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TOWN OF CALEDON
PLANNING
RECEIVED
December 19, 2024

A REPORT TO

HUMBERKING (IV) DEVELOPMENTS LIMITED

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

**PROPOSED MIXED USE RESIDENTIAL AND
COMMERCIAL DEVELOPMENT**

PART OF LOTS 11 AND 12 CONCESSION 5

HUMBER STATION ROAD

TOWN OF CALEDON

Reference No. 2108-E090

November 8, 2024

DISTRIBUTION

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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 Humberking (IV) Developments Limited to carry out a Phase Two Environmental Site Assessment (Phase Two ESA), as defined by Ontario Regulation (O. Reg.) 153/04, as amended under Environmental Protection Act (EPA). The Phase Two ESA was conducted for a property located adjacent to the east of Humber Station Road and approximately 450 m to the northwest of King Street, in the Town of Caledon. The property is a part of Lots 11 and 12 in Concession 5 (hereinafter referred to as the 'subject site').

The purpose of the Phase Two ESA was to assess the soil and groundwater quality at the subject site, as related to the Areas of Potential Environmental Concerns (APECs) identified in the SEL Phase One Environmental Site Assessment (Phase One ESA) for the subject site.

The Phase Two ESA field work was conducted at selected locations on the subject site. Soil and groundwater samples were collected and submitted for chemical analyses for contaminants of concern. The analytical results were compared with the Ministry of the Environment, Conservation and Parks (MECP) Table 1, Full Depth Background Site Condition Standards for Residential/ Parkland/ Institutional/ Industrial/ Commercial/ Community property use (Table 1 Standards), as published in the "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" (EPA), dated April 15, 2011.

A review of the analytical test results of soil and groundwater samples indicated that the tested parameters at the test locations met the Table 1 Standards. Consequently, there are no contaminants identified at the subject site at a concentration above the applicable site condition standards (Table 1 Standards) during the Phase Two ESA.

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



2.0 INTRODUCTION

Soil Engineers Ltd. (SEL) was retained by Humberking (IV) Developments Limited 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 under Environmental Protection Act (EPA). The Phase Two ESA was conducted for a property located adjacent to the east of Humber Station Road and approximately 450 m to the northwest of King Street, in the Town of Caledon. The property is a part of Lots 11 and 12 in Concession 5 (hereinafter referred to as the 'subject site').

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

2.1 Site Description

The subject site, fairly rectangular in shape and approximately of 4.04 hectares (ha) (10.00 acres (ac)) in area, is located adjacent to the east of Humber Station Road and approximately 450 m to the northwest of King Street, Caledon. The subject site is comprised for one (1) Property Identification Number (PIN): 14329-0055 (LT). The legal description of the subject site from the parcel register is: "PT LT 11 CON 5 Albion; PT LT 12 CON 5 Albion as in VS24724; Caledon".

At the time of this assessment, the subject site has been used for agricultural purpose. The neighbouring properties consist of agricultural properties to the north, south and east, and agricultural and residential properties to the west and southwest. The subject site is adjacent to a roadway (Humber Station Road) to the southwest.

2.2



Property Ownership

This Phase Two ESA was commissioned to address any potential environmental concerns associated with proposed mixed-use development. Our client can be contacted at:

Humberking (IV) Developments Limited.
3 Browning Court,
Bolton, ON
L7E 5S6

Attention: Mr. Goffredo Vitullo

2.3 **Current and Proposed Future Uses**

The subject site is comprised of farm field. A mixed use residential and commercial development is being proposed for the subject site. It is anticipated that the new development will be provided with municipal services meeting urban standards.

2.4 **Applicable Site Condition Standards**

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

- The subject site is considered to be sensitive based on the definition set forth in Ontario Regulation 153/04 as amended, as the subject site is within/adjacent/part of an area of natural significance (provincial wetland). The analytical testing indicated the pH of the tested surface soil sample is between 5 and 9 and subsurface soil sample is between 5 and 11.
- The property is not a shallow soil property, as the bedrock was not encountered within 2.0 metres (m) below ground surface (mbgs) during the investigation.
- Waterbodies are located within 30 m from the subject site boundaries.



- Based on the information obtained from the Phase One ESA, there are records of water well at the subject site and neighbouring properties within 250 m from the subject site boundaries.
- Full Depth Background Site Condition Standards are to be used in this assessment.
- The intended property use of the subject site is mixed used with residential.
- No grain size analysis was performed on the soil samples retrieved at the subject site.

Based on the above information, the Ministry of the Environment, Conservation and Parks (MECP) Table 1, Full Depth Background Site Condition Standards for Residential/ Parkland/ Institutional/ Industrial/ Commercial/ Community property use (Table 1 Standards) as published in the “Soil, Groundwater, Sediment Standards for use under Part XV.1 of the Environmental Protection act” (EPA), April 15, 2011 has been selected for evaluating the environmental conditions at the subject site.



3.0 **BACKGROUND**

3.1 **Physical Setting**

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

The subject site is located within rural areas of the Town of Caledon. The neighbouring properties consist of agricultural properties to the north, south and east, and agricultural and residential properties to the west and southwest. Roadway (i.e. Humber Station Road) is adjacent to the southwest and railway line is adjacent to the northeast of the subject site.

According to the Surface Geology Map of the Phase One Study Area, the subject site is underlain by Hilton Till Material with predominantly silt to silty clay matrix, high in matrix carbonate content and clast poor. The Bedrock Geology Map shows that the southwest portion of the subject site is underlain by bedrock of Queenston Formation with rock description documented as shale, limestone, dolostone, siltstone. The northeast portion of the subject site is underlain by Georgian Bay Formation, Blue Mountain Formation, Billings Formation, Collingwood Member, Eastview Member with rock description documented as shale, limestone, dolostone, siltstone. According to the Bedrock Topography Series, depth to bedrock in general vicinity of the subject site is approximately 56 metres below ground surface (mbgs).

The overall grade of the subject site descends towards southeasterly direction. A watershed map obtained from the Land Information Ontario (LIO) shows that the subject site is located within the Humber River- Don River Watershed.

Based on the review of the Ontario Ministry of the Natural Resources and Forestry (OMNRF) and the LIO for listings of various classes of natural areas within the vicinity of the subject site, waterbodies are located within 30 m from the subject site to the northwest and northeast, a provincial wetland is located within 30 m from the subject site to the northeast/east. The



subject site is not located in a Well-head Protection Area.

3.2 **Past Investigations**

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

- Phase One Environmental Site Assessment (Phase One ESA), Proposed Mixed Use Residential and Commercial Development, Part of Lots 11 and 12, Concession 5, Humber Station Road and Kind Street, Town of Caledon, SEL Reference No. 2108-E090, dated December 12, 2022.

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

APEC 1: Potential soil impact due to possible use of pesticide as a part of agricultural activities at the subject site.

APEC 2: Potential soil and groundwater impact due to historical presence of fuel oil tank listed for a property located to the west of the subject site.

APEC 3: Potential soil and groundwater impact due to presence of railway tracks located adjacent to northeast of the subject site.

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



4.0

SCOPE OF THE INVESTIGATION**4.1 Overview of Site Investigation**

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

The scope of work for this investigation includes:

- Locate the underground and overhead utilities.
- Advance five (5) boreholes (designated as BH1 to BH5) to a maximum depth of 7.6 meters below grade surface (mbgs) and carryout six (6) hand dug test pits (designated as TP1 to TP6) to a depth of 0.3 mbgs.
- Collect representative soil samples from the sampling locations.
- Undertake field examination of the retrieved soil samples for visual and olfactory evidence of potential contamination.
- Undertake soil vapour measurements for the retrieved soil samples using a combustible gas detector (RKI Eagle) in methane elimination mode.
- Install four (4) monitoring wells at boreholes BH1 to BH4 locations (designated at BH/MW1 to BH/MW4) for groundwater sampling, testing and monitoring.
- Carry out an analytical testing program on selected soil and groundwater samples including quality assurance and quality control (QA/QC) samples for one or more of the following parameters: Organochlorine Pesticides (OCs), Petroleum Hydrocarbons (PHCs), Volatile Organic Compound (VOCs), Benzene, Toluene, Ethylbenzene, Xylenes (BTEX), Polycyclic Aromatic Hydrocarbons (PAHs), Metals, Arsenic (As), Antimony (Sb), Selenium (Se), Mercury (Hg), Chromium Hexavalent (Cr (VI)), Cyanides (CN⁻) and pH



parameters.

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

Boreholes were advanced using a direct push (Geoprobe) drill rig equipped with shelby tube and split spoon sampler and the hand-dug test pits using a steel spade and soil samples were retrieved continuously. Soil samples were logged in the field and headspace vapour screening was conducted for all retrieved soil samples using a combustible gas detector (RKI Eagle) in methane elimination mode, calibrated with hexane and having a minimum detection level of 2 parts per million by volume (ppmv).

Groundwater monitoring wells were installed at four (4) borehole locations (designated as BH/MW1 to BH/MW4). The monitoring wells were constructed using 50 millimeter (mm) diameter flush-joint threaded PVC monitoring well supplies. The wells were completed with 3.0 m in length water intake screens. Groundwater sampling was conducted using dedicated low-density polyethylene tubing and laboratory-supplied containers (prepared with preservative for the analyses that are being conducted).

4.3 **Phase One Conceptual Site Model**

A plan, illustrating the features of the subject site and surrounding areas within 250 m from



the subject site boundaries including the locations of PCAs, is presented in Drawing No. 1 and APECs are presented on Drawing No. 2.

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 (SOPs).

The investigation of the Phase Two ESA consisted of advancing five (5) boreholes and carrying out six (6) hand-dug test pits, installation of four (4) monitoring wells at the selected borehole locations, field measurements, monitoring, and collection of soil samples from the boreholes and test pit, and groundwater samples from installed monitoring wells for chemical analyses. The soil and groundwater samples were assessed for potential contamination with respect to the APECs identified by the SEL Phase One ESA.

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

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

5.2 **Drilling and Excavating**

Prior to the field work, the underground and overhead utilities were located and marked out by the representatives of the major utility companies as per Ontario One Call Program and a private locator (All Clear Locates Inc.).

The field work for the Phase Two ESA was conducted during July 2 and 3, 2024 for



boreholes up to maximum depths of 7.6 mbgs. Borehole drilling and installation of monitoring wells were completed by SL Sonic Soil Limited, MECP approved licensed well contractors for groundwater observation, sampling and testing at the subject site. Six (6) hand dug test pit samples were also collected on July 2, 2024. The locations of the boreholes and test pits are shown in Drawing No. 2.

All boreholes were advanced with Geoprobe direct push (Thin-walled Open (TO)) method equipped with shelly tube for soil sampling, supplied by drilling contractor. Soil samples retrieved from boreholes were recovered continuously for soil vapour measurement, soil classification and visual and olfactory observations for potential contamination.

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

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

5.3 **Soil: Sampling**

Soil samples from the boreholes were retrieved at regular intervals, using shelly tube and the hand-dug test pits using a steel spade. 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 sampling media and stored in a cooler with ice, and the remainder of the sample sealed in a double sealable bag for vapour measurement and soil classification. A small amount of the soil sample was retrieved by a disposable 'T' shaped



Terracore sampler and the soil samples from the Terracore sampler were stored in methanol vials for PHC Fraction F1 and VOCs analyses.

The subsoil conditions at the borehole locations indicated that beneath the layer of topsoil, silty clay, silty sand, sand and sandy silty at various depths and locations. Bedrock was not encountered during the Phase Two ESA investigation. Detailed descriptions of the encountered subsurface conditions are presented on the Borehole Logs provided in Appendix 'B'.

Generally the representative 'worst case' soil samples from each borehole to determine the maximum concentrations were selected and sent to the laboratory for chemical analyses, based on the soil vapour measurements and visual and olfactory observations. However, in absence of any evidence of elevated vapor or contamination/unusual observation, the soil samples were selected according to the contaminant of concerns (COCs) behavior (i.e. near the potential source for metals and PAHs, at the zone of water bearing for PHCs, and below the water table for VOCs).

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 combustible gases with the exception of methane (methane elimination mode), and having a minimum detection level of 2 ppmv. Prior to taking the measurements, the instrument was calibrated to hexane standards for both ppm and lower explosive limit (LEL) according to the instruction manual for the instrument. Our field personnel are 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 attached in Appendix 'B'.

It is to be noted that that the soil vapour measurements alongside with the visual and olfactory



observations and contaminant of concerns (COCs) behavior were used to select the representative 'worst case' soil samples from each sampling location for chemical analyses.

5.5 **Groundwater: Monitoring Well Installation**

During the Phase Two ESA, a total of four (4) monitoring wells were installed at the subject site by SL Sonic Soil Limited, an MECP approved licensed well contractor. The monitoring wells were constructed using 50 mm diameter PVC screen, 3.0 m in length screens in the boreholes. A PVC riser, capped at the top, was installed from the screen section above the top grade. A sand pack, consisting of clean silica sand, was placed around the screened zone with a bentonite seal placed above the sand pack. At each monitoring well location, the above ground risers were protected by steel monument casings covering that have been sealed into the ground with concrete. The monitoring well construction details are provided on the Borehole Logs in Appendix 'B' and in Table I.

The monitoring wells installed at the subject site were instrumented with dedicated low-density polyethylene tubing to facilitate well development, purging and sampling requirements.

Well development was performed following the advancement of wells on July 3 and 17, 2024. The monitoring wells were developed to remove any fluids that may have been introduced into the wells during drilling and to remove particles that may have become entrained in the wells and filter pack. Purging of three (3) well casing volumes of groundwater from each well was used for each well development. Purged water was collected and stored at the subject site for future disposal.

5.6 **Groundwater: Field Measurement of Water Quality Parameters**

Groundwater monitoring was conducted at the subject site on July 17, 2024. Water level measurements were taken using a water level meter (Dipper-T) equipped with a thermometer. Groundwater observations were recorded for colour, clarity, the presence or absence of any



free product/surface sheen and any odours present during the development the wells and monitoring events. The water level measuring device was 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.

The records of water level measurements recorded on July 17, 2024 are presented in Table II.

5.7 **Groundwater: Sampling**

Groundwater sampling was conducted on July 5 and 18, 2024, after purging and allows water at the wells to stabilize. The groundwater purging and sampling activities were carried out using dedicated low-density polyethylene tubing. Groundwater samples were collected into laboratory-supplied containers, prepared with preservative for the analysis being conducted.

The samples scheduled for analysis of metals were passed through a 0.45 micron filter as part of the groundwater sampling process.

5.8 **Sediment: Sampling**

Sediment was not assessed as part of this investigation.

5.9 **Analytical Testing**

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



5.10 **Residue Management Procedures**

There was no significant volume of excess soil generated from the field investigation. Groundwater purged from the monitoring wells was stored in containers, using a separate container for each well. The containers were 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 using hand-held (Trimble Geoexplorer 7000 series) Global Navigation Satellite System (GNSS) measurement equipment. The equipment is capable of having vertical and horizontal accuracy of $0.1 \pm$ m.

The elevations at the borehole and monitoring well locations are presented in Table II and the borehole/monitoring well logs in Appendix 'B'.

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

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

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

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

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



accordance with O. Reg. 511/09 and O. Reg. 269/11.

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

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

- The collection of at least one field duplicate sample per 10 samples for every sampling media.
- 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.
- The use of dedicated equipment (Bailers, Waterra tubing, etc.) for groundwater sampling at different monitors and the thorough cleaning of soil sampling equipment between sample sites.
- 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 inclusion of one trip blank for water samples per site (where three or more samples are collected) for VOC parameters; the bottles containing the trip blank are prepared by the laboratory; QA/QC samples are kept in the cooler on ice for the duration of the sampling event, and returned to the laboratory for analyses.

The results of the field duplicate and trip blank 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 conditions at the borehole locations indicated that beneath the layer of topsoil, silty clay, silty sand, sand and sandy silty at various depths and locations. No bedrock was encountered during the Phase Two ESA. The locations of cross sections for soil stratigraphy at the subject site are presented on Drawing No. 3. Geological Cross Sections, A-A', B-B' and C-C' are presented on Drawing No. 4.

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

Topsoil

Topsoil, approximately 0.30 m to 0.4 m thickness, was encountered at all borehole locations.

Silty Clay

Silty clay deposits were encountered at borehole BH1, BH2, BH3 and BH5 locations underneath topsoil and extended to the depth of 0.8 mbgs, 7.6 mbgs, 7.6 mbgs and 3.0 mbgs respectively. Silty clay deposits were encountered at borehole BH1 and BH4 locations between 3.0 to 4.6 mbgs and 4.9 to 7.6 mbgs, respectively.

Sandy Silt

Sandy silt deposit was encountered at borehole BH1 location between the depth of 2.3 to 3.0 mbgs.

**Sand**

Deposit of sand was encountered at borehole BH1 location between the depth of 0.8 to 2.3 mbgs.

Silty Sand

Deposit of silty sand was encountered at borehole BH4 location underneath topsoil to the depth of 4.9 mbgs.

Hydrogeology

Upon completion of drilling, groundwater was observed at borehole BH1 location. The hydrogeologic unit at the subject site was investigated for the Phase Two ESA.

6.2 Groundwater: Elevations and Flow Direction

Four (4) monitoring wells (designated as BH/MW1 to BH/MW4) were installed at borehole locations BH1 to BH4 during the field investigation for the Phase Two ESA during July 2 and 3, 2024. The monitoring wells were installed at depths ranging from 4.3 to 7.6 mbgs.

On July 17, 2024, during the groundwater monitoring event, water levels were recorded at depths of 1.1 mbgs, 5.5 mbgs, 5.5 mbgs and 5.45 mbgs in the monitoring wells BH/MW1 to BH/MW4, respectively. The corresponding water level elevations were recorded 259.75, 258.11, 257.06 and 261.95 meters above sea level (masl) in BH/MW1 to BH/MW4, respectively.

The ground elevations of the borehole locations were surveyed using hand-held (Trimble Geoplotter 7000 series) Global Navigation Satellite System measurement equipment. The equipment is capable of having vertical and horizontal accuracy of $0.1 \pm$ m. Water level measurements were taken using a water level meter (Dipper-T). The top of the well casings



were used as a reference point to determine the groundwater elevation in the monitoring wells. The groundwater level measurements were considered as static elevations based on the monitoring well survey data. Shallow aquifer groundwater levels were used to determine the groundwater flow direction. Based on the groundwater monitoring records, the groundwater flow direction appears to be to the northeasterly direction. No free product or surface sheen was observed in any of the monitoring wells during the monitoring events.

The groundwater elevations measured in the monitoring wells are summarized in Table II. The shallow aquifer groundwater contours and interpreted ground water flow direction are shown on Drawing No. 5.

6.3 **Groundwater: Hydraulic Gradients**

Based on the groundwater records of the investigation, the horizontal hydraulic gradient for the investigated aquifer at the subject site is between 0.0087 and 0.0271 m/m (average 0.0168 m/m).

6.4 **Fine-Medium Soil Texture**

No grain size analysis was conducted 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.

Soil vapour readings ranging from non-detect to 0 ppm were recorded for the soil samples collected at the subject site.



6.6 Soil Quality

A representative “worst case” soil sample from each sampling location was 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 OCs, PHCs, BTEX, VOCs, PAHs, Metals, As, Sb, Se, Hg, Cr (VI), CN⁻ and pH parameters.

The soil test results were reviewed using the MECP Table 1, Full Depth Background Site Condition Standards for Residential/ Parkland/ Institutional/ Industrial/ Commercial/ Community property use (Table 1 Standards), as published in the “Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act” (EPA), dated April 15, 2011.

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

A copy of the Certificate of Analysis for the soil samples is presented in Appendix ‘C’. The findings of the soil test results are summarized below.

Metals, As, Sb, Se, Hg, Cr(VI), B-HWS, CN⁻, EC, SAR, pH

Twelve (12) original soil samples and two (2) field duplicate samples were submitted for analyses of Metals, As, Sb, Se, Hg, Cr(VI), CN⁻ and/or pH parameters. The test results indicate that the tested parameters in the soil samples at the tested locations met the Table 1 Standards.

Organochlorine Pesticides (OCs)

Seven (7) original soil samples and one (1) field duplicate sample were submitted for analyses of OCs. The test results indicated that the tested parameters in the soil samples at tested



locations met the Table 1 Standards.

Volatile Organic Compounds (VOCs)

Three (3) original soil samples were submitted for analyses of VOCs. The test results indicated that the tested parameters in the soils at the tested locations met the Table 1 Standards.

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

Four (4) original soil samples were submitted for analyses of PHCs and/or BTEX. The test results indicated that the tested parameters in the soils at the tested locations met the Table 1 Standards.

Polycyclic Aromatic Hydrocarbons (PAHs)

Three (3) original soil samples and one (1) field duplicate sample were submitted for analyses of PAHs. The test results indicate that the tested parameters in the soils at tested locations met the Table 1 Standards.

6.7 Groundwater Quality

Groundwater samples were collected from four (4) monitoring wells at the subject site. The groundwater samples were submitted to the laboratory for chemical analyses of PHCs, VOCs, PAHs, Metals, As, Sb, Se, Cr(VI) and Hg parameters.

The groundwater test results were reviewed using Table 1, Full Depth Background Site Condition Standards for all types of Property Use (Table 1 Standards), as published the “Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act” (EPA), April 15, 2011.



Groundwater quality data containing results of the chemical analyses for the tested groundwater samples is presented in Table IV. Maximum concentrations of the tested parameters in groundwater are presented in Table VI.

The Certificates of Analyses for the groundwater samples are presented in Appendix 'D'.

The findings of the groundwater test results are summarized below:

Metals, As, Sb, Se, Hg, Cr(VI)

Four (4) sets of original groundwater samples were submitted for analyses of Metals, As, Sb, Se, Cr(VI), Hg parameters. All the test results indicate the tested groundwater samples at tested locations met the Table 1 Standards, except in Copper (11 µg/L Vs standard value 5 µg/L) in MW4 and Uranium (9.9 µg/L Vs standard value 8.9 µg/L) in MW2 sample.

To confirm the concentration of Copper (11 µg/L Vs standard value 5 µg/L) in MW4 and Uranium (9.9 µg/L Vs standard value 8.9 µg/L) in MW2 sample, additional samples were submitted twice from both the monitoring wells. The confirmatory samples met site condition standards (Table 1 Standards).

Volatile Organic Compounds (VOCs)

Four (4) sets of original groundwater samples, one (1) field duplicate sample and two (2) trip blank were submitted for analyses of VOCs. The test results indicate the tested groundwater samples at tested locations met the Table 1 Standards.

Petroleum Hydrocarbons (PHCs)

Four (4) set of original groundwater sample and one (1) field duplicate sample were submitted for analyses of PHCs. The test results indicate the tested groundwater samples at tested locations met the Table 1 Standards.



Polycyclic Aromatic Hydrocarbons (PAHs)

Three (3) sets of original groundwater samples were submitted for analyses of PAHs. The test results indicate the tested groundwater samples at tested locations met the Table 1 Standards.

6.8 Sediment Quality

Sediment was not assessed as part of this investigation.

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

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

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

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

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

As part of the QA/QC program for the Phase Two ESA, QC samples in the form of field duplicate samples and trip blank sample were analysed. Field duplicate samples were collected in the field for Metals, OCs and PAHs for soil, and VOCs and PHCs for groundwater. Two (2) trip blank for VOCs was shipped with the batches of the groundwater



samples submitted for analysis. Details of QC samples are presented in the table below.

Field Duplicate

A total of four (4) sets of field duplicate soil samples and two (2) set of field duplicates for groundwater sample were collected and submitted for chemical analyses. Details of the duplicate sampling and analysis are presented in the table below:

Duplicate Sample ID	Original Sample ID	Media	Test Conducted
DUPS1	TP1	Soil	OCs
DUPS2	TP2	Soil	Metals
DUPS3	BH3/6	Soil	PAHs
DUPS4	TP4	Soil	Metals
DUPW1	MW4	Groundwater	VOCs, PHCs

The results of the analyses of the field duplicate samples are similar to the results for the original sample and relative percent differences (RPDs) for the detectable tested parameters are within the acceptable range. RPDs could not be calculated between the original and duplicate samples in the situation where the average of the original and/or duplicate samples were below the reported laboratory detection limits (RDLs).

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

Trip Blank

Two (2) trip blank sample set was submitted to the laboratory for analysis of VOCs. The trip blank sample was found to be below the reported laboratory detection limits.

There was no issue with the trip blank that was shipped with the batches of the groundwater samples submitted for analysis.

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



6.9.2 Sample Handling in Accordance with the Analytical Protocol

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

6.9.3 Certification of Results

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

- All Certificates of Analysis or Analytical Reports were received pursuant to Section 47(2) of O. Reg. 153/04, as amended, comply with Section 47(3) of O. Reg. 153/04, as amended.
- A Certificate of Analysis or Analytical Report was received for each sample submitted for analysis.
- Copies of all Certificates of Analysis are included in 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 laboratory duplicate samples are similar to the results for the original samples and relative percent differences for the detectable tested parameters are within the acceptable range.

6.9.5 **Data Quality Objectives**

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

6.10 **Phase Two Conceptual Site Model**

The Phase Two Conceptual Site Model was prepared based on the findings of the Phase One Environmental Site Assessment (Phase One ESA) and this Phase Two Environmental site Assessment (Phase Two ESA) for the RSC Property located adjacent to the east of Humber Station Road and approximately 450 m to the northwest of King Street, in the Town of Caledon. The legal description of the property is part of Lots 11 and 12 Concession 5 (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. 2108-E090, dated December 12, 2022) and this Phase Two Environmental Site for the subject site.

6.10.1 **Description and Assessment**

The subject site, fairly rectangular in shape and approximately of 4.04 hectares (ha) (10.00 acres (ac)) in area, is located adjacent to the east of Humber Station Road and approximately 450 m to the northwest of King Street, Caledon. The subject site is comprised for one (1) Property Identification Number (PIN): 14329-0055 (LT). The legal description of the subject



site from the parcel register is: “PT LT 11 CON 5 Albion; PT LT 12 CON 5 Albion as in VS24724; Caledon.”

6.10.1.1 Areas where Potentially Contaminating Activity Has Occurred

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

The locations of PCAs along with the corresponding list in Table 2 Schedule D of O. Reg. 153/04 are summarized below:

On-Site PCA

- Possible use of pesticides as a part of agricultural activities at majority of the subject site. #40 – Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications.

Off-site PCAs

- Presence of one fuel oil UST listed for a property located at 14196 Humber Station Road, across Humber Station Road. #28 – Gasoline and Associated Products Storage in Fixed Tanks
- Presence of railway tracks located adjacent northeast of the subject site. #46 – Rail Yards, Tracks and Spurs

Off-site PCA that is not listed in Table 2 Schedule D of O. Reg. 153/04 includes:

- Presence of Freight Transport Companies (i.e., Georbon and Cavalier Transportation Services Inc.) associated with waste generator including waste oil and photo processing waste (at 14091 Humber Station Road) located approximately 170 m southeast of the subject site. #Other – Waste Generator –



Freight Business

The on-site PCAs and off-site PCAs (i.e. fuel oil tank, railway tracks) are considered to have contributed to the Areas of Potential Environmental Concerns (APECs) at the subject site. However, taking account of relative distance of the off-site PCA (i.e. waste generator), is not considered to have contributed to the Areas of Potential Environmental Concerns (APECs) at the subject site.

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 were identified at the subject site.

APEC 1: Potential soil impact due to possible use of pesticide as a part of agricultural activities at the subject site.

APEC 2: Potential soil and groundwater impact due to historical presence of fuel oil tank listed for a property located to the west of the subject site.

APEC 3: Potential soil and groundwater impact due to presence of railway tracks located adjacent to northeast of the subject site.

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

6.10.1.3 Subsurface Structures and Utilities

At the time of the assessment, the subject site is comprised of farm fields. Since no contaminants were identified at the subject site 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

According to the Surface Geology Map of the Phase One Study Area, the subject site is underlain by Hilton Till Material with predominantly silt to silty clay matrix, high in matrix carbonate content and clast poor. The Bedrock Geology Map shows that the southwest portion of the subject site is underlain by bedrock of Queenston Formation with rock description documented as shale, limestone, dolostone, siltstone. The northeast portion of the subject site is underlain by Georgian Bay Formation, Blue Mountain Formation, Billings Formation, Collingwood Member, Eastview Member with rock description documented as shale, limestone, dolostone, siltstone.

The field investigation for the Phase Two ESA consisted of advancing five (5) boreholes (designated as BH1 to BH5) to depths ranging from 3.0 to 7.6 mbgs and carrying out six (6) hand dug test pits (designated as TP1 to TP6) to maximum depth of 0.3 mbgs. The subsoil conditions at the borehole locations indicated that beneath the layer of topsoil, silty clay, silty sand, sand and sandy silty at various depths and locations. No bedrock was encountered during the Phase Two ESA.

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

6.10.2.2 Hydrogeological Characteristics

The subject site is located in a larger hydrogeological region known as the Southern Ontario Lowlands. A Watershed Map provided by the Land Information Ontario (LIO), shows the subject site is located within the Humber River - Don River Watershed.

A total of four (4) monitoring wells were installed at the subject site during the field



investigation for the Phase Two ESA. The monitoring wells BH/MW1 to BH/MW4 were installed at the depths of 4.3, 7.6, 7.3 and 7.6 mbgs, respectively. Based on the groundwater records of Phase Two ESA monitoring wells, the groundwater flow direction appears to be to the northeasterly direction at the subject site. The shallow aquifer groundwater contours and interpreted groundwater flow direction are shown on Drawing No. 5.

Based on the groundwater records of the investigation, the horizontal hydraulic gradient for the investigated aquifer at the subject site is between 0.0087 and 0.0271 m/m (average 0.0168 m/m).

6.10.2.3 Approximate Depth to Bedrock

No bedrock was encountered at the subject site during the Phase Two ESA.

6.10.2.4 Approximate Depth to Water Table

Based on the groundwater records encountered during the site investigation, depths to the water level in the monitoring wells at the subject site ranged from 1.1 to 5.5 mbgs on July 17, 2024.

6.10.2.5 Section 35 and Section 41 or 43.1 of the Regulation

There are records of water wells at neighbouring properties within Phase One Study Area. Therefore, Section 35 of the Regulation (Non-Potable Site Condition Standards) does not apply to the subject site.

The subject site is within/adjacent/part of an area of natural significance (provincial wetland). The analytical testing indicated the pH of the tested surface soil sample is between 5 and 9 and subsurface soil sample is between 5 and 11. Section 41 of the regulation (Site Condition Standards, Environmental Sensitive Areas) applies 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. Waterbodies are located within 30 m from the subject site boundaries. Therefore, Section 43.1 of the O. Reg. 153/04 (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 Excess Soil Is Finally Placed

The findings of Phase One ESA and field investigation of Phase Two ESA did not indicate presence of fill materials at the subject site. No soil material was brought to the subject site as part of the Phase Two ESA.

6.10.2.7 Proposed Building and Other Structures

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

6.10.3 **Contamination In or Under the Phase Two Property**

Based on the findings of the Phase One ESA, contaminants of potential concern (COPCs) in soil and groundwater with respect to the identified Areas of Potential Environmental Concern (APECs) at the subject site were assessed during the Phase Two ESA. The samples were selected from the locations and depths, where potentially the maximum concentration is expected, and to be representative of the full extents of the APECs at the subject site.

Based on the information obtained from the Phase One ESA, the Ministry of the Environment, Conservation and Parks (MECP) Table 1, Full Depth Background Site Condition Standards for Residential/ Parkland/ Institutional/ Industrial/ Commercial/ Community property use (Table 1 Standards) as published the “Soil, Ground Water and Sediment Standards for Use



Under Part XV.1 of the Environmental Protection Act” (EPA), April 15, 2011, was selected for evaluating the environmental condition at the subject site.

6.10.3.1 Area Where Contaminants are Present

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

APEC 1: Soil samples were submitted for chemical analyses of OCs, Metals, As, Se, Sb, Hg, Cr (VI), CN⁻ and pH parameters. Surface soil samples to the depth of 0.3 mbgs were submitted from seven (7) locations for chemical analysis.

APEC 2: Soil and groundwater samples were submitted for chemical analyses of PHCs, BTEX and Metal parameters. The soil samples were submitted from the depth of 4.9 to 5.5 mbgs. Monitoring well screen was placed between the depth of 4.6 to 7.6 mbgs.

APEC 3: Soil and groundwater samples were submitted for chemical analyses of PHCs, VOCs, PAHs, Metals, Cr(VI) and Hg parameters. The soil samples were submitted from the depths of 0.8 – 1.5 mbgs, 1.5 – 2.3 mbgs, 4.6 - 5.3 mbgs, 3.8 – 4.6 mbgs from various locations. Monitoring well screens were installed at the depths of 1.3 – 4.3 mbgs, 4.6 – 7.6 mbgs and 4.3 – 7.3 mbgs at three locations.

A review of the analytical test results of soil and groundwater samples indicated that the tested samples for the tested parameters met the Table 1 Standards.

Consequently, there are no contaminants identified at the test locations at a concentration above the applicable site condition standards (Table 1 Standards) during the Phase Two ESA.



6.10.3.2 Distribution of Contaminants

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

6.10.3.3 Contaminant Medium

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

6.10.3.4 Reasons for Discharge

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

6.10.3.5 Migration of Contaminants

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

6.10.4 Potential Exposure Pathways and Receptors

Since no contaminants were identified at the subject site at a concentration above the applicable site condition standards (Table 1 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 assess the soil and groundwater quality at the subject site, as related to the following Areas of Potential Environmental Concern (APECs) identified in the Phase One ESA:

APEC 1: Potential soil impact due to possible use of pesticide as a part of agricultural activities at the subject site.

