	NC	30
7033161	Acid Extractable Cadmium (Cd)	2020/11/03	98	75 - 125	104	80 - 120	<0.10	ug/g	22	30
7033161	Acid Extractable Chromium (Cr)	2020/11/03	99	75 - 125	110	80 - 120	<1.0	ug/g	1.6	30
7033161	Acid Extractable Cobalt (Co)	2020/11/03	97	75 - 125	106	80 - 120	<0.10	ug/g	4.3	30
7033161	Acid Extractable Copper (Cu)	2020/11/03	95	75 - 125	103	80 - 120	<0.50	ug/g	2.9	30
7033161	Acid Extractable Lead (Pb)	2020/11/03	NC	75 - 125	104	80 - 120	<1.0	ug/g	2.5	30
7033161	Acid Extractable Mercury (Hg)	2020/11/03	76	75 - 125	90	80 - 120	<C.050	ug/g		
7033161	Acid Extractable Molybdenum (Mo)	2020/11/03	96	75 - 125	103	80 - 120	<0.50	ug/g	NC	30
7033161	Acid Extractable Nickel (Ni)	2020/11/03	96	75 - 125	104	80 - 120	<0.50	ug/g	0.28	30
7033161	Acid Extractable Selenium (Se)	2020/11/03	97	75 - 125	108	80 - 120	<0.50	ug/g	NC	30
7033161	Acid Extractable Silver (Ag)	2020/11/03	101	75 - 125	103	80 - 120	<0.20	ug/g	NC	30
7033161	Acid Extractable Thallium (Tl)	2020/11/03	94	75 - 125	103	80 - 120	<C.050	ug/g	0.87	30
7033161	Acid Extractable Uranium (U)	2020/11/03	94	75 - 125	103	80 - 120	<C.050	ug/g	3.5	30
7033161	Acid Extractable Vanadium (V)	2020/11/03	NC	75 - 125	105	80 - 120	<5.0	ug/g	1.9	30
7033161	Acid Extractable Zinc (Zn)	2020/11/03	NC	75 - 125	108	80 - 120	<5.0	ug/g	3.1	30
7033522	Moisture	2020/11/02							0	20
7034794	Chromium (VI)	2020/11/05	88	70 - 130	90	80 - 120	<0.18	ug/g	NC	35
7035108	Available (CaCl2) pH	2020/11/03			99	97 - 103			1.7	N/A
7035278	WAD Cyanide (Free)	2020/11/04	95	75 - 125	91	80 - 120	<0.01	ug/g	NC	35
7042852	a-Chlordane	2020/11/07	85	50 - 130	80	50 - 130	<0 0020	ug/g	NC	40
7042852	Aldrin	2020/11/07	77	50 - 130	72	50 - 130	<0 0020	ug/g	NC	40
7042852	Dieldrin	2020/11/07	101	50 - 130	93	50 - 130	<0 0020	ug/g	NC	40
7042852	Endosulfan I (alpha)	2020/11/07	79	50 - 130	71	50 - 130	<0 0020	ug/g	NC	40
7042852	Endosulfan II (beta)	2020/11/07	79	50 - 130	73	50 - 130	<0 0020	ug/g	NC	40

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7042852	Endrin	2020/11/07	93	50 - 130	84	50 - 130	<0.0020	ug/g	NC	40
7042852	g-Chlordane	2020/11/07	102	50 - 130	99	50 - 130	<0.0020	ug/g	NC	40
7042852	Heptachlor epoxide	2020/11/07	82	50 - 130	78	50 - 130	<0.0020	ug/g	NC	40
7042852	Heptachlor	2020/11/07	80	50 - 130	76	50 - 130	<0.0020	ug/g	NC	40
7042852	Hexachlorobenzene	2020/11/07	76	50 - 130	87	50 - 130	<0.0020	ug/g	NC	40
7042852	Hexachlorobutadiene	2020/11/07	75	50 - 130	83	50 - 130	<0.0020	ug/g	NC	40
7042852	Hexachloroethane	2020/11/07	56	50 - 130	58	50 - 130	<0.0020	ug/g	NC	40
7042852	Lindane	2020/11/07	73	50 - 130	72	50 - 130	<0.0020	ug/g	NC	40
7042852	Methoxychlor	2020/11/07	95	50 - 130	89	50 - 130	<0.0050	ug/g	NC	40
7042852	o,p-DDD	2020/11/07	96	50 - 130	91	50 - 130	<0.0020	ug/g	NC	40
7042852	o,p-DDE	2020/11/07	86	50 - 130	80	50 - 130	<0.0020	ug/g	NC	40
7042852	o,p-DDT	2020/11/07	111	50 - 130	105	50 - 130	<0.0020	ug/g	NC	40
7042852	p,p-DDD	2020/11/07	94	50 - 130	84	50 - 130	<0.0020	ug/g	NC	40
7042852	p,p-DDE	2020/11/07	102	50 - 130	88	50 - 130	<0.0020	ug/g	NC	40
7042852	p,p-DDT	2020/11/07	94	50 - 130	83	50 - 130	<0.0020	ug/g	NC	40
7078042	WAD Cyanide (Free)	2020/11/27	90	75 - 125	92	80 - 120	<0.01	ug/g	NC	35

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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BV Labs Job #: C0S8046
Report Date: 2020/11/27

Soil Engineers Ltd
Client Project #: 2009-E126
Site Location: 12494 THE GORE ROAD
Sampler Initials: EL

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Anastassia Hamanov, Scientific Specialist

Brad Newman, B.Sc., C.Chem., Scientific Service Specialist

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

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Your Project #: 2009-E126
Site Location: TOWN OF CALEDON
Your C.O.C. #: N/A

Attention: Munir Ahmad

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

Report Date: 2024/05/15
Report #: R8149495
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4D5075
Received: 2024/05/06, 15:35

Sample Matrix: Soil
Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Free (WAD) Cyanide	5	2024/05/09	2024/05/10	CAM SOP-00457	OMOE E3015 m
Hexavalent Chromium in Soil by IC (1)	5	2024/05/10	2024/05/10	CAM SOP-00436	EPA 3060A/7199 m
Acid Extractable Metals by ICPMS	6	2024/05/09	2024/05/09	CAM SOP-00447	EPA 6020B m
Moisture	5	N/A	2024/05/07	CAM SOP-00445	Carter 2nd ed 70.2 m
OC Pesticides (Selected) & PCB (2)	1	2024/05/10	2024/05/11	CAM SOP-00307	EPA 8081B/ 8082A
OC Pesticides (Selected) & PCB (2)	4	2024/05/09	2024/05/10	CAM SOP-00307	EPA 8081B/ 8082A
OC Pesticides Summed Parameters	5	N/A	2024/05/08	CAM SOP-00307	EPA 8081B/ 8082A
pH CaCl2 EXTRACT	5	2024/05/09	2024/05/09	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, EPA, APHA or the Quebec Ministry of Environment.

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

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Your Project #: 2009-E126
Site Location: TOWN OF CALEDON
Your C.O.C. #: N/A

Attention: Munir Ahmad

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

Report Date: 2024/05/15
Report #: R8149495
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4D5075
Received: 2024/05/06, 15:35

Encryption Key

Bureau Veritas
15 May 2024 10:58:23

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.

