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A REPORT TO

BEECHCROFT INVESTMENTS INC.

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

PROPOSED RESIDENTIAL DEVELOPMENT

63 AND 63A TRAFALGAR ROAD AND

PARTS OF LOTS 23 AND 24 IN CONCESSION 8

TOWN OF ERIN

Reference No. 2206-E054

January 5, 2023

DISTRIBUTION

3 Copies – Beechcroft Investments Inc.

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

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1.0 EXECUTIVE SUMMARY

Soil Engineers Ltd. (SEL) was retained by Beechcroft Investments Inc. to carry out a Phase Two Environmental Site Assessment (Phase Two ESA), as defined by Ontario Regulation (O. Reg.) 153/04, as amended made under Environmental Protection Act. The Phase Two ESA was conducted for properties which are municipally addressed as 63 and 63A Trafalgar Road and an adjacent property with no municipal address but with a legal address as parts of Lots 23 and 24 in Concession 8, in the Town of Erin, Ontario (hereinafter referred to as the 'subject site').

The purpose of the Phase Two ESA was to assess the soil and ground water 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 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition Residential/ Park/ Institutional property use for coarse textured soil (Table 2 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 2 Standards. Consequently, there are no contaminants identified at the subject site at a concentration above the applicable site condition standards (Table 2 Standards) during the Phase Two ESA.

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

2.0 INTRODUCTION

Soil Engineers Ltd. (SEL) was retained by Beechcroft Investments Inc. to carry out a Phase Two Environmental Site Assessment (Phase Two ESA), as defined by Ontario Regulation (O. Reg.) 153/04, as amended by O. Regs. 366/05, 66/08, 511/09, 245/10, 179/11, 269/11 and 333/13, herein referred to as O. Reg. 153/04 made under Environmental Protection Act (EPA). The Phase Two ESA was conducted for properties which are municipally addressed as 63 and 63A Trafalgar Road and an adjacent property with no municipal address but with a legal address as parts of Lots 23 and 24 in Concession 8, in the Town of Erin, Ontario (hereinafter referred to as the 'subject site').

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

2.1 Site Description

The subject site, irregular in shape and approximately of 52.0779 hectares (ha) (128.7 acres (ac)) in area, consists of properties which are municipally addressed as 63 and 63A Trafalgar Road and an adjacent property with no municipal address but with a legal address as parts of Lots 23 and 24 in Concession 8, in the Town of Erin. The Property Identification Numbers (PINs) of the subject site are 71143-0296 (LT), and 71143-1190 (LT). The legal descriptions of the subject site from the parcel register are: "LT 23 W/S GUELPH ST PL 95 ERIN; LT 24 W/S GUELPH ST PL 95 ERIN; LT 18 E/S GUELPH ST PL 95 ERIN; LT 19 E/S GUELPH ST PL 95 ERIN; LT 20 E/S GUELPH ST PL 95 ERIN; LT 14 W/S MARKET ST PL 95 ERIN; LT 15 W/S MARKET ST PL 95 ERIN; LT 16 W/S MARKET ST PL 95 ERIN; LT 11 E/S MARKET ST PL 95 ERIN; LT 12 E/S MARKET ST PL 95 ERIN; PT LT 4 PL 95 ERIN ABUTTING RDAL BTN CON 7 & 8 AS IN DS14870; PT LT 17 E/S GUELPH ST PL 95 ERIN; PT LT 21 W/S GUELPH ST PL 95 ERIN; PT LT 22 W/S GUELPH ST PL 95 ERIN AS IN DS14410; PT LT 23 CON 8 ERIN AS IN DS14346 (FIRSTLY); ERIN" and "PT LT 24 CON 8 ERIN EXCEPT PTS 1-3, 61R2749 & PTS 1-3, 61R10780 & PART 1, 61R21973 DS7839, ROS383121, MS13509,ROS609336, ROS593071, ROS578501, RO756343,

ROS571915, ROS207666, RO770469, MS100081, MS76550, MS84705, MS647; ERIN; SUBJECT TO AN EASEMENT OVER PART 2, 61R21973 IN FAVOUR OF PART LOT 24 CONCESSION 8 ERIN, PART 1, 61R21973 AS IN WC653287".

At the time of this assessment, the subject site was noted to be mainly being used for agricultural purposes with residential structures at the southwest portion of the subject site. The neighbouring properties consist of residential properties to the west and northwest, farm fields to the north, northeast and east, and commercial properties to the south and southwest of the subject site.