APEC 2: Potential soil and groundwater impact due to historical presence of fuel oil tank listed for a property located to the west of the subject site.

APEC 3: Potential soil and groundwater impact due to presence of railway tracks located adjacent to northeast 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 this Phase Two ESA consisted of advancing five (5) boreholes (designated as BH1 to BH5) to a maximum depth of 7.6 meters below ground surface (mbgs) and carryout six (6) hand-dug test pits (designated as TP1 to TP6) to a depth of 0.3 mbgs.
- The subsoil conditions at the borehole locations indicated that beneath the layer of topsoil, silty clay, silty sand, sand and sandy silty at various depths and locations. No bedrock was encountered during the Phase Two ESA investigation.
- The soil and groundwater samples retrieved from the boreholes, test pits and monitoring wells were examined for visual and olfactory evidence of potential contamination. No evidence of potential contamination was documented in any of the retrieved soil and groundwater samples.
- Headspace vapour screening was conducted for all retrieved soil samples using a combustible gas detector (RKI Eagle) in methane elimination mode, calibrated with hexane and having a minimum detection level of 2 parts per



million by volume (ppmv). Headspace vapour readings ranging from non-detect to 0 ppmv were recorded in the soil samples retrieved from the sampling locations.

- Based on the soil vapour measurements and visual and/or olfactory observations, representative “worst case” soil samples were selected from each sampling location for chemical analyses of Organochlorine Pesticides (OCs), Petroleum Hydrocarbons (PHCs), Volatile Organic Compound (VOCs), Benzene, Toluene, Ethylbenzene, Xylenes (BTEX), Polycyclic Aromatic Hydrocarbons (PAHs), Metals, Arsenic (As), Antimony (Sb), Selenium (Se), Mercury (Hg), Chromium Hexavalent (Cr (VI)), Cyanides (CN-) and pH parameters.
- Installed four (4) monitoring wells at borehole BH1 to BH4 locations (designated as BH/MW1 to BH/MW4) for groundwater flow direction, sampling and monitoring.
- No visible sheen or odours were recorded in the groundwater at any of the monitoring wells installed at the subject site. Groundwater samples (including QA/QC samples) were collected from four (4) monitoring wells and were submitted for analysis of one or more of Petroleum Hydrocarbons (PHCs), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs), Metals, Cr(VI), Hg parameters.
- As part of the Quality Assurance / Quality Control (QA/QC) program for the investigation, QC samples in the form of field duplicate samples and trip blank sample were analyzed. Field duplicate samples were collected in the field for Metals, OCs an PAHs in soil, and VOCs and PHCs in groundwater. Two (2) trip blank for VOCs was shipped with the batches of the groundwater samples submitted for analysis.
- The analytical test results were reviewed using the Table 1, Full Depth Background Site Condition Standards for Residential/ Parkland/ Institutional/ Industrial/ Commercial/ Community property use for coarse grain soil (Table 1 Standards), as published the “Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act” (EPA), April 15,



2011.

- The results of the analysis of the duplicate samples were acceptable and no material effect on interpretation of the soil and groundwater data.
- The result of the trip blank sample indicates that the sample was below the reported laboratory detection limit.
- The overall QA/QC results are considered reliable.
- A review of the analytical test results of soil and groundwater samples indicated that the tested parameters at the test locations met the Table 1 Standards. Consequently, there are no contaminants identified at the subject site at a concentration above the applicable site condition standards (Table 1 Standards) during the Phase Two ESA.

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

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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. 2108-E090

Table I – Monitoring Well Installation

Monitoring Well I.D.	Bottom of Monitoring Well (mbgs)	Screen Length (m)	Screen Interval (m)	Filter Pack (m)	Bentonite Plug (m)	Concrete (m)
BH/MW1	4.3	3.0	1.3 - 4.3	0.8 - 4.3	0.3 - 0.8	0.0 - 0.3
BH/MW2	7.6	3.0	4.6 - 7.6	4 - 7.6	0.3 - 4	0.0 - 0.3
BH/MW3	7.3	3.0	4.3 - 7.3	3.7 - 7.3	0.3 - 3.7	0.0 - 0.3
BH/MW4	7.6	3.0	4.6 - 7.6	4 - 7.6	0.3 - 4	0.0 - 0.3

Note: mbgs – meters below ground surface

Monitoring Well I.D.	Ground Elevation (masl)	Measured Groundwater Level			Field Observations		
		Depth (mbgs)	Elevation (m)	July 17, 2024	Odour	Colour	Sheen or Free Product
BH/MW1	260.8	1.10	259.75	None	Cloudy	None	
BH/MW2	263.6	5.50	258.11	None	Cloudy	None	
BH/MW3	262.6	5.50	257.06	None	Cloudy	None	
BH/MW4	267.4	5.45	261.95	None	Cloudy	None	

SOIL CHEMICAL ANALYSIS - Inorganics Parameters

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Sample ID	Sample Date		RDLC*	TP1		TP2		DUPS2		TP3		TP4		TP5		TP6		BH1/3		BH2/7		BH3/6		BH4/8		BH5/1A		BH5/3		Ontario Regulation 153/04 Table 1 Standard**
	Laboratory ID	Bore Hole/TP No.		ZPY881	ZPY882	ZPY885	ZQH138	ZQH139	ZQH141	ZPY883	ZQH140	ZPY888	ZPY889	ZQH144	ZQH142	ZPY886	ZQH144	ZQH142	ZQH144	ZQH142	ZQH142	ZQH144	ZQH144	ZQH142	ZQH144	ZQH142	ZQH142	ZQH142	ZQH142	
Antimony			0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	1.3
Arsenic			1	3.7	3.1	3.2	3.4	3.2	3.4	3.2	3.4	3.2	3.4	3.5	2.6	3.4	3.4	3.4	1.3	2.6	2.6	2.6	2.5	4.4	3.8	3.8	3.8	3.8	3.8	18
Barium			0.5	82	72	71	80	81	80	81	80	81	80	85	58	78	78	78	25	68	68	68	54	83	87	87	87	87	87	220
Beryllium			0.2	0.79	0.63	0.69	0.63	0.58	0.63	0.58	0.63	0.58	0.63	0.59	0.57	0.66	0.66	0.66	0.24	0.48	0.48	0.48	0.48	0.51	0.72	0.72	0.72	0.72	0.72	2.5
Cadmium			0.1	0.14	0.17	0.16	0.21	0.16	0.21	0.16	0.21	0.16	0.21	0.21	0.22	0.13	0.13	0.13	<0.10	<0.10	<0.10	<0.10	<0.10	0.1	0.32	0.32	0.32	0.32	0.32	1.2
Chromium VI			0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	0.66
Cobalt			0.1	11	9.1	9.2	9.1	9	9.1	9	9.1	9	9.8	7	7	11	11	11	3.7	8.2	8.2	8.2	8.9	9.9	8.7	8.7	8.7	8.7	8.7	21
Copper			0.5	21	18	19	18	18	18	18	18	18	19	14	14	20	20	20	9.5	19	19	19	20	22	20	20	20	20	20	92
Lead			1	14	13	13	17	16	17	16	17	16	17	17	12	13	13	13	3.6	7.5	7.5	7.5	7.1	9.2	46	46	46	46	46	120
Mercury			0.05	<0.050	<0.050	0.057	0.071	0.062	0.071	0.062	0.071	0.062	0.076	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.069	0.069	0.069	0.069	0.069	0.27
Molybdenum			0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	2
Nickel			0.5	23	19	19	18	18	18	18	18	18	20	15	15	22	22	22	8.6	19	19	19	20	23	20	20	20	20	20	82
Selenium			0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.9	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<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	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.5
Thallium			0.05	0.16	0.14	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.14	0.11	0.11	0.14	0.14	0.14	0.056	0.096	0.096	0.096	0.1	0.09	0.15	0.15	0.15	0.15	0.15	1
Vanadium			5	37	32	32	33	33	33	33	33	33	36	28	28	35	35	35	20	25	25	25	25	26	34	34	34	34	34	86
Zinc			5	63	58	59	68	67	68	68	68	74	74	49	49	60	60	60	19	42	42	42	46	56	85	85	85	85	85	290
pH (pH Units)				7.39	-	-	-	-	-	-	-	-	-	6.96	6.96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.73
Cyanide, Free			0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.051
Boron (Total)			5	6.8	5.8	6.2	6.8	6.6	6.8	6.6	6.6	6.6	7	5.1	5.1	5.7	5.7	<5.0	7.4	7.4	7.4	7.3	7.5	5.4	5.4	5.4	5.4	5.4	5.4	36
Uranium			0.05	0.66	0.76	0.74	0.59	0.58	0.59	0.58	0.58	0.58	0.72	0.9	0.9	0.61	0.61	0.61	0.4	0.66	0.66	0.66	0.7	0.49	0.95	0.95	0.95	0.95	0.95	2.5

* Analytical by Bureau Veritas; all results in ppm (µg/g) unless otherwise stated

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

** Standards shown are for Full Depth Background Site Condition Standards for Residential/Parkland/Institutional/Commercial/Community property use for coarse grain soil



Sample ID Sample Date Laboratory ID Bore Hole No. Depth (mbgs)	RDL*	BH1/2		BH2/7		BH3/6		Ontario Regulation 153/04 Table 1 Standard**
		02-July-2024		02-July-2024		02-July-2024		
		ZPY887	BH1	ZPY889	BH2	ZPY886	BH3	
Acetone	0.49	<0.49	<0.49	<0.49	<0.49	<0.49	<0.49	0.5
Benzene	0.006	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	0.02
Bromodichloromethane	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.05
Bromoform	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.05
Bromomethane	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.05
Carbon Tetrachloride	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.05
Chlorobenzene	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.05
Chloroform	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.05
Dibromochloromethane	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.05
1,2-Dichlorobenzene	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.05
1,3-Dichlorobenzene	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.05
1,4-Dichlorobenzene	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.05
1,1-Dichloroethane	0.049	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049	0.05
1,1-Dichloroethylene	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.05
Cis-1,2-Dichloroethylene	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.05
Trans-1,2-Dichloroethylene	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.05
1,2-Dichloropropane	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.05
Cis-1,3-Dichloropropylene	0.03	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	-
Trans-1,3-Dichloropropylene	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	-
Ethylbenzene	0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.05
Ethylene Dibromide	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.05
Ethyl Ethyl Ketone	0.4	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.5
Methylene Chloride	0.049	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049	0.05
Methyl Isobutyl Ketone	0.4	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.5
Methyl-t-Butyl Ether	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.05
Styrene	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.05
1,1,1,2-Tetrachloroethane	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.05
1,1,2,2-Tetrachloroethane	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.05
Toluene	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.2
Tetrachloroethylene	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.05
1,1,1-Trichloroethane	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.05
1,1,2-Trichloroethane	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.05
Trichloroethylene	0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.05
Vinyl Chloride	0.019	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019	0.02
m-Xylene & p-Xylene	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	-
o-Xylene	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	-
Total Xylenes	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.05
Dichlorodifluoromethane	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.05
Hexameth(n)	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.05
Trichlorofluoromethane	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.05
1,3-Dichloropropene (cis + trans)	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.25

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

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SOIL CHEMICAL ANALYSIS - Petroleum Hydrocarbons (PHCs) Parameters

Sample ID	Sample Date	RDL*				BH4/8 03-July-2024 ZQH144	Ontario Regulation 153/04 Table 1 Standard**
		BH1/2 02-July-2024 ZPY887 BH1 0.8 - 1.5	BH2/7 02-July-2024 ZPY889 BH2 4.6 - 5.3	BH3/6 02-July-2024 ZPY886 BH3 3.8 - 4.6	BH4 BH4 4.9 - 5.5		
Benzene		0.02	-	-	<0.020	0.02	
Toluene		0.02	-	-	<0.020	0.2	
Ethylbenzene		0.02	-	-	<0.020	0.05	
m/p xylenes		0.04	-	-	<0.040	-	
o xylene		0.02	-	-	<0.020	-	
Total Xylenes		0.04	-	-	<0.040	0.05	
F1 (C6-C10)		10	<10	<10	<10	25	
F1 (C6-C10) - BTEX		10	<10	<10	<10	25	
F2 (C10-C16)		10	<10	<10	<10	10	
F3 (C16-C34)		50	<50	<50	82	240	
F4 (C34-C50)		50	<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 Full Depth Background Site Condition Standards for Residential/Parkland/Institutional/Commercial/Community property use for coarse grain soil



Soil Engineers Ltd. IL CHEMICAL ANALYSIS - Polycyclic Aromatic Hydrocarbons (PAHs) Parameters

Table III

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Sample ID	BH1/3	BH2/7	BH3/6	DUPS3	Ontario Regulation 153/04 Table 1 Standard**
Sample Date	02-July-2024	02-July-2024	02-July-2024	02-July-2024	
Laboratory ID	ZPY888	ZPY889	ZPY886	ZPY890	
Bore Hole No.	BH1	BH2	BH3	BH3	
Depth (mbgs)	1.5 - 2.3	4.6 - 5.3	3.8 - 4.6	3.8 - 4.6	
	RDL*				
Acenaphthene	0.005	<0.0050	<0.0050	<0.0050	0.072
Acenaphthylene	0.005	<0.0050	<0.0050	<0.0050	0.093
Anthracene	0.005	<0.0050	<0.0050	<0.0050	0.16
Benzo(a)anthracene	0.005	<0.0050	<0.0050	<0.0050	0.36
Benzo(a)pyrene	0.005	<0.0050	<0.0050	<0.0050	0.3
Benzo(b,j)fluoranthene	0.005	<0.0050	<0.0050	<0.0050	0.47
Benzo(ghi)perylene	0.005	<0.0050	<0.0050	<0.0050	0.68
Benzo(k)fluoranthene	0.005	<0.0050	<0.0050	<0.0050	0.48
Chrysene	0.005	<0.0050	<0.0050	<0.0050	2.8
Dibenzo(a,h)anthracene	0.005	<0.0050	<0.0050	<0.0050	0.1
Fluoranthene	0.005	<0.0050	<0.0050	<0.0050	0.56
Fluorene	0.005	<0.0050	<0.0050	<0.0050	0.12
Indeno(1,2,3-cd)pyrene	0.005	<0.0050	<0.0050	<0.0050	0.23
1-Methylnaphthalene	0.005	<0.0050	<0.0050	<0.0050	0.59
2-Methylnaphthalene	0.005	<0.0050	<0.0050	<0.0050	0.59
Naphthalene	0.005	<0.0050	<0.0050	<0.0050	0.09
Phenanthrene	0.005	<0.0050	<0.0050	<0.0050	0.69
Pyrene	0.005	<0.0050	<0.0050	<0.0050	1
Methylnaphthalene, 2-(1-)	0.0071	<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 Full Depth Background Site Condition Standards for Residential/Parkland/Institutional/Industrial/Commercial/Community



SOIL CHEMICAL ANALYSIS - Organochlorine Pesticides (OCs) Parameters

Sample ID	TP1	DUPSI	TP2	TP3	TP4	TP5	TP6	BH5/1A	Ontario Regulation 153/04 Table 1 Standard**
Sample Date	02-July-2024	02-July-2024	02-July-2024	03-July-2024	03-July-2024	02-July-2024	03-July-2024	03-July-2024	
Laboratory ID	ZPY881	ZPY884	ZPY882	ZQH138	ZQH139	ZPY883	ZQH140	ZQH142	
Bore Hole No.	TP1	TP1	TP2	TP3	TP4	TP5	TP6	BH5	
Depth (mbgs)	0.0 - 0.3	0.0 - 0.3	0.0 - 0.3	0.0 - 0.3	0.0 - 0.3	0.0 - 0.3	0.0 - 0.3	0.0 - 0.3	0.0 - 0.3
RDL*	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.05
Aldrin	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.05
Chlordane (alpha)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-
Chlordane (gamma)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-
Chlordane (total)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.05
o,p DDD	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-
p,p-DDD	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-
DDD (total)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.05
o,p DDE	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-
p,p-DDE	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-
DDE (total)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.05
op-DDT	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-
pp-DDT	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-
DDT (total)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	1.4
Dieldrin	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.05
Endosulphan I	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-
Endosulphan II	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-
Total Endosulphan	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.04
Endrin	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.04
Heptachlor	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.05
Heptachlor Epoxide	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.05
Lindane	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.01
Methoxychlor	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.05
Hexachlorobenzene	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.01
Hexachlorobutadiene	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.01
Hexachloroethane	<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

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GROUND WATER CHEMICAL ANALYSIS - Metals and Inorganic Parameters

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Sample ID	Sample Date	Laboratory ID	Bore Hole No.	Screen Depth (mbgs)	RDL*	MW1		MW2		MW2		MW2		MW3		MW4		MW4		Ontario Regulation 153/04 Table 1 Standards**
						05-July-2024	18-July-2024	18-July-2024	02-October-2024	18-July-2024	18-July-2024	18-July-2024	22-August-2024	22-August-2024	26-Sep-24					
		ZQW502	BH1	1.6 - 4.6																
Antimony					0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.5
Arsenic					1	<1.0	<1.0	1	<1.0	1.7	<1.0	<1.0	<1.0	1.7	<1.0	<1.0	1.7	<1.0	1.7	13
Barium					2	28	120	100	51	120	300	300	360	330	<0.40	<0.40	330	<0.40	330	610
Beryllium					0.4	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.5
Boron					10	13	62	59	42	110	150	150	120	140	<0.090	<0.090	140	<0.090	140	1700
Cadmium					0.09	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	0.5
Chromium					5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	11
Chromium VI					0.5	-	<0.50	-	-	<0.50	-	-	-	-	<0.50	-	-	-	-	25
Cobalt					0.5	<0.50	0.55	1.7	1.3	<0.50	<0.50	<0.50	0.96	1	<0.50	<0.50	0.96	<0.50	1	3.8
Copper					0.9	2.4	2.1	1.2	1.8	2.2	11	11	<0.90	1.5	2.2	<0.90	<0.90	<0.90	1.5	5
Lead					0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.9
Mercury					0.1	-	<0.10	-	-	<0.10	-	-	-	-	<0.10	-	-	-	-	0.1
Molybdenum					0.5	<0.50	4.9	2.8	1.9	3.1	9.2	9.2	6.3	6	3.1	9.2	6.3	6	6	23
Nickel					1	<1.0	2.5	3.3	1.6	<1.0	1.1	1.1	1.1	<1.0	<1.0	1.1	1.1	<1.0	<1.0	14
Selenium					2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	5
Silver					0.09	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	0.3
Thallium					0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.5
Vanadium					0.5	<0.50	0.72	0.54	<0.50	0.63	0.51	0.51	<0.50	<0.50	0.63	0.51	<0.50	<0.50	<0.50	3.9
Zinc					5	<5.0	5.2	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	160
Uranium					0.1	0.49	9.9	7.5	6.2	1.3	3.3	3.3	2.5	2.2	1.3	3.3	2.5	2.2	2.2	8.9

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

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

** Standards shown are for Full Depth Background Site Condition Standards for all types of property use for coarse grained soil



Sample ID	Sample Date	Laboratory ID	Bore Hole No.	Screen Depth (mbgs)	RDL*	MW1		MW2		MW3		MW4		DUPW1		TRIP BLANK		TRIP BLANK2		Ontario Regulation 153/04 Table 1 Standards**
						05-July-2024	18-July-2024	18-July-2024	18-July-2024	18-July-2024	18-July-2024	18-July-2024	18-July-2024	05-July-2024	18-July-2024	18-July-2024	18-July-2024	05-July-2024	18-July-2024	
Acetone					10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	-	-	<10	2700
Benzene					0.2	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.20	<0.20	<0.20	0.5
Bromodichloromethane					0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	2
Bromoform					1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5
Bromomethane					0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.89
Carbon Tetrachloride					0.19	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.19	<0.19	<0.19	0.2
Chlorobenzene					0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.5
Chloroform					0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	2
Dibromochloromethane					0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	2
1,2-Dichlorobenzene					0.4	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40	<0.40	<0.40	0.5
1,3-Dichlorobenzene					0.4	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40	<0.40	<0.40	0.5
1,4-Dichlorobenzene					0.4	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40	<0.40	<0.40	0.5
1,1-Dichloroethane					0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.5
1,2-Dichloroethane					0.49	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.49	<0.49	<0.49	<0.49	0.5
1,1-Dichloroethylene					0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.5
Cis-1,2-Dichloroethylene					0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.6
Trans-1,2-Dichloroethylene					0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.6
1,2-Dichloropropane					0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.5
Cis-1,3-Dichloropropylene					0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	-
Trans-1,3-Dichloropropylene					0.4	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	-
Ethylbenzene					0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.5
Ethylene Dibromide					0.19	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.19	<0.19	<0.19	<0.19	0.2
Methyl Ethyl Ketone					10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	400
Methylene Chloride					2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	5
Methyl Isobutyl Ketone					5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	640
Methyl-t-Butyl Ether					0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	15
Styrene					0.4	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40	<0.40	<0.40	0.5
1,1,1,2-Tetrachloroethane					0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.1
1,1,2,2-Tetrachloroethane					0.4	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40	<0.40	<0.40	0.5
Toluene					0.2	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.8
Tetrachloroethylene					0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.5
1,1,1-Trichloroethane					0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.5
1,1,2-Trichloroethane					0.4	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40	<0.40	<0.40	0.5
Trichloroethylene					0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.5
Vinyl Chloride					0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.5
m-Xylene & p-Xylene					0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	-
o-Xylene					0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	-
Total Xylenes					0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	72
Dichlorodifluoromethane					1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	590
Hexane(n)					1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5
Trichlorofluoromethane					0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	150
1,3-Dichloropropene (cis + trans)					0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.5

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

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

** Standards shown are for Full Depth Background Site Condition Standards for all types of property use for coarse grained soil



GROUND WATER CHEMICAL ANALYSIS - BTEX and Petroleum Hydrocarbon (PHCs) Parameters

Project No.2108-E090

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Sample ID	MW1	MW2	MW3	MW4	DUPWI	Ontario Regulation 153/04 Table 1 Standards**
Sample Date	05-July-2024	18-July-2024	18-July-2024	18-July-2024	18-July-2024	
Laboratory ID	ZQW502	ZUG527	ZUG528	ZUG529	ZUG530	
Bore Hole No.	BH1	BH2	BH3	BH4	BH4	
Screen Depth (mbgs)	1.6 - 4.6	4.6 - 7.6	4.6 - 7.6	4.6 - 7.6	4.6 - 7.6	
Benzene	-	-	-	-	-	0.5
Toluene	-	-	-	-	-	0.8
Ethylbenzene	-	-	-	-	-	0.5
m/p xylenes	-	-	-	-	-	-
o xylene	-	-	-	-	-	-
Total Xylenes	-	-	-	-	-	72
F1 (C6-C10)	<25	<25	<25	<25	<25	420
F1 (C6-C10) - BTEX	<25	<25	<25	<25	<25	420
F2 (C10-C16)	<100	<100	<100	<100	<100	150
F3 (C16-C34)	<200	<200	<200	<200	<200	500
F4 (C34-C50)	<200	<200	<200	<200	<200	500
Reached Baseline at C50	YES	YES	YES	YES	YES	-
F4 Gravimetric	-	-	-	-	-	500

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

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

** Standards shown are for Full Depth Background Site Condition Standards for all types of property use for coarse grained soil



GROUND WATER CHEMICAL ANALYSIS - Polycyclic Aromatic Hydrocarbons (PAHs) Parameters

Project No.2108-E090

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Sample ID	MW1	MW2	MW3	Ontario Regulation 153/04 Table 1 Standards**
Sample Date	05-July-2024	18-July-2024	18-July-2024	
Laboratory ID	ZQW502	ZUG527	ZUG528	
Bore Hole No.	BH1	BH2	BH3	
Screen Depth (mbgs)	1.6 - 4.6	4.6 - 7.6	4.6 - 7.6	
Acenaphthene	<0.050	<0.050	<0.050	4.1
Acenaphthylene	<0.050	<0.050	<0.050	1
Anthracene	<0.050	<0.050	<0.050	0.1
Benzo(a)anthracene	<0.050	<0.050	<0.050	0.2
Benzo(a)pyrene	<0.0090	<0.0090	<0.0090	0.01
Benzo(b/f)fluoranthene	<0.050	<0.050	<0.050	0.1
Benzo(ghi)perylene	<0.050	<0.050	<0.050	0.2
Benzo(k)fluoranthene	<0.050	<0.050	<0.050	0.1
Chrysene	<0.050	<0.050	<0.050	0.1
Dibenzo(a,h)anthracene	<0.050	<0.050	<0.050	0.2
Fluoranthene	<0.050	<0.050	<0.050	0.4
Fluorene	<0.050	<0.050	<0.050	120
Indeno(1,2,3-cd)pyrene	<0.050	<0.050	<0.050	0.2
1-Methylnaphthalene	<0.050	<0.050	<0.050	2
2-Methylnaphthalene	<0.050	<0.050	<0.050	2
Naphthalene	<0.050	<0.050	<0.050	7
Phenanthrene	<0.030	<0.030	<0.030	0.1
Pyrene	<0.050	<0.050	<0.050	0.2
Methylnaphthalene, 2-(1-)	<0.071	<0.071	<0.071	2

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

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

** Standards shown are for Full Depth Background Site Condition Standards for all types of property use for coarse grained soil

Project No. 2108-E090

Table V – Maximum Concentration (Soil)
Summary of Metals and Inorganics

Parameter	Unit	Maximum Concentration	Sample ID	Sampling Depth (m)
Antimony	ug/g	0.26	BH5/1A	0.0 - 0.3
Arsenic	ug/g	4.4	BH4/8	4.9 - 5.5
Barium	ug/g	87	BH5/1A	0.0 - 0.3
Beryllium	ug/g	0.79	TP1	0.0 - 0.3
Cadmium	ug/g	0.32	BH5/1A	0.0 - 0.3
Chromium	ug/g	25	TP1	0.0 - 0.3
Chromium VI	ug/g	<0.18	-	-
Cobalt	ug/g	11	TP1	0.0 - 0.3
Copper	ug/g	22	BH4/8	4.9 - 5.5
Lead	ug/g	46	BH5/1A	0.0 - 0.3
Mercury	ug/g	0.076	DUPS4	0.0 - 0.3
Molybdenum	ug/g	0.57	BH5/1A	0.0 - 0.3
Nickel	ug/g	23	TP1	0.0 - 0.3
Selenium	ug/g	0.9	DUPS4	0.0 - 0.3
Silver	ug/g	<0.2	-	-
Thallium	ug/g	0.16	TP1	0.0 - 0.3
Vanadium	ug/g	37	TP1	0.0 - 0.3
Zinc	ug/g	85	BH5/1A	0.0 - 0.3
pH (pH Units)	-	7.85	BH3/6	3.8 - 4.6
Cyanide, Free	ug/g	<0.01	-	-
Boron (Total)	ug/g	7.5	BH4/8	4.9 - 5.5
Uranium	ug/g	0.95	BH5/1A	0.0 - 0.3

Project No. 2108-E090

Table V – Maximum Concentration (Soil)
Summary of VOCs

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

Project No. 2108-E090

Table V – 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. 2108-E090

Table V – 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	-	-

Project No. 2108-E090

Table V – Maximum Concentration (Soil)
Summary of CCME F1-F4

Parameter	Unit	Maximum Concentration	Sample ID	Sampling Depth (m)
Benzene	ug/g	<0.02	-	-
Toluene	ug/g	<0.02	-	-
Ethylbenzene	ug/g	<0.02	-	-
m/p xylenes	ug/g	<0.04	-	-
o xylene	ug/g	<0.02	-	-
Total Xylenes	ug/g	<0.04	-	-
F1 (C6-C10)	ug/g	<10	-	-
F1 (C6-C10) - BTEX	ug/g	<10	-	-
F2 (C10-C16)	ug/g	<10	-	-
F3 (C16-C34)	ug/g	82	BH4/8	4.9 - 5.5
F4 (C34-C50)	ug/g	<50	-	-

Project No. 2108-E090

Table V – 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	-	-

Project No.2108-E090
Table VI – Maximum Concentration (Groundwater)

Summary of Metals and Inorganics

Parameter	Unit	Maximum Concentration	Sample ID	Screen Depth (m)
Antimony	µg/L	0.55	MW4	4.6 - 7.6
Arsenic	µg/L	1.7	MW3	4.6 - 7.6
Barium	µg/L	360	MW 4	4.6 - 7.6
Beryllium	µg/L	<0.4	-	-
Boron	µg/L	150	MW4	4.6 - 7.6
Cadmium	µg/L	<0.09	-	-
Chromium	µg/L	<5	-	-
Chromium VI	µg/L	<0.5	-	-
Cobalt	µg/L	1.7	MW 2	4.6 - 7.6
Copper	µg/L	2.4	MW1	1.6 - 4.6
Lead	µg/L	<0.5	-	-
Mercury	µg/L	<0.1	-	-
Molybdenum	µg/L	9.2	MW4	4.6 - 7.6
Nickel	µg/L	3.3	MW 2	4.6 - 7.6
Selenium	µg/L	<2	-	-
Silver	µg/L	<0.09	-	-
Thallium	µg/L	<0.05	-	-
Vanadium	µg/L	0.72	MW2	4.6 - 7.6
Zinc	µg/L	5.2	MW2	4.6 - 7.6
Uranium	µg/L	7.5	MW2	4.6 - 7.6

Project No.2108-E090
Table VI – Maximum Concentration (Groundwater)

Summary of VOCs

Parameter	Unit	Maximum Concentration	Sample ID	Screen Depth (m)
Acetone	µg/L	<10	-	-
Benzene	µg/L	<0.2	-	-
Bromodichloromethane	µg/L	<0.5	-	-
Bromoform	µg/L	<1	-	-
Bromomethane	µg/L	<0.5	-	-
Carbon Tetrachloride	µg/L	<0.19	-	-
Chlorobenzene	µg/L	<0.2	-	-
Chloroform	µg/L	<0.2	-	-
Dibromochloromethane	µg/L	<0.5	-	-
1,2-Dichlorobenzene	µg/L	<0.4	-	-
1,3-Dichlorobenzene	µg/L	<0.4	-	-
1,4-Dichlorobenzene	µg/L	<0.4	-	-
1,1-Dichloroethane	µg/L	<0.2	-	-
1,2-Dichloroethane	µg/L	<0.49	-	-
1,1-Dichloroethylene	µg/L	<0.2	-	-
Cis-1,2-Dichloroethylene	µg/L	<0.5	-	-
Trans-1,2-Dichloroethylene	µg/L	<0.5	-	-
1,2-Dichloropropane	µg/L	<0.2	-	-
Cis-1,3-Dichloropropylene	µg/L	<0.3	-	-
Trans-1,3-Dichloropropylene	µg/L	<0.4	-	-
Ethylbenzene	µg/L	<0.2	-	-
Ethylene Dibromide	µg/L	<0.19	-	-
Methyl Ethyl Ketone	µg/L	<10	-	-
Methylene Chloride	µg/L	<2	-	-
Methyl Isobutyl Ketone	µg/L	<5	-	-
Methyl-t-Butyl Ether	µg/L	<0.5	-	-
Styrene	µg/L	<0.4	-	-

Project No.2108-E090
Table VI – Maximum Concentration (Groundwater)

Summary of VOCs

Parameter	Unit	Maximum Concentration	Sample ID	Screen Depth (m)
1,1,1,2-Tetrachloroethane	µg/L	<0.5	-	-
1,1,2,2-Tetrachloroethane	µg/L	<0.4	-	-
Toluene	µg/L	0.2	MW1	1.6 - 4.6
Tetrachloroethylene	µg/L	<0.2	-	-
1,1,1-Trichloroethane	µg/L	<0.2	-	-
1,1,2-Trichloroethane	µg/L	<0.4	-	-
Trichloroethylene	µg/L	<0.2	-	-
Vinyl Chloride	µg/L	<0.2	-	-
m-Xylene & p-Xylene	µg/L	<0.2	-	-
o-Xylene	µg/L	<0.2	-	-
Total Xylenes	µg/L	<0.2	-	-
Dichlorodifluoromethane	µg/L	<1	-	-
Hexane(n)	µg/L	<1	-	-
Trichlorofluoromethane	µg/L	<0.5	-	-
1,3-Dichloropropene (cis + trans)	µg/L	<0.5	-	-

Project No.2108-E090
Table VI – Maximum Concentration (Groundwater)

Summary of CCME F1-F4

Parameter	Unit	Maximum Concentration	Sample ID	Screen Depth (m)
F1 (C6-C10)		<25	-	-
F1 (C6-C10) - BTEX		<25	-	-
F2 (C10-C16)		<100	-	-
F3 (C16-C34)		<200	-	-
F4 (C34-C50)		<200	-	-
Reached Baseline at C50		<-	-	-
F4 Gravimetric		<-	-	-

Project No.2108-E090
Table VI – Maximum Concentration (Groundwater)

Summary of PAHs

Parameter	Unit	Maximum Concentration	Sample ID	Screen Depth (m)
Acenaphthene	µg/L	<0.05	-	-
Acenaphthylene	µg/L	<0.05	-	-
Anthracene	µg/L	<0.05	-	-
Benzo(a)anthracene	µg/L	<0.05	-	-
Benzo(a)pyrene	µg/L	<0.009	-	-
Benzo(b/j)fluoranthene	µg/L	<0.05	-	-
Benzo(ghi)perylene	µg/L	<0.05	-	-
Benzo(k)fluoranthene	µg/L	<0.05	-	-
Chrysene	µg/L	<0.05	-	-
Dibenzo(a,h)anthracene	µg/L	<0.05	-	-
Fluoranthene	µg/L	<0.05	-	-
Fluorene	µg/L	<0.05	-	-
Indeno(1,2,3-cd)pyrene	µg/L	<0.05	-	-
1-Methylnaphthalene	µg/L	<0.05	-	-
2-Methylnaphthalene	µg/L	<0.05	-	-
Naphthalene	µg/L	<0.05	-	-
Phenanthrene	µg/L	<0.03	-	-
Pyrene	µg/L	<0.05	-	-
Methylnaphthalene, 2-(1-)	µg/L	<0.071	-	-