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

Bureau Veritas Job #: C4D5075
Report Date: 2024/05/15

Soil Engineers Ltd
Client Project #: 2009-E126
Site Location: TOWN OF CALEDON
Sampler Initials: AB

O.REG 153 ICPMS METALS (SOIL)

Bureau Veritas ID		ZCA732			
Sampling Date		2024/05/03			
COC Number		N/A			
	UNITS	DUP S2	RDL	MDL	QC Batch
Metals					
Acid Extractable Antimony (Sb)	ug/g	<0.20	0.20	0.10	9382632
Acid Extractable Arsenic (As)	ug/g	3.3	1.0	0.10	9382632
Acid Extractable Barium (Ba)	ug/g	100	0.50	0.30	9382632
Acid Extractable Beryllium (Be)	ug/g	0.78	0.20	0.020	9382632
Acid Extractable Boron (B)	ug/g	6.6	5.0	1.0	9382632
Acid Extractable Cadmium (Cd)	ug/g	0.19	0.10	0.030	9382632
Acid Extractable Chromium (Cr)	ug/g	25	1.0	0.20	9382632
Acid Extractable Cobalt (Co)	ug/g	11	0.10	0.020	9382632
Acid Extractable Copper (Cu)	ug/g	17	0.50	0.20	9382632
Acid Extractable Lead (Pb)	ug/g	16	1.0	0.10	9382632
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	0.50	0.10	9382632
Acid Extractable Nickel (Ni)	ug/g	21	0.50	0.20	9382632
Acid Extractable Selenium (Se)	ug/g	<0.50	0.50	0.10	9382632
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	0.040	9382632
Acid Extractable Thallium (Tl)	ug/g	0.16	0.050	0.010	9382632
Acid Extractable Uranium (U)	ug/g	0.55	0.050	0.030	9382632
Acid Extractable Vanadium (V)	ug/g	38	5.0	0.50	9382632
Acid Extractable Zinc (Zn)	ug/g	85	5.0	0.50	9382632
Acid Extractable Mercury (Hg)	ug/g	<0.050	0.050	0.030	9382632

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Bureau Veritas Job #: C4D5075
Report Date: 2024/05/15

Soil Engineers Ltd
Client Project #: 2009-E126
Site Location: TOWN OF CALEDON
Sampler Initials: AB

O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID		ZCA727	ZCA728	ZCA729	ZCA730	ZCA731			
Sampling Date		2024/05/03	2024/05/03	2024/05/03	2024/05/03	2024/05/03			
COC Number		N/A	N/A	N/A	N/A	N/A			
	UNITS	TP-1	TP-2	TP-3	TP-4	TP-5	RDL	MDL	QC Batch
Inorganics									
Available (CaCl2) pH	pH	6.72	7.21	7.15	6.78	7.34			9383644
WAD Cyanide (Free)	ug/g	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.0019	9383965
Chromium (VI)	ug/g	<0.18	<0.18	<0.18	<0.18	<0.18	0.18	0.050	9385314
Metals									
Acid Extractable Antimony (Sb)	ug/g	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	0.10	9382881
Acid Extractable Arsenic (As)	ug/g	2.9	3.4	3.1	2.9	3.9	1.0	0.10	9382881
Acid Extractable Barium (Ba)	ug/g	91	120	93	85	97	0.50	0.30	9382881
Acid Extractable Beryllium (Be)	ug/g	0.73	0.81	0.77	0.75	0.88	0.20	0.020	9382881
Acid Extractable Boron (B)	ug/g	6.2	5.9	6.0	<5.0	6.7	5.0	1.0	9382881
Acid Extractable Cadmium (Cd)	ug/g	0.23	0.21	0.15	0.22	0.19	0.10	0.030	9382881
Acid Extractable Chromium (Cr)	ug/g	22	24	24	22	25	1.0	0.20	9382881
Acid Extractable Cobalt (Co)	ug/g	8.7	11	9.6	8.7	10	0.10	0.020	9382881
Acid Extractable Copper (Cu)	ug/g	14	17	16	15	20	0.50	0.20	9382881
Acid Extractable Lead (Pb)	ug/g	14	16	15	14	17	1.0	0.10	9382881
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	0.10	9382881
Acid Extractable Nickel (Ni)	ug/g	18	22	20	17	24	0.50	0.20	9382881
Acid Extractable Selenium (Se)	ug/g	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	0.10	9382881
Acid Extractable Silver (Ag)	ug/g	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	0.040	9382881
Acid Extractable Thallium (Tl)	ug/g	0.14	0.16	0.16	0.15	0.16	0.050	0.010	9382881
Acid Extractable Uranium (U)	ug/g	0.82	0.56	0.57	0.94	0.71	0.050	0.030	9382881
Acid Extractable Vanadium (V)	ug/g	34	37	37	34	36	5.0	0.50	9382881
Acid Extractable Zinc (Zn)	ug/g	62	81	67	63	75	5.0	0.50	9382881
Acid Extractable Mercury (Hg)	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	0.030	9382881

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Bureau Veritas Job #: C4D5075
Report Date: 2024/05/15

Soil Engineers Ltd
Client Project #: 2009-E126
Site Location: TOWN OF CALEDON
Sampler Initials: AB

O.REG 153 OC PESTICIDES (SOIL)

Bureau Veritas ID		ZCA727	ZCA728	ZCA729	ZCA730		ZCA731			
Sampling Date		2024/05/03	2024/05/03	2024/05/03	2024/05/03		2024/05/03			
COC Number		N/A	N/A	N/A	N/A		N/A			
	UNITS	TP-1	TP-2	TP-3	TP-4	QC Batch	TP-5	RDL	MDL	QC Batch
Calculated Parameters										
Chlordane (Total)	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	9374827	<0.0020	0.0020	N/A	9374827
o,p-DDD + p,p-DDD	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	9374827	<0.0020	0.0020	N/A	9374827
o,p-DDE + p,p-DDE	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	9374827	<0.0020	0.0020	N/A	9374827
o,p-DDT + p,p-DDT	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	9374827	<0.0020	0.0020	N/A	9374827
Total Endosulfan	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	9374827	<0.0020	0.0020	N/A	9374827
Pesticides & Herbicides										
Aldrin	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	9382458	<0.0020	0.0020	0.00040	9385070
a-Chlordane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	9382458	<0.0020	0.0020	0.00040	9385070
g-Chlordane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	9382458	<0.0020	0.0020	0.00040	9385070
o,p-DDD	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	9382458	<0.0020	0.0020	0.00040	9385070
p,p-DDD	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	9382458	<0.0020	0.0020	0.00040	9385070
o,p-DDE	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	9382458	<0.0020	0.0020	0.00040	9385070
p,p-DDE	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	9382458	<0.0020	0.0020	0.00040	9385070
o,p-DDT	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	9382458	<0.0020	0.0020	0.00040	9385070
p,p-DDT	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	9382458	<0.0020	0.0020	0.00040	9385070
Dieldrin	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	9382458	<0.0020	0.0020	0.00040	9385070
Lindane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	9382458	<0.0020	0.0020	0.00040	9385070
Endosulfan I (alpha)	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	9382458	<0.0020	0.0020	0.00040	9385070
Endosulfan II (beta)	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	9382458	<0.0020	0.0020	0.00040	9385070
Endrin	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	9382458	<0.0020	0.0020	0.00040	9385070
Heptachlor	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	9382458	<0.0020	0.0020	0.00040	9385070
Heptachlor epoxide	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	9382458	<0.0020	0.0020	0.00040	9385070
Hexachlorobenzene	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	9382458	<0.0020	0.0020	0.00040	9385070
Hexachlorobutadiene	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	9382458	<0.0020	0.0020	N/A	9385070
Hexachloroethane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	9382458	<0.0020	0.0020	N/A	9385070
Methoxychlor	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	9382458	<0.0050	0.0050	0.0016	9385070
Surrogate Recovery (%)										
2,4,5,6-Tetrachloro-m-xylene	%	95	81	90	85	9382458	85			9385070
Decachlorobiphenyl	%	98	85	99	93	9382458	97			9385070

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

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Bureau Veritas Job #: C4D5075
Report Date: 2024/05/15

Soil Engineers Ltd
Client Project #: 2009-E126
Site Location: TOWN OF CALEDON
Sampler Initials: AB

RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID		ZCA727	ZCA728	ZCA729	ZCA730	ZCA731			
Sampling Date		2024/05/03	2024/05/03	2024/05/03	2024/05/03	2024/05/03			
COC Number		N/A	N/A	N/A	N/A	N/A			
	UNITS	TP-1	TP-2	TP-3	TP-4	TP-5	RDL	MDL	QC Batch
Inorganics									
Moisture	%	24	23	25	22	20	1.0	0.50	9377365

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Bureau Veritas Job #: C4D5075
Report Date: 2024/05/15