2.2 Property Ownership

This Phase Two ESA was commissioned to address the environmental concerns in accordance with our proposal, as approved by Ms. Uzo Rossouw, RPP, Director – Land Development, Beechcroft Investments Inc.

Beechcroft Investments Inc.
20 Cachet Woods Court, Suite #6,
Markham, ON
L6C 3G1

Attention: Ms. Uzo Rossouw, RPP, Director – Land Development

2.3 Current and Proposed Future Uses

The subject site is mainly being used for agricultural purposes with residential structures at the southwest portion of the subject site. Residential development is 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, made 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 not considered to be sensitive based on the definition set forth in Ontario Regulation 153/04 as amended, as the property is not within/adjacent/part of an area of natural significance and the analytical testing indicated the pH of 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.
- No watercourse or water bodies are located at or within 30 metres (m) from the subject site.
- Based on the information obtained from the SEL Phase One ESA, there are records of water wells the subject site and at neighbouring properties within 250 m from the subject site boundaries.
- Full Depth Generic Site Condition criteria is to be used in this assessment.
- The intended property use of the subject site is residential.
- No grain size analysis has been performed and, therefore, coarse textured soils standards are automatically applied.

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

3.0 BACKGROUND

3.1 Physical Setting

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

The subject site is located within rural residential areas within the Town of Erin. The neighbouring properties consist of residential properties to the west and northwest, farm fields to the north, northeast and east, and commercial properties to the south and southwest of the subject site.

According to the Surface Geology Map of the Phase One Study Area, the majority of the subject site is underlain by Glaciofluvial ice-contact deposits with materials documented as gravel and sand, minor till, includes esker, kame, end moraine, ice-marginal delta and subaqueous fan deposits. The eastern portion of the subject site is underlain by Glaciofluvial outwash deposits with the material described gravel and sand, includes, proglacial river and deltaic deposits. The Bedrock Geology Map shows the subject site is within Armabel Formation. The rock description was documented as sandstone, shale, dolostone, and siltstone. According to the Bedrock Topography Series, depth to bedrock in general vicinity of the subject site is approximately 26 metres below ground surface (mbgs).

The subject site is adjacent to a roadway (i.e. Trafalgar Road) at the southwest direction. The overall grade of the subject site generally descends to the southwesterly direction. A watershed map obtained from the Land Information Ontario (LIO), dated 2022, shows that the subject site is located within the Sixteen Mile Creek – Credit River Watershed.

Based on the review of the Ministry of the Natural Resources and Forestry (MNRF) and the LIO for listings of various classes of natural areas within the vicinity of the subject site, there are no Area of Natural Significance or watercourses at the subject site or within 30 m from the subject site boundaries. 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 Residential Development, 63 and 63A Trafalgar Road and Parts of Lots 23 and 24 in Concession 8, Town of Erin, Reference No. 2206-E054, November 8, 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 use of pesticides during agricultural activities at majority of the subject site.
APEC 2: Historical aboveground storage tanks (ASTs) at northeast portion of basement of residential building located at southwest portion of the subject site.
APEC 3: Oil stains at the backyard of the residential building at the subject site.
APEC 4: One (1) registered underground storage tank (UST) at the property located at 63A Trafalgar Road, southwestern portion of the subject site
APEC 5: Historical railway tracks located adjacent to the south of the subject site
APEC 6: Historical railway tracks located adjacent to the south of the subject site
APEC 7: Presence of waste transfer station located to the northeast of the subject site
APEC 8: Presence of a gas station with USTs at the neighbouring property located about 15 m to the south 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 our Phase One ESA. This Phase Two ESA was conducted in general conformance with the CSA Standard Z769-00 (Reaffimed in 2018) and O. Reg. 153/04, as amended.

The scope of work for this investigation includes:

- Locate the underground and overhead utilities.
- Carryout ground penetrating radar (GPR) survey to identify the registered UST surrounding the building at 63A Trafalgar Road.
- Advance twelve (12) boreholes (designated as BH1 to BH12) to depths ranging from 1.4 meter below ground surface (mbgs) to 7.9 mbgs and eight (8) hand-dug test pits (designated as TP1 to TP8) to depths 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 eight (8) monitoring wells at BH1 to BH8 locations (designated at BH/MW1 to BH/MW8) 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: Petroleum Hydrocarbons (PHCs), Benzene, Toluene, Ethylbenzene, Xylene (BTEX), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs), Chlorophenols (CPs), Organochlorine Pesticides (OCs) and Metals and/or Inorganic 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.