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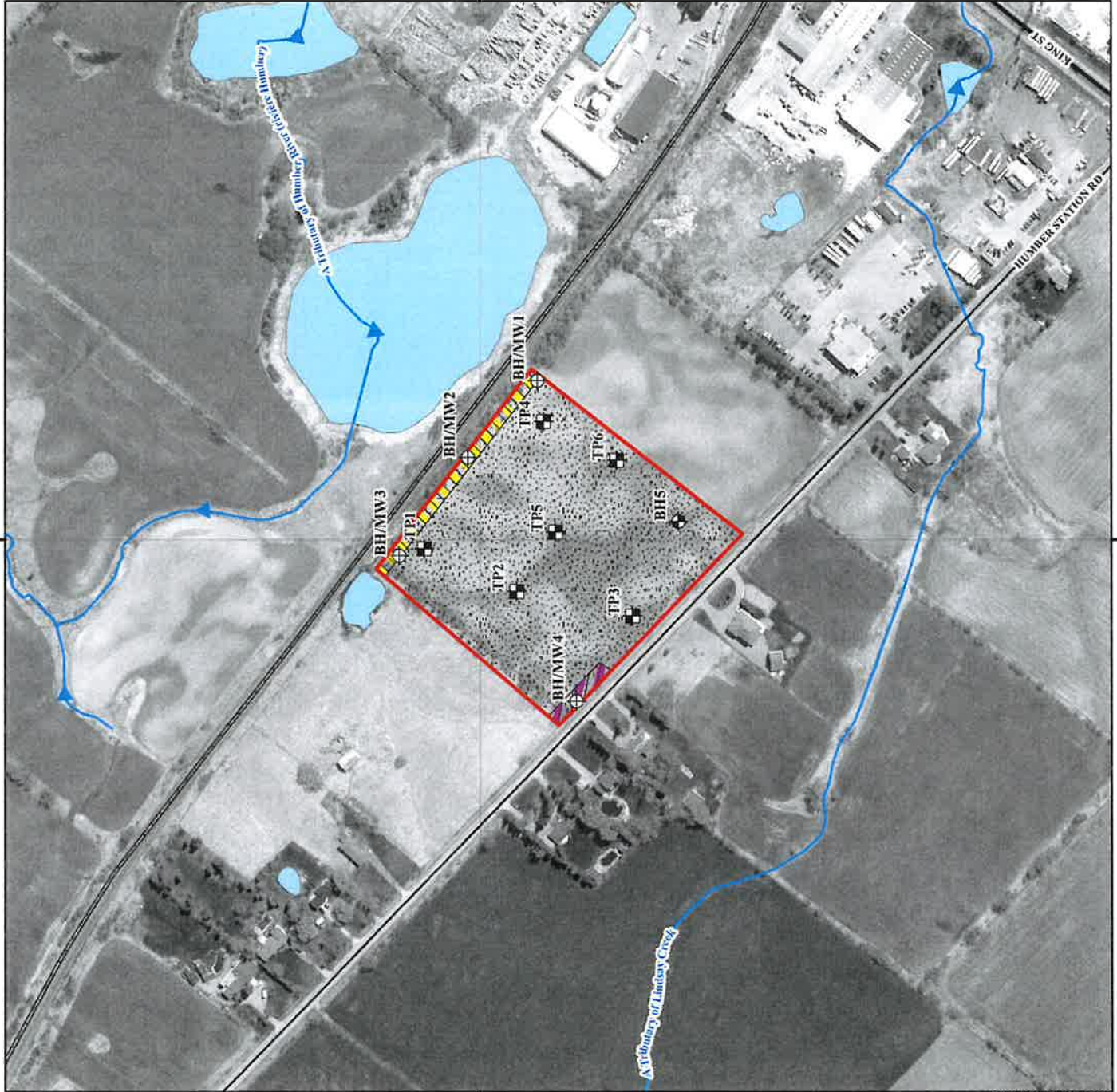
FIGURES

Reference No. 2108-E090



4858500

 N	Subject Site 
	Phase One Study Area 
	Waterbody 
	Major Road 
	Local Road 
	Railway 
Potentially Contaminating Activities (PCAs)	
(28)	Gasoline and Associated Products Storage in Fixed Tanks
(40)	Pesticides (including Herbicides, Fungicides, and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage, and Large-Scale Applications
(46)	Rail Yards, Tracks, and Spurs
Additional Potential Sources of Contamination	
●	Other - Waste Generator - Freight Business
 Soil Engineers Ltd.	
Title: Site Location Plan	
Project: Proposed Mixed Use Residential and Commercial Development Part of Lots 11 and 12 Concession 5 Humber Station Road and King Street Town of Caledon	
Reference No. 2108-E090	
Date: October 11, 2024	
Scale:  0 25 50 100 150 200 250 Metres	
Drawing No. 1	



- Subject Site
 - Borehole
 - Borehole with Monitoring Well
 - Test Pit
 - Waterbody
 - Major Road
 - Local Road
 - Railway
- Areas of Potential Environmental Concern (APEC)**
- APEC 1
 - APEC 2
 - APEC 3



Soil Engineers Ltd.

Title: Sampling Location Plan

Project:
Proposed Mixed Use Residential
and Commercial Development
Part of Lots 11 and 12 Concession 5
Humber Station Road and King Street
Town of Caledon










Reference No. 2108-E090

Date: October 11, 2024



Drawing No. 2



-  Subject Site
-  Borehole
-  Borehole with Monitoring Well
-  Test Pit
-  Waterbody
-  Major Road
-  Local Road
-  Railway
-  Cross-Section Direction

 **Soil Engineers Ltd.**

Title: Cross-Section Key Plan

Project:
Proposed Mixed Use Residential
and Commercial Development
Part of Lots 11 and 12 Concession 5
Humber Station Road and King Street
Town of Caledon

Reference No. 2108-E090

Date: October 11, 2024

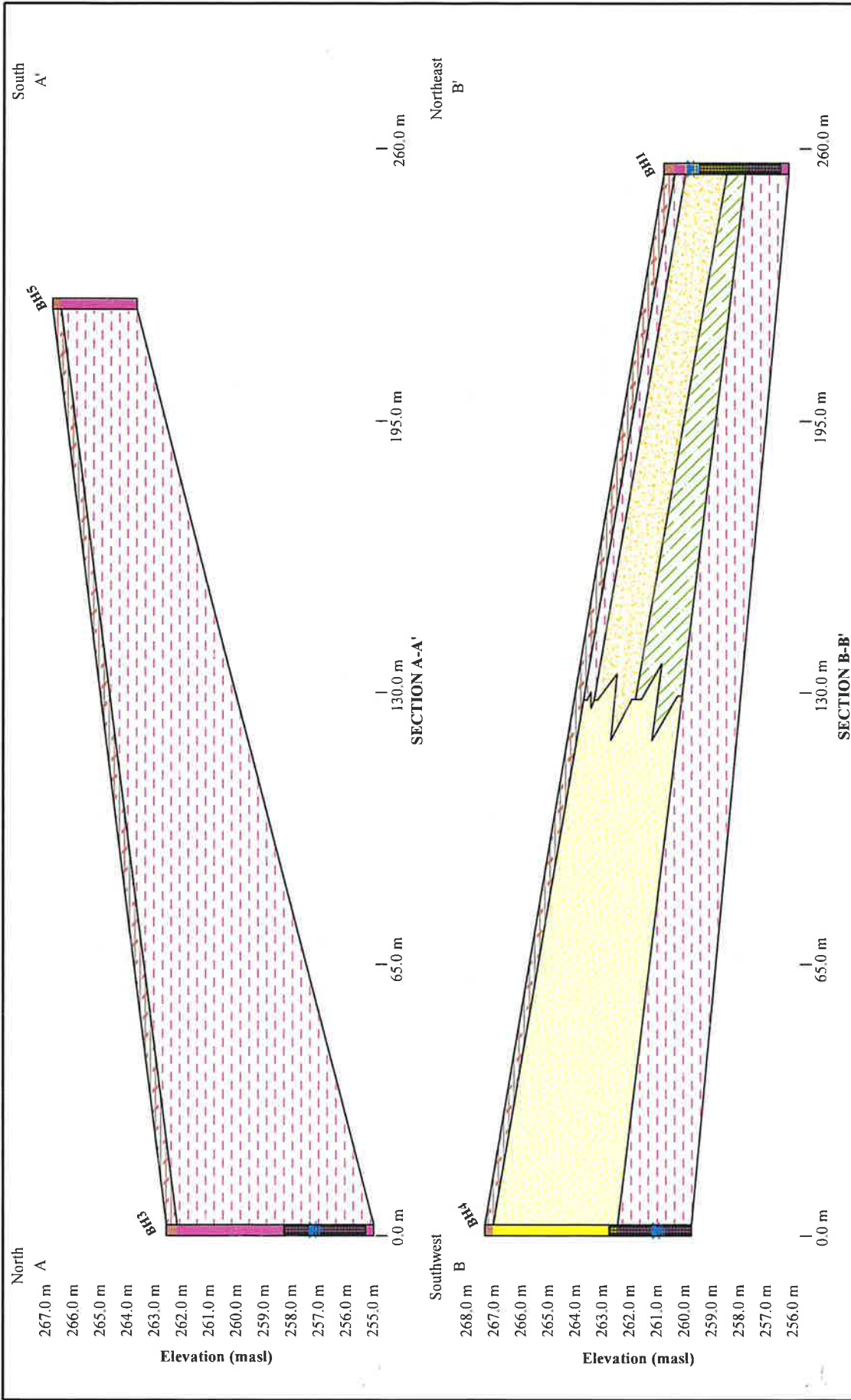
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Drawing No. 3

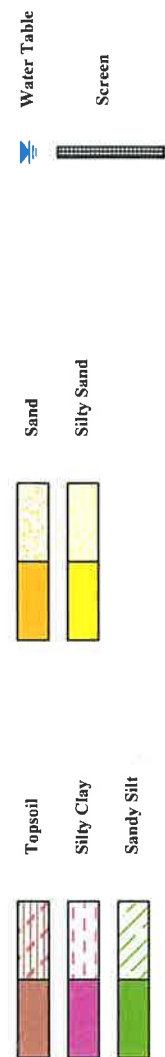
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Soil Engineers Ltd. CONSULTING SOIL, FOUNDATION & ENVIRONMENTAL ENGINEERS		Title: Geological Cross-Sections A-A' and B-B'	
		Project: Proposed Mixed Use Residential Development Parts of Lots 11 and 12 Concession 5 Humber station Road and King Street City of Toronto	
Reference No:	2108-E090	Date:	October 11, 2024
Scale: V	1:200	Scale: H	1:1300
Scale: V	1:200	Scale: H	1:1300
Drawing No.	4		





- Subject Site
- Borehole with Monitoring Well
- Interpreted Shallow Groundwater Flow Direction
- Groundwater Elevation Contour
- Waterbody
- Major Road
- Local Road
- Railway
- (120.00) Groundwater Elevation (masl)



Soil Engineers Ltd.

Title: Shallow Groundwater Contour Map

Project: Proposed Mixed Use Residential and Commercial Development Part of Lots 11 and 12 Concession 5 Humber Station Road and King Street Town of Caledon

Reference No. 2108-E090

Date: October 11, 2024

Scale: 0 20 40 80 120 160 200 Metres

Drawing No. 5





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APPENDIX 'A'

SAMPLING AND ANALYSIS PLAN

Reference No. 2108-E090



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 Phase Two ESA was conducted for a property located adjacent to the east of Humber Station Road and approximately 450 m to the northwest of King Street, 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 (Reference No. 2108-E090, dated December 12, 2022).

1) **OBJECTIVE**

The objective of the Phase Two ESA is to determine the soil and groundwater 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 possible use of pesticide as a part of agricultural activities at the subject site.

APEC 2: Potential soil and groundwater impact due to historical presence of fuel oil tank listed for a property located to the west of the subject site.

APEC 3: Potential soil and groundwater impact due to presence of railway tracks located adjacent to northeast of the subject site.

2) **SCOPE OF WORK**

The scope of work for the Phase Two ESA includes:

- Locate the underground and overhead utilities.
- Advance five (5) boreholes (designated as BH1 to BH5) to a maximum depth of 7.6 meters below grade surface (mbgs) and carryout six (6) hand dug test pits (designated as TP1 to TP6) to a depth of 0.3 mbgs.
- Collect representative soil samples from the sampling locations.
- Undertake field examination of the retrieved soil samples for visual and olfactory



evidence of potential contamination.

- Undertake soil vapour measurements for the retrieved soil samples using a combustible gas detector (RKI Eagle) in methane elimination mode.
- Install four (4) monitoring wells at boreholes BH1 to BH4 locations (designated at BH/MW1 to BH/MW4) for groundwater sampling, testing and monitoring.
- Carry out an analytical testing program on selected soil and groundwater samples including quality assurance and quality control (QA/QC) samples for one or more of the following parameters: Organochlorine Pesticides (OCs), Petroleum Hydrocarbons (PHCs), Volatile Organic Compound (VOCs), Benzene, Toluene, Ethylbenzene, Xylenes (BTEX), Polycyclic Aromatic Hydrocarbons (PAHs), Metals, Arsenic (As), Antimony (Sb), Selenium (Se), Mercury (Hg), Chromium Hexavalent (Cr (VI)), Cyanides (CN⁻) and pH parameters.
- Review analytical testing results of submitted soil and groundwater samples using applicable Site Condition Standards.
- Prepare a Phase Two ESA report containing the findings of the investigation.

3) **RATIONALE FOR BOREHOLE LOCATIONS**

The rationale for the selection of the test pit, borehole and monitoring well locations is presented in the table below:

Areas of Potential Environmental Concerns (APECs)	Borehole / Monitoring Well ID.
APEC 1: Potential soil impact due to possible use of pesticide as a part of agricultural activities at the subject site.	TP1 to TP6, BH5
APEC 2: Potential soil and groundwater impact due to historical presence of fuel oil tank listed for a property located to the west of the subject site.	BH/MW4
APEC 3: Potential soil and groundwater impact due to presence of railway tracks located adjacent to northeast of the subject site.	BH/MW1, BH/MW2, BH/MW3

Location of proposed sampling locations for the Phase Two ESA is shown in Drawing No. 2.



4) **SOIL AND GROUNDWATER SAMPLES (INCLUDING QA/QC SAMPLES)**
ANALYTICAL SCHEDULE

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

	OCs	M &/or I	BTEX and PHCs	VOCs	PAHs
Soil Samples (Test Pits (TP)) (QA/QC Samples)					
TP1 to TP6	6	6	-	-	-
DupS1	1	-	-	-	-
DupS2	-	1	-	-	-
DupS4	-	1	-	-	-
Soil Samples (Boreholes (BH)) (QA/QC Samples)					
BH1	-	1	1	1	1
BH2	-	1	1	1	1
BH3	-	1	1	1	1
BH4	-	1	1	-	-
BH5	1	2	-	-	-
DupS3	-	-	-	-	1
Groundwater Samples (Monitoring Wells (MW)) (QA/QC Samples)					
BH/MW1	-	1	1	1	1
BH/MW2	-	1	1	1	1
BH/MW3	-	1	1	1	1
BH/MW4	-	1	1	1	-
DUPW1	-	-	1	1	-
TRIPBLANK	-	-	-	2	-

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

5) **SOIL SAMPLING PROCEDURES**

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



6) **DATA QUALITY OBJECTIVES**

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

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

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

7) **STANDARD OPERATING PROCEDURES (SOPs)**

7.1) **Borehole Drilling**

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

7.1.1) **Underground Utilities**

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

7.1.2) **Drilling Methods**

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



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

Flight-Auger Drilling

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

Hand Dug Test Pit

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

7.1.3) Occupational Health and Safety

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



kit and confirming the location of the nearest hospital, and verifying the standard procedure in case of injury.

7.1.4) Drilling Spoils

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

7.1.5) Borehole Abandonment

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

- Bentonite is thoroughly mixed into the grout within the specified percentage range. The tremie grout is usually placed into the hole; however, for selected boreholes (e.g., shallow borings well above the water table) at certain sites, the grout may be allowed to free fall, taking care to ensure the grout does not bridge and form gaps or voids in the grout column.
- The volume of the borehole is calculated and compared to the grout volume used during grouting to aid in verifying that bridging did not occur.
- When using a tremie to place grout in the borehole, the bottom of the tremie is submerged into the grout column and withdrawn slowly as the hole fills with grout. If allowing the grout to free fall (and not using a tremie), the grout is poured slowly into the boring. The rise of the grout column is visually monitored or sounded with a weighted tape.
- If the method used to drill the boring utilized a drive casing, the casing is slowly extracted during grouting such that the bottom of the casing does not come above the top of the grout column.



- During the grouting process, no contaminating material (oil, grease, or fuels from gloves, pumps, hoses, et. al) is permitted to enter the grout mix and personnel wear personal protective equipment as specified in the Project Health and Safety Plan.
- Following grouting, barriers are placed over grouted boreholes as the grout is likely to settle in time, creating a physical hazard. Grouted boreholes typically require at least a second visit to ‘top off’ the hole.
- The surface hole condition should match the pre-drilling condition (asphalt, concrete, or smoothed flush with native surface), unless otherwise specified in the project work plans.

7.1.6) Subsurface Obstruction

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

7.2) Soil Sampling

7.2.1) Introduction

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

Drilling Rig Decontamination

Geoprobe

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



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 split-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 restate waste is collected.
- Reagent-grade 10% nitric acid solution and distilled water are used for suspected metals soil sampling. The restate waste will be collected.

7.2.2) Sample Logging and Field Screening

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

7.2.3) Field Screening and Calibration Procedures

The soil samples are classified based on physical characteristics including colour, soil type, moisture, and visible observation of staining and/or odour. In addition, the organic vapour



reading for each soil sample is determined using a gas detector. Based on the overall soil physical characteristics, representative soil samples are selected for chemical analysis.

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

7.2.4) Soil Sampling

The soil from the disposable sampler liner is handled using new disposable gloves in order to avoid the risk of cross-contamination between the samples. Sufficient amounts of the soil samples are placed into clean glass jars with Teflon lined lids for analyses for moisture content, medium to heavy PHCs, and Metals and Inorganics.

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

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

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

7.3) Well Installation, Well Development/Purging and Groundwater Sampling

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 is equipped with threaded end caps. The appropriate numbers 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 is 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.



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



Soil Engineers Ltd.

CONSULTING ENGINEERS

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APPENDIX 'B'

BOREHOLE LOGS

Reference No. 2108-E090

JOB NO.: 2108-E090


LOG OF BOREHOLE NO.: 1

PROJECT DESCRIPTION: Proposed Mixed Use Residential and Commercial Development

METHOD OF BORING: Geoprobe

PROJECT LOCATION: Part of Lots 11 and 12 Concession 5 Humber Station Road and King Street Town of Caledon

DRILLING DATE: July 2, 2024

El. (masl) Depth (mbgs)	SOIL DESCRIPTION	SAMPLES			Depth Scale (mbgs)	Combustible Headspace Reading (ppm)	REMARKS	WATER LEVEL
		Number	Type	Combustible Headspace Reading (ppm)				
260.8 0.0	Ground Surface 36 cm TOPSOIL				0			 <p style="font-size: small;">W.L. @ 1.10 mbgs on July 17, 2024</p>
0.4	Brown, SILTY CLAY	1	TO	0				
260.0 0.8	Brown SAND some silt trace of clay	2	TO	0	1	BH/MW1/2: PHCs, VOCs		
		3	TO	0	2	BH/MW1/3: Metals, PAHs		
258.5 2.3	Wet SANDY SILT some clay	4	TO	0	3			
257.8 3.0	SILTY CLAY trace of sand brown, wet	5	TO	0	4			
		6	TO	0	4			
256.2 4.6	END OF BOREHOLE Installed 51mm standpipe @ 4.3m Concrete from 0.0m to 0.3m Bentonite seal from 0.3m to 0.8m Sand backfill from 0.8m to 4.3m 3m screen from 1.3m to 4.3m Provided with monument protective casing/flushmount				5			



JOB NO.: 2108-E090

LOG OF BOREHOLE NO.: 2

PROJECT DESCRIPTION: Proposed Mixed Use Residential and Commercial Development

METHOD OF BORING: Geoprobe

PROJECT LOCATION: Part of Lots 11 and 12 Concession 5 Humber Station Road and King Street Town of Caledon

DRILLING DATE: July 2, 2024

Ei. (masl) Depth (mbgs)	SOIL DESCRIPTION	SAMPLES			Depth Scale (mbgs)	Combustible Headspace Reading (ppm)	REMARKS	WATER LEVEL
		Number	Type	Combustible Headspace Reading (ppm)				
263.6 0.0	Ground Surface 36 cm TOPSOIL				0			
0.4	SILTY CLAY trace of gravel trace of sand brown brown/grey, some gravel grey	1	TO	0	0.4			
		2	TO	0	1.0			
		3	TO	0	2.0			
		4	TO	0	3.0			
		5	TO	0	4.0			
		6	TO	0	4.5			
		7	TO	0	5.0		BH/MW2/7: Metals, PHCs, VOCs, PAHs	
		8	TO	0	6.0			
		9	TO	0	7.0			
		10	TO	0	7.6			
256.0 7.6	END OF BOREHOLE Installed 51mm standpipe @ 7.6m Concrete from 0.0m to 0.3m Bentonite seal from 0.3m to 4.0m Sand backfill from 4.0m to 7.6m 3m screen from 4.6m to 7.6m Provided with monument protective casing				8.0			



Soil Engineers Ltd.

JOB NO.: 2108-E090

LOG OF BOREHOLE NO.: 3

PROJECT DESCRIPTION: Proposed Mixed Use Residential and Commercial Development

METHOD OF BORING: Geoprobe

PROJECT LOCATION: Part of Lots 11 and 12 Concession 5 Humber Station Road and King Street Town of Caledon

DRILLING DATE: July 2, 2024

El. (masl) Depth (mbgs)	SOIL DESCRIPTION	SAMPLES			Depth Scale (mbgs)	Combustible Headspace Reading (ppm)	REMARKS	WATER LEVEL
		Number	Type	Combustible Headspace Reading (ppm)				
262.6 0.0	Ground Surface 36 cm TOPSOIL				0			
0.4	SILTY CLAY trace of gravel ----- trace of sand, some gravel ----- brown grey	1	TO	0	0.4		BH/MW3/6: Metals, PHCs, VOCs, PAHs DUPS3 W.L. @ 5.50mbgs on July 17, 2024	
		2	TO	0	1.0			
		3	TO	0	2.0			
		4	TO	0	3.0			
		5	TO	0	4.0			
		6	TO	0	5.0			
		7	TO	0	6.0			
		8	TO	0	7.0			
		9	TO	0	8.0			
		10	TO	0	9.0			
255.0 7.6	END OF BOREHOLE Installed 51mm standpipe @ 7.3m Concrete from 0.0m to 0.3m Bentonite seal from 0.3m to 3.7m Sand backfill from 3.7m to 7.3m 3m screen from 4.3m to 7.3m Provided with monument protective casing/flushmount				10			



Soil Engineers Ltd.

JOB NO.: 2108-E090

LOG OF BOREHOLE NO.: 4

PROJECT DESCRIPTION: Proposed Mixed Use Residential and Commercial Development

METHOD OF BORING: Geoprobe

PROJECT LOCATION: Part of Lots 11 and 12 Concession 5 Humber Station Road and King Street Town of Caledon

DRILLING DATE: July 3, 2024

El. (masl) Depth (mbgs)	SOIL DESCRIPTION	SAMPLES			Depth Scale (mbgs)	Combustible Headspace Reading (ppm) ● Reading (ppm) 20 60 100 140 180	REMARKS	WATER LEVEL
		Number	Type	Combustible Headspace Reading (ppm)				
267.4	Ground Surface							
0.0	30 cm TOPSOIL	1A	TO	0	0			
0.3	trace of organics Brown SILTY SAND	1B	TO	0				
		2	TO	0	1			
		3	TO	0	2			
		4	TO	0				
		5	TO	0	3			
		6	TO	0	4			
		7	TO	0				
262.5 4.9	Grey SILTY CLAY	8	TO	0	5			
		9	TO	0	6			
		10	TO	0	7			
		11	TO	0				
259.8 7.6	END OF BOREHOLE Installed 51mm standpipe @ 7.6m Concrete from 0.0m to 0.3m Bentonite seal from 0.3m to 4.0m Sand backfill from 4.0m to 7.6m 3m screen from 4.6m to 7.6m Provided with monument protective casing/flushmount				8			
					9			
					10			

BH/MW4/8: Metals, PHCs, BTEX

W.L. @ 5.45 mbgs on July 17, 2024



Soil Engineers Ltd.

JOB NO.: 2108-E090

LOG OF BOREHOLE NO.: 5

PROJECT DESCRIPTION: Proposed Mixed Use Residential and Commercial Development

METHOD OF BORING: Geoprobe

PROJECT LOCATION: Part of Lots 11 and 12 Concession 5
Humber Station Road and King Street
Town of Caledon

DRILLING DATE: July 3, 2024

Ei. (masl) Depth (mbgs)	SOIL DESCRIPTION	SAMPLES			Depth Scale (mbgs)	Combustible Headspace Reading (ppm)	REMARKS	WATER LEVEL
		Number	Type	Combustible Headspace Reading (ppm)				
266.8	Ground Surface							
0.0	30 cm TOPSOIL	1A	TO	0	0		BH5/1A: Metals, OCs, Cr(VI), Cyanide	
0.3	Brown SILTY CLAY	1B	TO	0				
		2	TO	0	1			
		3	TO	0	2		BH5/3: pH	
		4	TO	0	3			
263.7	END OF BOREHOLE				3			
3.0					4			
					5			
					6			
					7			
					8			





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APPENDIX 'C'

CERTIFICATE OF ANALYSIS (SOIL SAMPLES)

Reference No. 2108-E090



Your Project #: 2108-E090
 Site Location: HUMBER STATION ROAD, CALEDON
 Your C.O.C. #: N/A

Attention: Madan K. Suwal

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

Report Date: 2024/07/12
 Report #: R8232139
 Version: 2 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4K4043

Received: 2024/07/04, 15:00

Sample Matrix: Soil
 # Samples Received: 7

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Free (WAD) Cyanide	5	2024/07/09	2024/07/10	CAM SOP-00457	OMOE-E3015 m
Hexavalent Chromium in Soil by IC (1)	4	2024/07/09	2024/07/09	CAM SOP-00436	EPA 3060A/7199 m
Petroleum Hydro. CCME F1 & BTEX in Soil (2)	1	N/A	2024/07/06	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Soil (3)	1	2024/07/08	2024/07/08	CAM SOP-00316	CCME CWS m
Acid Extractable Metals by ICPMS	6	2024/07/09	2024/07/10	CAM SOP-00447	EPA 6020B m
Moisture	6	N/A	2024/07/05	CAM SOP-00445	Carter 2nd ed 70.2 m
OC Pesticides (Selected) & PCB (4)	4	2024/07/09	2024/07/12	CAM SOP-00307	EPA 8081B/ 8082A
OC Pesticides Summed Parameters	4	N/A	2024/07/06	CAM SOP-00307	EPA 8081B/ 8082A
pH CaCl2 EXTRACT	1	2024/07/10	2024/07/10	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.

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

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

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

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



Your Project #: 2108-E090
 Site Location: HUMBER STATION ROAD, CALEDON
 Your C.O.C. #: N/A

Attention: Madan K. Suwal

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

Report Date: 2024/07/12
 Report #: R8232139
 Version: 2 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4K4043

Received: 2024/07/04, 15:00

- (2) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is the date sampled unless otherwise stated.
- (3) 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.
- (4) Chlordane (Total) = Alpha Chlordane + Gamma Chlordane

Encryption Key



Bureau Veritas
 12 Jul 2024 15:14:49

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.



Bureau Veritas Job #: C4K4043
 Report Date: 2024/07/12

Soil Engineers Ltd
 Client Project #: 2108-E090
 Site Location: HUMBER STATION ROAD, CALEDON
 Sampler Initials: A

O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID		ZQH138		ZQH139		ZQH140			
Sampling Date		2024/07/03		2024/07/03		2024/07/03			
COC Number		N/A		N/A		N/A			
	UNITS	TP3	QC Batch	TP4	QC Batch	TP6	RDL	MDL	QC Batch
Inorganics									
WAD Cyanide (Free)	ug/g	<0.01	9504202	<0.01	9504214	<0.01	0.01	0.0019	9504202
Chromium (VI)	ug/g	<0.18	9503187	<0.18	9503187	<0.18	0.18	0.050	9503187
Metals									
Acid Extractable Antimony (Sb)	ug/g	<0.20	9503206	<0.20	9503206	<0.20	0.20	0.10	9503206
Acid Extractable Arsenic (As)	ug/g	3.4	9503206	3.2	9503206	3.4	1.0	0.10	9503206
Acid Extractable Barium (Ba)	ug/g	80	9503206	81	9503206	78	0.50	0.30	9503206
Acid Extractable Beryllium (Be)	ug/g	0.63	9503206	0.58	9503206	0.66	0.20	0.020	9503206
Acid Extractable Boron (B)	ug/g	6.8	9503206	6.6	9503206	5.7	5.0	1.0	9503206
Acid Extractable Cadmium (Cd)	ug/g	0.21	9503206	0.16	9503206	0.13	0.10	0.030	9503206
Acid Extractable Chromium (Cr)	ug/g	21	9503206	21	9503206	23	1.0	0.20	9503206
Acid Extractable Cobalt (Co)	ug/g	9.1	9503206	9.0	9503206	11	0.10	0.020	9503206
Acid Extractable Copper (Cu)	ug/g	18	9503206	18	9503206	20	0.50	0.20	9503206
Acid Extractable Lead (Pb)	ug/g	17	9503206	16	9503206	13	1.0	0.10	9503206
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	9503206	<0.50	9503206	<0.50	0.50	0.10	9503206
Acid Extractable Nickel (Ni)	ug/g	18	9503206	18	9503206	22	0.50	0.20	9503206
Acid Extractable Selenium (Se)	ug/g	<0.50	9503206	<0.50	9503206	<0.50	0.50	0.10	9503206
Acid Extractable Silver (Ag)	ug/g	<0.20	9503206	<0.20	9503206	<0.20	0.20	0.040	9503206
Acid Extractable Thallium (Tl)	ug/g	0.13	9503206	0.13	9503206	0.14	0.050	0.010	9503206
Acid Extractable Uranium (U)	ug/g	0.59	9503206	0.58	9503206	0.61	0.050	0.030	9503206
Acid Extractable Vanadium (V)	ug/g	33	9503206	33	9503206	35	5.0	0.50	9503206
Acid Extractable Zinc (Zn)	ug/g	68	9503206	67	9503206	60	5.0	0.50	9503206
Acid Extractable Mercury (Hg)	ug/g	0.071	9503206	0.062	9503206	<0.050	0.050	0.030	9503206
RDL = Reportable Detection Limit QC Batch = Quality Control Batch									



Bureau Veritas Job #: C4K4043
 Report Date: 2024/07/12

Soil Engineers Ltd
 Client Project #: 2108-E090
 Site Location: HUMBER STATION ROAD, CALEDON
 Sampler Initials: A

O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID		ZQH141				ZQH142			
Sampling Date		2024/07/03				2024/07/03			
COC Number		N/A				N/A			
	UNITS	DUPS4	RDL	MDL	QC Batch	BH5/1A	RDL	MDL	QC Batch
Inorganics									
WAD Cyanide (Free)	ug/g	<0.01	0.01	0.0019	9504202				
Chromium (VI)	ug/g					<0.18	0.18	0.050	9503187
Metals									
Acid Extractable Antimony (Sb)	ug/g	<0.20	0.20	0.10	9503206	0.26	0.20	0.10	9503206
Acid Extractable Arsenic (As)	ug/g	3.5	1.0	0.10	9503206	3.8	1.0	0.10	9503206
Acid Extractable Barium (Ba)	ug/g	85	0.50	0.30	9503206	87	0.50	0.30	9503206
Acid Extractable Beryllium (Be)	ug/g	0.59	0.20	0.020	9503206	0.72	0.20	0.020	9503206
Acid Extractable Boron (B)	ug/g	7.0	5.0	1.0	9503206	5.4	5.0	1.0	9503206
Acid Extractable Cadmium (Cd)	ug/g	0.21	0.10	0.030	9503206	0.32	0.10	0.030	9503206
Acid Extractable Chromium (Cr)	ug/g	23	1.0	0.20	9503206	22	1.0	0.20	9503206
Acid Extractable Cobalt (Co)	ug/g	9.8	0.10	0.020	9503206	8.7	0.10	0.020	9503206
Acid Extractable Copper (Cu)	ug/g	19	0.50	0.20	9503206	20	0.50	0.20	9503206
Acid Extractable Lead (Pb)	ug/g	17	1.0	0.10	9503206	46	1.0	0.10	9503206
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	0.50	0.10	9503206	0.57	0.50	0.10	9503206
Acid Extractable Nickel (Ni)	ug/g	20	0.50	0.20	9503206	20	0.50	0.20	9503206
Acid Extractable Selenium (Se)	ug/g	0.90	0.50	0.10	9503206	<0.50	0.50	0.10	9503206
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	0.040	9503206	<0.20	0.20	0.040	9503206
Acid Extractable Thallium (Tl)	ug/g	0.14	0.050	0.010	9503206	0.15	0.050	0.010	9503206
Acid Extractable Uranium (U)	ug/g	0.72	0.050	0.030	9503206	0.95	0.050	0.030	9503206
Acid Extractable Vanadium (V)	ug/g	36	5.0	0.50	9503206	34	5.0	0.50	9503206
Acid Extractable Zinc (Zn)	ug/g	74	5.0	0.50	9503206	85	5.0	0.50	9503206
Acid Extractable Mercury (Hg)	ug/g	0.076	0.050	0.030	9503206	0.069	0.050	0.030	9503206
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									