Soil Engineers Ltd
Client Project #: 2009-E126
Site Location: TOWN OF CALEDON
Sampler Initials: AB

TEST SUMMARY

Bureau Veritas ID: ZCA727
Sample ID: TP-1
Matrix: Soil

Collected: 2024/05/03
Shipped:
Received: 2024/05/06

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	9383965	2024/05/09	2024/05/10	Prgya Panchal
Hexavalent Chromium in Soil by IC	IC/SPEC	9385314	2024/05/10	2024/05/10	Rupinder Sihota
Acid Extractable Metals by ICPMS	ICP/MS	9382881	2024/05/09	2024/05/09	Viviana Canzonieri
Moisture	BAL	9377365	N/A	2024/05/07	Frances Gacayan
OC Pesticides (Selected) & PCB	GC/ECD	9382458	2024/05/09	2024/05/10	Akruti Patel
OC Pesticides Summed Parameters	CALC	9374827	N/A	2024/05/08	Automated Statchk
pH CaCl2 EXTRACT	AT	9383644	2024/05/09	2024/05/09	Kien Tran

Bureau Veritas ID: ZCA728
Sample ID: TP-2
Matrix: Soil

Collected: 2024/05/03
Shipped:
Received: 2024/05/06

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	9383965	2024/05/09	2024/05/10	Prgya Panchal
Hexavalent Chromium in Soil by IC	IC/SPEC	9385314	2024/05/10	2024/05/10	Rupinder Sihota
Acid Extractable Metals by ICPMS	ICP/MS	9382881	2024/05/09	2024/05/09	Viviana Canzonieri
Moisture	BAL	9377365	N/A	2024/05/07	Frances Gacayan
OC Pesticides (Selected) & PCB	GC/ECD	9382458	2024/05/09	2024/05/10	Akruti Patel
OC Pesticides Summed Parameters	CALC	9374827	N/A	2024/05/08	Automated Statchk
pH CaCl2 EXTRACT	AT	9383644	2024/05/09	2024/05/09	Kien Tran

Bureau Veritas ID: ZCA729
Sample ID: TP-3
Matrix: Soil

Collected: 2024/05/03
Shipped:
Received: 2024/05/06

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	9383965	2024/05/09	2024/05/10	Prgya Panchal
Hexavalent Chromium in Soil by IC	IC/SPEC	9385314	2024/05/10	2024/05/10	Rupinder Sihota
Acid Extractable Metals by ICPMS	ICP/MS	9382881	2024/05/09	2024/05/09	Viviana Canzonieri
Moisture	BAL	9377365	N/A	2024/05/07	Frances Gacayan
OC Pesticides (Selected) & PCB	GC/ECD	9382458	2024/05/09	2024/05/10	Akruti Patel
OC Pesticides Summed Parameters	CALC	9374827	N/A	2024/05/08	Automated Statchk
pH CaCl2 EXTRACT	AT	9383644	2024/05/09	2024/05/09	Kien Tran

Bureau Veritas ID: ZCA730
Sample ID: TP-4
Matrix: Soil

Collected: 2024/05/03
Shipped:
Received: 2024/05/06

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	9383965	2024/05/09	2024/05/10	Prgya Panchal
Hexavalent Chromium in Soil by IC	IC/SPEC	9385314	2024/05/10	2024/05/10	Rupinder Sihota
Acid Extractable Metals by ICPMS	ICP/MS	9382881	2024/05/09	2024/05/09	Viviana Canzonieri
Moisture	BAL	9377365	N/A	2024/05/07	Frances Gacayan
OC Pesticides (Selected) & PCB	GC/ECD	9382458	2024/05/09	2024/05/10	Akruti Patel

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Bureau Veritas Job #: C4D5075
Report Date: 2024/05/15

Soil Engineers Ltd
Client Project #: 2009-E126
Site Location: TOWN OF CALEDON
Sampler Initials: AB

TEST SUMMARY

Bureau Veritas ID: ZCA730
Sample ID: TP-4
Matrix: Soil

Collected: 2024/05/03
Shipped:
Received: 2024/05/06

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
OC Pesticides Summed Parameters	CALC	9374827	N/A	2024/05/08	Automated Statchk
pH CaCl2 EXTRACT	AT	9383644	2024/05/09	2024/05/09	Kien Tran

Bureau Veritas ID: ZCA731
Sample ID: TP-5
Matrix: Soil

Collected: 2024/05/03
Shipped:
Received: 2024/05/06

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	9383965	2024/05/09	2024/05/10	Prgya Panchal
Hexavalent Chromium in Soil by IC	IC/SPEC	9385314	2024/05/10	2024/05/10	Rupinder Sihota
Acid Extractable Metals by ICPMS	ICP/MS	9382881	2024/05/09	2024/05/09	Viviana Canzonieri
Moisture	BAL	9377365	N/A	2024/05/07	Frances Gacayan
OC Pesticides (Selected) & PCB	GC/ECD	9385070	2024/05/10	2024/05/11	Li Peng
OC Pesticides Summed Parameters	CALC	9374827	N/A	2024/05/08	Automated Statchk
pH CaCl2 EXTRACT	AT	9383644	2024/05/09	2024/05/09	Kien Tran

Bureau Veritas ID: ZCA732
Sample ID: DUP S2
Matrix: Soil

Collected: 2024/05/03
Shipped:
Received: 2024/05/06

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractable Metals by ICPMS	ICP/MS	9382632	2024/05/09	2024/05/09	Viviana Canzonieri

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Bureau Veritas Job #: C4D5075
Report Date: 2024/05/15

Soil Engineers Ltd
Client Project #: 2009-E126
Site Location: TOWN OF CALEDON
Sampler Initials: AB

GENERAL COMMENTS

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

Package 1	7.0°C

Results relate only to the items tested.

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BUREAU VERITAS

Bureau Veritas Job #: C4D5075
Report Date: 2024/05/15

QUALITY ASSURANCE REPORT

Soil Engineers Ltd
Client Project #: 2009-E126
Site Location: TOWN OF CALEDON
Sampler Initials: AB