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 flight auger (CME 55), Geoprobe (7822) and Pionjar at various locations at the subject site. Soil samples were retrieved from split spoon during drilling with flight auger and Pionjar while soil samples were retrieved from Shelby Tube during borehole drilling with Geoprobe. 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 in eight (8) borehole locations (designated as BH/MW1 to BH/MW8). 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 potentially contaminating activities (PCAs), is presented on Drawing No. 1.

4.4 Deviations From Sampling and Analysis Plan

No deviations from the sampling and analysis plan were encountered.

4.5 Impediments

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

5.0 INVESTIGATION METHOD

5.1 General

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

The investigation of the Phase Two ESA consisted of advancing twelve (12) boreholes and carrying out eight (8) hand-dug test pits, installation of eight (8) monitoring wells at the selected borehole locations, field measurements, monitoring, and collection of soil samples from the boreholes and test pits 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). The location of the registered UST location was surveyed with electromagnetic wave (EM-31) and ground penetrating radar technique by Geophysics GPR International Inc. The survey carried out around accessible potential areas concluded that the areas scanned with the EM-31 did not reveal any anomalous targets that

could potentially indicate the presence of an underground storage tank.

The field work for the Phase Two ESA was conducted during November 16 and 22, 2022 period for boreholes (BH1 to BH12) up to maximum depths of 7.9 mbgs. A total of eight (8) test pits samples were collected on November 16, 2022. Additional boreholes were advanced at the subject site as part of concurrent Geotechnical Investigation (BH13 to BH17) during the period of November 23 and 25, 2023. The locations of the boreholes and test pits are shown in Drawing No. 2.

Boreholes were advanced using a conventional drilling rig (flight auger) equipped with a split spoon soil sampler (BH1 to BH9, BH13 to BH17) supplied by specialist contractor, DBW Drilling Limited; Pionjar (BH10) with split spoon and Geoprobe with Shelby Tube sampler (BH11 and BH12) supplied by a specialist drilling contractor, Kodiak Drilling. Soil samples retrieved from boreholes were recovered at regular intervals, either using a split spoon or Shelby Tube sampler, for soil vapour measurement, soil classification and visual and olfactory observations of 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 equipments were manually scrubbed with a brush using a phosphate-free solution and power washed to remove any adhered soils, foreign material and potential contaminants. In addition, all sampling equipments 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 continuously with Shelby Tube (BH11 and BH12) and with split spoon (BH1 to BH10). 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 deposits of silty sand, silty sand till, silt, sand, sandy silt, gravelly sand, silty clay, clayey silt, sandy gravel 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'.

Representative worst case soil samples from each borehole were selected and sent to the laboratory for chemical analyses, based on the soil vapour measurements and visual and olfactory observations or COCs behavior for chemical analyses.

5.5 Groundwater: Monitoring Well Installation

During the Phase Two ESA, a total of eight (8) monitoring wells were installed at the subject site by DBW Drilling Ltd., an MECP approved licensed well contractor. The monitoring wells were constructed using 50 mm diameter PVC screen, 3.0 m in length 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 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 November 22 and 23, 2022. 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 December 1, 2022. 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 are presented in Table II.

5.7 Groundwater: Sampling

Groundwater sampling was conducted on November 22 and 23, 2022, after purging and allows the 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 – "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 measurement equipment. The equipment is capable of having vertical and horizontal accuracy of 0.1± 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 medium (where three or more such samples are collected)
- Where volatile organic chemical analysis is required, the collection of discrete samples directly into laboratory-prepared sample vials and immediate placement into a cooler with ice to maintain the temperature at less than 10 °C for transport to the laboratory.
- 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 indicate deposits of silty sand, silty sand till, silt, sand, sandy silt, gravelly sand, silty clay, clayey silt, sandy gravel 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' and B-B' are presented on Drawing No. 4.

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

Top Soil

Top soil was encountered in most of the borehole locations, except BH10, thickness ranging from 0.05 m to 0.36 m.

Gravelly Sand

Gravelly sand deposits were encountered at borehole locations of BH2, BH3 and BH7 between 0.8 to 2.3 mbgs, at BH4 between 1.0 to 3.7 mbgs and at BH8 between 1.5 and 6.7 mbgs.