Bureau Veritas Job #: C4K4043
 Report Date: 2024/07/12

Soil Engineers Ltd
 Client Project #: 2108-E090
 Site Location: HUMBER STATION ROAD, CALEDON
 Sampler Initials: A

O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID		ZQH144			
Sampling Date		2024/07/03			
COC Number		N/A			
	UNITS	BH4/8	RDL	MDL	QC Batch
Inorganics					
WAD Cyanide (Free)	ug/g	<0.01	0.01	0.0019	9504238
Metals					
Acid Extractable Antimony (Sb)	ug/g	<0.20	0.20	0.10	9503206
Acid Extractable Arsenic (As)	ug/g	4.4	1.0	0.10	9503206
Acid Extractable Barium (Ba)	ug/g	83	0.50	0.30	9503206
Acid Extractable Beryllium (Be)	ug/g	0.51	0.20	0.020	9503206
Acid Extractable Boron (B)	ug/g	7.5	5.0	1.0	9503206
Acid Extractable Cadmium (Cd)	ug/g	0.10	0.10	0.030	9503206
Acid Extractable Chromium (Cr)	ug/g	19	1.0	0.20	9503206
Acid Extractable Cobalt (Co)	ug/g	9.9	0.10	0.020	9503206
Acid Extractable Copper (Cu)	ug/g	22	0.50	0.20	9503206
Acid Extractable Lead (Pb)	ug/g	9.2	1.0	0.10	9503206
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	0.50	0.10	9503206
Acid Extractable Nickel (Ni)	ug/g	23	0.50	0.20	9503206
Acid Extractable Selenium (Se)	ug/g	<0.50	0.50	0.10	9503206
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	0.040	9503206
Acid Extractable Thallium (Tl)	ug/g	0.090	0.050	0.010	9503206
Acid Extractable Uranium (U)	ug/g	0.49	0.050	0.030	9503206
Acid Extractable Vanadium (V)	ug/g	26	5.0	0.50	9503206
Acid Extractable Zinc (Zn)	ug/g	56	5.0	0.50	9503206
Acid Extractable Mercury (Hg)	ug/g	<0.050	0.050	0.030	9503206
RDL = Reportable Detection Limit QC Batch = Quality Control Batch					



BUREAU
VERITAS

Bureau Veritas Job #: C4K4043
Report Date: 2024/07/12

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Sampler Initials: A

O.REG 153 OC PESTICIDES (SOIL)

Bureau Veritas ID		ZQH138	ZQH139	ZQH140	ZQH142			
Sampling Date		2024/07/03	2024/07/03	2024/07/03	2024/07/03			
COC Number		N/A	N/A	N/A	N/A			
	UNITS	TP3	TP4	TP6	BH5/1A	RDL	MDL	QC Batch
Calculated Parameters								
Chlordane (Total)	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	N/A	9495269
o,p-DDD + p,p-DDD	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	N/A	9495269
o,p-DDE + p,p-DDE	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	N/A	9495269
o,p-DDT + p,p-DDT	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	N/A	9495269
Total Endosulfan	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	N/A	9495269
Pesticides & Herbicides								
Aldrin	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
a-Chlordane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
g-Chlordane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
o,p-DDD	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
p,p-DDD	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
o,p-DDE	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
p,p-DDE	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
o,p-DDT	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
p,p-DDT	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
Dieldrin	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
Lindane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
Endosulfan I (alpha)	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
Endosulfan II (beta)	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
Endrin	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
Heptachlor	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
Heptachlor epoxide	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
Hexachlorobenzene	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
Hexachlorobutadiene	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	N/A	9503732
Hexachloroethane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	N/A	9503732
Methoxychlor	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	0.0016	9503732
Surrogate Recovery (%)								
2,4,5,6-Tetrachloro-m-xylene	%	93	89	87	90			9503732
Decachlorobiphenyl	%	87	83	75	74			9503732
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable								



O.REG 153 OC PESTICIDES (SOIL)

Bureau Veritas ID		ZQH142			
Sampling Date		2024/07/03			
COC Number		N/A			
	UNITS	BH5/1A Lab-Dup	RDL	MDL	QC Batch
Pesticides & Herbicides					
Aldrin	ug/g	<0.0020	0.0020	0.00040	9503732
a-Chlordane	ug/g	<0.0020	0.0020	0.00040	9503732
g-Chlordane	ug/g	<0.0020	0.0020	0.00040	9503732
o,p-DDD	ug/g	<0.0020	0.0020	0.00040	9503732
p,p-DDD	ug/g	<0.0020	0.0020	0.00040	9503732
o,p-DDE	ug/g	<0.0020	0.0020	0.00040	9503732
p,p-DDE	ug/g	<0.0020	0.0020	0.00040	9503732
o,p-DDT	ug/g	<0.0020	0.0020	0.00040	9503732
p,p-DDT	ug/g	<0.0020	0.0020	0.00040	9503732
Dieldrin	ug/g	<0.0020	0.0020	0.00040	9503732
Lindane	ug/g	<0.0020	0.0020	0.00040	9503732
Endosulfan I (alpha)	ug/g	<0.0020	0.0020	0.00040	9503732
Endosulfan II (beta)	ug/g	<0.0020	0.0020	0.00040	9503732
Endrin	ug/g	<0.0020	0.0020	0.00040	9503732
Heptachlor	ug/g	<0.0020	0.0020	0.00040	9503732
Heptachlor epoxide	ug/g	<0.0020	0.0020	0.00040	9503732
Hexachlorobenzene	ug/g	<0.0020	0.0020	0.00040	9503732
Hexachlorobutadiene	ug/g	<0.0020	0.0020	N/A	9503732
Hexachloroethane	ug/g	<0.0020	0.0020	N/A	9503732
Methoxychlor	ug/g	<0.0050	0.0050	0.0016	9503732
Surrogate Recovery (%)					
2,4,5,6-Tetrachloro-m-xylene	%	85			9503732
Decachlorobiphenyl	%	74			9503732
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable					



Bureau Veritas Job #: C4K4043
Report Date: 2024/07/12

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Sampler Initials: A

O.REG 153 PHCS, BTEX/F1-F4 (SOIL)

Bureau Veritas ID		ZQH144			
Sampling Date		2024/07/03			
COC Number		N/A			
	UNITS	BH4/8	RDL	MDL	QC Batch
BTEX & F1 Hydrocarbons					
Benzene	ug/g	<0.020	0.020	0.020	9498344
Toluene	ug/g	<0.020	0.020	0.020	9498344
Ethylbenzene	ug/g	<0.020	0.020	0.020	9498344
o-Xylene	ug/g	<0.020	0.020	0.020	9498344
p+m-Xylene	ug/g	<0.040	0.040	0.040	9498344
Total Xylenes	ug/g	<0.040	0.040	0.040	9498344
F1 (C6-C10)	ug/g	<10	10	5.0	9498344
F1 (C6-C10) - BTEX	ug/g	<10	10	5.0	9498344
F2-F4 Hydrocarbons					
F2 (C10-C16 Hydrocarbons)	ug/g	<10	10	5.0	9500059
F3 (C16-C34 Hydrocarbons)	ug/g	82	50	5.0	9500059
F4 (C34-C50 Hydrocarbons)	ug/g	<50	50	10	9500059
Reached Baseline at C50	ug/g	Yes			9500059
Surrogate Recovery (%)					
1,4-Difluorobenzene	%	102			9498344
4-Bromofluorobenzene	%	98			9498344
D10-o-Xylene	%	101			9498344
D4-1,2-Dichloroethane	%	100			9498344
o-Terphenyl	%	87			9500059
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



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VERITAS

Bureau Veritas Job #: C4K4043
Report Date: 2024/07/12

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Sampler Initials: A

RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID		ZQH138	ZQH139	ZQH140	ZQH141	ZQH142			
Sampling Date		2024/07/03	2024/07/03	2024/07/03	2024/07/03	2024/07/03			
COC Number		N/A	N/A	N/A	N/A	N/A			
	UNITS	TP3	TP4	TP6	DUPS4	BH5/1A	RDL	MDL	QC Batch
Inorganics									
Moisture	%	19	20	20	18	24	1.0	0.50	9498750
RDL = Reportable Detection Limit QC Batch = Quality Control Batch									

Bureau Veritas ID		ZQH143			ZQH144			
Sampling Date		2024/07/03			2024/07/03			
COC Number		N/A			N/A			
	UNITS	BH5/3	MDL	QC Batch	BH4/8	RDL	MDL	QC Batch
Inorganics								
Moisture	%				15	1.0	0.50	9498750
Available (CaCl2) pH	pH	7.73		9505542				
RDL = Reportable Detection Limit QC Batch = Quality Control Batch								



Bureau Veritas Job #: C4K4043
Report Date: 2024/07/12

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Sampler Initials: A

TEST SUMMARY

Bureau Veritas ID: ZQH138
Sample ID: TP3
Matrix: Soil

Collected: 2024/07/03
Shipped:
Received: 2024/07/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	9504202	2024/07/09	2024/07/10	Prgya Panchal
Hexavalent Chromium in Soil by IC	IC/SPEC	9503187	2024/07/09	2024/07/09	Violeta Porcila
Acid Extractable Metals by ICPMS	ICP/MS	9503206	2024/07/09	2024/07/10	Daniel Teclu
Moisture	BAL	9498750	N/A	2024/07/05	Muhammad Chhaidan
OC Pesticides (Selected) & PCB	GC/ECD	9503732	2024/07/09	2024/07/12	Li Peng
OC Pesticides Summed Parameters	CALC	9495269	N/A	2024/07/06	Automated Statchk

Bureau Veritas ID: ZQH139
Sample ID: TP4
Matrix: Soil

Collected: 2024/07/03
Shipped:
Received: 2024/07/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	9504214	2024/07/09	2024/07/10	Prgya Panchal
Hexavalent Chromium in Soil by IC	IC/SPEC	9503187	2024/07/09	2024/07/09	Violeta Porcila
Acid Extractable Metals by ICPMS	ICP/MS	9503206	2024/07/09	2024/07/10	Daniel Teclu
Moisture	BAL	9498750	N/A	2024/07/05	Muhammad Chhaidan
OC Pesticides (Selected) & PCB	GC/ECD	9503732	2024/07/09	2024/07/12	Li Peng
OC Pesticides Summed Parameters	CALC	9495269	N/A	2024/07/06	Automated Statchk

Bureau Veritas ID: ZQH140
Sample ID: TP6
Matrix: Soil

Collected: 2024/07/03
Shipped:
Received: 2024/07/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	9504202	2024/07/09	2024/07/10	Prgya Panchal
Hexavalent Chromium in Soil by IC	IC/SPEC	9503187	2024/07/09	2024/07/09	Violeta Porcila
Acid Extractable Metals by ICPMS	ICP/MS	9503206	2024/07/09	2024/07/10	Daniel Teclu
Moisture	BAL	9498750	N/A	2024/07/05	Muhammad Chhaidan
OC Pesticides (Selected) & PCB	GC/ECD	9503732	2024/07/09	2024/07/12	Li Peng
OC Pesticides Summed Parameters	CALC	9495269	N/A	2024/07/06	Automated Statchk

Bureau Veritas ID: ZQH141
Sample ID: DUPS4
Matrix: Soil

Collected: 2024/07/03
Shipped:
Received: 2024/07/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	9504202	2024/07/09	2024/07/10	Prgya Panchal
Acid Extractable Metals by ICPMS	ICP/MS	9503206	2024/07/09	2024/07/10	Daniel Teclu
Moisture	BAL	9498750	N/A	2024/07/05	Muhammad Chhaidan



Bureau Veritas Job #: C4K4043
Report Date: 2024/07/12

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Sampler Initials: A

TEST SUMMARY

Bureau Veritas ID: ZQH142
Sample ID: BH5/1A
Matrix: Soil

Collected: 2024/07/03
Shipped:
Received: 2024/07/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hexavalent Chromium in Soil by IC	IC/SPEC	9503187	2024/07/09	2024/07/09	Violeta Porcila
Acid Extractable Metals by ICPMS	ICP/MS	9503206	2024/07/09	2024/07/10	Daniel Teclu
Moisture	BAL	9498750	N/A	2024/07/05	Muhammad Chhaidan
OC Pesticides (Selected) & PCB	GC/ECD	9503732	2024/07/09	2024/07/12	Li Peng
OC Pesticides Summed Parameters	CALC	9495269	N/A	2024/07/06	Automated Statchk

Bureau Veritas ID: ZQH142 Dup
Sample ID: BH5/1A
Matrix: Soil

Collected: 2024/07/03
Shipped:
Received: 2024/07/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
OC Pesticides (Selected) & PCB	GC/ECD	9503732	2024/07/09	2024/07/12	Li Peng

Bureau Veritas ID: ZQH143
Sample ID: BH5/3
Matrix: Soil

Collected: 2024/07/03
Shipped:
Received: 2024/07/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	9505542	2024/07/10	2024/07/10	Taslina Aktar

Bureau Veritas ID: ZQH144
Sample ID: BH4/8
Matrix: Soil

Collected: 2024/07/03
Shipped:
Received: 2024/07/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	9504238	2024/07/09	2024/07/10	Prgya Panchal
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	9498344	N/A	2024/07/06	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	9500059	2024/07/08	2024/07/08	Ksenia Trofimova
Acid Extractable Metals by ICPMS	ICP/MS	9503206	2024/07/09	2024/07/10	Daniel Teclu
Moisture	BAL	9498750	N/A	2024/07/05	Muhammad Chhaidan



BUREAU
VERITAS

Bureau Veritas Job #: C4K4043
Report Date: 2024/07/12

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Sampler Initials: A

GENERAL COMMENTS

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

Package 1	3.3°C
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Cooler custody seal was present and intact.

Results relate only to the items tested.



BUREAU VERITAS

Bureau Veritas Job #: C4K4043
Report Date: 2024/07/12

QUALITY ASSURANCE REPORT

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Sampler Initials: A

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9498344	1,4-Difluorobenzene	2024/07/06	98	60 - 140	97	60 - 140	106	%		
9498344	4-Bromofluorobenzene	2024/07/06	101	60 - 140	101	60 - 140	89	%		
9498344	D10-o-Xylene	2024/07/06	102	60 - 140	103	60 - 140	104	%		
9498344	D4-1,2-Dichloroethane	2024/07/06	98	60 - 140	99	60 - 140	103	%		
9500059	o-Terphenyl	2024/07/08	88	60 - 130	90	60 - 130	91	%		
9503732	2,4,5,6-Tetrachloro-m-xylene	2024/07/12	89	50 - 130	115	50 - 130	94	%		
9503732	Decachlorobiphenyl	2024/07/12	81	50 - 130	116	50 - 130	88	%		
9498344	Benzene	2024/07/06	88	50 - 140	89	50 - 140	<0.020	ug/g	NC	50
9498344	Ethylbenzene	2024/07/06	98	50 - 140	98	50 - 140	<0.020	ug/g	NC	50
9498344	F1 (C6-C10) - BTEX	2024/07/06					<10	ug/g	NC	30
9498344	F1 (C6-C10)	2024/07/06	99	60 - 140	104	80 - 120	<10	ug/g	NC	30
9498344	o-Xylene	2024/07/06	94	50 - 140	94	50 - 140	<0.020	ug/g	NC	50
9498344	p+m-Xylene	2024/07/06	91	50 - 140	91	50 - 140	<0.040	ug/g	NC	50
9498344	Toluene	2024/07/06	85	50 - 140	85	50 - 140	<0.020	ug/g	NC	50
9498344	Total Xylenes	2024/07/06					<0.040	ug/g	NC	50
9498750	Moisture	2024/07/05							5.2	20
9500059	F2 (C10-C16 Hydrocarbons)	2024/07/08	100	60 - 130	102	80 - 120	<10	ug/g	NC	30
9500059	F3 (C16-C34 Hydrocarbons)	2024/07/08	102	60 - 130	105	80 - 120	<50	ug/g	NC	30
9500059	F4 (C34-C50 Hydrocarbons)	2024/07/08	96	60 - 130	100	80 - 120	<50	ug/g	NC	30
9503187	Chromium (VI)	2024/07/09	70	70 - 130	95	80 - 120	<0.18	ug/g	NC	35
9503206	Acid Extractable Antimony (Sb)	2024/07/10	103	75 - 125	105	80 - 120	<0.20	ug/g	12	30
9503206	Acid Extractable Arsenic (As)	2024/07/10	100	75 - 125	98	80 - 120	<1.0	ug/g	2.7	30
9503206	Acid Extractable Barium (Ba)	2024/07/10	NC	75 - 125	97	80 - 120	<0.50	ug/g	11	30
9503206	Acid Extractable Beryllium (Be)	2024/07/10	105	75 - 125	92	80 - 120	<0.20	ug/g	0.23	30
9503206	Acid Extractable Boron (B)	2024/07/10	101	75 - 125	95	80 - 120	<5.0	ug/g	3.9	30
9503206	Acid Extractable Cadmium (Cd)	2024/07/10	105	75 - 125	98	80 - 120	<0.10	ug/g	NC	30
9503206	Acid Extractable Chromium (Cr)	2024/07/10	NC	75 - 125	97	80 - 120	<1.0	ug/g	11	30
9503206	Acid Extractable Cobalt (Co)	2024/07/10	NC	75 - 125	100	80 - 120	<0.10	ug/g	8.5	30
9503206	Acid Extractable Copper (Cu)	2024/07/10	102	75 - 125	97	80 - 120	<0.50	ug/g	8.4	30
9503206	Acid Extractable Lead (Pb)	2024/07/10	107	75 - 125	100	80 - 120	<1.0	ug/g	8.8	30
9503206	Acid Extractable Mercury (Hg)	2024/07/10	109	75 - 125	101	80 - 120	<0.050	ug/g	NC	30



BUREAU VERITAS

Bureau Veritas Job #: C4K4043
Report Date: 2024/07/12

QUALITY ASSURANCE REPORT(CONT'D)

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Sampler Initials: A

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9503206	Acid Extractable Molybdenum (Mo)	2024/07/10	103	75 - 125	97	80 - 120	<0.50	ug/g	3.6	30
9503206	Acid Extractable Nickel (Ni)	2024/07/10	NC	75 - 125	102	80 - 120	<0.50	ug/g	11	30
9503206	Acid Extractable Selenium (Se)	2024/07/10	102	75 - 125	100	80 - 120	<0.50	ug/g	NC	30
9503206	Acid Extractable Silver (Ag)	2024/07/10	105	75 - 125	98	80 - 120	<0.20	ug/g	NC	30
9503206	Acid Extractable Thallium (Tl)	2024/07/10	108	75 - 125	100	80 - 120	<0.050	ug/g	NC	30
9503206	Acid Extractable Uranium (U)	2024/07/10	113	75 - 125	103	80 - 120	<0.050	ug/g	13	30
9503206	Acid Extractable Vanadium (V)	2024/07/10	NC	75 - 125	101	80 - 120	<5.0	ug/g	10	30
9503206	Acid Extractable Zinc (Zn)	2024/07/10	NC	75 - 125	101	80 - 120	<5.0	ug/g	11	30
9503732	a-Chlordane	2024/07/12	97	50 - 130	98	50 - 130	<0.0020	ug/g	NC	40
9503732	Aldrin	2024/07/12	96	50 - 130	102	50 - 130	<0.0020	ug/g	NC	40
9503732	Dieldrin	2024/07/12	113	50 - 130	123	50 - 130	<0.0020	ug/g	NC	40
9503732	Endosulfan I (alpha)	2024/07/12	112	50 - 130	107	50 - 130	<0.0020	ug/g	NC	40
9503732	Endosulfan II (beta)	2024/07/12	114	50 - 130	107	50 - 130	<0.0020	ug/g	NC	40
9503732	Endrin	2024/07/12	115	50 - 130	120	50 - 130	<0.0020	ug/g	NC	40
9503732	g-Chlordane	2024/07/12	96	50 - 130	102	50 - 130	<0.0020	ug/g	NC	40
9503732	Heptachlor epoxide	2024/07/12	104	50 - 130	106	50 - 130	<0.0020	ug/g	NC	40
9503732	Heptachlor	2024/07/12	93	50 - 130	101	50 - 130	<0.0020	ug/g	NC	40
9503732	Hexachlorobenzene	2024/07/12	82	50 - 130	95	50 - 130	<0.0020	ug/g	NC	40
9503732	Hexachlorobutadiene	2024/07/12	100	50 - 130	109	50 - 130	<0.0020	ug/g	NC	40
9503732	Hexachloroethane	2024/07/12	63	50 - 130	88	50 - 130	<0.0020	ug/g	NC	40
9503732	Lindane	2024/07/12	89	50 - 130	97	50 - 130	<0.0020	ug/g	NC	40
9503732	Methoxychlor	2024/07/12	115	50 - 130	125	50 - 130	<0.0050	ug/g	NC	40
9503732	o,p-DDD	2024/07/12	112	50 - 130	106	50 - 130	<0.0020	ug/g	NC	40
9503732	o,p-DDE	2024/07/12	98	50 - 130	102	50 - 130	<0.0020	ug/g	NC	40
9503732	o,p-DDT	2024/07/12	116	50 - 130	117	50 - 130	<0.0020	ug/g	NC	40
9503732	p,p-DDD	2024/07/12	111	50 - 130	107	50 - 130	<0.0020	ug/g	NC	40
9503732	p,p-DDE	2024/07/12	111	50 - 130	97	50 - 130	<0.0020	ug/g	NC	40
9503732	p,p-DDT	2024/07/12	105	50 - 130	127	50 - 130	<0.0020	ug/g	NC	40
9504202	WAD Cyanide (Free)	2024/07/10	81	75 - 125	96	80 - 120	<0.01	ug/g	NC	35
9504214	WAD Cyanide (Free)	2024/07/10	100	75 - 125	94	80 - 120	<0.01	ug/g	NC	35
9504238	WAD Cyanide (Free)	2024/07/10	76	75 - 125	94	80 - 120	<0.01	ug/g	NC	35



BUREAU
VERITAS

Bureau Veritas Job #: C4K4043
Report Date: 2024/07/12

QUALITY ASSURANCE REPORT(CONT'D)

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Sampler Initials: A

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9505542	Available (CaCl2) pH	2024/07/10			100	97 - 103			0.084	N/A

N/A = Not Applicable

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

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

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

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

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

NC (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 \leq 2x RDL).



BUREAU
VERITAS

Bureau Veritas Job #: C4K4043
Report Date: 2024/07/12

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Sampler Initials: A

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.



Your Project #: 2108-E090
 Site Location: HUMBER STATION ROAD, CALEDON
 Your C.O.C. #: n/a

Attention: Madan K. Suwal

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

Report Date: 2024/07/12
 Report #: R8232094
 Version: 2 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4K2375

Received: 2024/07/03, 16:01

Sample Matrix: Soil
 # Samples Received: 10

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Methylnaphthalene Sum	4	N/A	2024/07/09	CAM SOP-00301	EPA 8270D m
1,3-Dichloropropene Sum	3	N/A	2024/07/09		EPA 8260C m
Free (WAD) Cyanide	1	2024/07/08	2024/07/09	CAM SOP-00457	OMOE E3015 m
Free (WAD) Cyanide	3	2024/07/09	2024/07/09	CAM SOP-00457	OMOE E3015 m
Hexavalent Chromium in Soil by IC (1)	6	2024/07/09	2024/07/09	CAM SOP-00436	EPA 3060A/7199 m
Petroleum Hydrocarbons F2-F4 in Soil (2)	1	2024/07/08	2024/07/08	CAM SOP-00316	CCME CWS m
Petroleum Hydrocarbons F2-F4 in Soil (2)	2	2024/07/08	2024/07/09	CAM SOP-00316	CCME CWS m
Acid Extractable Metals by ICPMS	7	2024/07/09	2024/07/09	CAM SOP-00447	EPA 6020B m
Moisture	10	N/A	2024/07/04	CAM SOP-00445	Carter 2nd ed 70.2 m
OC Pesticides (Selected) & PCB (3)	4	2024/07/09	2024/07/12	CAM SOP-00307	EPA 8081B/ 8082A
OC Pesticides Summed Parameters	4	N/A	2024/07/05	CAM SOP-00307	EPA 8081B/ 8082A
PAH Compounds in Soil by GC/MS (SIM)	4	2024/07/08	2024/07/08	CAM SOP-00318	EPA 8270E
pH CaCl2 EXTRACT	3	2024/07/09	2024/07/09	CAM SOP-00413	EPA 9045 D m
Volatile Organic Compounds and F1 PHCs	3	N/A	2024/07/08	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



Your Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Your C.O.C. #: n/a

Attention: Madan K. Suwal

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

Report Date: 2024/07/12
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CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4K2375

Received: 2024/07/03, 16:01

dilution methods.

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

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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.

(3) Chlordane (Total) = Alpha Chlordane + Gamma Chlordane

Encryption Key



AUTHORIZED REPORT
RAPPORT AUTORISÉ

Bureau Veritas
12 Jul 2024 15:04:04

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

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Bureau Veritas Job #: C4K2375
 Report Date: 2024/07/12

Soil Engineers Ltd
 Client Project #: 2108-E090
 Site Location: HUMBER STATION ROAD, CALEDON

O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID		ZPY881		ZPY882		ZPY883			
Sampling Date		2024/07/02		2024/07/02		2024/07/02			
COC Number		n/a		n/a		n/a			
	UNITS	TP1	QC Batch	TP2	QC Batch	TP5	RDL	MDL	QC Batch
Inorganics									
Available (CaCl2) pH	pH	7.39	9503056			6.96			9503056
WAD Cyanide (Free)	ug/g	<0.01	9502140	<0.01	9502140	<0.01	0.01	0.0019	9502140
Chromium (VI)	ug/g	<0.18	9502307	<0.18	9502307	<0.18	0.18	0.050	9502307
Metals									
Acid Extractable Antimony (Sb)	ug/g	<0.20	9502337	<0.20	9502337	<0.20	0.20	0.10	9502337
Acid Extractable Arsenic (As)	ug/g	3.7	9502337	3.1	9502337	2.6	1.0	0.10	9502337
Acid Extractable Barium (Ba)	ug/g	82	9502337	72	9502337	58	0.50	0.30	9502337
Acid Extractable Beryllium (Be)	ug/g	0.79	9502337	0.63	9502337	0.57	0.20	0.020	9502337
Acid Extractable Boron (B)	ug/g	6.8	9502337	5.8	9502337	5.1	5.0	1.0	9502337
Acid Extractable Cadmium (Cd)	ug/g	0.14	9502337	0.17	9502337	0.22	0.10	0.030	9502337
Acid Extractable Chromium (Cr)	ug/g	25	9502337	21	9502337	18	1.0	0.20	9502337
Acid Extractable Cobalt (Co)	ug/g	11	9502337	9.1	9502337	7.0	0.10	0.020	9502337
Acid Extractable Copper (Cu)	ug/g	21	9502337	18	9502337	14	0.50	0.20	9502337
Acid Extractable Lead (Pb)	ug/g	14	9502337	13	9502337	12	1.0	0.10	9502337
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	9502337	<0.50	9502337	<0.50	0.50	0.10	9502337
Acid Extractable Nickel (Ni)	ug/g	23	9502337	19	9502337	15	0.50	0.20	9502337
Acid Extractable Selenium (Se)	ug/g	<0.50	9502337	<0.50	9502337	<0.50	0.50	0.10	9502337
Acid Extractable Silver (Ag)	ug/g	<0.20	9502337	<0.20	9502337	<0.20	0.20	0.040	9502337
Acid Extractable Thallium (Tl)	ug/g	0.16	9502337	0.14	9502337	0.11	0.050	0.010	9502337
Acid Extractable Uranium (U)	ug/g	0.66	9502337	0.76	9502337	0.90	0.050	0.030	9502337
Acid Extractable Vanadium (V)	ug/g	37	9502337	32	9502337	28	5.0	0.50	9502337
Acid Extractable Zinc (Zn)	ug/g	63	9502337	58	9502337	49	5.0	0.50	9502337
Acid Extractable Mercury (Hg)	ug/g	<0.050	9502337	<0.050	9502337	<0.050	0.050	0.030	9502337
RDL = Reportable Detection Limit QC Batch = Quality Control Batch									



Bureau Veritas Job #: C4K2375
Report Date: 2024/07/12

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON

O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID		ZPY885				ZPY885			
Sampling Date		2024/07/02				2024/07/02			
COC Number		n/a				n/a			
	UNITS	DUPS2	RDL	MDL	QC Batch	DUPS2 Lab-Dup	RDL	MDL	QC Batch
Inorganics									
WAD Cyanide (Free)	ug/g	<0.01	0.01	0.0019	9500762				
Metals									
Acid Extractable Antimony (Sb)	ug/g	<0.20	0.20	0.10	9502337	<0.20	0.20	0.10	9502337
Acid Extractable Arsenic (As)	ug/g	3.2	1.0	0.10	9502337	3.0	1.0	0.10	9502337
Acid Extractable Barium (Ba)	ug/g	71	0.50	0.30	9502337	72	0.50	0.30	9502337
Acid Extractable Beryllium (Be)	ug/g	0.69	0.20	0.020	9502337	0.70	0.20	0.020	9502337
Acid Extractable Boron (B)	ug/g	6.2	5.0	1.0	9502337	6.3	5.0	1.0	9502337
Acid Extractable Cadmium (Cd)	ug/g	0.16	0.10	0.030	9502337	0.16	0.10	0.030	9502337
Acid Extractable Chromium (Cr)	ug/g	21	1.0	0.20	9502337	22	1.0	0.20	9502337
Acid Extractable Cobalt (Co)	ug/g	9.2	0.10	0.020	9502337	9.4	0.10	0.020	9502337
Acid Extractable Copper (Cu)	ug/g	19	0.50	0.20	9502337	19	0.50	0.20	9502337
Acid Extractable Lead (Pb)	ug/g	13	1.0	0.10	9502337	13	1.0	0.10	9502337
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	0.50	0.10	9502337	<0.50	0.50	0.10	9502337
Acid Extractable Nickel (Ni)	ug/g	19	0.50	0.20	9502337	20	0.50	0.20	9502337
Acid Extractable Selenium (Se)	ug/g	<0.50	0.50	0.10	9502337	<0.50	0.50	0.10	9502337
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	0.040	9502337	<0.20	0.20	0.040	9502337
Acid Extractable Thallium (Tl)	ug/g	0.13	0.050	0.010	9502337	0.14	0.050	0.010	9502337
Acid Extractable Uranium (U)	ug/g	0.74	0.050	0.030	9502337	0.76	0.050	0.030	9502337
Acid Extractable Vanadium (V)	ug/g	32	5.0	0.50	9502337	33	5.0	0.50	9502337
Acid Extractable Zinc (Zn)	ug/g	59	5.0	0.50	9502337	59	5.0	0.50	9502337
Acid Extractable Mercury (Hg)	ug/g	0.057	0.050	0.030	9502337	<0.050	0.050	0.030	9502337
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate									



O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID		ZPY886			
Sampling Date		2024/07/02			
COC Number		n/a			
	UNITS	BH3/6	RDL	MDL	QC Batch
Inorganics					
Available (CaCl2) pH	pH	7.85			9503056
Chromium (VI)	ug/g	<0.18	0.18	0.050	9502307
Metals					
Acid Extractable Antimony (Sb)	ug/g	<0.20	0.20	0.10	9502337
Acid Extractable Arsenic (As)	ug/g	2.5	1.0	0.10	9502337
Acid Extractable Barium (Ba)	ug/g	54	0.50	0.30	9502337
Acid Extractable Beryllium (Be)	ug/g	0.48	0.20	0.020	9502337
Acid Extractable Boron (B)	ug/g	7.3	5.0	1.0	9502337
Acid Extractable Cadmium (Cd)	ug/g	<0.10	0.10	0.030	9502337
Acid Extractable Chromium (Cr)	ug/g	19	1.0	0.20	9502337
Acid Extractable Cobalt (Co)	ug/g	8.9	0.10	0.020	9502337
Acid Extractable Copper (Cu)	ug/g	20	0.50	0.20	9502337
Acid Extractable Lead (Pb)	ug/g	7.1	1.0	0.10	9502337
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	0.50	0.10	9502337
Acid Extractable Nickel (Ni)	ug/g	20	0.50	0.20	9502337
Acid Extractable Selenium (Se)	ug/g	<0.50	0.50	0.10	9502337
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	0.040	9502337
Acid Extractable Thallium (Tl)	ug/g	0.10	0.050	0.010	9502337
Acid Extractable Uranium (U)	ug/g	0.70	0.050	0.030	9502337
Acid Extractable Vanadium (V)	ug/g	25	5.0	0.50	9502337
Acid Extractable Zinc (Zn)	ug/g	46	5.0	0.50	9502337
Acid Extractable Mercury (Hg)	ug/g	<0.050	0.050	0.030	9502337
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



BUREAU
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Bureau Veritas Job #: C4K2375
Report Date: 2024/07/12

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON

O.REG 153 METALS PACKAGE (SOIL)