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9382458	2,4,5,6-Tetrachloro-m-xylene	2024/05/10	88	50 - 130	79	50 - 130	93	%		
9382458	Decachlorobiphenyl	2024/05/10	103	50 - 130	93	50 - 130	118	%		
9385070	2,4,5,6-Tetrachloro-m-xylene	2024/05/11	95	50 - 130	83	50 - 130	82	%		
9385070	Decachlorobiphenyl	2024/05/11	104	50 - 130	88	50 - 130	93	%		
9377365	Moisture	2024/05/07							5.6	20
9382458	a-Chlordane	2024/05/10	109	50 - 130	86	50 - 130	<0 0020	ug/g	NC	40
9382458	Aldrin	2024/05/10	88	50 - 130	78	50 - 130	<0 0020	ug/g	NC	40
9382458	Dieldrin	2024/05/10	122	50 - 130	105	50 - 130	<0 0020	ug/g	NC	40
9382458	Endosulfan I (alpha)	2024/05/10	127	50 - 130	107	50 - 130	<0 0020	ug/g	NC	40
9382458	Endosulfan II (beta)	2024/05/10	116	50 - 130	96	50 - 130	<0 0020	ug/g	NC	40
9382458	Endrin	2024/05/10	120	50 - 130	102	50 - 130	<0 0020	ug/g	NC	40
9382458	g-Chlordane	2024/05/10	113	50 - 130	90	50 - 130	<0 0020	ug/g	NC	40
9382458	Heptachlor epoxide	2024/05/10	112	50 - 130	93	50 - 130	<0 0020	ug/g	NC	40
9382458	Heptachlor	2024/05/10	85	50 - 130	74	50 - 130	<0 0020	ug/g	NC	40
9382458	Hexachlorobenzene	2024/05/10	86	50 - 130	87	50 - 130	<0 0020	ug/g	NC	40
9382458	Hexachlorobutadiene	2024/05/10	79	50 - 130	88	50 - 130	<0 0020	ug/g	NC	40
9382458	Hexachloroethane	2024/05/10	61	50 - 130	75	50 - 130	<0 0020	ug/g	NC	40
9382458	Lindane	2024/05/10	105	50 - 130	85	50 - 130	<0 0020	ug/g	NC	40
9382458	Methoxychlor	2024/05/10	130	50 - 130	116	50 - 130	<0 0050	ug/g	NC	40
9382458	o,p-DDD	2024/05/10	121	50 - 130	103	50 - 130	<0 0020	ug/g	NC	40
9382458	o,p-DDE	2024/05/10	109	50 - 130	90	50 - 130	<0 0020	ug/g	NC	40
9382458	o,p-DDT	2024/05/10	112	50 - 130	97	50 - 130	<0.0020	ug/g	NC	40
9382458	p,p-DDD	2024/05/10	125	50 - 130	105	50 - 130	<0.0020	ug/g	NC	40
9382458	p,p-DDE	2024/05/10	90	50 - 130	87	50 - 130	<0 0020	ug/g	NC	40
9382458	p,p-DDT	2024/05/10	125	50 - 130	105	50 - 130	<0.0020	ug/g	NC	40
9382632	Acid Extractable Antimony (Sb)	2024/05/09	107	75 - 125	102	80 - 120	<0.20	ug/g	NC	30
9382632	Acid Extractable Arsenic (As)	2024/05/09	109	75 - 125	102	80 - 120	<1.0	ug/g	5.9	30
9382632	Acid Extractable Barium (Ba)	2024/05/09	108	75 - 125	103	80 - 120	<0.50	ug/g	4.8	30
9382632	Acid Extractable Beryllium (Be)	2024/05/09	112	75 - 125	102	80 - 120	<0.20	ug/g	NC	30
9382632	Acid Extractable Boron (B)	2024/05/09	106	75 - 125	101	80 - 120	<5.0	ug/g	NC	30
9382632	Acid Extractable Cadmium (Cd)	2024/05/09	105	75 - 125	97	80 - 120	<0.10	ug/g	NC	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9382632	Acid Extractable Chromium (Cr)	2024/05/09	107	75 - 125	99	80 - 120	<1.0	ug/g	7.1	30
9382632	Acid Extractable Cobalt (Co)	2024/05/09	105	75 - 125	98	80 - 120	<0.10	ug/g	5.1	30
9382632	Acid Extractable Copper (Cu)	2024/05/09	107	75 - 125	101	80 - 120	<0.50	ug/g	0.80	30
9382632	Acid Extractable Lead (Pb)	2024/05/09	106	75 - 125	101	80 - 120	<1.0	ug/g	0.70	30
9382632	Acid Extractable Mercury (Hg)	2024/05/09	114	75 - 125	108	80 - 120	<0.050	ug/g	3.9	30
9382632	Acid Extractable Molybdenum (Mo)	2024/05/09	106	75 - 125	96	80 - 120	<0.50	ug/g	NC	30
9382632	Acid Extractable Nickel (Ni)	2024/05/09	106	75 - 125	100	80 - 120	<0.50	ug/g	4.5	30
9382632	Acid Extractable Selenium (Se)	2024/05/09	106	75 - 125	99	80 - 120	<0.50	ug/g	NC	30
9382632	Acid Extractable Silver (Ag)	2024/05/09	104	75 - 125	96	80 - 120	<0.20	ug/g	NC	30
9382632	Acid Extractable Thallium (Tl)	2024/05/09	110	75 - 125	104	80 - 120	<0.050	ug/g	NC	30
9382632	Acid Extractable Uranium (U)	2024/05/09	108	75 - 125	100	80 - 120	<0.050	ug/g	19	30
9382632	Acid Extractable Vanadium (V)	2024/05/09	110	75 - 125	101	80 - 120	<5.0	ug/g	7.7	30
9382632	Acid Extractable Zinc (Zn)	2024/05/09	90	75 - 125	100	80 - 120	<5.0	ug/g	24	30
9382881	Acid Extractable Antimony (Sb)	2024/05/09	97	75 - 125	106	80 - 120	<0.20	ug/g		
9382881	Acid Extractable Arsenic (As)	2024/05/09	92	75 - 125	106	80 - 120	<1.0	ug/g	NC	30
9382881	Acid Extractable Barium (Ba)	2024/05/09	99	75 - 125	112	80 - 120	<0.50	ug/g		
9382881	Acid Extractable Beryllium (Be)	2024/05/09	98	75 - 125	104	80 - 120	<0.20	ug/g		
9382881	Acid Extractable Boron (B)	2024/05/09	95	75 - 125	102	80 - 120	<5.0	ug/g		
9382881	Acid Extractable Cadmium (Cd)	2024/05/09	92	75 - 125	102	80 - 120	<0.10	ug/g		
9382881	Acid Extractable Chromium (Cr)	2024/05/09	92	75 - 125	100	80 - 120	<1.0	ug/g		
9382881	Acid Extractable Cobalt (Co)	2024/05/09	89	75 - 125	100	80 - 120	<0.10	ug/g		
9382881	Acid Extractable Copper (Cu)	2024/05/09	93	75 - 125	103	80 - 120	<0.50	ug/g		
9382881	Acid Extractable Lead (Pb)	2024/05/09	93	75 - 125	106	80 - 120	<1.0	ug/g		
9382881	Acid Extractable Mercury (Hg)	2024/05/09	100	75 - 125	113	80 - 120	<0.050	ug/g		
9382881	Acid Extractable Molybdenum (Mo)	2024/05/09	93	75 - 125	100	80 - 120	<0.50	ug/g		
9382881	Acid Extractable Nickel (Ni)	2024/05/09	91	75 - 125	103	80 - 120	<0.50	ug/g		
9382881	Acid Extractable Selenium (Se)	2024/05/09	92	75 - 125	104	80 - 120	<0.50	ug/g		
9382881	Acid Extractable Silver (Ag)	2024/05/09	90	75 - 125	100	80 - 120	<0.20	ug/g		
9382881	Acid Extractable Thallium (Tl)	2024/05/09	97	75 - 125	109	80 - 120	<0.050	ug/g		
9382881	Acid Extractable Uranium (U)	2024/05/09	95	75 - 125	105	80 - 120	<0.050	ug/g	10	30
9382881	Acid Extractable Vanadium (V)	2024/05/09	98	75 - 125	103	80 - 120	<5.0	ug/g		

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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
9382881	Acid Extractable Zinc (Zn)	2024/05/09	88	75 - 125	100	80 - 120	<5.0	ug/g		
9383644	Available (CaCl2) pH	2024/05/09			100	97 - 103			0.11	N/A
9383965	WAD Cyanide (Free)	2024/05/10	88	75 - 125	97	80 - 120	<0.01	ug/g	NC	35
9385070	a-Chlordane	2024/05/11	108	50 - 130	91	50 - 130	<0.0020	ug/g	NC	40
9385070	Aldrin	2024/05/11	98	50 - 130	84	50 - 130	<0.0020	ug/g	NC	40
9385070	Dieldrin	2024/05/11	115	50 - 130	105	50 - 130	<0.0020	ug/g	NC	40
9385070	Endosulfan I (alpha)	2024/05/11	116	50 - 130	104	50 - 130	<0.0020	ug/g	NC	40
9385070	Endosulfan II (beta)	2024/05/11	110	50 - 130	97	50 - 130	<0.0020	ug/g	NC	40
9385070	Endrin	2024/05/11	115	50 - 130	101	50 - 130	<0.0020	ug/g	NC	40
9385070	g-Chlordane	2024/05/11	106	50 - 130	90	50 - 130	<0.0020	ug/g	NC	40
9385070	Heptachlor epoxide	2024/05/11	104	50 - 130	91	50 - 130	<0.0020	ug/g	NC	40
9385070	Heptachlor	2024/05/11	93	50 - 130	83	50 - 130	<0.0020	ug/g	NC	40
9385070	Hexachlorobenzene	2024/05/11	90	50 - 130	81	50 - 130	<0.0020	ug/g	NC	40
9385070	Hexachlorobutadiene	2024/05/11	92	50 - 130	85	50 - 130	<0.0020	ug/g	NC	40
9385070	Hexachloroethane	2024/05/11	69	50 - 130	71	50 - 130	<0.0020	ug/g	NC	40
9385070	Lindane	2024/05/11	94	50 - 130	83	50 - 130	<0.0020	ug/g	NC	40
9385070	Methoxychlor	2024/05/11	128	50 - 130	126	50 - 130	<0.0050	ug/g	NC	40
9385070	o,p-DDD	2024/05/11	120	50 - 130	107	50 - 130	<0.0020	ug/g	NC	40
9385070	o,p-DDE	2024/05/11	116	50 - 130	97	50 - 130	<0.0020	ug/g	NC	40
9385070	o,p-DDT	2024/05/11	122	50 - 130	109	50 - 130	<0.0020	ug/g	NC	40
9385070	p,p-DDD	2024/05/11	126	50 - 130	111	50 - 130	<0.0020	ug/g	NC	40
9385070	p,p-DDE	2024/05/11	95	50 - 130	98	50 - 130	<0.0020	ug/g	NC	40
9385070	p,p-DDT	2024/05/11	129	50 - 130	123	50 - 130	<0.0020	ug/g	NC	40