Sand

Sand deposits were encountered at borehole locations BH1 (between 0.8 and 3.0 mbgs), BH2 (between 2.3 and 6.8 mbgs), BH3 (between 2.3 and 5.3 mbgs), BH4 (between 0.5 and 1.0 mbgs), BH5 (between 0.8 and 3.8 mbgs), BH8 (between 0.7 and 1.5), BH9 (between 0.8 and 1.5 mbgs) and BH12 (between 0.1 and 0.8 mbgs, and 2.3 and 3.0 mbgs).

Sandy Silt

Sandy silt deposits were encountered at borehole locations BH6 (between 0.8 and 2.3 mbgs), BH7 (between 3.0 and 3.8 mbgs), BH11 (between 0.8 to 0.8 and 1.5 to 3.0 mbgs). For borehole BH10, the sandy silt deposit was encountered from the surface to the borehole termination depth of 1.4 mbgs.

Silt

Silt deposits were encountered between 0.15 to 0.8 mbgs at BH2 and BH3 locations, 0.8 to 1.5 mbgs at BH11 and BH12 locations, between 3.0 to 6.1 mbgs at BH1 location, 0.2 to 0.8 mbgs at BH5 location and between 0.1 to 0.8 and 3.8 to 5.3 mbgs at BH7 location.

Silty Clay

Silty clay deposit was encountered from 6.8, 5.3 and 5.3 to borehole termination depths of 7.9, 6.1 and 6.1 mbgs at borehole locations BH2, BH3 and BH7 respectively.

Clayey silt

A clayey silt deposit was encountered at BH5 location 3.8 mbgs to the termination depth, 5.3 mbgs, of the borehole.

Silty Sand

Silty sand deposits were encountered at borehole locations of BH1 (from 0.3 to 0.8 mbgs), BH7 (from 2.3 to 3.0 mbgs), BH9 (from 0.1 to 0.8 mbgs) and BH12 (from 1.5 to 2.3 mbgs).

Silty Sand Till

Deposits of silty sand till were encountered at borehole locations BH4 (from 3.7 to 6.6 mbgs)

and BH9 (between 1.5 and 4.6 mbgs).

Sandy Gravel

Sandy gravels deposits were encountered at borehole locations BH6 and BH9 from 2.3 and 4.6 mbgs to termination depths of 5.0 and 6.8 mbgs respectively.

Hydrogeology

Upon completion of drilling, the boreholes remained dry. However, based on the field observations and groundwater monitoring records (as indicated in the section below), shallow aquifer groundwater is present in sand, silt, silty clay, silty sand till, gravelly sand, sandy silt, sandy gravel, clayey silt deposits. This hydrogeologic unit at the subject site was investigated for the Phase Two ESA.

6.2 Groundwater: Elevations and Flow Direction

Eight (8) monitoring wells (designated as BH/MW1 to BH/MW8) were installed at borehole locations BH1 to BH8 during the field investigation for the Phase Two ESA from November 16 to 22, 2022. The monitoring wells were installed at depths of 4.65 to 7.76 mbgs at various borehole locations.

On December 1, 2022 during the groundwater monitoring event, water levels were recorded at depths of 4.79, 3.91, 3.79, 3.17, 4.29 and 5.83 mbgs in the monitoring wells BH/MW3, BH/MW4, BH/MW5, BH/MW6, BH/MW7 and BH/MW8, respectively. The corresponding water level elevations were recorded as 423.58, 423.72, 423.69, 440.47, 438.20 and 428.53 meters above sea level (masl) in BH/MW3, BH/MW4, BH/MW5, BH/MW6, BH/MW7 and BH/MW8, respectively. The BH/MW1, BH/MW2, BH/MW14 and BH/MW16 remained dry during this monitoring event and subsequent site visits..

The ground elevations of the borehole locations were surveyed using hand-held (Trimble Geoexplorer 7000 series) Global Navigation Satellite System measurement equipment. The

equipment is capable of having vertical and horizontal accuracy of 0.1± m. 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 southerly direction in southern portion of the subject site and to the westerly direction in northern portion of the subject site. 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 0.0024 and 0.0296 m/m (average 0.0142 m/m).

6.4 Coarse 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 50 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 PHCs, BTEX, VOCs, PAHs, OCs, CPs, and Metals and/or Inorganic parameters.