Bureau Veritas ID		ZPY888	ZPY889			
Sampling Date		2024/07/02	2024/07/02			
COC Number		n/a	n/a			
	UNITS	BH1/3	BH2/7	RDL	MDL	QC Batch
Inorganics						
Chromium (VI)	ug/g	<0.18	<0.18	0.18	0.050	9502307
Metals						
Acid Extractable Antimony (Sb)	ug/g	<0.20	<0.20	0.20	0.10	9502337
Acid Extractable Arsenic (As)	ug/g	1.3	2.6	1.0	0.10	9502337
Acid Extractable Barium (Ba)	ug/g	25	68	0.50	0.30	9502337
Acid Extractable Beryllium (Be)	ug/g	0.24	0.48	0.20	0.020	9502337
Acid Extractable Boron (B)	ug/g	<5.0	7.4	5.0	1.0	9502337
Acid Extractable Cadmium (Cd)	ug/g	<0.10	<0.10	0.10	0.030	9502337
Acid Extractable Chromium (Cr)	ug/g	10	18	1.0	0.20	9502337
Acid Extractable Cobalt (Co)	ug/g	3.7	8.2	0.10	0.020	9502337
Acid Extractable Copper (Cu)	ug/g	9.5	19	0.50	0.20	9502337
Acid Extractable Lead (Pb)	ug/g	3.6	7.5	1.0	0.10	9502337
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	<0.50	0.50	0.10	9502337
Acid Extractable Nickel (Ni)	ug/g	8.6	19	0.50	0.20	9502337
Acid Extractable Selenium (Se)	ug/g	<0.50	<0.50	0.50	0.10	9502337
Acid Extractable Silver (Ag)	ug/g	<0.20	<0.20	0.20	0.040	9502337
Acid Extractable Thallium (Tl)	ug/g	0.056	0.096	0.050	0.010	9502337
Acid Extractable Uranium (U)	ug/g	0.40	0.66	0.050	0.030	9502337
Acid Extractable Vanadium (V)	ug/g	20	25	5.0	0.50	9502337
Acid Extractable Zinc (Zn)	ug/g	19	42	5.0	0.50	9502337
Acid Extractable Mercury (Hg)	ug/g	<0.050	<0.050	0.050	0.030	9502337
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						



O.REG 153 OC PESTICIDES (SOIL)

Bureau Veritas ID		ZPY881	ZPY882	ZPY883	ZPY884			
Sampling Date		2024/07/02	2024/07/02	2024/07/02	2024/07/02			
COC Number		n/a	n/a	n/a	n/a			
	UNITS	TP1	TP2	TP5	DUPS1	RDL	MDL	QC Batch
Calculated Parameters								
Chlordane (Total)	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	N/A	9493190
o,p-DDD + p,p-DDD	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	N/A	9493190
o,p-DDE + p,p-DDE	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	N/A	9493190
o,p-DDT + p,p-DDT	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	N/A	9493190
Total Endosulfan	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	N/A	9493190
Pesticides & Herbicides								
Aldrin	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
a-Chlordane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
g-Chlordane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
o,p-DDD	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
p,p-DDD	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
o,p-DDE	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
p,p-DDE	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
o,p-DDT	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
p,p-DDT	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
Dieldrin	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
Lindane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
Endosulfan I (alpha)	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
Endosulfan II (beta)	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
Endrin	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
Heptachlor	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
Heptachlor epoxide	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
Hexachlorobenzene	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	0.00040	9503732
Hexachlorobutadiene	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	N/A	9503732
Hexachloroethane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	N/A	9503732
Methoxychlor	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	0.0016	9503732
Surrogate Recovery (%)								
2,4,5,6-Tetrachloro-m-xylene	%	95	96	86	90			9503732
Decachlorobiphenyl	%	86	93	79	88			9503732
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable								



BUREAU
VERITAS

Bureau Veritas Job #: C4K2375
Report Date: 2024/07/12

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON

O.REG 153 PAHS (SOIL)

Bureau Veritas ID		ZPY886				ZPY886			
Sampling Date		2024/07/02				2024/07/02			
COC Number		n/a				n/a			
	UNITS	BH3/6	RDL	MDL	QC Batch	BH3/6 Lab-Dup	RDL	MDL	QC Batch
Calculated Parameters									
Methylnaphthalene, 2-(1-)	ug/g	<0.0071	0.0071	N/A	9493537				
Polyaromatic Hydrocarbons									
Acenaphthene	ug/g	<0.0050	0.0050	0.0020	9499970	<0.0050	0.0050	0.0020	9499970
Acenaphthylene	ug/g	<0.0050	0.0050	0.0010	9499970	<0.0050	0.0050	0.0010	9499970
Anthracene	ug/g	<0.0050	0.0050	0.0010	9499970	<0.0050	0.0050	0.0010	9499970
Benzo(a)anthracene	ug/g	<0.0050	0.0050	0.0020	9499970	<0.0050	0.0050	0.0020	9499970
Benzo(a)pyrene	ug/g	<0.0050	0.0050	0.0010	9499970	<0.0050	0.0050	0.0010	9499970
Benzo(b/j)fluoranthene	ug/g	<0.0050	0.0050	0.0020	9499970	<0.0050	0.0050	0.0020	9499970
Benzo(g,h,i)perylene	ug/g	<0.0050	0.0050	0.0040	9499970	<0.0050	0.0050	0.0040	9499970
Benzo(k)fluoranthene	ug/g	<0.0050	0.0050	0.0020	9499970	<0.0050	0.0050	0.0020	9499970
Chrysene	ug/g	<0.0050	0.0050	0.0020	9499970	0.0061	0.0050	0.0020	9499970
Dibenzo(a,h)anthracene	ug/g	<0.0050	0.0050	0.0040	9499970	<0.0050	0.0050	0.0040	9499970
Fluoranthene	ug/g	<0.0050	0.0050	0.0010	9499970	<0.0050	0.0050	0.0010	9499970
Fluorene	ug/g	<0.0050	0.0050	0.0010	9499970	<0.0050	0.0050	0.0010	9499970
Indeno(1,2,3-cd)pyrene	ug/g	<0.0050	0.0050	0.0040	9499970	<0.0050	0.0050	0.0040	9499970
1-Methylnaphthalene	ug/g	<0.0050	0.0050	0.0010	9499970	<0.0050	0.0050	0.0010	9499970
2-Methylnaphthalene	ug/g	<0.0050	0.0050	0.0010	9499970	<0.0050	0.0050	0.0010	9499970
Naphthalene	ug/g	<0.0050	0.0050	0.0010	9499970	<0.0050	0.0050	0.0010	9499970
Phenanthrene	ug/g	<0.0050	0.0050	0.0010	9499970	<0.0050	0.0050	0.0010	9499970
Pyrene	ug/g	<0.0050	0.0050	0.0010	9499970	<0.0050	0.0050	0.0010	9499970
Surrogate Recovery (%)									
D10-Anthracene	%	100			9499970	99			9499970
D14-Terphenyl (FS)	%	107			9499970	106			9499970
D8-Acenaphthylene	%	86			9499970	84			9499970
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable									



BUREAU
VERITAS

Bureau Veritas Job #: C4K2375
Report Date: 2024/07/12

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON

O. REG 153 PAHS (SOIL)

Bureau Veritas ID		ZPY888	ZPY889	ZPY890			
Sampling Date		2024/07/02	2024/07/02	2024/07/02			
COC Number		n/a	n/a	n/a			
	UNITS	BH1/3	BH2/7	DUPS3	RDL	MDL	QC Batch
Calculated Parameters							
Methylnaphthalene, 2-(1-)	ug/g	<0.0071	<0.0071	<0.0071	0.0071	N/A	9493537
Polyaromatic Hydrocarbons							
Acenaphthene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	0.0020	9499970
Acenaphthylene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	0.0010	9499970
Anthracene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	0.0010	9499970
Benzo(a)anthracene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	0.0020	9499970
Benzo(a)pyrene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	0.0010	9499970
Benzo(b,j)fluoranthene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	0.0020	9499970
Benzo(g,h,i)perylene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	0.0040	9499970
Benzo(k)fluoranthene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	0.0020	9499970
Chrysene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	0.0020	9499970
Dibenzo(a,h)anthracene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	0.0040	9499970
Fluoranthene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	0.0010	9499970
Fluorene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	0.0010	9499970
Indeno(1,2,3-cd)pyrene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	0.0040	9499970
1-Methylnaphthalene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	0.0010	9499970
2-Methylnaphthalene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	0.0010	9499970
Naphthalene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	0.0010	9499970
Phenanthrene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	0.0010	9499970
Pyrene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	0.0010	9499970
Surrogate Recovery (%)							
D10-Anthracene	%	98	100	99			9499970
D14-Terphenyl (FS)	%	104	107	105			9499970
D8-Acenaphthylene	%	77	86	85			9499970
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable							



BUREAU VERITAS

Bureau Veritas Job #: C4K2375

Report Date: 2024/07/12

Soil Engineers Ltd

Client Project #: 2108-E090

Site Location: HUMBER STATION ROAD, CALEDON

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

Bureau Veritas ID		ZPY886	ZPY887		ZPY889			
Sampling Date		2024/07/02	2024/07/02		2024/07/02			
COC Number		n/a	n/a		n/a			
	UNITS	BH3/6	BH1/2	QC Batch	BH2/7	RDL	MDL	QC Batch
Calculated Parameters								
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	<0.050	9492930	<0.050	0.050	0.010	9492930
Volatile Organics								
Acetone (2-Propanone)	ug/g	<0.49	<0.49	9494549	<0.49	0.49	0.49	9494549
Benzene	ug/g	<0.0060	<0.0060	9494549	<0.0060	0.0060	0.0060	9494549
Bromodichloromethane	ug/g	<0.040	<0.040	9494549	<0.040	0.040	0.040	9494549
Bromoform	ug/g	<0.040	<0.040	9494549	<0.040	0.040	0.040	9494549
Bromomethane	ug/g	<0.040	<0.040	9494549	<0.040	0.040	0.040	9494549
Carbon Tetrachloride	ug/g	<0.040	<0.040	9494549	<0.040	0.040	0.040	9494549
Chlorobenzene	ug/g	<0.040	<0.040	9494549	<0.040	0.040	0.040	9494549
Chloroform	ug/g	<0.040	<0.040	9494549	<0.040	0.040	0.040	9494549
Dibromochloromethane	ug/g	<0.040	<0.040	9494549	<0.040	0.040	0.040	9494549
1,2-Dichlorobenzene	ug/g	<0.040	<0.040	9494549	<0.040	0.040	0.040	9494549
1,3-Dichlorobenzene	ug/g	<0.040	<0.040	9494549	<0.040	0.040	0.040	9494549
1,4-Dichlorobenzene	ug/g	<0.040	<0.040	9494549	<0.040	0.040	0.040	9494549
Dichlorodifluoromethane (FREON 12)	ug/g	<0.040	<0.040	9494549	<0.040	0.040	0.040	9494549
1,1-Dichloroethane	ug/g	<0.040	<0.040	9494549	<0.040	0.040	0.040	9494549
1,2-Dichloroethane	ug/g	<0.049	<0.049	9494549	<0.049	0.049	0.049	9494549
1,1-Dichloroethylene	ug/g	<0.040	<0.040	9494549	<0.040	0.040	0.040	9494549
cis-1,2-Dichloroethylene	ug/g	<0.040	<0.040	9494549	<0.040	0.040	0.040	9494549
trans-1,2-Dichloroethylene	ug/g	<0.040	<0.040	9494549	<0.040	0.040	0.040	9494549
1,2-Dichloropropane	ug/g	<0.040	<0.040	9494549	<0.040	0.040	0.040	9494549
cis-1,3-Dichloropropene	ug/g	<0.030	<0.030	9494549	<0.030	0.030	0.030	9494549
trans-1,3-Dichloropropene	ug/g	<0.040	<0.040	9494549	<0.040	0.040	0.040	9494549
Ethylbenzene	ug/g	<0.010	<0.010	9494549	<0.010	0.010	0.010	9494549
Ethylene Dibromide	ug/g	<0.040	<0.040	9494549	<0.040	0.040	0.040	9494549
Hexane	ug/g	<0.040	<0.040	9494549	<0.040	0.040	0.040	9494549
Methylene Chloride(Dichloromethane)	ug/g	<0.049	<0.049	9494549	<0.049	0.049	0.049	9494549
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.40	<0.40	9494549	<0.40	0.40	0.40	9494549
Methyl Isobutyl Ketone	ug/g	<0.40	<0.40	9494549	<0.40	0.40	0.40	9494549
Methyl t-butyl ether (MTBE)	ug/g	<0.040	<0.040	9494549	<0.040	0.040	0.040	9494549
Styrene	ug/g	<0.040	<0.040	9494549	<0.040	0.040	0.040	9494549
1,1,1,2-Tetrachloroethane	ug/g	<0.040	<0.040	9494549	<0.040	0.040	0.040	9494549
1,1,1,2,2-Tetrachloroethane	ug/g	<0.040	<0.040	9494549	<0.040	0.040	0.040	9494549
Tetrachloroethylene	ug/g	<0.040	<0.040	9494549	<0.040	0.040	0.040	9494549
Toluene	ug/g	<0.020	<0.020	9494549	<0.020	0.020	0.020	9494549
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								



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

Bureau Veritas ID		ZPY886	ZPY887		ZPY889			
Sampling Date		2024/07/02	2024/07/02		2024/07/02			
COC Number		n/a	n/a		n/a			
	UNITS	BH3/6	BH1/2	QC Batch	BH2/7	RDL	MDL	QC Batch
1,1,1-Trichloroethane	ug/g	<0.040	<0.040	9494549	<0.040	0.040	0.040	9494549
1,1,2-Trichloroethane	ug/g	<0.040	<0.040	9494549	<0.040	0.040	0.040	9494549
Trichloroethylene	ug/g	<0.010	<0.010	9494549	<0.010	0.010	0.010	9494549
Trichlorofluoromethane (FREON 11)	ug/g	<0.040	<0.040	9494549	<0.040	0.040	0.040	9494549
Vinyl Chloride	ug/g	<0.019	<0.019	9494549	<0.019	0.019	0.019	9494549
p+m-Xylene	ug/g	<0.020	<0.020	9494549	<0.020	0.020	0.020	9494549
o-Xylene	ug/g	<0.020	<0.020	9494549	<0.020	0.020	0.020	9494549
Total Xylenes	ug/g	<0.020	<0.020	9494549	<0.020	0.020	0.020	9494549
F1 (C6-C10)	ug/g	<10	<10	9494549	<10	10	2.0	9494549
F1 (C6-C10) - BTEX	ug/g	<10	<10	9494549	<10	10	2.0	9494549
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/g	<10	<10	9500986	<10	10	5.0	9500176
F3 (C16-C34 Hydrocarbons)	ug/g	<50	<50	9500986	<50	50	5.0	9500176
F4 (C34-C50 Hydrocarbons)	ug/g	<50	<50	9500986	<50	50	10	9500176
Reached Baseline at C50	ug/g	Yes	Yes	9500986	Yes			9500176
Surrogate Recovery (%)								
o-Terphenyl	%	95	97	9500986	90			9500176
4-Bromofluorobenzene	%	96	97	9494549	96			9494549
D10-o-Xylene	%	87	92	9494549	84			9494549
D4-1,2-Dichloroethane	%	94	97	9494549	96			9494549
D8-Toluene	%	93	92	9494549	92			9494549
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								



BUREAU
VERITAS

Bureau Veritas Job #: C4K2375
Report Date: 2024/07/12

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON

RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID		ZPY881	ZPY882	ZPY883	ZPY884		ZPY885			
Sampling Date		2024/07/02	2024/07/02	2024/07/02	2024/07/02		2024/07/02			
COC Number		n/a	n/a	n/a	n/a		n/a			
	UNITS	TP1	TP2	TP5	DUPS1	QC Batch	DUPS2	RDL	MDL	QC Batch
Inorganics										
Moisture	%	19	22	21	19	9495546	21	1.0	0.50	9496064
RDL = Reportable Detection Limit QC Batch = Quality Control Batch										
Bureau Veritas ID		ZPY886	ZPY887	ZPY888	ZPY889	ZPY889	ZPY890			
Sampling Date		2024/07/02	2024/07/02	2024/07/02	2024/07/02	2024/07/02	2024/07/02			
COC Number		n/a	n/a	n/a	n/a	n/a	n/a			
	UNITS	BH3/6	BH1/2	BH1/3	BH2/7	BH2/7 Lab-Dup	DUPS3	RDL	MDL	QC Batch
Inorganics										
Moisture	%	14	17	17	11	11	13	1.0	0.50	9496232
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate										



Bureau Veritas Job #: C4K2375
Report Date: 2024/07/12

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON

TEST SUMMARY

Bureau Veritas ID: ZPY881
Sample ID: TP1
Matrix: Soil

Collected: 2024/07/02
Shipped:
Received: 2024/07/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	9502140	2024/07/09	2024/07/09	Prgya Panchal
Hexavalent Chromium in Soil by IC	IC/SPEC	9502307	2024/07/09	2024/07/09	Rupinder Sihota
Acid Extractable Metals by ICPMS	ICP/MS	9502337	2024/07/09	2024/07/09	Daniel Teclu
Moisture	BAL	9495546	N/A	2024/07/04	Raj Patel
OC Pesticides (Selected) & PCB	GC/ECD	9503732	2024/07/09	2024/07/12	Li Peng
OC Pesticides Summed Parameters	CALC	9493190	N/A	2024/07/05	Automated Statchk
pH CaCl2 EXTRACT	AT	9503056	2024/07/09	2024/07/09	Taslina Aktar

Bureau Veritas ID: ZPY882
Sample ID: TP2
Matrix: Soil

Collected: 2024/07/02
Shipped:
Received: 2024/07/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	9502140	2024/07/09	2024/07/09	Prgya Panchal
Hexavalent Chromium in Soil by IC	IC/SPEC	9502307	2024/07/09	2024/07/09	Rupinder Sihota
Acid Extractable Metals by ICPMS	ICP/MS	9502337	2024/07/09	2024/07/09	Daniel Teclu
Moisture	BAL	9495546	N/A	2024/07/04	Raj Patel
OC Pesticides (Selected) & PCB	GC/ECD	9503732	2024/07/09	2024/07/12	Li Peng
OC Pesticides Summed Parameters	CALC	9493190	N/A	2024/07/05	Automated Statchk

Bureau Veritas ID: ZPY883
Sample ID: TP5
Matrix: Soil

Collected: 2024/07/02
Shipped:
Received: 2024/07/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	9502140	2024/07/09	2024/07/09	Prgya Panchal
Hexavalent Chromium in Soil by IC	IC/SPEC	9502307	2024/07/09	2024/07/09	Rupinder Sihota
Acid Extractable Metals by ICPMS	ICP/MS	9502337	2024/07/09	2024/07/09	Daniel Teclu
Moisture	BAL	9495546	N/A	2024/07/04	Raj Patel
OC Pesticides (Selected) & PCB	GC/ECD	9503732	2024/07/09	2024/07/12	Li Peng
OC Pesticides Summed Parameters	CALC	9493190	N/A	2024/07/05	Automated Statchk
pH CaCl2 EXTRACT	AT	9503056	2024/07/09	2024/07/09	Taslina Aktar

Bureau Veritas ID: ZPY884
Sample ID: DUPS1
Matrix: Soil

Collected: 2024/07/02
Shipped:
Received: 2024/07/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	9495546	N/A	2024/07/04	Raj Patel
OC Pesticides (Selected) & PCB	GC/ECD	9503732	2024/07/09	2024/07/12	Li Peng
OC Pesticides Summed Parameters	CALC	9493190	N/A	2024/07/05	Automated Statchk



Bureau Veritas Job #: C4K2375
Report Date: 2024/07/12

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON

TEST SUMMARY

Bureau Veritas ID: ZPY885
Sample ID: DUPS2
Matrix: Soil

Collected: 2024/07/02
Shipped:
Received: 2024/07/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	9500762	2024/07/08	2024/07/09	Prgya Panchal
Acid Extractable Metals by ICPMS	ICP/MS	9502337	2024/07/09	2024/07/09	Daniel Teclu
Moisture	BAL	9496064	N/A	2024/07/04	Muhammad Chhaidan

Bureau Veritas ID: ZPY885 Dup
Sample ID: DUPS2
Matrix: Soil

Collected: 2024/07/02
Shipped:
Received: 2024/07/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractable Metals by ICPMS	ICP/MS	9502337	2024/07/09	2024/07/09	Daniel Teclu

Bureau Veritas ID: ZPY886
Sample ID: BH3/6
Matrix: Soil

Collected: 2024/07/02
Shipped:
Received: 2024/07/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	9493537	N/A	2024/07/09	Automated Statchk
1,3-Dichloropropene Sum	CALC	9492930	N/A	2024/07/09	Automated Statchk
Hexavalent Chromium in Soil by IC	IC/SPEC	9502307	2024/07/09	2024/07/09	Rupinder Sihota
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	9500986	2024/07/08	2024/07/09	Mohammed Abdul Nafay Shoeb
Acid Extractable Metals by ICPMS	ICP/MS	9502337	2024/07/09	2024/07/09	Daniel Teclu
Moisture	BAL	9496232	N/A	2024/07/04	Muhammad Chhaidan
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	9499970	2024/07/08	2024/07/08	Margaret Kulczyk-Stanko
pH CaCl2 EXTRACT	AT	9503056	2024/07/09	2024/07/09	Taslina Aktar
Volatile Organic Compounds and F1 PHCs	GC/MSFD	9494549	N/A	2024/07/08	Juan Pangilinan

Bureau Veritas ID: ZPY886 Dup
Sample ID: BH3/6
Matrix: Soil

Collected: 2024/07/02
Shipped:
Received: 2024/07/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	9499970	2024/07/08	2024/07/08	Margaret Kulczyk-Stanko

Bureau Veritas ID: ZPY887
Sample ID: BH1/2
Matrix: Soil

Collected: 2024/07/02
Shipped:
Received: 2024/07/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	9492930	N/A	2024/07/09	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	9500986	2024/07/08	2024/07/09	Mohammed Abdul Nafay Shoeb
Moisture	BAL	9496232	N/A	2024/07/04	Muhammad Chhaidan
Volatile Organic Compounds and F1 PHCs	GC/MSFD	9494549	N/A	2024/07/08	Juan Pangilinan



Bureau Veritas Job #: C4K2375
Report Date: 2024/07/12

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON

TEST SUMMARY

Bureau Veritas ID: ZPY888
Sample ID: BH1/3
Matrix: Soil

Collected: 2024/07/02
Shipped:
Received: 2024/07/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	9493537	N/A	2024/07/09	Automated Statchk
Hexavalent Chromium in Soil by IC	IC/SPEC	9502307	2024/07/09	2024/07/09	Rupinder Sihota
Acid Extractable Metals by ICPMS	ICP/MS	9502337	2024/07/09	2024/07/09	Daniel Teclu
Moisture	BAL	9496232	N/A	2024/07/04	Muhammad Chhaidan
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	9499970	2024/07/08	2024/07/08	Margaret Kulczyk-Stanko

Bureau Veritas ID: ZPY889
Sample ID: BH2/7
Matrix: Soil

Collected: 2024/07/02
Shipped:
Received: 2024/07/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	9493537	N/A	2024/07/09	Automated Statchk
1,3-Dichloropropene Sum	CALC	9492930	N/A	2024/07/09	Automated Statchk
Hexavalent Chromium in Soil by IC	IC/SPEC	9502307	2024/07/09	2024/07/09	Rupinder Sihota
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	9500176	2024/07/08	2024/07/08	Suleeqa Nurr
Acid Extractable Metals by ICPMS	ICP/MS	9502337	2024/07/09	2024/07/09	Daniel Teclu
Moisture	BAL	9496232	N/A	2024/07/04	Muhammad Chhaidan
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	9499970	2024/07/08	2024/07/08	Margaret Kulczyk-Stanko
Volatile Organic Compounds and F1 PHCs	GC/MSFD	9494549	N/A	2024/07/08	Juan Pangilinan

Bureau Veritas ID: ZPY889 Dup
Sample ID: BH2/7
Matrix: Soil

Collected: 2024/07/02
Shipped:
Received: 2024/07/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	9496232	N/A	2024/07/04	Muhammad Chhaidan

Bureau Veritas ID: ZPY890
Sample ID: DUPS3
Matrix: Soil

Collected: 2024/07/02
Shipped:
Received: 2024/07/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	9493537	N/A	2024/07/09	Automated Statchk
Moisture	BAL	9496232	N/A	2024/07/04	Muhammad Chhaidan
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	9499970	2024/07/08	2024/07/08	Margaret Kulczyk-Stanko



Bureau Veritas Job #: C4K2375
Report Date: 2024/07/12

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON

GENERAL COMMENTS

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

Package 1	5.7°C
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Cooler custody seal was present and intact.

Results relate only to the items tested.



BUREAU VERITAS

Bureau Veritas Job #: C4K2375
Report Date: 2024/07/12

QUALITY ASSURANCE REPORT

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9494549	4-Bromofluorobenzene	2024/07/08	96	60 - 140	96	60 - 140	96	%		
9494549	D10-o-Xylene	2024/07/08	109	60 - 130	99	60 - 130	91	%		
9494549	D4-1,2-Dichloroethane	2024/07/08	96	60 - 140	95	60 - 140	95	%		
9494549	D8-Toluene	2024/07/08	106	60 - 140	106	60 - 140	94	%		
9499970	D10-Anthracene	2024/07/08	98	50 - 130	102	50 - 130	102	%		
9499970	D14-Terphenyl (FS)	2024/07/08	106	50 - 130	106	50 - 130	104	%		
9499970	D8-Acenaphthylene	2024/07/08	85	50 - 130	86	50 - 130	86	%		
9500176	o-Terphenyl	2024/07/09	98	60 - 130	102	60 - 130	94	%		
9500986	o-Terphenyl	2024/07/08	90	60 - 130	92	60 - 130	92	%		
9503732	2,4,5,6-Tetrachloro-m-xylene	2024/07/12	89	50 - 130	115	50 - 130	94	%		
9503732	Decachlorobiphenyl	2024/07/12	81	50 - 130	116	50 - 130	88	%		
9494549	1,1,1,2-Tetrachloroethane	2024/07/08	86	60 - 140	88	60 - 130	<0.040	ug/g	NC	50
9494549	1,1,1-Trichloroethane	2024/07/08	83	60 - 140	84	60 - 130	<0.040	ug/g	NC	50
9494549	1,1,2,2-Tetrachloroethane	2024/07/08	92	60 - 140	94	60 - 130	<0.040	ug/g	NC	50
9494549	1,1,2-Trichloroethane	2024/07/08	85	60 - 140	87	60 - 130	<0.040	ug/g	NC	50
9494549	1,1-Dichloroethane	2024/07/08	96	60 - 140	97	60 - 130	<0.040	ug/g	NC	50
9494549	1,1-Dichloroethylene	2024/07/08	91	60 - 140	92	60 - 130	<0.040	ug/g	NC	50
9494549	1,2-Dichlorobenzene	2024/07/08	88	60 - 140	90	60 - 130	<0.040	ug/g	NC	50
9494549	1,2-Dichloroethane	2024/07/08	82	60 - 140	83	60 - 130	<0.049	ug/g	NC	50
9494549	1,2-Dichloropropane	2024/07/08	96	60 - 140	98	60 - 130	<0.040	ug/g	NC	50
9494549	1,3-Dichlorobenzene	2024/07/08	83	60 - 140	88	60 - 130	<0.040	ug/g	NC	50
9494549	1,4-Dichlorobenzene	2024/07/08	91	60 - 140	89	60 - 130	<0.040	ug/g	NC	50
9494549	Acetone (2-Propanone)	2024/07/08	94	60 - 140	96	60 - 140	<0.49	ug/g	NC	50
9494549	Benzene	2024/07/08	90	60 - 140	93	60 - 130	<0.0060	ug/g	NC	50
9494549	Bromodichloromethane	2024/07/08	88	60 - 140	89	60 - 130	<0.040	ug/g	NC	50
9494549	Bromoform	2024/07/08	87	60 - 140	89	60 - 130	<0.040	ug/g	NC	50
9494549	Bromomethane	2024/07/08	78	60 - 140	79	60 - 140	<0.040	ug/g	NC	50
9494549	Carbon Tetrachloride	2024/07/08	81	60 - 140	82	60 - 130	<0.040	ug/g	NC	50
9494549	Chlorobenzene	2024/07/08	84	60 - 140	87	60 - 130	<0.040	ug/g	NC	50
9494549	Chloroform	2024/07/08	86	60 - 140	88	60 - 130	<0.040	ug/g	NC	50
9494549	cis-1,2-Dichloroethylene	2024/07/08	90	60 - 140	91	60 - 130	<0.040	ug/g	NC	50



Bureau Veritas Job #: C4K2375
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QUALITY ASSURANCE REPORT(CONT'D)

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9494549	cis-1,3-Dichloropropene	2024/07/08	93	60 - 140	96	60 - 130	<0.030	ug/g	NC	50
9494549	Dibromochloromethane	2024/07/08	87	60 - 140	89	60 - 130	<0.040	ug/g	NC	50
9494549	Dichlorodifluoromethane (FREON 12)	2024/07/08	72	60 - 140	73	60 - 140	<0.040	ug/g	NC	50
9494549	Ethylbenzene	2024/07/08	86	60 - 140	89	60 - 130	<0.010	ug/g	NC	50
9494549	Ethylene Dibromide	2024/07/08	88	60 - 140	91	60 - 130	<0.040	ug/g	NC	50
9494549	F1 (C6-C10) - BTEX	2024/07/08					<10	ug/g	NC	30
9494549	F1 (C6-C10)	2024/07/08	84	60 - 140	87	80 - 120	<10	ug/g	NC	30
9494549	Hexane	2024/07/08	107	60 - 140	108	60 - 130	<0.040	ug/g	0.93	50
9494549	Methyl Ethyl Ketone (2-Butanone)	2024/07/08	103	60 - 140	107	60 - 140	<0.40	ug/g	NC	50
9494549	Methyl Isobutyl Ketone	2024/07/08	80	60 - 140	82	60 - 130	<0.40	ug/g	NC	50
9494549	Methyl t-butyl ether (MTBE)	2024/07/08	88	60 - 140	91	60 - 130	<0.040	ug/g	NC	50
9494549	Methylene Chloride(Dichloromethane)	2024/07/08	90	60 - 140	91	60 - 130	<0.049	ug/g	NC	50
9494549	o-Xylene	2024/07/08	89	60 - 140	92	60 - 130	<0.020	ug/g	NC	50
9494549	p+m-Xylene	2024/07/08	86	60 - 140	88	60 - 130	<0.020	ug/g	NC	50
9494549	Styrene	2024/07/08	71	60 - 140	72	60 - 130	<0.040	ug/g	NC	50
9494549	Tetrachloroethylene	2024/07/08	84	60 - 140	86	60 - 130	<0.040	ug/g	NC	50
9494549	Toluene	2024/07/08	85	60 - 140	88	60 - 130	<0.020	ug/g	NC	50
9494549	Total Xylenes	2024/07/08					<0.020	ug/g	NC	50
9494549	trans-1,2-Dichloroethylene	2024/07/08	93	60 - 140	94	60 - 130	<0.040	ug/g	NC	50
9494549	trans-1,3-Dichloropropene	2024/07/08	94	60 - 140	98	60 - 130	<0.040	ug/g	NC	50
9494549	Trichloroethylene	2024/07/08	85	60 - 140	86	60 - 130	<0.010	ug/g	NC	50
9494549	Trichlorofluoromethane (FREON 11)	2024/07/08	82	60 - 140	83	60 - 130	<0.040	ug/g	NC	50
9494549	Vinyl Chloride	2024/07/08	99	60 - 140	100	60 - 130	<0.019	ug/g	NC	50
9495546	Moisture	2024/07/04							0.80	20
9496064	Moisture	2024/07/04							2.2	20
9496232	Moisture	2024/07/04							4.5	20
9499970	1-Methylnaphthalene	2024/07/08	91	50 - 130	93	50 - 130	<0.0050	ug/g	NC	40
9499970	2-Methylnaphthalene	2024/07/08	91	50 - 130	93	50 - 130	<0.0050	ug/g	NC	40
9499970	Acenaphthene	2024/07/08	97	50 - 130	101	50 - 130	<0.0050	ug/g	NC	40
9499970	Acenaphthylene	2024/07/08	91	50 - 130	96	50 - 130	<0.0050	ug/g	NC	40
9499970	Anthracene	2024/07/08	102	50 - 130	110	50 - 130	<0.0050	ug/g	NC	40



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QUALITY ASSURANCE REPORT(CONT'D)