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9385314	Chromium (VI)	2024/05/10	0 (1)	70 - 130	92	80 - 120	<0.18	ug/g	NC	35

N/A = Not Applicable

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

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

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

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

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

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

(1) The matrix spike recovery was below the lower control limit. This may be due in part to the reducing environment of the sample. The sample was reanalyzed with the same results.

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Bureau Veritas Job #: C4D5075
Report Date: 2024/05/15

Soil Engineers Ltd
Client Project #: 2009-E126
Site Location: TOWN OF CALEDON
Sampler Initials: AB

VALIDATION SIGNATURE PAGE

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

Anastassia Hamanov, Scientific Specialist

Cristina Carriere, Senior Scientific Specialist

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

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Your Project #: 2009-E126
Your C.O.C. #: N/A

Attention: Munir Ahmad

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Unit 100
Richmond Hill, ON
CANADA L4B 1E7

Report Date: 2024/06/18
Report #: R8196583
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4H8291
Received: 2024/06/11, 14:30

Sample Matrix: Soil
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum	2	N/A	2024/06/14	CAM SOP-00301	EPA 8270D m
Hot Water Extractable Boron	2	2024/06/15	2024/06/17	CAM SOP-00408	R153 Ana. Prot. 2011
1,3-Dichloropropene Sum	2	N/A	2024/06/17		EPA 8260C m
Conductivity	2	2024/06/17	2024/06/17	CAM SOP-00414	OMOE E3530 v1 m
Hexavalent Chromium in Soil by IC (1)	2	2024/06/15	2024/06/17	CAM SOP-00436	EPA 3060A/7199 m
Petroleum Hydrocarbons F2-F4 in Soil (2)	2	2024/06/13	2024/06/14	CAM SOP-00316	CCME CWS m
Acid Extractable Metals by ICPMS	3	2024/06/15	2024/06/15	CAM SOP-00447	EPA 6020B m
Moisture	2	N/A	2024/06/13	CAM SOP-00445	Carter 2nd ed 70.2 m
PAH Compounds in Soil by GC/MS (SIM)	2	2024/06/13	2024/06/14	CAM SOP-00318	EPA 8270E
Sodium Adsorption Ratio (SAR)	2	N/A	2024/06/17	CAM SOP-00102	EPA 6010C
Volatile Organic Compounds and F1 PHCs	2	N/A	2024/06/14	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, EPA, APHA or the Quebec Ministry of Environment.

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.

Your Project #: 2009-E126
Your C.O.C. #: N/A

Attention: Munir Ahmad

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

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

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

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

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

Encryption Key

AUTHORIZED REPORT
RAPPORT AUTORISÉ

Bureau Veritas
18 Jun 2024 14:11:23

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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This report has been generated and distributed using a secure automated process.
Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation 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		ZKZ620			
Sampling Date		2024/06/07			
COC Number		N/A			
	UNITS	DUP S3	RDL	MDL	QC Batch
Metals					
Acid Extractable Antimony (Sb)	ug/g	<0.20	0.20	0.10	9458231
Acid Extractable Arsenic (As)	ug/g	4.1	1.0	0.10	9458231
Acid Extractable Barium (Ba)	ug/g	97	0.50	0.30	9458231
Acid Extractable Beryllium (Be)	ug/g	0.99	0.20	0.020	9458231
Acid Extractable Boron (B)	ug/g	6.0	5.0	1.0	9458231
Acid Extractable Cadmium (Cd)	ug/g	<0.10	0.10	0.030	9458231
Acid Extractable Chromium (Cr)	ug/g	28	1.0	0.20	9458231
Acid Extractable Cobalt (Co)	ug/g	15	0.10	0.020	9458231
Acid Extractable Copper (Cu)	ug/g	22	0.50	0.20	9458231
Acid Extractable Lead (Pb)	ug/g	12	1.0	0.10	9458231
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	0.50	0.10	9458231
Acid Extractable Nickel (Ni)	ug/g	28	0.50	0.20	9458231
Acid Extractable Selenium (Se)	ug/g	<0.50	0.50	0.10	9458231
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	0.040	9458231
Acid Extractable Thallium (Tl)	ug/g	0.16	0.050	0.010	9458231
Acid Extractable Uranium (U)	ug/g	0.58	0.050	0.030	9458231
Acid Extractable Vanadium (V)	ug/g	38	5.0	0.50	9458231
Acid Extractable Zinc (Zn)	ug/g	68	5.0	0.50	9458231
Acid Extractable Mercury (Hg)	ug/g	<0.050	0.050	0.030	9458231

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID		ZKZ614	ZKZ619			
Sampling Date		2024/06/07	2024/06/07			
COC Number		N/A	N/A			
	UNITS	BH101/1	BH102/1	RDL	MDL	QC Batch
Calculated Parameters						
Sodium Adsorption Ratio	N/A	0.30	1.1			9450121
Inorganics						
Conductivity	mS/cm	0.31	0.29	0.002	0.0005	9459170
Chromium (VI)	ug/g	<0.18	<0.18	0.18	0.050	9457909
Metals						
Hot Water Ext. Boron (B)	ug/g	0.11	0.055	0.050	0.030	9457914
Acid Extractable Antimony (Sb)	ug/g	<0.20	<0.20	0.20	0.10	9458231
Acid Extractable Arsenic (As)	ug/g	4.0	3.9	1.0	0.10	9458231
Acid Extractable Barium (Ba)	ug/g	110	94	0.50	0.30	9458231
Acid Extractable Beryllium (Be)	ug/g	1.1	0.82	0.20	0.020	9458231
Acid Extractable Boron (B)	ug/g	6.4	10	5.0	1.0	9458231
Acid Extractable Cadmium (Cd)	ug/g	<0.10	<0.10	0.10	0.030	9458231
Acid Extractable Chromium (Cr)	ug/g	29	25	1.0	0.20	9458231
Acid Extractable Cobalt (Co)	ug/g	14	13	0.10	0.020	9458231
Acid Extractable Copper (Cu)	ug/g	25	23	0.50	0.20	9458231
Acid Extractable Lead (Pb)	ug/g	12	10	1.0	0.10	9458231
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	<0.50	0.50	0.10	9458231
Acid Extractable Nickel (Ni)	ug/g	31	30	0.50	0.20	9458231
Acid Extractable Selenium (Se)	ug/g	<0.50	<0.50	0.50	0.10	9458231
Acid Extractable Silver (Ag)	ug/g	<0.20	<0.20	0.20	0.040	9458231
Acid Extractable Thallium (Tl)	ug/g	0.17	0.18	0.050	0.010	9458231
Acid Extractable Uranium (U)	ug/g	0.62	0.67	0.050	0.030	9458231
Acid Extractable Vanadium (V)	ug/g	39	35	5.0	0.50	9458231
Acid Extractable Zinc (Zn)	ug/g	68	59	5.0	0.50	9458231
Acid Extractable Mercury (Hg)	ug/g	<0.050	<0.050	0.050	0.030	9458231