The soil test results were reviewed using the MECP Table 2, Full Depth Generic Site Condition Standards in a Potable Ground Water Condition Residential/ Park/ Institutional property use for coarse textured soil (Table 2 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.

Organochlorine pesticides (OCs)

Nine (9) original soil samples and two (2) 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 2 Standards.

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

Twelve (12) original soil samples and one (1) field duplicate sample were submitted for analyses of PHCs and/or BTEX. The test results indicated that the tested parameters in the soil samples at tested locations met the Table 2 Standards.

Volatile Organic Compounds (VOCs)

Eight (8) 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 2 Standards.

Polycyclic Aromatic Hydrocarbons (PAHs)

Eight (8) original soil samples were submitted for analyses of PAHs. The test results indicate that the tested parameters in the soils at tested locations met the Table 2 Standards.

Chlorophenols (CPs)

One (1) original soil sample was submitted for analyses of CPs. The test results indicate that the tested parameters in the soils at tested locations met the Table 2 Standards.

Metals and/or Inorganics

A total of eighteen (18) original soil samples and two (2) field duplicate samples were submitted for analyses of Metals and/or Inorganic parameters. The test results indicate that the tested parameters in the soils at the tested locations met the Table 2 Standards.

6.7 Groundwater Quality

Groundwater samples collected from six (6) monitoring wells at the subject site were submitted to the laboratory for chemical analyses of PHCs, BTEX, VOCs, PAHs, OCs, CPs and Metals parameters. BH/MW1 and BH/MW2 remained dry during multiple site visits.

The groundwater test results were reviewed using Table 2, Full Depth Generic Site Condition Standards in a Potable Ground Water Condition all property use for coarse textured soil (Table 2 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:

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

Six (6) sets of original groundwater samples and one (1) field duplicate sample were submitted for analyses of PHCs and/or BTEX. The test results indicate the tested groundwater samples at tested locations met the Table 2 Standards.

Volatile Organic Compounds (VOCs)

Five (5) sets of original groundwater samples, one (1) field duplicate sample and one (1) tripblank were submitted for analyses of VOCs. The test results indicate the tested groundwater samples at tested locations met the Table 2 Standards.

Polycyclic Aromatic Hydrocarbons (PAHs)

Five (5) sets of original groundwater samples and one (1) field duplicate sample were submitted for analyses of PAHs. The test results indicate the tested groundwater samples at tested locations met the Table 2 Standards.

Organochlorine pesticides (OCs)

One (1) set of original groundwater sample was submitted for analyses of OC parameters. The test results indicate the tested groundwater samples at tested location met the Table 2 Standards.

Chlorophenols (CPs)

One (1) set of original groundwater sample was submitted for analyses of CPs. The test results indicate the tested groundwater samples at tested location met the Table 2 Standards.

Metals

Six (6) sets of original groundwater samples were submitted for analyses of Metals parameters. The test results indicate the tested groundwater samples at tested locations met the Table 2 Standards.

It is to be noted that BH/MW1 and BH/MW2 remained dry during Phase Two ESA field work and SEL subsequent site visits and therefore no groundwater samples collected at these two locations. Five monitoring wells (BH/MW1 to BH/MW5) were advanced to address the potential environmental concern related to railway tracks located southeastern portion of the subject site.

Soil samples collected from all five locations for COC related to railway tracks (located downgradient to the subject site) met the applicable site condition standards (Table 2 Standards) and groundwater samples collected from three out of five monitoring well locations (BH/MW3 to BH/MW5) for COC related to railway met the applicable site condition standards (Table 2 Standards). The concentration of tested parameters were either below the laboratory reported detection limits or well below the Table 2 Standards. Therefore, it is our opinion that concentration of COCs in groundwater at the two remaining monitoring well locations (BH/MW1 and BH/MW2) unlikely to exceed the Table 2 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 and trip blank samples were analysed. Field duplicate samples were collected in the field for OCs, BTEX, PHCs and Metals for soil and VOCs, PHCs, PAHs for groundwater. One (1) tripblank for VOCs was shipped with the batch of the groundwater samples submitted for analyses. Details of QC samples are presented in the table below.

Field Duplicate

A total of six (6) sets of field duplicate soil samples and three (3) set of field duplicate for groundwater samples 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	Metals, OCs
DupS2	TP2	Soil	OCs
DupS3	BH3/6	Soil	Metals
DupS4	BH12/4	Soil	BTEX, PHCs

Duplicate Sample ID	Original Sample ID	Media	Test Conducted
DupW1	MW3	Groundwater	PHCs, VOCs, PAHs

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

Trip Blank

One (1) 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 batch 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).