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9499970	Benzo(a)anthracene	2024/07/08	108	50 - 130	107	50 - 130	<0.0050	ug/g	NC	40
9499970	Benzo(a)pyrene	2024/07/08	101	50 - 130	107	50 - 130	<0.0050	ug/g	NC	40
9499970	Benzo(b,j)fluoranthene	2024/07/08	98	50 - 130	105	50 - 130	<0.0050	ug/g	NC	40
9499970	Benzo(g,h,i)perylene	2024/07/08	100	50 - 130	105	50 - 130	<0.0050	ug/g	NC	40
9499970	Benzo(k)fluoranthene	2024/07/08	100	50 - 130	107	50 - 130	<0.0050	ug/g	NC	40
9499970	Chrysene	2024/07/08	102	50 - 130	103	50 - 130	<0.0050	ug/g	19	40
9499970	Dibenzo(a,h)anthracene	2024/07/08	102	50 - 130	101	50 - 130	<0.0050	ug/g	NC	40
9499970	Fluoranthene	2024/07/08	113	50 - 130	113	50 - 130	<0.0050	ug/g	NC	40
9499970	Fluorene	2024/07/08	100	50 - 130	103	50 - 130	<0.0050	ug/g	NC	40
9499970	Indeno(1,2,3-cd)pyrene	2024/07/08	106	50 - 130	121	50 - 130	<0.0050	ug/g	NC	40
9499970	Naphthalene	2024/07/08	87	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
9499970	Phenanthrene	2024/07/08	105	50 - 130	108	50 - 130	<0.0050	ug/g	NC	40
9499970	Pyrene	2024/07/08	114	50 - 130	114	50 - 130	<0.0050	ug/g	NC	40
9500176	F2 (C10-C16 Hydrocarbons)	2024/07/08	96	60 - 130	102	80 - 120	<10	ug/g	26	30
9500176	F3 (C16-C34 Hydrocarbons)	2024/07/08	102	60 - 130	107	80 - 120	<50	ug/g	NC	30
9500176	F4 (C34-C50 Hydrocarbons)	2024/07/08	98	60 - 130	100	80 - 120	<50	ug/g	NC	30
9500762	WAD Cyanide (Free)	2024/07/09	95	75 - 125	98	80 - 120	<0.01	ug/g	NC	35
9500986	F2 (C10-C16 Hydrocarbons)	2024/07/08	92	60 - 130	94	80 - 120	<10	ug/g	NC	30
9500986	F3 (C16-C34 Hydrocarbons)	2024/07/08	96	60 - 130	95	80 - 120	<50	ug/g	NC	30
9500986	F4 (C34-C50 Hydrocarbons)	2024/07/08	93	60 - 130	91	80 - 120	<50	ug/g	NC	30
9502140	WAD Cyanide (Free)	2024/07/09	99	75 - 125	101	80 - 120	<0.01	ug/g	NC	35
9502307	Chromium (VI)	2024/07/09	62 (1)	70 - 130	91	80 - 120	<0.18	ug/g	NC	35
9502337	Acid Extractable Antimony (Sb)	2024/07/09	87	75 - 125	100	80 - 120	<0.20	ug/g	NC	30
9502337	Acid Extractable Arsenic (As)	2024/07/09	94	75 - 125	97	80 - 120	<1.0	ug/g	5.9	30
9502337	Acid Extractable Barium (Ba)	2024/07/09	NC	75 - 125	94	80 - 120	<0.50	ug/g	1.1	30
9502337	Acid Extractable Beryllium (Be)	2024/07/09	90	75 - 125	93	80 - 120	<0.20	ug/g	1.5	30
9502337	Acid Extractable Boron (B)	2024/07/09	83	75 - 125	94	80 - 120	<5.0	ug/g	2.6	30
9502337	Acid Extractable Cadmium (Cd)	2024/07/09	94	75 - 125	97	80 - 120	<0.10	ug/g	2.1	30
9502337	Acid Extractable Chromium (Cr)	2024/07/09	98	75 - 125	98	80 - 120	<1.0	ug/g	2.1	30
9502337	Acid Extractable Cobalt (Co)	2024/07/09	97	75 - 125	100	80 - 120	<0.10	ug/g	2.2	30
9502337	Acid Extractable Copper (Cu)	2024/07/09	96	75 - 125	96	80 - 120	<0.50	ug/g	1.6	30



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QUALITY ASSURANCE REPORT(CONT'D)

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9502337	Acid Extractable Lead (Pb)	2024/07/09	99	75 - 125	101	80 - 120	<1.0	ug/g	0.76	30
9502337	Acid Extractable Mercury (Hg)	2024/07/09	101	75 - 125	105	80 - 120	<0.050	ug/g	12	30
9502337	Acid Extractable Molybdenum (Mo)	2024/07/09	91	75 - 125	94	80 - 120	<0.50	ug/g	NC	30
9502337	Acid Extractable Nickel (Ni)	2024/07/09	103	75 - 125	102	80 - 120	<0.50	ug/g	3.5	30
9502337	Acid Extractable Selenium (Se)	2024/07/09	92	75 - 125	96	80 - 120	<0.50	ug/g	NC	30
9502337	Acid Extractable Silver (Ag)	2024/07/09	98	75 - 125	100	80 - 120	<0.20	ug/g	NC	30
9502337	Acid Extractable Thallium (Tl)	2024/07/09	98	75 - 125	102	80 - 120	<0.050	ug/g	5.6	30
9502337	Acid Extractable Uranium (U)	2024/07/09	100	75 - 125	104	80 - 120	<0.050	ug/g	2.1	30
9502337	Acid Extractable Vanadium (V)	2024/07/09	NC	75 - 125	100	80 - 120	<5.0	ug/g	2.6	30
9502337	Acid Extractable Zinc (Zn)	2024/07/09	NC	75 - 125	99	80 - 120	<5.0	ug/g	0.85	30
9503056	Available (CaCl2) pH	2024/07/09			100	97 - 103			1.6	N/A
9503732	a-Chlordane	2024/07/12	97	50 - 130	98	50 - 130	<0.0020	ug/g	NC	40
9503732	Aldrin	2024/07/12	96	50 - 130	102	50 - 130	<0.0020	ug/g	NC	40
9503732	Dieldrin	2024/07/12	113	50 - 130	123	50 - 130	<0.0020	ug/g	NC	40
9503732	Endosulfan I (alpha)	2024/07/12	112	50 - 130	107	50 - 130	<0.0020	ug/g	NC	40
9503732	Endosulfan II (beta)	2024/07/12	114	50 - 130	107	50 - 130	<0.0020	ug/g	NC	40
9503732	Endrin	2024/07/12	115	50 - 130	120	50 - 130	<0.0020	ug/g	NC	40
9503732	g-Chlordane	2024/07/12	96	50 - 130	102	50 - 130	<0.0020	ug/g	NC	40
9503732	Heptachlor epoxide	2024/07/12	104	50 - 130	106	50 - 130	<0.0020	ug/g	NC	40
9503732	Heptachlor	2024/07/12	93	50 - 130	101	50 - 130	<0.0020	ug/g	NC	40
9503732	Hexachlorobenzene	2024/07/12	82	50 - 130	95	50 - 130	<0.0020	ug/g	NC	40
9503732	Hexachlorobutadiene	2024/07/12	100	50 - 130	109	50 - 130	<0.0020	ug/g	NC	40
9503732	Hexachloroethane	2024/07/12	63	50 - 130	88	50 - 130	<0.0020	ug/g	NC	40
9503732	Lindane	2024/07/12	89	50 - 130	97	50 - 130	<0.0020	ug/g	NC	40
9503732	Methoxychlor	2024/07/12	115	50 - 130	125	50 - 130	<0.0050	ug/g	NC	40
9503732	o,p-DDD	2024/07/12	112	50 - 130	106	50 - 130	<0.0020	ug/g	NC	40
9503732	o,p-DDE	2024/07/12	98	50 - 130	102	50 - 130	<0.0020	ug/g	NC	40
9503732	o,p-DDT	2024/07/12	116	50 - 130	117	50 - 130	<0.0020	ug/g	NC	40
9503732	p,p-DDD	2024/07/12	111	50 - 130	107	50 - 130	<0.0020	ug/g	NC	40
9503732	p,p-DDE	2024/07/12	111	50 - 130	97	50 - 130	<0.0020	ug/g	NC	40



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QUALITY ASSURANCE REPORT(CONT'D)

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9503732	p,p-DDT	2024/07/12	105	50 - 130	127	50 - 130	<0.0020	ug/g	NC	40

N/A = Not Applicable

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

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

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

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

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

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

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).
(1) The matrix spike recovery was below the lower control limit. This may be due in part to the reducing environment of the sample. The matrix spike was reanalyzed to confirm result.



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Report Date: 2024/07/12

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON

VALIDATION SIGNATURE PAGE

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

Anastassia Hamanov, Scientific Specialist

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



Soil Engineers Ltd.

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NEWMARKET
TEL: (905) 853-0647
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MUSKOKA
TEL: (705) 721-7863
FAX: (705) 721-7864

HAMILTON
TEL: (905) 777-7956
FAX: (905) 542-2769

APPENDIX 'D'

CERTIFICATE OF ANALYSIS (GROUNDWATER SAMPLES)

Reference No. 2108-E090



Your Project #: 2108-E090
 Site Location: HUMBER STATION ROAD, CALEDON
 Your C.O.C. #: N/A

Attention: Madan K. Suwal

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

Report Date: 2024/07/15
 Report #: R8235352
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4K7121

Received: 2024/07/08, 17:03

Sample Matrix: Ground Water
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Analytical Method
		Extracted	Analyzed		
Methylnaphthalene Sum	1	N/A	2024/07/11	CAM SOP-00301	EPA 8270D m
1,3-Dichloropropene Sum	1	N/A	2024/07/12		EPA 8260C m
Petroleum Hydrocarbons F2-F4 in Water (1)	1	2024/07/09	2024/07/12	CAM SOP-00316	CCME PHC-CWS m
Dissolved Metals by ICPMS	1	N/A	2024/07/12	CAM SOP-00447	EPA 6020B m
PAH Compounds in Water by GC/MS (SIM)	1	2024/07/10	2024/07/11	CAM SOP-00318	EPA 8270E
Volatile Organic Compounds and F1 PHCs	1	N/A	2024/07/11	CAM SOP-00230	EPA 8260C m

Remarks:

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

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

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

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

(1) 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



Your Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Your C.O.C. #: N/A

Attention: Madan K. Suwal

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

Report Date: 2024/07/15
Report #: R8235352
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4K7121

Received: 2024/07/08, 17:03

reported using validated cold solvent extraction instead of Soxhlet extraction.

Encryption Key



Bureau Veritas
15 Jul 2024 16:31:02

Please direct all questions regarding this Certificate of Analysis to:

Antonella Brasil, Senior Project Manager
Email: Antonella.Brasil@bureauveritas.com
Phone# (905)817-5817

=====

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.



Bureau Veritas Job #: C4K7121
 Report Date: 2024/07/15

Soil Engineers Ltd
 Client Project #: 2108-E090
 Site Location: HUMBER STATION ROAD, CALEDON
 Sampler Initials: AD

O.REG 153 DISSOLVED ICPMS METALS (WATER)

Bureau Veritas ID		ZQW502			
Sampling Date		2024/07/05			
COC Number		N/A			
	UNITS	MW1	RDL	MDL	QC Batch
Metals					
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	0.50	9509024
Dissolved Arsenic (As)	ug/L	<1.0	1.0	1.0	9509024
Dissolved Barium (Ba)	ug/L	28	2.0	2.0	9509024
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	0.40	9509024
Dissolved Boron (B)	ug/L	13	10	10	9509024
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	0.090	9509024
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	5.0	9509024
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	0.50	9509024
Dissolved Copper (Cu)	ug/L	2.4	0.90	0.90	9509024
Dissolved Lead (Pb)	ug/L	<0.50	0.50	0.50	9509024
Dissolved Molybdenum (Mo)	ug/L	<0.50	0.50	0.50	9509024
Dissolved Nickel (Ni)	ug/L	<1.0	1.0	1.0	9509024
Dissolved Selenium (Se)	ug/L	<2.0	2.0	2.0	9509024
Dissolved Silver (Ag)	ug/L	<0.090	0.090	0.090	9509024
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	0.050	9509024
Dissolved Uranium (U)	ug/L	0.49	0.10	0.10	9509024
Dissolved Vanadium (V)	ug/L	<0.50	0.50	0.50	9509024
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	5.0	9509024
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



Bureau Veritas Job #: C4K7121
 Report Date: 2024/07/15

Soil Engineers Ltd
 Client Project #: 2108-E090
 Site Location: HUMBER STATION ROAD, CALEDON
 Sampler Initials: AD

O.REG 153 PAHS (GROUND WATER)

Bureau Veritas ID		ZQW502			
Sampling Date		2024/07/05			
COC Number		N/A			
	UNITS	MW1	RDL	MDL	QC Batch
Calculated Parameters					
Methylnaphthalene, 2-(1-)	ug/L	<0.071	0.071	N/A	9502377
Polyaromatic Hydrocarbons					
Acenaphthene	ug/L	<0.050	0.050	0.0030	9505659
Acenaphthylene	ug/L	<0.050	0.050	0.0030	9505659
Anthracene	ug/L	<0.050	0.050	0.0030	9505659
Benzo(a)anthracene	ug/L	<0.050	0.050	0.0030	9505659
Benzo(a)pyrene	ug/L	<0.0090	0.0090	0.0030	9505659
Benzo(b/j)fluoranthene	ug/L	<0.050	0.050	0.0030	9505659
Benzo(g,h,i)perylene	ug/L	<0.050	0.050	0.0030	9505659
Benzo(k)fluoranthene	ug/L	<0.050	0.050	0.0030	9505659
Chrysene	ug/L	<0.050	0.050	0.0030	9505659
Dibenzo(a,h)anthracene	ug/L	<0.050	0.050	0.0030	9505659
Fluoranthene	ug/L	<0.050	0.050	0.0030	9505659
Fluorene	ug/L	<0.050	0.050	0.0030	9505659
Indeno(1,2,3-cd)pyrene	ug/L	<0.050	0.050	0.0030	9505659
1-Methylnaphthalene	ug/L	<0.050	0.050	0.0030	9505659
2-Methylnaphthalene	ug/L	<0.050	0.050	0.0030	9505659
Naphthalene	ug/L	<0.050	0.050	0.0030	9505659
Phenanthrene	ug/L	<0.030	0.030	0.0030	9505659
Pyrene	ug/L	<0.050	0.050	0.0030	9505659
Surrogate Recovery (%)					
D10-Anthracene	%	103			9505659
D14-Terphenyl (FS)	%	112			9505659
D8-Acenaphthylene	%	98			9505659
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable					



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

Bureau Veritas ID		ZQW502			
Sampling Date		2024/07/05			
COC Number		N/A			
	UNITS	MW1	RDL	MDL	QC Batch
Calculated Parameters					
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	0.50	0.50	9502378
Volatile Organics					
Acetone (2-Propanone)	ug/L	<10	10	1.0	9505838
Benzene	ug/L	<0.17	0.17	0.020	9505838
Bromodichloromethane	ug/L	<0.50	0.50	0.050	9505838
Bromoform	ug/L	<1.0	1.0	0.10	9505838
Bromomethane	ug/L	<0.50	0.50	0.10	9505838
Carbon Tetrachloride	ug/L	<0.20	0.20	0.050	9505838
Chlorobenzene	ug/L	<0.20	0.20	0.010	9505838
Chloroform	ug/L	<0.20	0.20	0.050	9505838
Dibromochloromethane	ug/L	<0.50	0.50	0.050	9505838
1,2-Dichlorobenzene	ug/L	<0.50	0.50	0.050	9505838
1,3-Dichlorobenzene	ug/L	<0.50	0.50	0.050	9505838
1,4-Dichlorobenzene	ug/L	<0.50	0.50	0.050	9505838
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	1.0	0.050	9505838
1,1-Dichloroethane	ug/L	<0.20	0.20	0.050	9505838
1,2-Dichloroethane	ug/L	<0.50	0.50	0.020	9505838
1,1-Dichloroethylene	ug/L	<0.20	0.20	0.050	9505838
cis-1,2-Dichloroethylene	ug/L	<0.50	0.50	0.050	9505838
trans-1,2-Dichloroethylene	ug/L	<0.50	0.50	0.050	9505838
1,2-Dichloropropane	ug/L	<0.20	0.20	0.050	9505838
cis-1,3-Dichloropropene	ug/L	<0.30	0.30	0.050	9505838
trans-1,3-Dichloropropene	ug/L	<0.40	0.40	0.050	9505838
Ethylbenzene	ug/L	<0.20	0.20	0.010	9505838
Ethylene Dibromide	ug/L	<0.20	0.20	0.050	9505838
Hexane	ug/L	<1.0	1.0	0.10	9505838
Methylene Chloride(Dichloromethane)	ug/L	<2.0	2.0	0.10	9505838
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	10	0.50	9505838
Methyl Isobutyl Ketone	ug/L	<5.0	5.0	0.10	9505838
Methyl t-butyl ether (MTBE)	ug/L	<0.50	0.50	0.050	9505838
Styrene	ug/L	<0.50	0.50	0.050	9505838
1,1,1,2-Tetrachloroethane	ug/L	<0.50	0.50	0.050	9505838
1,1,2,2-Tetrachloroethane	ug/L	<0.50	0.50	0.050	9505838
Tetrachloroethylene	ug/L	<0.20	0.20	0.050	9505838
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



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

Bureau Veritas ID		ZQW502			
Sampling Date		2024/07/05			
COC Number		N/A			
	UNITS	MW1	RDL	MDL	QC Batch
Toluene	ug/L	0.20	0.20	0.010	9505838
1,1,1-Trichloroethane	ug/L	<0.20	0.20	0.050	9505838
1,1,2-Trichloroethane	ug/L	<0.50	0.50	0.050	9505838
Trichloroethylene	ug/L	<0.20	0.20	0.050	9505838
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	0.50	0.10	9505838
Vinyl Chloride	ug/L	<0.20	0.20	0.050	9505838
p+m-Xylene	ug/L	<0.20	0.20	0.010	9505838
o-Xylene	ug/L	<0.20	0.20	0.010	9505838
Total Xylenes	ug/L	<0.20	0.20	0.010	9505838
F1 (C6-C10)	ug/L	<25	25	20	9505838
F1 (C6-C10) - BTEX	ug/L	<25	25	20	9505838
F2-F4 Hydrocarbons					
F2 (C10-C16 Hydrocarbons)	ug/L	<100	100	50	9505660
F3 (C16-C34 Hydrocarbons)	ug/L	<200	200	70	9505660
F4 (C34-C50 Hydrocarbons)	ug/L	<200	200	50	9505660
Reached Baseline at C50	ug/L	Yes			9505660
Surrogate Recovery (%)					
o-Terphenyl	%	88			9505660
4-Bromofluorobenzene	%	99			9505838
D4-1,2-Dichloroethane	%	111			9505838
D8-Toluene	%	97			9505838
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



Bureau Veritas Job #: C4K7121
 Report Date: 2024/07/15

Soil Engineers Ltd
 Client Project #: 2108-E090
 Site Location: HUMBER STATION ROAD, CALEDON
 Sampler Initials: AD

TEST SUMMARY

Bureau Veritas ID: ZQW502
Sample ID: MW1
Matrix: Ground Water

Collected: 2024/07/05
Shipped:
Received: 2024/07/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	9502377	N/A	2024/07/11	Automated Statchk
1,3-Dichloropropene Sum	CALC	9502378	N/A	2024/07/12	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9505660	2024/07/09	2024/07/12	Anna Stuglik-Rolland
Dissolved Metals by ICPMS	ICP/MS	9509024	N/A	2024/07/12	Azita Fazaeli
PAH Compounds in Water by GC/MS (SIM)	GC/MS	9505659	2024/07/10	2024/07/11	Jonghan Yoon
Volatile Organic Compounds and F1 PHCs	GC/MSFD	9505838	N/A	2024/07/11	Dina Wang



Bureau Veritas Job #: C4K7121
Report Date: 2024/07/15

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Sampler Initials: AD

GENERAL COMMENTS

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

Package 1	9.3°C
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Cooler custody seal was present and intact.

Results relate only to the items tested.



Bureau Veritas Job #: C4K7121
Report Date: 2024/07/15

QUALITY ASSURANCE REPORT

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Sampler Initials: AD

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9505659	D10-Anthracene	2024/07/10	101	50 - 130	104	50 - 130	100	%		
9505659	D14-Terphenyl (FS)	2024/07/10	107	50 - 130	109	50 - 130	106	%		
9505659	D8-Acenaphthylene	2024/07/10	94	50 - 130	96	50 - 130	97	%		
9505660	o-Terphenyl	2024/07/11	94	60 - 140	93	60 - 140	92	%		
9505838	4-Bromofluorobenzene	2024/07/11	101	70 - 130	100	70 - 130	100	%		
9505838	D4-1,2-Dichloroethane	2024/07/11	114	70 - 130	111	70 - 130	110	%		
9505838	D8-Toluene	2024/07/11	101	70 - 130	102	70 - 130	98	%		
9505659	1-Methylnaphthalene	2024/07/10	95	50 - 130	94	50 - 130	<0.050	ug/L	NC	30
9505659	2-Methylnaphthalene	2024/07/10	93	50 - 130	93	50 - 130	<0.050	ug/L	NC	30
9505659	Acenaphthene	2024/07/10	104	50 - 130	104	50 - 130	<0.050	ug/L	NC	30
9505659	Acenaphthylene	2024/07/10	98	50 - 130	98	50 - 130	<0.050	ug/L	NC	30
9505659	Anthracene	2024/07/10	99	50 - 130	99	50 - 130	<0.050	ug/L	NC	30
9505659	Benzo(a)anthracene	2024/07/10	95	50 - 130	100	50 - 130	<0.050	ug/L	NC	30
9505659	Benzo(a)pyrene	2024/07/10	91	50 - 130	97	50 - 130	<0.0090	ug/L	NC	30
9505659	Benzo(b,f)fluoranthene	2024/07/10	96	50 - 130	100	50 - 130	<0.050	ug/L	NC	30
9505659	Benzo(g,h,i)perylene	2024/07/10	90	50 - 130	95	50 - 130	<0.050	ug/L	NC	30
9505659	Benzo(k)fluoranthene	2024/07/10	87	50 - 130	92	50 - 130	<0.050	ug/L	NC	30
9505659	Chrysene	2024/07/10	96	50 - 130	101	50 - 130	<0.050	ug/L	NC	30
9505659	Dibenzo(a,h)anthracene	2024/07/10	80	50 - 130	85	50 - 130	<0.050	ug/L	NC	30
9505659	Fluoranthene	2024/07/10	108	50 - 130	109	50 - 130	<0.050	ug/L	NC	30
9505659	Fluorene	2024/07/10	93	50 - 130	92	50 - 130	<0.050	ug/L	NC	30
9505659	Indeno(1,2,3-cd)pyrene	2024/07/10	93	50 - 130	99	50 - 130	<0.050	ug/L	NC	30
9505659	Naphthalene	2024/07/10	96	50 - 130	95	50 - 130	<0.050	ug/L	NC	30
9505659	Phenanthrene	2024/07/10	103	50 - 130	102	50 - 130	<0.030	ug/L	NC	30
9505659	Pyrene	2024/07/10	106	50 - 130	107	50 - 130	<0.050	ug/L	NC	30
9505660	F2 (C10-C16 Hydrocarbons)	2024/07/12	94	60 - 140	91	60 - 140	<100	ug/L	NC	30
9505660	F3 (C16-C34 Hydrocarbons)	2024/07/12	93	60 - 140	91	60 - 140	<200	ug/L	NC	30
9505660	F4 (C34-C50 Hydrocarbons)	2024/07/12	82	60 - 140	80	60 - 140	<200	ug/L	NC	30
9505838	1,1,1,2-Tetrachloroethane	2024/07/11	115	70 - 130	112	70 - 130	<0.50	ug/L	NC	30
9505838	1,1,1-Trichloroethane	2024/07/11	114	70 - 130	113	70 - 130	<0.20	ug/L	NC	30
9505838	1,1,2,2-Tetrachloroethane	2024/07/11	115	70 - 130	109	70 - 130	<0.50	ug/L	NC	30



BUREAU VERITAS

Bureau Veritas Job #: C4K7121
Report Date: 2024/07/15

QUALITY ASSURANCE REPORT(CONT'D)

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Sampler Initials: AD

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9505838	1,1,2-Trichloroethane	2024/07/11	126	70 - 130	118	70 - 130	<0.50	ug/L	NC	30
9505838	1,1-Dichloroethane	2024/07/11	119	70 - 130	115	70 - 130	<0.20	ug/L	NC	30
9505838	1,1-Dichloroethylene	2024/07/11	119	70 - 130	117	70 - 130	<0.20	ug/L	NC	30
9505838	1,2-Dichlorobenzene	2024/07/11	106	70 - 130	105	70 - 130	<0.50	ug/L	NC	30
9505838	1,2-Dichloroethane	2024/07/11	123	70 - 130	115	70 - 130	<0.50	ug/L	NC	30
9505838	1,2-Dichloropropane	2024/07/11	117	70 - 130	112	70 - 130	<0.20	ug/L	NC	30
9505838	1,3-Dichlorobenzene	2024/07/11	106	70 - 130	105	70 - 130	<0.50	ug/L	NC	30
9505838	1,4-Dichlorobenzene	2024/07/11	107	70 - 130	103	70 - 130	<0.50	ug/L	NC	30
9505838	Acetone (2-Propanone)	2024/07/11	114	60 - 140	107	60 - 140	<10	ug/L	NC	30
9505838	Benzene	2024/07/11	111	70 - 130	107	70 - 130	<0.17	ug/L	NC	30
9505838	Bromodichloromethane	2024/07/11	114	70 - 130	109	70 - 130	<0.50	ug/L	NC	30
9505838	Bromoform	2024/07/11	112	70 - 130	105	70 - 130	<1.0	ug/L	NC	30
9505838	Bromomethane	2024/07/11	94	60 - 140	89	60 - 140	<0.50	ug/L	NC	30
9505838	Carbon Tetrachloride	2024/07/11	112	70 - 130	112	70 - 130	<0.20	ug/L	NC	30
9505838	Chlorobenzene	2024/07/11	107	70 - 130	104	70 - 130	<0.20	ug/L	NC	30
9505838	Chloroform	2024/07/11	116	70 - 130	113	70 - 130	<0.20	ug/L	4.2	30
9505838	cis-1,2-Dichloroethylene	2024/07/11	114	70 - 130	109	70 - 130	<0.50	ug/L	NC	30
9505838	cis-1,3-Dichloropropene	2024/07/11	111	70 - 130	107	70 - 130	<0.30	ug/L	NC	30
9505838	Dibromochloromethane	2024/07/11	123	70 - 130	119	70 - 130	<0.50	ug/L	NC	30
9505838	Dichlorodifluoromethane (FREON 12)	2024/07/11	90	60 - 140	79	60 - 140	<1.0	ug/L	NC	30
9505838	Ethylbenzene	2024/07/11	100	70 - 130	101	70 - 130	<0.20	ug/L	NC	30
9505838	Ethylene Dibromide	2024/07/11	114	70 - 130	108	70 - 130	<0.20	ug/L	NC	30
9505838	F1 (C6-C10) - BTEX	2024/07/11					<25	ug/L	NC	30
9505838	F1 (C6-C10)	2024/07/11	93	60 - 140	97	60 - 140	<25	ug/L	NC	30
9505838	Hexane	2024/07/11	119	70 - 130	114	70 - 130	<1.0	ug/L	NC	30
9505838	Methyl Ethyl Ketone (2-Butanone)	2024/07/11	106	60 - 140	100	60 - 140	<10	ug/L	NC	30
9505838	Methyl Isobutyl Ketone	2024/07/11	103	70 - 130	98	70 - 130	<5.0	ug/L	NC	30
9505838	Methyl t-butyl ether (MTBE)	2024/07/11	109	70 - 130	106	70 - 130	<0.50	ug/L	NC	30
9505838	Methylene Chloride(Dichloromethane)	2024/07/11	117	70 - 130	111	70 - 130	<2.0	ug/L	NC	30
9505838	o-Xylene	2024/07/11	104	70 - 130	104	70 - 130	<0.20	ug/L	NC	30
9505838	p+m-Xylene	2024/07/11	100	70 - 130	101	70 - 130	<0.20	ug/L	NC	30



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Bureau Veritas Job #: C4K7121
Report Date: 2024/07/15

QUALITY ASSURANCE REPORT(CONT'D)

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Sampler Initials: AD

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9505838	Styrene	2024/07/11	104	70 - 130	101	70 - 130	<0.50	ug/L	NC	30
9505838	Tetrachloroethylene	2024/07/11	111	70 - 130	110	70 - 130	<0.20	ug/L	NC	30
9505838	Toluene	2024/07/11	110	70 - 130	108	70 - 130	<0.20	ug/L	NC	30
9505838	Total Xylenes	2024/07/11					<0.20	ug/L	NC	30
9505838	trans-1,2-Dichloroethylene	2024/07/11	115	70 - 130	110	70 - 130	<0.50	ug/L	NC	30
9505838	trans-1,3-Dichloropropene	2024/07/11	116	70 - 130	111	70 - 130	<0.40	ug/L	NC	30
9505838	Trichloroethylene	2024/07/11	110	70 - 130	107	70 - 130	<0.20	ug/L	NC	30
9505838	Trichlorofluoromethane (FREON 11)	2024/07/11	107	70 - 130	106	70 - 130	<0.50	ug/L	NC	30
9505838	Vinyl Chloride	2024/07/11	102	70 - 130	97	70 - 130	<0.20	ug/L	NC	30
9509024	Dissolved Antimony (Sb)	2024/07/12	106	80 - 120	103	80 - 120	<0.50	ug/L	NC	20
9509024	Dissolved Arsenic (As)	2024/07/12	99	80 - 120	99	80 - 120	<1.0	ug/L	1.0	20
9509024	Dissolved Barium (Ba)	2024/07/12	102	80 - 120	100	80 - 120	<2.0	ug/L	1.6	20
9509024	Dissolved Beryllium (Be)	2024/07/12	101	80 - 120	99	80 - 120	<0.40	ug/L	NC	20
9509024	Dissolved Boron (B)	2024/07/12	100	80 - 120	99	80 - 120	<10	ug/L	0.59	20
9509024	Dissolved Cadmium (Cd)	2024/07/12	102	80 - 120	100	80 - 120	<0.090	ug/L	NC	20
9509024	Dissolved Chromium (Cr)	2024/07/12	97	80 - 120	97	80 - 120	<5.0	ug/L	NC	20
9509024	Dissolved Cobalt (Co)	2024/07/12	95	80 - 120	96	80 - 120	<0.50	ug/L	1.5	20
9509024	Dissolved Copper (Cu)	2024/07/12	101	80 - 120	98	80 - 120	<0.90	ug/L	NC	20
9509024	Dissolved Lead (Pb)	2024/07/12	98	80 - 120	99	80 - 120	<0.50	ug/L	NC	20
9509024	Dissolved Molybdenum (Mo)	2024/07/12	106	80 - 120	102	80 - 120	<0.50	ug/L	0.28	20
9509024	Dissolved Nickel (Ni)	2024/07/12	95	80 - 120	98	80 - 120	<1.0	ug/L	5.0	20
9509024	Dissolved Selenium (Se)	2024/07/12	103	80 - 120	100	80 - 120	<2.0	ug/L	NC	20
9509024	Dissolved Silver (Ag)	2024/07/12	102	80 - 120	101	80 - 120	<0.090	ug/L	NC	20
9509024	Dissolved Thallium (Tl)	2024/07/12	98	80 - 120	99	80 - 120	<0.050	ug/L	NC	20
9509024	Dissolved Uranium (U)	2024/07/12	100	80 - 120	98	80 - 120	<0.10	ug/L	NC	20
9509024	Dissolved Vanadium (V)	2024/07/12	99	80 - 120	98	80 - 120	<0.50	ug/L	NC	20



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Bureau Veritas Job #: C4K7121
Report Date: 2024/07/15

QUALITY ASSURANCE REPORT(CONT'D)

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Sampler Initials: AD

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9509024	Dissolved Zinc (Zn)	2024/07/12	97	80 - 120	100	80 - 120	<5.0	ug/L	NC	20

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).



Bureau Veritas Job #: C4K7121
Report Date: 2024/07/15

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Sampler Initials: AD

VALIDATION SIGNATURE PAGE

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

Anastassia Hamanov, Scientific Specialist

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



Your Project #: 2108-E090
 Site Location: HUMBER STATION ROAD, CALEDON
 Your C.O.C. #: N/A

Attention: Madan K. Suwal

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

Report Date: 2024/07/26
 Report #: R8251921
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4M3725

Received: 2024/07/22, 14:32

Sample Matrix: Ground Water
 # Samples Received: 5

Analyses	Quantity	Date		Laboratory Method	Analytical Method
		Extracted	Analyzed		
Methylnaphthalene Sum	2	N/A	2024/07/25	CAM SOP-00301	EPA 8270D m
1,3-Dichloropropene Sum	5	N/A	2024/07/26		EPA 8260C m
Chromium (VI) in Water	2	N/A	2024/07/24	CAM SOP-00436	EPA 7199 m
Petroleum Hydrocarbons F2-F4 in Water (1)	4	2024/07/24	2024/07/25	CAM SOP-00316	CCME PHC-CWS m
Mercury	2	2024/07/26	2024/07/26	CAM SOP-00453	EPA 7470A m
Dissolved Metals by ICPMS	3	N/A	2024/07/24	CAM SOP-00447	EPA 6020B m
PAH Compounds in Water by GC/MS (SIM)	2	2024/07/24	2024/07/25	CAM SOP-00318	EPA 8270E
Volatile Organic Compounds and F1 PHCs	4	N/A	2024/07/26	CAM SOP-00230	EPA 8260C m
Volatile Organic Compounds in Water	1	N/A	2024/07/25	CAM SOP-00228	EPA 8260D

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.