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O.REG 153 PAHS (SOIL)

Bureau Veritas ID		ZKZ614	ZKZ619			
Sampling Date		2024/06/07	2024/06/07			
COC Number		N/A	N/A			
	UNITS	BH101/1	BH102/1	RDL	MDL	QC Batch
Calculated Parameters						
Methylnaphthalene, 2-(1-)	ug/g	<0.0071	<0.0071	0.0071	N/A	9449413
Polyaromatic Hydrocarbons						
Acenaphthene	ug/g	<0.0050	<0.0050	0.0050	0.0020	9454188
Acenaphthylene	ug/g	<0.0050	<0.0050	0.0050	0.0010	9454188
Anthracene	ug/g	<0.0050	<0.0050	0.0050	0.0010	9454188
Benzo(a)anthracene	ug/g	<0.0050	<0.0050	0.0050	0.0020	9454188
Benzo(a)pyrene	ug/g	<0.0050	<0.0050	0.0050	0.0010	9454188
Benzo(b/j)fluoranthene	ug/g	<0.0050	<0.0050	0.0050	0.0020	9454188
Benzo(g,h,i)perylene	ug/g	<0.0050	<0.0050	0.0050	0.0040	9454188
Benzo(k)fluoranthene	ug/g	<0.0050	<0.0050	0.0050	0.0020	9454188
Chrysene	ug/g	<0.0050	<0.0050	0.0050	0.0020	9454188
Dibenzo(a,h)anthracene	ug/g	<0.0050	<0.0050	0.0050	0.0040	9454188
Fluoranthene	ug/g	<0.0050	<0.0050	0.0050	0.0010	9454188
Fluorene	ug/g	<0.0050	<0.0050	0.0050	0.0010	9454188
Indeno(1,2,3-cd)pyrene	ug/g	<0.0050	<0.0050	0.0050	0.0040	9454188
1-Methylnaphthalene	ug/g	<0.0050	<0.0050	0.0050	0.0010	9454188
2-Methylnaphthalene	ug/g	<0.0050	<0.0050	0.0050	0.0010	9454188
Naphthalene	ug/g	<0.0050	<0.0050	0.0050	0.0010	9454188
Phenanthrene	ug/g	<0.0050	<0.0050	0.0050	0.0010	9454188
Pyrene	ug/g	<0.0050	<0.0050	0.0050	0.0010	9454188
Surrogate Recovery (%)						
D10-Anthracene	%	97	96			9454188
D14-Terphenyl (FS)	%	92	86			9454188
D8-Acenaphthylene	%	85	83			9454188

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		ZKZ614	ZKZ619			
Sampling Date		2024/06/07	2024/06/07			
COC Number		N/A	N/A			
	UNITS	BH101/1	BH102/1	RDL	MDL	QC Batch
Calculated Parameters						
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	<0.050	0.050	0.010	9449414
Volatile Organics						
Acetone (2-Propanone)	ug/g	<0.49	<0.49	0.49	0.49	9455734
Benzene	ug/g	<0.0060	<0.0060	0.0060	0.0060	9455734
Bromodichloromethane	ug/g	<0.040	<0.040	0.040	0.040	9455734
Bromoform	ug/g	<0.040	<0.040	0.040	0.040	9455734
Bromomethane	ug/g	<0.040	<0.040	0.040	0.040	9455734
Carbon Tetrachloride	ug/g	<0.040	<0.040	0.040	0.040	9455734
Chlorobenzene	ug/g	<0.040	<0.040	0.040	0.040	9455734
Chloroform	ug/g	<0.040	<0.040	0.040	0.040	9455734
Dibromochloromethane	ug/g	<0.040	<0.040	0.040	0.040	9455734
1,2-Dichlorobenzene	ug/g	<0.040	<0.040	0.040	0.040	9455734
1,3-Dichlorobenzene	ug/g	<0.040	<0.040	0.040	0.040	9455734
1,4-Dichlorobenzene	ug/g	<0.040	<0.040	0.040	0.040	9455734
Dichlorodifluoromethane (FREON 12)	ug/g	<0.040	<0.040	0.040	0.040	9455734
1,1-Dichloroethane	ug/g	<0.040	<0.040	0.040	0.040	9455734
1,2-Dichloroethane	ug/g	<0.049	<0.049	0.049	0.049	9455734
1,1-Dichloroethylene	ug/g	<0.040	<0.040	0.040	0.040	9455734
cis-1,2-Dichloroethylene	ug/g	<0.040	<0.040	0.040	0.040	9455734
trans-1,2-Dichloroethylene	ug/g	<0.040	<0.040	0.040	0.040	9455734
1,2-Dichloropropane	ug/g	<0.040	<0.040	0.040	0.040	9455734
cis-1,3-Dichloropropene	ug/g	<0.030	<0.030	0.030	0.030	9455734
trans-1,3-Dichloropropene	ug/g	<0.040	<0.040	0.040	0.040	9455734
Ethylbenzene	ug/g	<0.010	<0.010	0.010	0.010	9455734
Ethylene Dibromide	ug/g	<0.040	<0.040	0.040	0.040	9455734
Hexane	ug/g	<0.040	<0.040	0.040	0.040	9455734
Methylene Chloride(Dichloromethane)	ug/g	<0.049	<0.049	0.049	0.049	9455734
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.40	<0.40	0.40	0.40	9455734
Methyl Isobutyl Ketone	ug/g	<0.40	<0.40	0.40	0.40	9455734
Methyl t-butyl ether (MTBE)	ug/g	<0.040	<0.040	0.040	0.040	9455734
Styrene	ug/g	<0.040	<0.040	0.040	0.040	9455734
1,1,1,2-Tetrachloroethane	ug/g	<0.040	<0.040	0.040	0.040	9455734
1,1,2,2-Tetrachloroethane	ug/g	<0.040	<0.040	0.040	0.040	9455734
Tetrachloroethylene	ug/g	<0.040	<0.040	0.040	0.040	9455734
Toluene	ug/g	<0.020	<0.020	0.020	0.020	9455734
1,1,1-Trichloroethane	ug/g	<0.040	<0.040	0.040	0.040	9455734

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		ZKZ614	ZKZ619			
Sampling Date		2024/06/07	2024/06/07			
COC Number		N/A	N/A			
	UNITS	BH101/1	BH102/1	RDL	MDL	QC Batch
1,1,2-Trichloroethane	ug/g	<0.040	<0.040	0.040	0.040	9455734
Trichloroethylene	ug/g	<0.010	<0.010	0.010	0.010	9455734
Trichlorofluoromethane (FREON 11)	ug/g	<0.040	<0.040	0.040	0.040	9455734
Vinyl Chloride	ug/g	<0.019	<0.019	0.019	0.019	9455734
p+m-Xylene	ug/g	<0.020	<0.020	0.020	0.020	9455734
o-Xylene	ug/g	<0.020	<0.020	0.020	0.020	9455734
Total Xylenes	ug/g	<0.020	<0.020	0.020	0.020	9455734
F1 (C6-C10)	ug/g	<10	<10	10	2.0	9455734
F1 (C6-C10) - BTEX	ug/g	<10	<10	10	2.0	9455734
F2-F4 Hydrocarbons						
F2 (C10-C16 Hydrocarbons)	ug/g	<10	<10	10	5.0	9453443
F3 (C16-C34 Hydrocarbons)	ug/g	<50	<50	50	5.0	9453443
F4 (C34-C50 Hydrocarbons)	ug/g	<50	<50	50	10	9453443
Reached Baseline at C50	ug/g	Yes	Yes			9453443
Surrogate Recovery (%)						
o-Terphenyl	%	100	101			9453443
4-Bromofluorobenzene	%	96	96			9455734
D10-o-Xylene	%	107	111			9455734
D4-1,2-Dichloroethane	%	107	107			9455734
D8-Toluene	%	93	92			9455734

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID		ZKZ614	ZKZ619	ZKZ619			
Sampling Date		2024/06/07	2024/06/07	2024/06/07			
COC Number		N/A	N/A	N/A			
	UNITS	BH101/1	BH102/1	BH102/1 Lab-Dup	RDL	MDL	QC Batch
Inorganics							
Moisture	%	15	14	15	1.0	0.50	9452824