6.10.1 Description and Assessment

The subject site, irregular in shape and approximately of 52.0779 hectares (ha) (128.7 acres (ac)) in area, consists of properties which are municipally addressed as 63 and 63A Trafalgar Road and an adjacent property with no municipal address but with a legal address as parts of Lots 23 and 24 in Concession 8, in the Town of Erin The Property Identification Numbers (PINs) of the subject site are 71143-0296 (LT), and 71143-1190 (LT). The legal descriptions of the subject site from the parcel register are: "LT 23 W/S GUELPH ST PL 95 ERIN; LT 24 W/S GUELPH ST PL 95 ERIN; LT 18 E/S GUELPH ST PL 95 ERIN; LT 19 E/S GUELPH ST PL 95 ERIN; LT 20 E/S GUELPH ST PL 95 ERIN; LT 14 W/S MARKET ST PL 95 ERIN; LT 15 W/S MARKET ST PL 95 ERIN; LT 16 W/S MARKET ST PL 95 ERIN; LT 11 E/S MARKET ST PL 95 ERIN; LT 12 E/S MARKET ST PL 95 ERIN; PT LT 4 PL 95 ERIN ABUTTING RDAL BTN CON 7 & 8 AS IN DS14870; PT LT 17 E/S GUELPH ST PL 95 ERIN; PT LT 21 W/S GUELPH ST PL 95 ERIN; PT LT 22 W/S GUELPH ST PL 95 ERIN AS IN DS14410; PT LT 23 CON 8 ERIN AS IN DS14346 (FIRSTLY); ERIN" and "PT LT 24 CON 8 ERIN EXCEPT PTS 1-3, 61R2749 & PTS 1-3, 61R10780 & PART 1, 61R21973 DS7839, ROS383121, MS13509,ROS609336, ROS593071, ROS578501, RO756343, ROS571915, ROS207666, RO770469, MS100081, MS76550, MS84705, MS647; ERIN; SUBJECT TO AN EASEMENT OVER PART 2, 61R21973 IN FAVOUR OF PART LOT 24 CONCESSION 8 ERIN, PART 1, 61R21973 AS IN WC653287".

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

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

- Potential use of pesticides as a part of agricultural activities at the majority of the subject site: #40 – Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications.
- Historical ASTs at basement of residential building at 63 Trafalgar Road and registered UST located at 63A Trafalgar Road at southwestern portion of the subject site. #28 – Gasoline and Associated Products Storage in Fixed Tanks
- Presence of oil stain on the ground at backyard of the residential building located at 63 Trafalgar Road. This is not listed in Table 2 of Schedule 'D'of O. Reg. 153/04: #Other – Oil Stain

Off-site PCAs

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

- Historically railway tracks were located adjacent to the south of the subject site. #46 – Rail Yards, Track and Spurs.
- A gas station with USTs is located at 25 Main Street, approximately 15 m to the south of the subject site. #28 – Gasoline and Associated Products Storage in Fixed Tanks
- A waste transfer station is located approximately 180 m to the northeast of the subject site. #58 – Waste Disposal and Waste Management, including thermal treatment, landfilling and transfer of waste, other than use of biosoils as soil conditioners

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

However, the remaining off-site PCAs (namely, various auto services located at 28 Main St., waste disposal facility located at 9426 Wellington Side Rd, two (2) waste generators within Phase One Study Area) are not considered to have contributed to the APECs at the subject site due to their relative distances and/or location (down- or trans-gradient) from 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 use of pesticides during agricultural activities at majority of the subject site.
APEC 2: Historical aboveground storage tanks (ASTs) at northeast portion of basement of residential building located at southwest portion of the subject site.
APEC 3: Oil stains at the backyard of the residential building at the subject site.
APEC 4: One (1) registered underground storage tank (UST) at the property located at 63A Trafalgar Road, southwestern portion of the subject site
APEC 5: Historical railway tracks located adjacent to the south of the subject site
APEC 6: Historical railway tracks located adjacent to the south of the subject site
APEC 7: Presence of waste transfer station located to the northeast of the subject site
APEC 8: Presence of a gas station with USTs at the neighbouring property located about 15 m to the south 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 for farm fields with residential buildings at southwest portion of the subject site. Since no contaminants are found 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 area, majority of the subject site is underlain by Glaciofluvial ice-contact deposits with materials documented as gravel and sand, minor till, includes esker, kame, end moraine, ice-marginal delta and subaqueous fan deposits. The eastern portion of the subject site is underlain by Glaciofluvial outwash deposits with the material described gravel and sand, includes, proglacial river and deltaic deposits. The Bedrock Geology Map shows the subject site is within Armabel Formation. The rock description was documented as sandstone, shale, dolostone, and siltstone. According to the Bedrock Topography Series, depth to bedrock in general vicinity of the subject site is approximately 26 metres below ground surface (mbgs).