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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) 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



Your Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Your C.O.C. #: N/A

Attention: Madan K. Suwal

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

Report Date: 2024/07/26
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CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4M3725

Received: 2024/07/22, 14:32

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
26 Jul 2024 17:57:51

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

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Bureau Veritas Job #: C4M3725
 Report Date: 2024/07/26

Soil Engineers Ltd
 Client Project #: 2108-E090
 Site Location: HUMBER STATION ROAD, CALEDON
 Sampler Initials: ADI

O.REG 153 DISSOLVED ICPMS METALS (WATER)

Bureau Veritas ID		ZUG529			
Sampling Date		2024/07/18			
COC Number		N/A			
	UNITS	MW4	RDL	MDL	QC Batch
Metals					
Dissolved Antimony (Sb)	ug/L	0.55	0.50	0.20	9534078
Dissolved Arsenic (As)	ug/L	<1.0	1.0	0.10	9534078
Dissolved Barium (Ba)	ug/L	300	2.0	0.30	9534078
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	0.050	9534078
Dissolved Boron (B)	ug/L	150	10	0.60	9534078
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	0.090	9534078
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	0.70	9534078
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	0.040	9534078
Dissolved Copper (Cu)	ug/L	11	0.90	0.30	9534078
Dissolved Lead (Pb)	ug/L	<0.50	0.50	0.050	9534078
Dissolved Molybdenum (Mo)	ug/L	9.2	0.50	0.070	9534078
Dissolved Nickel (Ni)	ug/L	1.1	1.0	0.40	9534078
Dissolved Selenium (Se)	ug/L	<2.0	2.0	0.20	9534078
Dissolved Silver (Ag)	ug/L	<0.090	0.090	0.020	9534078
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	0.020	9534078
Dissolved Uranium (U)	ug/L	3.3	0.10	0.010	9534078
Dissolved Vanadium (V)	ug/L	0.51	0.50	0.090	9534078
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	1.0	9534078
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



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Bureau Veritas Job #: C4M3725
Report Date: 2024/07/26

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Sampler Initials: ADI

O.REG 153 METALS PACKAGE (WATER)

Bureau Veritas ID		ZUG527	ZUG528			
Sampling Date		2024/07/18	2024/07/18			
COC Number		N/A	N/A			
	UNITS	MW2	MW3	RDL	MDL	QC Batch
Metals						
Chromium (VI)	ug/L	<0.50	<0.50	0.50	0.30	9534281
Mercury (Hg)	ug/L	<0.10	<0.10	0.10	0.020	9539727
Dissolved Antimony (Sb)	ug/L	<0.50	<0.50	0.50	0.20	9534078
Dissolved Arsenic (As)	ug/L	<1.0	1.7	1.0	0.10	9534078
Dissolved Barium (Ba)	ug/L	120	120	2.0	0.30	9534078
Dissolved Beryllium (Be)	ug/L	<0.40	<0.40	0.40	0.050	9534078
Dissolved Boron (B)	ug/L	62	110	10	0.60	9534078
Dissolved Cadmium (Cd)	ug/L	<0.090	<0.090	0.090	0.090	9534078
Dissolved Chromium (Cr)	ug/L	<5.0	<5.0	5.0	0.70	9534078
Dissolved Cobalt (Co)	ug/L	0.55	<0.50	0.50	0.040	9534078
Dissolved Copper (Cu)	ug/L	2.1	2.2	0.90	0.30	9534078
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	0.50	0.050	9534078
Dissolved Molybdenum (Mo)	ug/L	4.9	3.1	0.50	0.070	9534078
Dissolved Nickel (Ni)	ug/L	2.5	<1.0	1.0	0.40	9534078
Dissolved Selenium (Se)	ug/L	<2.0	<2.0	2.0	0.20	9534078
Dissolved Silver (Ag)	ug/L	<0.090	<0.090	0.090	0.020	9534078
Dissolved Thallium (Tl)	ug/L	<0.050	<0.050	0.050	0.020	9534078
Dissolved Uranium (U)	ug/L	9.9	1.3	0.10	0.010	9534078
Dissolved Vanadium (V)	ug/L	0.72	0.63	0.50	0.090	9534078
Dissolved Zinc (Zn)	ug/L	5.2	<5.0	5.0	1.0	9534078
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						



Bureau Veritas Job #: C4M3725
 Report Date: 2024/07/26

Soil Engineers Ltd
 Client Project #: 2108-E090
 Site Location: HUMBER STATION ROAD, CALEDON
 Sampler Initials: ADI

O.REG 153 PAHS (GROUND WATER)

Bureau Veritas ID		ZUG527	ZUG528			
Sampling Date		2024/07/18	2024/07/18			
COC Number		N/A	N/A			
	UNITS	MW2	MW3	RDL	MDL	QC Batch
Calculated Parameters						
Methylnaphthalene, 2-(1-)	ug/L	<0.071	<0.071	0.071	N/A	9531314
Polyaromatic Hydrocarbons						
Acenaphthene	ug/L	<0.050	<0.050	0.050	0.0030	9535641
Acenaphthylene	ug/L	<0.050	<0.050	0.050	0.0030	9535641
Anthracene	ug/L	<0.050	<0.050	0.050	0.0030	9535641
Benzo(a)anthracene	ug/L	<0.050	<0.050	0.050	0.0030	9535641
Benzo(a)pyrene	ug/L	<0.0090	<0.0090	0.0090	0.0030	9535641
Benzo(b/j)fluoranthene	ug/L	<0.050	<0.050	0.050	0.0030	9535641
Benzo(g,h,i)perylene	ug/L	<0.050	<0.050	0.050	0.0030	9535641
Benzo(k)fluoranthene	ug/L	<0.050	<0.050	0.050	0.0030	9535641
Chrysene	ug/L	<0.050	<0.050	0.050	0.0030	9535641
Dibenzo(a,h)anthracene	ug/L	<0.050	<0.050	0.050	0.0030	9535641
Fluoranthene	ug/L	<0.050	<0.050	0.050	0.0030	9535641
Fluorene	ug/L	<0.050	<0.050	0.050	0.0030	9535641
Indeno(1,2,3-cd)pyrene	ug/L	<0.050	<0.050	0.050	0.0030	9535641
1-Methylnaphthalene	ug/L	<0.050	<0.050	0.050	0.0030	9535641
2-Methylnaphthalene	ug/L	<0.050	<0.050	0.050	0.0030	9535641
Naphthalene	ug/L	<0.050	<0.050	0.050	0.0030	9535641
Phenanthrene	ug/L	<0.030	<0.030	0.030	0.0030	9535641
Pyrene	ug/L	<0.050	<0.050	0.050	0.0030	9535641
Surrogate Recovery (%)						
D10-Anthracene	%	107	98			9535641
D14-Terphenyl (FS)	%	119	111			9535641
D8-Acenaphthylene	%	92	86			9535641
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable						



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

Bureau Veritas ID		ZUG527	ZUG528	ZUG529	ZUG530			
Sampling Date		2024/07/18	2024/07/18	2024/07/18	2024/07/18			
COC Number		N/A	N/A	N/A	N/A			
	UNITS	MW2	MW3	MW4	DUPW1	RDL	MDL	QC Batch
Calculated Parameters								
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	0.50	9534214
Volatile Organics								
Acetone (2-Propanone)	ug/L	<10	<10	<10	<10	10	1.0	9534214
Benzene	ug/L	<0.17	<0.17	<0.17	<0.17	0.17	0.020	9534214
Bromodichloromethane	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	0.050	9534214
Bromoform	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	0.10	9534214
Bromomethane	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	0.10	9534214
Carbon Tetrachloride	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	0.050	9534214
Chlorobenzene	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	0.010	9534214
Chloroform	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	0.050	9534214
Dibromochloromethane	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	0.050	9534214
1,2-Dichlorobenzene	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	0.050	9534214
1,3-Dichlorobenzene	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	0.050	9534214
1,4-Dichlorobenzene	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	0.050	9534214
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	0.050	9534214
1,1-Dichloroethane	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	0.050	9534214
1,2-Dichloroethane	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	0.020	9534214
1,1-Dichloroethylene	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	0.050	9534214
cis-1,2-Dichloroethylene	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	0.050	9534214
trans-1,2-Dichloroethylene	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	0.050	9534214
1,2-Dichloropropane	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	0.050	9534214
cis-1,3-Dichloropropene	ug/L	<0.30	<0.30	<0.30	<0.30	0.30	0.050	9534214
trans-1,3-Dichloropropene	ug/L	<0.40	<0.40	<0.40	<0.40	0.40	0.050	9534214
Ethylbenzene	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	0.010	9534214
Ethylene Dibromide	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	0.050	9534214
Hexane	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	0.10	9534214
Methylene Chloride(Dichloromethane)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	0.10	9534214
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	<10	<10	<10	10	0.50	9534214
Methyl Isobutyl Ketone	ug/L	<5.0	<5.0	<5.0	<5.0	5.0	0.10	9534214
Methyl t-butyl ether (MTBE)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	0.050	9534214
Styrene	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	0.050	9534214
1,1,1,2-Tetrachloroethane	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	0.050	9534214
1,1,2,2-Tetrachloroethane	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	0.050	9534214
Tetrachloroethylene	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	0.050	9534214
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								



Bureau Veritas Job #: C4M3725
Report Date: 2024/07/26

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Sampler Initials: ADI

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

Bureau Veritas ID		ZUG527	ZUG528	ZUG529	ZUG530			
Sampling Date		2024/07/18	2024/07/18	2024/07/18	2024/07/18			
COC Number		N/A	N/A	N/A	N/A			
	UNITS	MW2	MW3	MW4	DUPW1	RDL	MDL	QC Batch
Toluene	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	0.010	9534214
1,1,1-Trichloroethane	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	0.050	9534214
1,1,2-Trichloroethane	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	0.050	9534214
Trichloroethylene	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	0.050	9534214
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	0.10	9534214
Vinyl Chloride	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	0.050	9534214
p+m-Xylene	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	0.010	9534214
o-Xylene	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	0.010	9534214
Total Xylenes	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	0.010	9534214
F1 (C6-C10)	ug/L	<25	<25	<25	<25	25	20	9534214
F1 (C6-C10) - BTEX	ug/L	<25	<25	<25	<25	25	20	9534214
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/L	<100	<100	<100	<100	100	50	9535677
F3 (C16-C34 Hydrocarbons)	ug/L	<200	<200	<200	<200	200	70	9535677
F4 (C34-C50 Hydrocarbons)	ug/L	<200	<200	<200	<200	200	50	9535677
Reached Baseline at C50	ug/L	Yes	Yes	Yes	Yes			9535677
Surrogate Recovery (%)								
o-Terphenyl	%	93	92	98	100			9535677
4-Bromofluorobenzene	%	93	92	93	94			9534214
D4-1,2-Dichloroethane	%	114	114	115	114			9534214
D8-Toluene	%	89	91	89	93			9534214
RDL = Reportable Detection Limit QC Batch = Quality Control Batch								



Bureau Veritas Job #: C4M3725
Report Date: 2024/07/26

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Sampler Initials: ADI

O.REG 153 VOCS BY HS (WATER)

Bureau Veritas ID		ZUG531			
Sampling Date		2024/07/18			
COC Number		N/A			
	UNITS	TRIP BLANK2	RDL	MDL	QC Batch
Calculated Parameters					
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	0.50	0.50	9531488
Volatile Organics					
Acetone (2-Propanone)	ug/L	<10	10	1.0	9537119
Benzene	ug/L	<0.20	0.20	0.020	9537119
Bromodichloromethane	ug/L	<0.50	0.50	0.050	9537119
Bromoform	ug/L	<1.0	1.0	0.10	9537119
Bromomethane	ug/L	<0.50	0.50	0.10	9537119
Carbon Tetrachloride	ug/L	<0.19	0.19	0.050	9537119
Chlorobenzene	ug/L	<0.20	0.20	0.010	9537119
Chloroform	ug/L	<0.20	0.20	0.050	9537119
Dibromochloromethane	ug/L	<0.50	0.50	0.050	9537119
1,2-Dichlorobenzene	ug/L	<0.40	0.40	0.050	9537119
1,3-Dichlorobenzene	ug/L	<0.40	0.40	0.050	9537119
1,4-Dichlorobenzene	ug/L	<0.40	0.40	0.050	9537119
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	1.0	0.050	9537119
1,1-Dichloroethane	ug/L	<0.20	0.20	0.050	9537119
1,2-Dichloroethane	ug/L	<0.49	0.49	0.020	9537119
1,1-Dichloroethylene	ug/L	<0.20	0.20	0.050	9537119
cis-1,2-Dichloroethylene	ug/L	<0.50	0.50	0.050	9537119
trans-1,2-Dichloroethylene	ug/L	<0.50	0.50	0.050	9537119
1,2-Dichloropropane	ug/L	<0.20	0.20	0.050	9537119
cis-1,3-Dichloropropene	ug/L	<0.30	0.30	0.050	9537119
trans-1,3-Dichloropropene	ug/L	<0.40	0.40	0.050	9537119
Ethylbenzene	ug/L	<0.20	0.20	0.010	9537119
Ethylene Dibromide	ug/L	<0.19	0.19	0.050	9537119
Hexane	ug/L	<1.0	1.0	0.10	9537119
Methylene Chloride(Dichloromethane)	ug/L	<2.0	2.0	0.10	9537119
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	10	0.50	9537119
Methyl Isobutyl Ketone	ug/L	<5.0	5.0	0.10	9537119
Methyl t-butyl ether (MTBE)	ug/L	<0.50	0.50	0.050	9537119
Styrene	ug/L	<0.40	0.40	0.050	9537119
1,1,1,2-Tetrachloroethane	ug/L	<0.50	0.50	0.050	9537119
1,1,2,2-Tetrachloroethane	ug/L	<0.40	0.40	0.050	9537119
Tetrachloroethylene	ug/L	<0.20	0.20	0.050	9537119
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



BUREAU
VERITAS

Bureau Veritas Job #: C4M3725
Report Date: 2024/07/26

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Sampler Initials: ADI

O.REG 153 VOCS BY HS (WATER)

Bureau Veritas ID		ZUG531			
Sampling Date		2024/07/18			
COC Number		N/A			
	UNITS	TRIP BLANK2	RDL	MDL	QC Batch
Toluene	ug/L	<0.20	0.20	0.010	9537119
1,1,1-Trichloroethane	ug/L	<0.20	0.20	0.050	9537119
1,1,2-Trichloroethane	ug/L	<0.40	0.40	0.050	9537119
Trichloroethylene	ug/L	<0.20	0.20	0.050	9537119
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	0.50	0.10	9537119
Vinyl Chloride	ug/L	<0.20	0.20	0.050	9537119
p+m-Xylene	ug/L	<0.20	0.20	0.010	9537119
o-Xylene	ug/L	<0.20	0.20	0.010	9537119
Total Xylenes	ug/L	<0.20	0.20	0.010	9537119
Surrogate Recovery (%)					
4-Bromofluorobenzene	%	98			9537119
D4-1,2-Dichloroethane	%	98			9537119
D8-Toluene	%	96			9537119
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



Bureau Veritas Job #: C4M3725
Report Date: 2024/07/26

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Sampler Initials: ADI

TEST SUMMARY

Bureau Veritas ID: ZUG527
Sample ID: MW2
Matrix: Ground Water

Collected: 2024/07/18
Shipped:
Received: 2024/07/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	9531314	N/A	2024/07/25	Automated Statchk
1,3-Dichloropropene Sum	CALC	9531488	N/A	2024/07/26	Automated Statchk
Chromium (VI) in Water	IC	9534281	N/A	2024/07/24	Rupinder Sihota
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9535677	2024/07/24	2024/07/25	Mohammed Abdul Nafay Shoeb
Mercury	CV/AA	9539727	2024/07/26	2024/07/26	Gagandeep Rai
Dissolved Metals by ICPMS	ICP/MS	9534078	N/A	2024/07/24	Indira HarryPaul
PAH Compounds in Water by GC/MS (SIM)	GC/MS	9535641	2024/07/24	2024/07/25	Jonghan Yoon
Volatile Organic Compounds and F1 PHCs	GC/MSFD	9534214	N/A	2024/07/26	Dina Wang

Bureau Veritas ID: ZUG528
Sample ID: MW3
Matrix: Ground Water

Collected: 2024/07/18
Shipped:
Received: 2024/07/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	9531314	N/A	2024/07/25	Automated Statchk
1,3-Dichloropropene Sum	CALC	9531488	N/A	2024/07/26	Automated Statchk
Chromium (VI) in Water	IC	9534281	N/A	2024/07/24	Rupinder Sihota
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9535677	2024/07/24	2024/07/25	Mohammed Abdul Nafay Shoeb
Mercury	CV/AA	9539727	2024/07/26	2024/07/26	Gagandeep Rai
Dissolved Metals by ICPMS	ICP/MS	9534078	N/A	2024/07/24	Indira HarryPaul
PAH Compounds in Water by GC/MS (SIM)	GC/MS	9535641	2024/07/24	2024/07/25	Jonghan Yoon
Volatile Organic Compounds and F1 PHCs	GC/MSFD	9534214	N/A	2024/07/26	Dina Wang

Bureau Veritas ID: ZUG529
Sample ID: MW4
Matrix: Ground Water

Collected: 2024/07/18
Shipped:
Received: 2024/07/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	9531488	N/A	2024/07/26	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9535677	2024/07/24	2024/07/25	Mohammed Abdul Nafay Shoeb
Dissolved Metals by ICPMS	ICP/MS	9534078	N/A	2024/07/24	Indira HarryPaul
Volatile Organic Compounds and F1 PHCs	GC/MSFD	9534214	N/A	2024/07/26	Dina Wang

Bureau Veritas ID: ZUG530
Sample ID: DUPW1
Matrix: Ground Water

Collected: 2024/07/18
Shipped:
Received: 2024/07/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	9531488	N/A	2024/07/26	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9535677	2024/07/24	2024/07/25	Mohammed Abdul Nafay Shoeb
Volatile Organic Compounds and F1 PHCs	GC/MSFD	9534214	N/A	2024/07/26	Dina Wang



Bureau Veritas Job #: C4M3725
 Report Date: 2024/07/26

Soil Engineers Ltd
 Client Project #: 2108-E090
 Site Location: HUMBER STATION ROAD, CALEDON
 Sampler Initials: ADI

TEST SUMMARY

Bureau Veritas ID: ZUG531
Sample ID: TRIP BLANK2
Matrix: Ground Water

Collected: 2024/07/18
Shipped:
Received: 2024/07/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	9531488	N/A	2024/07/26	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	9537119	N/A	2024/07/25	Narayan Ghimire



Bureau Veritas Job #: C4M3725
Report Date: 2024/07/26

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Sampler Initials: ADI

GENERAL COMMENTS

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

Package 1	5.0°C
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Cooler custody seal was not present .

All 40 ml vials for VOC and F1 analyses for sample MW2 contained visible sediment .

Results relate only to the items tested.



VERITAS

Bureau Veritas Job #: C4M3725
Report Date: 2024/07/26

QUALITY ASSURANCE REPORT

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Sampler Initials: ADI

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9534214	4-Bromofluorobenzene	2024/07/25	99	70 - 130	102	70 - 130	96	%		
9534214	D4-1,2-Dichloroethane	2024/07/25	110	70 - 130	104	70 - 130	107	%		
9534214	D8-Toluene	2024/07/25	103	70 - 130	105	70 - 130	92	%		
9535641	D10-Anthracene	2024/07/24	90	50 - 130	98	50 - 130	112	%		
9535641	D14-Terphenyl (FS)	2024/07/24	104	50 - 130	115	50 - 130	125	%		
9535641	D8-Acenaphthylene	2024/07/24	88	50 - 130	93	50 - 130	95	%		
9535677	o-Terphenyl	2024/07/25	96	60 - 140	97	60 - 140	95	%		
9537119	4-Bromofluorobenzene	2024/07/25	103	70 - 130	101	70 - 130	100	%		
9537119	D4-1,2-Dichloroethane	2024/07/25	106	70 - 130	101	70 - 130	99	%		
9537119	D8-Toluene	2024/07/25	97	70 - 130	101	70 - 130	97	%		
9534078	Dissolved Antimony (Sb)	2024/07/24	101	80 - 120	97	80 - 120	<0.50	ug/L	NC	20
9534078	Dissolved Arsenic (As)	2024/07/24	99	80 - 120	98	80 - 120	<1.0	ug/L	NC	20
9534078	Dissolved Barium (Ba)	2024/07/24	99	80 - 120	99	80 - 120	<2.0	ug/L	2.1	20
9534078	Dissolved Beryllium (Be)	2024/07/24	108	80 - 120	104	80 - 120	<0.40	ug/L	NC	20
9534078	Dissolved Boron (B)	2024/07/24	99	80 - 120	99	80 - 120	<10	ug/L	NC	20
9534078	Dissolved Cadmium (Cd)	2024/07/24	97	80 - 120	96	80 - 120	<0.090	ug/L	NC	20
9534078	Dissolved Chromium (Cr)	2024/07/24	96	80 - 120	96	80 - 120	<5.0	ug/L	NC	20
9534078	Dissolved Cobalt (Co)	2024/07/24	101	80 - 120	100	80 - 120	<0.50	ug/L	1.0	20
9534078	Dissolved Copper (Cu)	2024/07/24	103	80 - 120	102	80 - 120	<0.90	ug/L	4.9	20
9534078	Dissolved Lead (Pb)	2024/07/24	96	80 - 120	95	80 - 120	<0.50	ug/L	NC	20
9534078	Dissolved Molybdenum (Mo)	2024/07/24	96	80 - 120	94	80 - 120	<0.50	ug/L	NC	20
9534078	Dissolved Nickel (Ni)	2024/07/24	99	80 - 120	98	80 - 120	<1.0	ug/L	2.4	20
9534078	Dissolved Selenium (Se)	2024/07/24	103	80 - 120	99	80 - 120	<2.0	ug/L	NC	20
9534078	Dissolved Silver (Ag)	2024/07/24	96	80 - 120	92	80 - 120	<0.090	ug/L	NC	20
9534078	Dissolved Thallium (Tl)	2024/07/24	105	80 - 120	102	80 - 120	<0.050	ug/L	NC	20
9534078	Dissolved Uranium (U)	2024/07/24	95	80 - 120	96	80 - 120	<0.10	ug/L	NC	20
9534078	Dissolved Vanadium (V)	2024/07/24	98	80 - 120	97	80 - 120	<0.50	ug/L	NC	20
9534078	Dissolved Zinc (Zn)	2024/07/24	98	80 - 120	97	80 - 120	<5.0	ug/L	NC	20
9534214	1.1.1.2-Tetrachloroethane	2024/07/25	102	70 - 130	102	70 - 130	<0.50	ug/L	NC	30
9534214	1.1.1-Trichloroethane	2024/07/25	104	70 - 130	102	70 - 130	<0.20	ug/L	NC	30
9534214	1.1.2.2-Tetrachloroethane	2024/07/25	102	70 - 130	100	70 - 130	<0.50	ug/L	NC	30



BUREAU VERITAS

Bureau Veritas Job #: C4M3725
Report Date: 2024/07/26

QUALITY ASSURANCE REPORT(CONT'D)

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Sampler Initials: ADI

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9534214	1,1,2-Trichloroethane	2024/07/25	106	70 - 130	105	70 - 130	<0.50	ug/L	NC	30
9534214	1,1-Dichloroethane	2024/07/25	104	70 - 130	103	70 - 130	<0.20	ug/L	NC	30
9534214	1,1-Dichloroethylene	2024/07/25	100	70 - 130	100	70 - 130	<0.20	ug/L	NC	30
9534214	1,2-Dichlorobenzene	2024/07/25	98	70 - 130	100	70 - 130	<0.50	ug/L	NC	30
9534214	1,2-Dichloroethane	2024/07/25	109	70 - 130	105	70 - 130	<0.50	ug/L	NC	30
9534214	1,2-Dichloropropane	2024/07/25	105	70 - 130	102	70 - 130	<0.20	ug/L	NC	30
9534214	1,3-Dichlorobenzene	2024/07/25	95	70 - 130	100	70 - 130	<0.50	ug/L	NC	30
9534214	1,4-Dichlorobenzene	2024/07/25	96	70 - 130	100	70 - 130	<0.50	ug/L	NC	30
9534214	Acetone (2-Propanone)	2024/07/25	107	60 - 140	100	60 - 140	<10	ug/L	NC	30
9534214	Benzene	2024/07/25	103	70 - 130	102	70 - 130	<0.17	ug/L	NC	30
9534214	Bromodichloromethane	2024/07/25	105	70 - 130	102	70 - 130	<0.50	ug/L	NC	30
9534214	Bromoform	2024/07/25	101	70 - 130	103	70 - 130	<1.0	ug/L	NC	30
9534214	Bromomethane	2024/07/25	88	60 - 140	87	60 - 140	<0.50	ug/L	NC	30
9534214	Carbon Tetrachloride	2024/07/25	103	70 - 130	102	70 - 130	<0.20	ug/L	NC	30
9534214	Chlorobenzene	2024/07/25	95	70 - 130	98	70 - 130	<0.20	ug/L	NC	30
9534214	Chloroform	2024/07/25	105	70 - 130	102	70 - 130	<0.20	ug/L	NC	30
9534214	cis-1,2-Dichloroethylene	2024/07/25	103	70 - 130	102	70 - 130	<0.50	ug/L	NC	30
9534214	cis-1,3-Dichloropropene	2024/07/25	97	70 - 130	95	70 - 130	<0.30	ug/L	NC	30
9534214	Dibromochloromethane	2024/07/25	102	70 - 130	100	70 - 130	<0.50	ug/L	NC	30
9534214	Dichlorodifluoromethane (FREON 12)	2024/07/25	77	60 - 140	76	60 - 140	<1.0	ug/L	NC	30
9534214	Ethylbenzene	2024/07/25	89	70 - 130	95	70 - 130	<0.20	ug/L	NC	30
9534214	Ethylene Dibromide	2024/07/25	104	70 - 130	103	70 - 130	<0.20	ug/L	NC	30
9534214	F1 (C6-C10) - BTEX	2024/07/25					<25	ug/L	NC	30
9534214	F1 (C6-C10)	2024/07/25	86	60 - 140	89	60 - 140	<25	ug/L	NC	30
9534214	Hexane	2024/07/25	100	70 - 130	103	70 - 130	<1.0	ug/L	NC	30
9534214	Methyl Ethyl Ketone (2-Butanone)	2024/07/25	105	60 - 140	100	60 - 140	<10	ug/L	NC	30
9534214	Methyl Isobutyl Ketone	2024/07/25	106	70 - 130	103	70 - 130	<5.0	ug/L	NC	30
9534214	Methyl t-butyl ether (MTBE)	2024/07/25	99	70 - 130	98	70 - 130	<0.50	ug/L	NC	30
9534214	Methylene Chloride(Dichloromethane)	2024/07/25	101	70 - 130	98	70 - 130	<2.0	ug/L	NC	30
9534214	o-Xylene	2024/07/25	87	70 - 130	96	70 - 130	<0.20	ug/L	NC	30
9534214	p+m-Xylene	2024/07/25	87	70 - 130	94	70 - 130	<0.20	ug/L	NC	30



**BUREAU
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Bureau Veritas Job #: C4M3725
Report Date: 2024/07/26

QUALITY ASSURANCE REPORT(CONT'D)

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Sampler Initials: ADI

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9534214	Styrene	2024/07/25	71	70 - 130	78	70 - 130	<0.50	ug/L	NC	30
9534214	Tetrachloroethylene	2024/07/25	97	70 - 130	103	70 - 130	<0.20	ug/L	NC	30
9534214	Toluene	2024/07/25	93	70 - 130	97	70 - 130	<0.20	ug/L	NC	30
9534214	Total Xylenes	2024/07/25					<0.20	ug/L	NC	30
9534214	trans-1,2-Dichloroethylene	2024/07/25	101	70 - 130	101	70 - 130	<0.50	ug/L	NC	30
9534214	trans-1,3-Dichloropropene	2024/07/25	101	70 - 130	101	70 - 130	<0.40	ug/L	NC	30
9534214	Trichloroethylene	2024/07/25	100	70 - 130	101	70 - 130	<0.20	ug/L	NC	30
9534214	Trichlorofluoromethane (FREON 11)	2024/07/25	104	70 - 130	102	70 - 130	<0.50	ug/L	NC	30
9534214	Vinyl Chloride	2024/07/25	95	70 - 130	95	70 - 130	<0.20	ug/L	NC	30
9534281	Chromium (VI)	2024/07/24	101	80 - 120	101	80 - 120	<0.50	ug/L	NC	20
9535641	1-Methylnaphthalene	2024/07/24	74	50 - 130	73	50 - 130	<0.050	ug/L	NC	30
9535641	2-Methylnaphthalene	2024/07/24	70	50 - 130	69	50 - 130	<0.050	ug/L	NC	30
9535641	Acenaphthene	2024/07/24	87	50 - 130	83	50 - 130	<0.050	ug/L	NC	30
9535641	Acenaphthylene	2024/07/24	84	50 - 130	82	50 - 130	<0.050	ug/L	NC	30
9535641	Anthracene	2024/07/24	92	50 - 130	90	50 - 130	<0.050	ug/L	NC	30
9535641	Benzo(a)anthracene	2024/07/24	98	50 - 130	96	50 - 130	<0.050	ug/L	NC	30
9535641	Benzo(a)pyrene	2024/07/24	95	50 - 130	94	50 - 130	<0.0090	ug/L	NC	30
9535641	Benzo(b)fluoranthene	2024/07/24	92	50 - 130	92	50 - 130	<0.050	ug/L	NC	30
9535641	Benzo(g,h,i)perylene	2024/07/24	96	50 - 130	93	50 - 130	<0.050	ug/L	NC	30
9535641	Benzo(k)fluoranthene	2024/07/24	93	50 - 130	91	50 - 130	<0.050	ug/L	NC	30
9535641	Chrysene	2024/07/24	98	50 - 130	96	50 - 130	<0.050	ug/L	NC	30
9535641	Dibenzo(a,h)anthracene	2024/07/24	89	50 - 130	83	50 - 130	<0.050	ug/L	NC	30
9535641	Fluoranthene	2024/07/24	110	50 - 130	107	50 - 130	<0.050	ug/L	NC	30
9535641	Fluorene	2024/07/24	86	50 - 130	82	50 - 130	<0.050	ug/L	NC	30
9535641	Indeno(1,2,3-cd)pyrene	2024/07/24	100	50 - 130	98	50 - 130	<0.050	ug/L	NC	30
9535641	Naphthalene	2024/07/24	71	50 - 130	70	50 - 130	<0.050	ug/L	NC	30
9535641	Phenanthrene	2024/07/24	95	50 - 130	92	50 - 130	<0.030	ug/L	NC	30
9535641	Pyrene	2024/07/24	108	50 - 130	106	50 - 130	<0.050	ug/L	NC	30
9535677	F2 (C10-C16 Hydrocarbons)	2024/07/25	94	60 - 140	95	60 - 140	<100	ug/L	NC	30
9535677	F3 (C16-C34 Hydrocarbons)	2024/07/25	95	60 - 140	96	60 - 140	<200	ug/L	NC	30
9535677	F4 (C34-C50 Hydrocarbons)	2024/07/25	89	60 - 140	84	60 - 140	<200	ug/L	NC	30



BUREAU VERITAS

Bureau Veritas Job #: C4M3725
Report Date: 2024/07/26

QUALITY ASSURANCE REPORT(CONT'D)

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Sampler Initials: ADI

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9537119	1,1,1,2-Tetrachloroethane	2024/07/25	95	70 - 130	100	70 - 130	<0.50	ug/L	NC	30
9537119	1,1,1-Trichloroethane	2024/07/25	96	70 - 130	99	70 - 130	<0.20	ug/L	NC	30
9537119	1,1,2,2-Tetrachloroethane	2024/07/25	98	70 - 130	99	70 - 130	<0.40	ug/L	NC	30
9537119	1,1,2-Trichloroethane	2024/07/25	96	70 - 130	98	70 - 130	<0.40	ug/L	NC	30
9537119	1,1-Dichloroethane	2024/07/25	99	70 - 130	100	70 - 130	<0.20	ug/L	NC	30
9537119	1,1-Dichloroethylene	2024/07/25	95	70 - 130	98	70 - 130	<0.20	ug/L	5.0	30
9537119	1,2-Dichlorobenzene	2024/07/25	91	70 - 130	98	70 - 130	<0.40	ug/L	NC	30
9537119	1,2-Dichloroethane	2024/07/25	102	70 - 130	101	70 - 130	<0.49	ug/L	3.0	30
9537119	1,2-Dichloropropane	2024/07/25	100	70 - 130	100	70 - 130	<0.20	ug/L	NC	30
9537119	1,3-Dichlorobenzene	2024/07/25	90	70 - 130	97	70 - 130	<0.40	ug/L	NC	30
9537119	1,4-Dichlorobenzene	2024/07/25	92	70 - 130	100	70 - 130	<0.40	ug/L	NC	30
9537119	Acetone (2-Propanone)	2024/07/25	110	60 - 140	107	60 - 140	<10	ug/L	NC	30
9537119	Benzene	2024/07/25	98	70 - 130	99	70 - 130	<0.20	ug/L	NC	30
9537119	Bromodichloromethane	2024/07/25	98	70 - 130	98	70 - 130	<0.50	ug/L	NC	30
9537119	Bromoform	2024/07/25	91	70 - 130	100	70 - 130	<1.0	ug/L	NC	30
9537119	Bromomethane	2024/07/25	83	60 - 140	83	60 - 140	<0.50	ug/L	NC	30
9537119	Carbon Tetrachloride	2024/07/25	98	70 - 130	101	70 - 130	<0.19	ug/L	NC	30
9537119	Chlorobenzene	2024/07/25	94	70 - 130	99	70 - 130	<0.20	ug/L	NC	30
9537119	Chloroform	2024/07/25	98	70 - 130	99	70 - 130	<0.20	ug/L	NC	30
9537119	cis-1,2-Dichloroethylene	2024/07/25	102	70 - 130	102	70 - 130	<0.50	ug/L	NC	30
9537119	cis-1,3-Dichloropropene	2024/07/25	100	70 - 130	99	70 - 130	<0.30	ug/L	NC	30
9537119	Dibromochloromethane	2024/07/25	95	70 - 130	99	70 - 130	<0.50	ug/L	NC	30
9537119	Dichlorodifluoromethane (FREON 12)	2024/07/25	72	60 - 140	74	60 - 140	<1.0	ug/L	NC	30
9537119	Ethylbenzene	2024/07/25	94	70 - 130	101	70 - 130	<0.20	ug/L	NC	30
9537119	Ethylene Dibromide	2024/07/25	97	70 - 130	99	70 - 130	<0.19	ug/L	NC	30
9537119	Hexane	2024/07/25	98	70 - 130	101	70 - 130	<1.0	ug/L	NC	30
9537119	Methyl Ethyl Ketone (2-Butanone)	2024/07/25	112	60 - 140	110	60 - 140	<10	ug/L	NC	30
9537119	Methyl Isobutyl Ketone	2024/07/25	106	70 - 130	104	70 - 130	<5.0	ug/L	NC	30
9537119	Methyl t-butyl ether (MTBE)	2024/07/25	97	70 - 130	99	70 - 130	<0.50	ug/L	NC	30
9537119	Methylene Chloride(Dichloromethane)	2024/07/25	111	70 - 130	110	70 - 130	<2.0	ug/L	NC	30
9537119	o-Xylene	2024/07/25	92	70 - 130	100	70 - 130	<0.20	ug/L	NC	30



BUREAU VERITAS

Bureau Veritas Job #: C4M3725
Report Date: 2024/07/26

QUALITY ASSURANCE REPORT(CONT'D)

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Sampler Initials: ADI

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9537119	p+m-Xylene	2024/07/25	95	70 - 130	103	70 - 130	<0.20	ug/L	NC	30
9537119	Styrene	2024/07/25	96	70 - 130	103	70 - 130	<0.40	ug/L	NC	30
9537119	Tetrachloroethylene	2024/07/25	93	70 - 130	100	70 - 130	<0.20	ug/L	NC	30
9537119	Toluene	2024/07/25	94	70 - 130	100	70 - 130	<0.20	ug/L	NC	30
9537119	Total Xylenes	2024/07/25					<0.20	ug/L	NC	30
9537119	trans-1,2-Dichloroethylene	2024/07/25	97	70 - 130	99	70 - 130	<0.50	ug/L	NC	30
9537119	trans-1,3-Dichloropropene	2024/07/25	99	70 - 130	90	70 - 130	<0.40	ug/L	NC	30
9537119	Trichloroethylene	2024/07/25	98	70 - 130	100	70 - 130	<0.20	ug/L	NC	30
9537119	Trichlorofluoromethane (FREON 11)	2024/07/25	96	70 - 130	99	70 - 130	<0.50	ug/L	NC	30
9537119	Vinyl Chloride	2024/07/25	90	70 - 130	92	70 - 130	<0.20	ug/L	4.4	30
9539727	Mercury (Hg)	2024/07/26	92	75 - 125	101	80 - 120	<0.10	ug/L	NC	20

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).