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

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TEST SUMMARY

Bureau Veritas ID: ZKZ614
Sample ID: BH101/1
Matrix: Soil

Collected: 2024/06/07
Shipped:
Received: 2024/06/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	9449413	N/A	2024/06/14	Automated Statchk
Hot Water Extractable Boron	ICP	9457914	2024/06/15	2024/06/17	Aswathy Neduveli Suresh
1,3-Dichloropropene Sum	CALC	9449414	N/A	2024/06/17	Automated Statchk
Conductivity	AT	9459170	2024/06/17	2024/06/17	Gurparteek KAUR
Hexavalent Chromium in Soil by IC	IC/SPEC	9457909	2024/06/15	2024/06/17	Rupinder Sihota
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	9453443	2024/06/13	2024/06/14	Mohammed Abdul Nafay Shoeb
Acid Extractable Metals by ICPMS	ICP/MS	9458231	2024/06/15	2024/06/15	Jaswinder Kaur
Moisture	BAL	9452824	N/A	2024/06/13	Frances Gacayan
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	9454188	2024/06/13	2024/06/14	Mitesh Raj
Sodium Adsorption Ratio (SAR)	CALC/MET	9450121	N/A	2024/06/17	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	9455734	N/A	2024/06/14	Anna Gabrielyan

Bureau Veritas ID: ZKZ619
Sample ID: BH102/1
Matrix: Soil

Collected: 2024/06/07
Shipped:
Received: 2024/06/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	9449413	N/A	2024/06/14	Automated Statchk
Hot Water Extractable Boron	ICP	9457914	2024/06/15	2024/06/17	Aswathy Neduveli Suresh
1,3-Dichloropropene Sum	CALC	9449414	N/A	2024/06/17	Automated Statchk
Conductivity	AT	9459170	2024/06/17	2024/06/17	Gurparteek KAUR
Hexavalent Chromium in Soil by IC	IC/SPEC	9457909	2024/06/15	2024/06/17	Rupinder Sihota
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	9453443	2024/06/13	2024/06/14	Mohammed Abdul Nafay Shoeb
Acid Extractable Metals by ICPMS	ICP/MS	9458231	2024/06/15	2024/06/15	Jaswinder Kaur
Moisture	BAL	9452824	N/A	2024/06/13	Frances Gacayan
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	9454188	2024/06/13	2024/06/14	Mitesh Raj
Sodium Adsorption Ratio (SAR)	CALC/MET	9450121	N/A	2024/06/17	Automated Statchk
Volatile Organic Compounds and F1 PHCs	GC/MSFD	9455734	N/A	2024/06/14	Anna Gabrielyan

Bureau Veritas ID: ZKZ619 Dup
Sample ID: BH102/1
Matrix: Soil

Collected: 2024/06/07
Shipped:
Received: 2024/06/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	9452824	N/A	2024/06/13	Frances Gacayan

Bureau Veritas ID: ZKZ620
Sample ID: DUP S3
Matrix: Soil

Collected: 2024/06/07
Shipped:
Received: 2024/06/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractable Metals by ICPMS	ICP/MS	9458231	2024/06/15	2024/06/15	Jaswinder Kaur

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GENERAL COMMENTS

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

Package 1	5.7°C

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9453443	o-Terphenyl	2024/06/13	101	60 - 130	102	60 - 130	104	%		
9454188	D10-Anthracene	2024/06/13	102	50 - 130	107	50 - 130	109	%		
9454188	D14-Terphenyl (FS)	2024/06/13	111	50 - 130	107	50 - 130	102	%		
9454188	D8-Acenaphthylene	2024/06/13	95	50 - 130	95	50 - 130	89	%		
9455734	4-Bromofluorobenzene	2024/06/14	102	60 - 140	101	60 - 140	97	%		
9455734	D10-o-Xylene	2024/06/14	109	60 - 130	113	60 - 130	101	%		
9455734	D4-1,2-Dichloroethane	2024/06/14	102	60 - 140	101	60 - 140	102	%		
9455734	D8-Toluene	2024/06/14	104	60 - 140	105	60 - 140	93	%		
9452824	Moisture	2024/06/13							4.2	20
9453443	F2 (C10-C16 Hydrocarbons)	2024/06/13	112	60 - 130	108	80 - 120	<10	ug/g	NC	30
9453443	F3 (C16-C34 Hydrocarbons)	2024/06/13	113	60 - 130	109	80 - 120	<50	ug/g	NC	30
9453443	F4 (C34-C50 Hydrocarbons)	2024/06/13	108	60 - 130	103	80 - 120	<50	ug/g	NC	30
9454188	1-Methylnaphthalene	2024/06/13	105	50 - 130	104	50 - 130	<0.0050	ug/g	NC	40
9454188	2-Methylnaphthalene	2024/06/13	103	50 - 130	102	50 - 130	<0.0050	ug/g	NC	40
9454188	Acenaphthene	2024/06/13	104	50 - 130	102	50 - 130	<0.0050	ug/g	NC	40
9454188	Acenaphthylene	2024/06/13	100	50 - 130	99	50 - 130	<0.0050	ug/g	4.4	40
9454188	Anthracene	2024/06/13	108	50 - 130	110	50 - 130	<0.0050	ug/g	NC	40
9454188	Benzo(a)anthracene	2024/06/13	122	50 - 130	103	50 - 130	<0.0050	ug/g	30	40
9454188	Benzo(a)pyrene	2024/06/13	114	50 - 130	104	50 - 130	<0.0050	ug/g	28	40
9454188	Benzo(b/j)fluoranthene	2024/06/13	107	50 - 130	107	50 - 130	<0.0050	ug/g	24	40
9454188	Benzo(g,h,i)perylene	2024/06/13	105	50 - 130	104	50 - 130	<0.0050	ug/g	17	40
9454188	Benzo(k)fluoranthene	2024/06/13	109	50 - 130	108	50 - 130	<0.0050	ug/g	28	40
9454188	Chrysene	2024/06/13	116	50 - 130	104	50 - 130	<0.0050	ug/g	33	40
9454188	Dibenzo(a,h)anthracene	2024/06/13	106	50 - 130	93	50 - 130	<0.0050	ug/g	NC	40
9454188	Fluoranthene	2024/06/13	130 (1)	50 - 130	112	50 - 130	<0.0050	ug/g	25	40
9454188	Fluorene	2024/06/13	104	50 - 130	101	50 - 130	<0.0050	ug/g	NC	40
9454188	Indeno(1,2,3-cd)pyrene	2024/06/13	105	50 - 130	110	50 - 130	<0.0050	ug/g	25	40
9454188	Naphthalene	2024/06/13	93	50 - 130	95	50 - 130	<0.0050	ug/g	NC	40
9454188	Phenanthrene	2024/06/13	107	50 - 130	105	50 - 130	<0.0050	ug/g	NC	40
9454188	Pyrene	2024/06/13	125	50 - 130	111	50 - 130	<0.0050	ug/g	23	40
9455734	1,1,1,2-Tetrachloroethane	2024/06/14	99	60 - 140	99	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
9455734	1,1,1-Trichloroethane	2024/06/14	101	60 - 140	100	60 - 130	<0.040	ug/g	NC	50
9455734	1,1,2,2-Tetrachloroethane	2024/06/14	97	60 - 140	95	60 - 130	<0.040	ug/g	NC	50
9455734	1,1,2-Trichloroethane	2024/06/14	97	60 - 140	96	60 - 130	<0.040	ug/g	NC	50
9455734	1,1-Dichloroethane	2024/06/14	104	60 - 140	103	60 - 130	<0.040	ug/g	NC	50
9455734	1,1-Dichloroethylene	2024/06/14	103	60 - 140	103	60 - 130	<0.040	ug/g	NC	50
9455734	1,2-Dichlorobenzene	2024/06/14	94	60 - 140	96	60 - 130	<0.040	ug/g	NC	50
9455734	1,2-Dichloroethane	2024/06/14	98	60 - 140	98	60 - 130	<0.049	ug/g	NC	50
9455734	1,2-Dichloropropane	2024/06/14	98	60 - 140	98	60 - 130	<0.040	ug/g	NC	50
9455734	1,3-Dichlorobenzene	2024/06/14	97	60 - 140	99	60 - 130	<0.040	ug/g	NC	50
9455734	1,4-Dichlorobenzene	2024/06/14	95	60 - 140	98	60 - 130	<0.040	ug/g	NC	50
9455734	Acetone (2-Propanone)	2024/06/14	95	60 - 140	97	60 - 140	<0.49	ug/g	NC	50
9455734	Benzene	2024/06/14	97	60 - 140	97	60 - 130	<0.0060	ug/g	NC	50
9455734	Bromodichloromethane	2024/06/14	100	60 - 140	98	60 - 130	<0.040	ug/g	NC	50
9455734	Bromoform	2024/06/14	92	60 - 140	91	60 - 130	<0.040	ug/g	NC	50
9455734	Bromomethane	2024/06/14	93	60 - 140	94	60 - 140	<0.040	ug/g	NC	50
9455734	Carbon Tetrachloride	2024/06/14	103	60 - 140	102	60 - 130	<0.040	ug/g	NC	50
9455734	Chlorobenzene	2024/06/14	95	60 - 140	96	60 - 130	<0.040	ug/g	NC	50
9455734	Chloroform	2024/06/14	101	60 - 140	99	60 - 130	<0.040	ug/g	NC	50
9455734	cis-1,2-Dichloroethylene	2024/06/14	101	60 - 140	101	60 - 130	<0.040	ug/g	NC	50
9455734	cis-1,3-Dichloropropene	2024/06/14	101	60 - 140	105	60 - 130	<0.030	ug/g	NC	50
9455734	Dibromochloromethane	2024/06/14	96	60 - 140	96	60 - 130	<0.040	ug/g	NC	50
9455734	Dichlorodifluoromethane (FREON 12)	2024/06/14	93	60 - 140	92	60 - 140	<0.040	ug/g	NC	50
9455734	Ethylbenzene	2024/06/14	94	60 - 140	96	60 - 130	<0.010	ug/g	NC	50
9455734	Ethylene Dibromide	2024/06/14	96	60 - 140	97	60 - 130	<0.040	ug/g	NC	50
9455734	F1 (C6-C10) - BTEX	2024/06/14					<10	ug/g	NC	30
9455734	F1 (C6-C10)	2024/06/14	91	60 - 140	90	80 - 120	<10	ug/g	NC	30
9455734	Hexane	2024/06/14	108	60 - 140	109	60 - 130	<0.040	ug/g	NC	50
9455734	Methyl Ethyl Ketone (2-Butanone)	2024/06/14	101	60 - 140	102	60 - 140	<0.40	ug/g	NC	50
9455734	Methyl Isobutyl Ketone	2024/06/14	100	60 - 140	100	60 - 130	<0.40	ug/g	NC	50
9455734	Methyl t-butyl ether (MTBE)	2024/06/14	93	60 - 140	95	60 - 130	<0.040	ug/g	NC	50
9455734	Methylene Chloride(Dichloromethane)	2024/06/14	99	60 - 140	98	60 - 130	<0.049	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
9455734	o-Xylene	2024/06/14	95	60 - 140	96	60 - 130	<0.020	ug/g	NC	50
9455734	p+m-Xylene	2024/06/14	94	60 - 140	96	60 - 130	<0.020	ug/g	NC	50
9455734	Styrene	2024/06/14	77	60 - 140	78	60 - 130	<0.040	ug/g	NC	50
9455734	Tetrachloroethylene	2024/06/14	102	60 - 140	101	60 - 130	<0.040	ug/g	NC	50
9455734	Toluene	2024/06/14	97	60 - 140	98	60 - 130	<0.020	ug/g	NC	50
9455734	Total Xylenes	2024/06/14					<0.020	ug/g	NC	50
9455734	trans-1,2-Dichloroethylene	2024/06/14	102	60 - 140	101	60 - 130	<0.040	ug/g	NC	50
9455734	trans-1,3-Dichloropropene	2024/06/14	105	60 - 140	112	60 - 130	<0.040	ug/g	NC	50
9455734	Trichloroethylene	2024/06/14	100	60 - 140	99	60 - 130	<0.010	ug/g	NC	50
9455734	Trichlorofluoromethane (FREON 11)	2024/06/14	108	60 - 140	106	60 - 130	<0.040	ug/g	NC	50
9455734	Vinyl Chloride	2024/06/14	105	60 - 140	104	60 - 130	<0.019	ug/g	NC	50
9457909	Chromium (VI)	2024/06/17	87	70 - 130	90	80 - 120	<0.18	ug/g	NC	35
9457914	Hot Water Ext. Boron (B)	2024/06/17	101	75 - 125	95	75 - 125	<0.050	ug/g	1.6	40
9458231	Acid Extractable Antimony (Sb)	2024/06/15	103	75 - 125	101	80 - 120	<0.20	ug/g	NC	30
9458231	Acid Extractable Arsenic (As)	2024/06/15	107	75 - 125	99	80 - 120	<1.0	ug/g	NC	30
9458231	Acid Extractable Barium (Ba)	2024/06/15	NC	75 - 125	96	80 - 120	<0.50	ug/g	4.3	30
9458231	Acid Extractable Beryllium (Be)	2024/06/15	104	75 - 125	95	80 - 120	<0.20	ug/g	4.1	30
9458231	Acid Extractable Boron (B)	2024/06/15	99	75 - 125	92	80 - 120	<5.0	ug/g	NC	30
9458231	Acid Extractable Cadmium (Cd)	2024/06/15	104	75 - 125	97	80 - 120	<0.10	ug/g	NC	30
9458231	Acid Extractable Chromium (Cr)	2024/06/15	106	75 - 125	95	80 - 120	<1.0	ug/g	1.9	30
9458231	Acid Extractable Cobalt (Co)	2024/06/15	105	75 - 125	96	80 - 120	<0.10	ug/g	1.3	30
9458231	Acid Extractable Copper (Cu)	2024/06/15	103	75 - 125	97	80 - 120	<0.50	ug/g	2.1	30
9458231	Acid Extractable Lead (Pb)	2024/06/15	105	75 - 125	97	80 - 120	<1.0	ug/g	5.2	30
9458231	Acid Extractable Mercury (Hg)	2024/06/15	109	75 - 125	103	80 - 120	<0.050	ug/g	NC	30
9458231	Acid Extractable Molybdenum (Mo)	2024/06/15	100	75 - 125	94	80 - 120	<0.50	ug/g	NC	30
9458231	Acid Extractable Nickel (Ni)	2024/06/15	110	75 - 125	100	80 - 120	<0.50	ug/g	0.15	30
9458231	Acid Extractable Selenium (Se)	2024/06/15	109	75 - 125	101	80 - 120	<0.50	ug/g	NC	30
9458231	Acid Extractable Silver (Ag)	2024/06/15	103	75 - 125	96	80 - 120	<0.20	ug/g	NC	30
9458231	Acid Extractable Thallium (Tl)	2024/06/15	104	75 - 125	98	80 - 120	<0.050	ug/g	NC	30
9458231	Acid Extractable Uranium (U)	2024/06/15	108	75 - 125	101	80 - 120	<0.050	ug/g	0.42	30
9458231	Acid Extractable Vanadium (V)	2024/06/15	109	75 - 125	97	80 - 120	<5.0	ug/g	4.2	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
9458231	Acid Extractable Zinc (Zn)	2024/06/15	110	75 - 125	101	80 - 120	<5.0	ug/g	1.7	30
9459170	Conductivity	2024/06/17			104	90 - 110	<0.002	mS/cm	5.4	10

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 #: C4H8291
Report Date: 2024/06/18

Soil Engineers Ltd
Client Project #: 2009-E126
Sampler Initials: AP

VALIDATION SIGNATURE PAGE

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

Cristina Carriere

Cristina Carriere, Senior Scientific Specialist

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

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