BUREAU
VERITAS

Bureau Veritas Job #: C4M3725

Report Date: 2024/07/26

Soil Engineers Ltd

Client Project #: 2108-E090

Site Location: HUMBER STATION ROAD, CALEDON

Sampler Initials: ADI

VALIDATION SIGNATURE PAGE

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

Louise Harding, Team Lead

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Your Project #: 2108-E090
 Site Location: CALEDON, ON
 Your C.O.C. #: N/A

Attention: Madan K. Suwal

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

Report Date: 2024/08/23
 Report #: R8290550
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4Q1278

Received: 2024/08/22, 12:27

Sample Matrix: Water
 # Samples Received: 2

Analyses	Date		Laboratory Method	Analytical Method
	Quantity	Extracted		
Dissolved Metals by ICPMS	2	N/A	2024/08/23 CAM SOP-00447	EPA 6020B 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.

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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.



Your Project #: 2108-E090
Site Location: CALEDON, ON
Your C.O.C. #: N/A

Attention: Madan K. Suwal

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

Report Date: 2024/08/23
Report #: R8290550
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4Q1278

Received: 2024/08/22, 12:27

Encryption Key



Bureau Veritas
23 Aug 2024 16:41:09

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

=====

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Bureau Veritas Job #: C4Q1278
 Report Date: 2024/08/23

Soil Engineers Ltd
 Client Project #: 2108-E090
 Site Location: CALEDON, ON
 Sampler Initials: ADI

O.REG 153 DISSOLVED ICPMS METALS (WATER)

Bureau Veritas ID		AART22	AART22	AART23			
Sampling Date		2024/08/22 10:00	2024/08/22 10:00	2024/08/22 11:00			
COC Number		N/A	N/A	N/A			
	UNITS	MW 2	MW 2 Lab-Dup	MW 4	RDL	MDL	QC Batch
Metals							
Dissolved Antimony (Sb)	ug/L	<0.50	<0.50	<0.50	0.50	0.20	9594671
Dissolved Arsenic (As)	ug/L	1.0	<1.0	1.3	1.0	0.10	9594671
Dissolved Barium (Ba)	ug/L	100	100	360	2.0	0.30	9594671
Dissolved Beryllium (Be)	ug/L	<0.40	<0.40	<0.40	0.40	0.050	9594671
Dissolved Boron (B)	ug/L	59	59	120	10	0.60	9594671
Dissolved Cadmium (Cd)	ug/L	<0.090	<0.090	<0.090	0.090	0.090	9594671
Dissolved Chromium (Cr)	ug/L	<5.0	<5.0	<5.0	5.0	0.70	9594671
Dissolved Cobalt (Co)	ug/L	1.7	1.6	0.96	0.50	0.040	9594671
Dissolved Copper (Cu)	ug/L	1.2	1.2	<0.90	0.90	0.30	9594671
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	0.50	0.050	9594671
Dissolved Molybdenum (Mo)	ug/L	2.8	2.7	6.3	0.50	0.070	9594671
Dissolved Nickel (Ni)	ug/L	3.3	3.5	1.1	1.0	0.40	9594671
Dissolved Selenium (Se)	ug/L	<2.0	<2.0	<2.0	2.0	0.20	9594671
Dissolved Silver (Ag)	ug/L	<0.090	<0.090	<0.090	0.090	0.020	9594671
Dissolved Thallium (Tl)	ug/L	<0.050	<0.050	<0.050	0.050	0.020	9594671
Dissolved Uranium (U)	ug/L	7.5	7.5	2.5	0.10	0.010	9594671
Dissolved Vanadium (V)	ug/L	0.54	0.54	<0.50	0.50	0.090	9594671
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	<5.0	5.0	1.0	9594671
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate							



Bureau Veritas Job #: C4Q1278
 Report Date: 2024/08/23

Soil Engineers Ltd
 Client Project #: 2108-E090
 Site Location: CALEDON, ON
 Sampler Initials: ADI

TEST SUMMARY

Bureau Veritas ID: AART22
Sample ID: MW 2
Matrix: Water

Collected: 2024/08/22
Shipped:
Received: 2024/08/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Metals by ICPMS	ICP/MS	9594671	N/A	2024/08/23	Indira HarryPaul

Bureau Veritas ID: AART22 Dup
Sample ID: MW 2
Matrix: Water

Collected: 2024/08/22
Shipped:
Received: 2024/08/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Metals by ICPMS	ICP/MS	9594671	N/A	2024/08/23	Indira HarryPaul

Bureau Veritas ID: AART23
Sample ID: MW 4
Matrix: Water

Collected: 2024/08/22
Shipped:
Received: 2024/08/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Metals by ICPMS	ICP/MS	9594671	N/A	2024/08/23	Indira HarryPaul



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Bureau Veritas Job #: C4Q1278
Report Date: 2024/08/23

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: CALEDON, ON
Sampler Initials: ADI

GENERAL COMMENTS

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

Package 1	3.7°C
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Results relate only to the items tested.



Bureau Veritas Job #: C4Q1278
Report Date: 2024/08/23

QUALITY ASSURANCE REPORT

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: CALEDON, ON
Sampler Initials: ADI

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9594671	Dissolved Antimony (Sb)	2024/08/23	103	80 - 120	98	80 - 120	<0.50	ug/L	NC	20
9594671	Dissolved Arsenic (As)	2024/08/23	99	80 - 120	99	80 - 120	<1.0	ug/L	3.1	20
9594671	Dissolved Barium (Ba)	2024/08/23	101	80 - 120	97	80 - 120	<2.0	ug/L	0.72	20
9594671	Dissolved Beryllium (Be)	2024/08/23	99	80 - 120	94	80 - 120	<0.40	ug/L	NC	20
9594671	Dissolved Boron (B)	2024/08/23	96	80 - 120	94	80 - 120	<10	ug/L	0.060	20
9594671	Dissolved Cadmium (Cd)	2024/08/23	99	80 - 120	96	80 - 120	<0.090	ug/L	NC	20
9594671	Dissolved Chromium (Cr)	2024/08/23	97	80 - 120	96	80 - 120	<5.0	ug/L	NC	20
9594671	Dissolved Cobalt (Co)	2024/08/23	96	80 - 120	96	80 - 120	<0.50	ug/L	3.4	20
9594671	Dissolved Copper (Cu)	2024/08/23	96	80 - 120	93	80 - 120	<0.90	ug/L	5.0	20
9594671	Dissolved Lead (Pb)	2024/08/23	93	80 - 120	93	80 - 120	<0.50	ug/L	NC	20
9594671	Dissolved Molybdenum (Mo)	2024/08/23	101	80 - 120	99	80 - 120	<0.50	ug/L	1.7	20
9594671	Dissolved Nickel (Ni)	2024/08/23	91	80 - 120	93	80 - 120	<1.0	ug/L	5.1	20
9594671	Dissolved Selenium (Se)	2024/08/23	102	80 - 120	97	80 - 120	<2.0	ug/L	NC	20
9594671	Dissolved Silver (Ag)	2024/08/23	97	80 - 120	93	80 - 120	<0.090	ug/L	NC	20
9594671	Dissolved Thallium (Tl)	2024/08/23	99	80 - 120	99	80 - 120	<0.050	ug/L	NC	20
9594671	Dissolved Uranium (U)	2024/08/23	100	80 - 120	97	80 - 120	<0.10	ug/L	0.92	20
9594671	Dissolved Vanadium (V)	2024/08/23	93	80 - 120	91	80 - 120	<0.50	ug/L	0.37	20
9594671	Dissolved Zinc (Zn)	2024/08/23	95	80 - 120	96	80 - 120	<5.0	ug/L	NC	20

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 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.

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 $\leq 2 \times$ RDL).



Bureau Veritas Job #: C4Q1278
Report Date: 2024/08/23

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: CALEDON, ON
Sampler Initials: ADI

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

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Your Project #: 2108-E090
Your C.O.C. #: C#1014767-01-01

Attention: Madan K. Suwal

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

Report Date: 2024/10/07
Report #: R8351594
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4U9520

Received: 2024/10/02, 17:30

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Dissolved Metals by ICPMS	1	N/A	2024/10/03	CAM SOP-00447	EPA 6020B 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.

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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.

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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.



Your Project #: 2108-E090
Your C.O.C. #: C#1014767-01-01

Attention: Madan K. Suwal

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

Report Date: 2024/10/07
Report #: R8351594
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4U9520

Received: 2024/10/02, 17:30

Encryption Key



AUTHORIZED REPORT
RAPPORT AUTORISÉ

Bureau Veritas
07 Oct 2024 15:06:16

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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O.REG 153 DISSOLVED ICPMS METALS (WATER)

Bureau Veritas ID		AERH11			
Sampling Date		2024/10/02 14:00			
COC Number		C#1014767-01-01			
	UNITS	MW2	RDL	MDL	QC Batch
Metals					
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	0.20	9678609
Dissolved Arsenic (As)	ug/L	<1.0	1.0	0.10	9678609
Dissolved Barium (Ba)	ug/L	51	2.0	0.30	9678609
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	0.050	9678609
Dissolved Boron (B)	ug/L	42	10	0.60	9678609
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	0.090	9678609
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	0.70	9678609
Dissolved Cobalt (Co)	ug/L	1.3	0.50	0.040	9678609
Dissolved Copper (Cu)	ug/L	1.8	0.90	0.30	9678609
Dissolved Lead (Pb)	ug/L	<0.50	0.50	0.050	9678609
Dissolved Molybdenum (Mo)	ug/L	1.9	0.50	0.070	9678609
Dissolved Nickel (Ni)	ug/L	1.6	1.0	0.40	9678609
Dissolved Selenium (Se)	ug/L	<2.0	2.0	0.20	9678609
Dissolved Silver (Ag)	ug/L	<0.090	0.090	0.020	9678609
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	0.020	9678609
Dissolved Uranium (U)	ug/L	6.2	0.10	0.010	9678609
Dissolved Vanadium (V)	ug/L	<0.50	0.50	0.090	9678609
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	1.0	9678609
RDL = Reportable Detection Limit QC Batch = Quality Control Batch					



Bureau Veritas Job #: C4U9520
Report Date: 2024/10/07

Soil Engineers Ltd
Client Project #: 2108-E090
Sampler Initials: AD

TEST SUMMARY

Bureau Veritas ID: AERH11
Sample ID: MW2
Matrix: Water

Collected: 2024/10/02
Shipped:
Received: 2024/10/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Metals by ICPMS	ICP/MS	9678609	N/A	2024/10/03	Nan Raykha



Bureau Veritas Job #: C4U9520
Report Date: 2024/10/07

Soil Engineers Ltd
Client Project #: 2108-E090
Sampler Initials: AD

GENERAL COMMENTS

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

Package 1	2.0°C
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Results relate only to the items tested.



BUREAU
VERITAS

Bureau Veritas Job #: C4U9520
Report Date: 2024/10/07

QUALITY ASSURANCE REPORT

Soil Engineers Ltd
Client Project #: 2108-E090
Sampler Initials: AD

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9678609	Dissolved Antimony (Sb)	2024/10/03	105	80 - 120	103	80 - 120	<0.50	ug/L	NC	20
9678609	Dissolved Arsenic (As)	2024/10/03	98	80 - 120	102	80 - 120	<1.0	ug/L	3.1	20
9678609	Dissolved Barium (Ba)	2024/10/03	99	80 - 120	101	80 - 120	<2.0	ug/L	1.6	20
9678609	Dissolved Beryllium (Be)	2024/10/03	94	80 - 120	99	80 - 120	<0.40	ug/L	NC	20
9678609	Dissolved Boron (B)	2024/10/03	91	80 - 120	99	80 - 120	<10	ug/L	2.0	20
9678609	Dissolved Cadmium (Cd)	2024/10/03	102	80 - 120	101	80 - 120	<0.090	ug/L	6.4	20
9678609	Dissolved Chromium (Cr)	2024/10/03	95	80 - 120	99	80 - 120	<5.0	ug/L	NC	20
9678609	Dissolved Cobalt (Co)	2024/10/03	97	80 - 120	101	80 - 120	<0.50	ug/L	2.7	20
9678609	Dissolved Copper (Cu)	2024/10/03	100	80 - 120	100	80 - 120	<0.90	ug/L	7.4	20
9678609	Dissolved Lead (Pb)	2024/10/03	101	80 - 120	102	80 - 120	<0.50	ug/L	NC	20
9678609	Dissolved Molybdenum (Mo)	2024/10/03	104	80 - 120	101	80 - 120	<0.50	ug/L	NC	20
9678609	Dissolved Nickel (Ni)	2024/10/03	93	80 - 120	98	80 - 120	<1.0	ug/L	3.6	20
9678609	Dissolved Selenium (Se)	2024/10/03	99	80 - 120	100	80 - 120	<2.0	ug/L	NC	20
9678609	Dissolved Silver (Ag)	2024/10/03	103	80 - 120	102	80 - 120	<0.090	ug/L	NC	20
9678609	Dissolved Thallium (Tl)	2024/10/03	105	80 - 120	106	80 - 120	<0.050	ug/L	NC	20
9678609	Dissolved Uranium (U)	2024/10/03	100	80 - 120	100	80 - 120	<0.10	ug/L	3.5	20
9678609	Dissolved Vanadium (V)	2024/10/03	95	80 - 120	97	80 - 120	<0.50	ug/L	NC	20
9678609	Dissolved Zinc (Zn)	2024/10/03	95	80 - 120	101	80 - 120	<5.0	ug/L	NC	20

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.

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).



Bureau Veritas Job #: C4U9520
Report Date: 2024/10/07

Soil Engineers Ltd
Client Project #: 2108-E090
Sampler Initials: AD

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

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Your Project #: 2108-E090
 Site Location: HUMBER STATION ROAD, CALEDON
 Your C.O.C. #: N/A

Attention: Madan K. Suwal

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

Report Date: 2024/10/07
 Report #: R8351791
 Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C4U4677

Received: 2024/09/27, 15:30

Sample Matrix: Water
 # Samples Received: 1

Analyses	Date		Laboratory Method	Analytical Method
	Quantity	Date		
Dissolved Metals by ICPMS	1	N/A	2024/09/30 CAM SOP-00447	EPA 6020B 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.

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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.



Your Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON
Your C.O.C. #: N/A

Attention: Madan K. Suwal

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

Report Date: 2024/10/07
Report #: R8351791
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C4U4677

Received: 2024/09/27, 15:30

Encryption Key

Antonella Brasil
Senior Project Manager
07 Oct 2024 16:17:45

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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O.REG 153 DISSOLVED ICPMS METALS (WATER)

Bureau Veritas ID		AEGT17			
Sampling Date		2024/09/26 15:15			
COC Number		N/A			
	UNITS	MW4	RDL	MDL	QC Batch
Metals					
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	0.20	9669748
Dissolved Arsenic (As)	ug/L	1.7	1.0	0.10	9669748
Dissolved Barium (Ba)	ug/L	330	2.0	0.30	9669748
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	0.050	9669748
Dissolved Boron (B)	ug/L	140	10	0.60	9669748
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	0.090	9669748
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	0.70	9669748
Dissolved Cobalt (Co)	ug/L	1.0	0.50	0.040	9669748
Dissolved Copper (Cu)	ug/L	1.5	0.90	0.30	9669748
Dissolved Lead (Pb)	ug/L	<0.50	0.50	0.050	9669748
Dissolved Molybdenum (Mo)	ug/L	6.0	0.50	0.070	9669748
Dissolved Nickel (Ni)	ug/L	<1.0	1.0	0.40	9669748
Dissolved Selenium (Se)	ug/L	<2.0	2.0	0.20	9669748
Dissolved Silver (Ag)	ug/L	<0.090	0.090	0.020	9669748
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	0.020	9669748
Dissolved Uranium (U)	ug/L	2.2	0.10	0.010	9669748
Dissolved Vanadium (V)	ug/L	<0.50	0.50	0.090	9669748
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	1.0	9669748
RDL = Reportable Detection Limit QC Batch = Quality Control Batch					



BUREAU
VERITAS

Bureau Veritas Job #: C4U4677
Report Date: 2024/10/07

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON

TEST SUMMARY

Bureau Veritas ID: AEGT17
Sample ID: MW4
Matrix: Water

Collected: 2024/09/26
Shipped:
Received: 2024/09/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Metals by ICPMS	ICP/MS	9669748	N/A	2024/09/30	Azita Fazaeli



Bureau Veritas Job #: C4U4677
Report Date: 2024/10/07

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON

GENERAL COMMENTS

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

Package 1	3.0°C
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Cooler custody seal was present but not intact .

Revised Report (2024/10/07): Project # 2108-E090 included as per client request .

Results relate only to the items tested.



**BUREAU
VERITAS**

Bureau Veritas Job #: C4U4677
Report Date: 2024/10/07

QUALITY ASSURANCE REPORT

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9669748	Dissolved Antimony (Sb)	2024/09/30	102	80 - 120	101	80 - 120	<0.50	ug/L		
9669748	Dissolved Arsenic (As)	2024/09/30	99	80 - 120	98	80 - 120	<1.0	ug/L	NC	20
9669748	Dissolved Barium (Ba)	2024/09/30	100	80 - 120	100	80 - 120	<2.0	ug/L	3.6	20
9669748	Dissolved Beryllium (Be)	2024/09/30	98	80 - 120	97	80 - 120	<0.40	ug/L		
9669748	Dissolved Boron (B)	2024/09/30	100	80 - 120	98	80 - 120	<10	ug/L	NC	20
9669748	Dissolved Cadmium (Cd)	2024/09/30	98	80 - 120	98	80 - 120	<0.090	ug/L	NC	20
9669748	Dissolved Chromium (Cr)	2024/09/30	97	80 - 120	97	80 - 120	<5.0	ug/L	NC	20
9669748	Dissolved Cobalt (Co)	2024/09/30	95	80 - 120	95	80 - 120	<0.50	ug/L		
9669748	Dissolved Copper (Cu)	2024/09/30	97	80 - 120	99	80 - 120	<0.90	ug/L	NC	20
9669748	Dissolved Lead (Pb)	2024/09/30	97	80 - 120	97	80 - 120	<0.50	ug/L	NC	20
9669748	Dissolved Molybdenum (Mo)	2024/09/30	100	80 - 120	99	80 - 120	<0.50	ug/L		
9669748	Dissolved Nickel (Ni)	2024/09/30	94	80 - 120	95	80 - 120	<1.0	ug/L	NC	20
9669748	Dissolved Selenium (Se)	2024/09/30	99	80 - 120	98	80 - 120	<2.0	ug/L		
9669748	Dissolved Silver (Ag)	2024/09/30	98	80 - 120	98	80 - 120	<0.090	ug/L		
9669748	Dissolved Thallium (Tl)	2024/09/30	97	80 - 120	100	80 - 120	<0.050	ug/L		
9669748	Dissolved Uranium (U)	2024/09/30	93	80 - 120	94	80 - 120	<0.10	ug/L		
9669748	Dissolved Vanadium (V)	2024/09/30	98	80 - 120	98	80 - 120	<0.50	ug/L		
9669748	Dissolved Zinc (Zn)	2024/09/30	96	80 - 120	98	80 - 120	<5.0	ug/L	NC	20

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.

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).



Bureau Veritas Job #: C4U4677
Report Date: 2024/10/07

Soil Engineers Ltd
Client Project #: 2108-E090
Site Location: HUMBER STATION ROAD, CALEDON

VALIDATION SIGNATURE PAGE

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

A handwritten signature in cursive script that reads 'Louise A. Harding'.

Louise Harding, Scientific Specialist

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Your Project #: HUMBER STATION ROAD, CALEDON
Your C.O.C. #: N/A

Attention: Madan K. Suwal

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

Report Date: 2024/07/10
Report #: R8228541
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4K7106

Received: 2024/07/08, 17:03

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Analytical Method
		Extracted	Analyzed		
1,3-Dichloropropene Sum	1	N/A	2024/07/10		EPA 8260C m
Volatile Organic Compounds in Water	1	N/A	2024/07/10	CAM SOP-00228	EPA 8260D

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.

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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.

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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.



Your Project #: HUMBER STATION ROAD, CALEDON
Your C.O.C. #: N/A

Attention: Madan K. Suwal

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

Report Date: 2024/07/10
Report #: R8228541
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4K7106

Received: 2024/07/08, 17:03

Encryption Key



Bureau Veritas
10 Jul 2024 15:09:12

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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O.REG 153 VOCs BY HS (WATER)

Bureau Veritas ID		ZQW392			
Sampling Date		2024/07/05			
COC Number		N/A			
	UNITS	TRIP BLANK	RDL	MDL	QC Batch
Calculated Parameters					
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	0.50	0.50	9505066
Volatile Organics					
Acetone (2-Propanone)	ug/L	<10	10	1.0	9505066
Benzene	ug/L	<0.20	0.20	0.020	9505066
Bromodichloromethane	ug/L	<0.50	0.50	0.050	9505066
Bromoform	ug/L	<1.0	1.0	0.10	9505066
Bromomethane	ug/L	<0.50	0.50	0.10	9505066
Carbon Tetrachloride	ug/L	<0.19	0.19	0.050	9505066
Chlorobenzene	ug/L	<0.20	0.20	0.010	9505066
Chloroform	ug/L	<0.20	0.20	0.050	9505066
Dibromochloromethane	ug/L	<0.50	0.50	0.050	9505066
1,2-Dichlorobenzene	ug/L	<0.40	0.40	0.050	9505066
1,3-Dichlorobenzene	ug/L	<0.40	0.40	0.050	9505066
1,4-Dichlorobenzene	ug/L	<0.40	0.40	0.050	9505066
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	1.0	0.050	9505066
1,1-Dichloroethane	ug/L	<0.20	0.20	0.050	9505066
1,2-Dichloroethane	ug/L	<0.49	0.49	0.020	9505066
1,1-Dichloroethylene	ug/L	<0.20	0.20	0.050	9505066
cis-1,2-Dichloroethylene	ug/L	<0.50	0.50	0.050	9505066
trans-1,2-Dichloroethylene	ug/L	<0.50	0.50	0.050	9505066
1,2-Dichloropropane	ug/L	<0.20	0.20	0.050	9505066
cis-1,3-Dichloropropene	ug/L	<0.30	0.30	0.050	9505066
trans-1,3-Dichloropropene	ug/L	<0.40	0.40	0.050	9505066
Ethylbenzene	ug/L	<0.20	0.20	0.010	9505066
Ethylene Dibromide	ug/L	<0.19	0.19	0.050	9505066
Hexane	ug/L	<1.0	1.0	0.10	9505066
Methylene Chloride(Dichloromethane)	ug/L	<2.0	2.0	0.10	9505066
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	10	0.50	9505066
Methyl Isobutyl Ketone	ug/L	<5.0	5.0	0.10	9505066
Methyl t-butyl ether (MTBE)	ug/L	<0.50	0.50	0.050	9505066
Styrene	ug/L	<0.40	0.40	0.050	9505066
1,1,1,2-Tetrachloroethane	ug/L	<0.50	0.50	0.050	9505066
1,1,2,2-Tetrachloroethane	ug/L	<0.40	0.40	0.050	9505066
Tetrachloroethylene	ug/L	<0.20	0.20	0.050	9505066
Toluene	ug/L	<0.20	0.20	0.010	9505066
1,1,1-Trichloroethane	ug/L	<0.20	0.20	0.050	9505066
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



Bureau Veritas Job #: C4K7106
 Report Date: 2024/07/10

Soil Engineers Ltd
 Client Project #: HUMBER STATION ROAD, CALEDON
 Sampler Initials: ADI

O.REG 153 VOCS BY HS (WATER)

Bureau Veritas ID		ZQW392			
Sampling Date		2024/07/05			
COC Number		N/A			
	UNITS	TRIP BLANK	RDL	MDL	QC Batch
1,1,2-Trichloroethane	ug/L	<0.40	0.40	0.050	9505066
Trichloroethylene	ug/L	<0.20	0.20	0.050	9505066
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	0.50	0.10	9505066
Vinyl Chloride	ug/L	<0.20	0.20	0.050	9505066
p+m-Xylene	ug/L	<0.20	0.20	0.010	9505066
o-Xylene	ug/L	<0.20	0.20	0.010	9505066
Total Xylenes	ug/L	<0.20	0.20	0.010	9505066
Surrogate Recovery (%)					
4-Bromofluorobenzene	%	98			9505066
D4-1,2-Dichloroethane	%	110			9505066
D8-Toluene	%	101			9505066
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



Bureau Veritas Job #: C4K7106
Report Date: 2024/07/10

Soil Engineers Ltd
Client Project #: HUMBER STATION ROAD, CALEDON
Sampler Initials: ADI

TEST SUMMARY

Bureau Veritas ID: ZQW392
Sample ID: TRIP BLANK
Matrix: Water

Collected: 2024/07/05
Shipped:
Received: 2024/07/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	9502378	N/A	2024/07/10	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	9505066	N/A	2024/07/10	Manpreet Sarao



Bureau Veritas Job #: C4K7106
Report Date: 2024/07/10

Soil Engineers Ltd
Client Project #: HUMBER STATION ROAD, CALEDON
Sampler Initials: ADI

GENERAL COMMENTS

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

Package 1	9.3°C
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Cooler custody seal was present and intact.

Results relate only to the items tested.



BUREAU VERITAS

Bureau Veritas Job #: C4K7106
Report Date: 2024/07/10

QUALITY ASSURANCE REPORT

Soil Engineers Ltd
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QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9505066	4-Bromofluorobenzene	2024/07/10	98	70 - 130	98	70 - 130	98	%		
9505066	D4-1,2-Dichloroethane	2024/07/10	113	70 - 130	106	70 - 130	107	%		
9505066	D8-Toluene	2024/07/10	100	70 - 130	102	70 - 130	101	%		
9505066	1,1,1,2-Tetrachloroethane	2024/07/10	106	70 - 130	108	70 - 130	<0.50	ug/L	NC	30
9505066	1,1,1-Trichloroethane	2024/07/10	107	70 - 130	111	70 - 130	<0.20	ug/L	NC	30
9505066	1,1,2,2-Tetrachloroethane	2024/07/10	135 (1)	70 - 130	128	70 - 130	<0.40	ug/L	NC	30
9505066	1,1,2-Trichloroethane	2024/07/10	128	70 - 130	122	70 - 130	<0.40	ug/L	NC	30
9505066	1,1-Dichloroethane	2024/07/10	123	70 - 130	124	70 - 130	<0.20	ug/L	1.4	30
9505066	1,1-Dichloroethylene	2024/07/10	129	70 - 130	133 (1)	70 - 130	<0.20	ug/L	NC	30
9505066	1,2-Dichlorobenzene	2024/07/10	103	70 - 130	104	70 - 130	<0.40	ug/L	NC	30
9505066	1,2-Dichloroethane	2024/07/10	123	70 - 130	118	70 - 130	<0.49	ug/L	NC	30
9505066	1,2-Dichloropropane	2024/07/10	120	70 - 130	118	70 - 130	<0.20	ug/L	NC	30
9505066	1,3-Dichlorobenzene	2024/07/10	110	70 - 130	114	70 - 130	<0.40	ug/L	NC	30
9505066	1,4-Dichlorobenzene	2024/07/10	111	70 - 130	114	70 - 130	<0.40	ug/L	NC	30
9505066	Acetone (2-Propanone)	2024/07/10	117	60 - 140	103	60 - 140	<10	ug/L	NC	30
9505066	Benzene	2024/07/10	NC	70 - 130	113	70 - 130	<0.20	ug/L	0.44	30
9505066	Bromodichloromethane	2024/07/10	112	70 - 130	110	70 - 130	<0.50	ug/L	NC	30
9505066	Bromoform	2024/07/10	95	70 - 130	93	70 - 130	<1.0	ug/L	NC	30
9505066	Bromomethane	2024/07/10	95	60 - 140	97	60 - 140	<0.50	ug/L	NC	30
9505066	Carbon Tetrachloride	2024/07/10	106	70 - 130	110	70 - 130	<0.19	ug/L	NC	30
9505066	Chlorobenzene	2024/07/10	108	70 - 130	110	70 - 130	<0.20	ug/L	NC	30
9505066	Chloroform	2024/07/10	115	70 - 130	115	70 - 130	<0.20	ug/L	NC	30
9505066	cis-1,2-Dichloroethylene	2024/07/10	115	70 - 130	113	70 - 130	<0.50	ug/L	NC	30
9505066	cis-1,3-Dichloropropene	2024/07/10	111	70 - 130	113	70 - 130	<0.30	ug/L	NC	30
9505066	Dibromochloromethane	2024/07/10	107	70 - 130	105	70 - 130	<0.50	ug/L	NC	30
9505066	Dichlorodifluoromethane (FREON 12)	2024/07/10	91	60 - 140	97	60 - 140	<1.0	ug/L	NC	30
9505066	Ethylbenzene	2024/07/10	106	70 - 130	111	70 - 130	<0.20	ug/L	NC	30
9505066	Ethylene Dibromide	2024/07/10	114	70 - 130	109	70 - 130	<0.19	ug/L	NC	30
9505066	Hexane	2024/07/10	135 (1)	70 - 130	139 (1)	70 - 130	<1.0	ug/L	NC	30
9505066	Methyl Ethyl Ketone (2-Butanone)	2024/07/10	128	60 - 140	111	60 - 140	<10	ug/L	NC	30
9505066	Methyl Isobutyl Ketone	2024/07/10	124	70 - 130	113	70 - 130	<5.0	ug/L	NC	30



BUREAU VERITAS

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QUALITY ASSURANCE REPORT(CONT'D)

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QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9505066	Methyl t-butyl ether (MTBE)	2024/07/10	113	70 - 130	111	70 - 130	<0.50	ug/L	NC	30
9505066	Methylene Chloride(Dichloromethane)	2024/07/10	120	70 - 130	117	70 - 130	<2.0	ug/L	NC	30
9505066	o-Xylene	2024/07/10	103	70 - 130	108	70 - 130	<0.20	ug/L	NC	30
9505066	p+m-Xylene	2024/07/10	108	70 - 130	113	70 - 130	<0.20	ug/L	NC	30
9505066	Styrene	2024/07/10	108	70 - 130	111	70 - 130	<0.40	ug/L	NC	30
9505066	Tetrachloroethylene	2024/07/10	104	70 - 130	110	70 - 130	<0.20	ug/L	NC	30
9505066	Toluene	2024/07/10	108	70 - 130	112	70 - 130	<0.20	ug/L	2.3	30
9505066	Total Xylenes	2024/07/10					<0.20	ug/L	NC	30
9505066	trans-1,2-Dichloroethylene	2024/07/10	116	70 - 130	118	70 - 130	<0.50	ug/L	NC	30
9505066	trans-1,3-Dichloropropene	2024/07/10	123	70 - 130	124	70 - 130	<0.40	ug/L	NC	30
9505066	Trichloroethylene	2024/07/10	106	70 - 130	110	70 - 130	<0.20	ug/L	NC	30
9505066	Trichlorofluoromethane (FREON 11)	2024/07/10	102	70 - 130	106	70 - 130	<0.50	ug/L	NC	30
9505066	Vinyl Chloride	2024/07/10	113	70 - 130	116	70 - 130	<0.20	ug/L	NC	30

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

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

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

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

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

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

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

(1) The recovery was above the upper control limit. This may represent a high bias in some results for this specific analyte. For results that were not detected (ND), this potential bias has no impact.



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VERITAS

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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.