The field investigation for the Phase Two ESA consisted of advancing twelve (12) boreholes (designated as BH1 to BH12) to depths range from 1.4 to 7.9 mbgs and carrying out eight (8) test pits to maximum depths of 0.3 mbgs. The subsoil conditions at the borehole locations indicate deposits of silty sand, silty sand till, silt, sand, sandy silt, gravelly sand, silty clay, clayey silt, sandy gravel 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' and B-B' are presented in Drawing No. 4.

6.10.2.2 Hydrogeological Characteristics

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

A total of eight (8) monitoring wells were installed at the subject site during the field investigation for the Phase Two ESA. The monitoring wells were installed at the depths of 4.65 to 7.76 mbgs. Additional groundwater monitoring wells (BH/MW13 to BH/MW17) were installed as a part of concurrent Geotechnical Investigation at the subject site. Based on the groundwater records of Phase Two ESA monitoring wells and the Geotechnical Investigation monitoring wells, the groundwater flow direction appears to be southerly direction in southern portion of the subject site and to the westerly direction in northern portion of 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 0.0024 and 0.0296 m/m (average 0.0142 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 ranges from 3.17 to 5.83 mbgs on December 1, 2022. However, BH/MW1, BH/MW2, BH/MW14 and BH/MW16 remained dry during the groundwater monitoring event and subsequent SEL site visits.

6.10.2.5 Section 35 and Section 41 or 43.1 of the Regulation

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

The subject site is not within/adjacent/part of an area of natural significance and the analytical testing indicated 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. Therefore, Section 41 of the regulation (Site Condition Standards, Environmental Sensitive Areas) is not applicable to the subject site.

The property is not a shallow soil property, as the bedrock was not encountered within 2.0 mbgs during the investigation. In addition, there is no water body within the subject site or 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) does not apply 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 our Phase One ESA and the field investigation of the Phase Two ESA did not indicate importation of fill material to the subject site. No soil has been brought to the subject site during the Phase Two ESA.

6.10.2.7 Proposed Building and Other Structures

A residential development is being proposed for the subject site. It is anticipated that the new development will be provided with municipal services meeting urban standards. The locations of proposed buildings or any other structures 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 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 2, Full Depth Generic Site Condition Standards in a Potable Ground Water Condition Residential/ Park/ Institutional property use for coarse textures soil (Table 2 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: Petroleum Hydrocarbons (PHCs), Benzene, Toluene, Ethylbenzene, Xylene (BTEX), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs), Chlorophenols (CPs), Organochlorine Pesticides (OCs), Metals, As, Sb, Se, Hg, Cr (VI), B-HWS, CN^- and pH

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

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

6.10.3.2 Distribution of Contaminants

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

condition standards.

6.10.3.3 Contaminant Medium

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

6.10.3.4 Reasons for Discharge

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

6.10.3.5 Migration of Contaminants

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

6.10.4 Potential Exposure Pathways and Receptors

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

7.0 CONCLUSIONS

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

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

APEC 2: Historical aboveground storage tanks (ASTs) at northeast portion of basement of residential building located at southwest portion of the subject site.

APEC 3: Oil stains at the backyard of the residential building at the subject site.

APEC 4: One (1) registered underground storage tank (UST) at the property located at 63A Trafalgar Road, southwestern portion of the subject site

APEC 5: Historical railway tracks located adjacent to the south of the subject site

APEC 6: Historical railway tracks located adjacent to the south of the subject site

APEC 7: Presence of waste transfer station located to the northeast of the subject site

APEC 8: Presence of a gas station with USTs at the neighbouring property located about 15 m to the south 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 carrying out eight (8) test pits (designated as TP1 to TP8) to maximum depths of 0.3 mbgs and advancing twelve (12) boreholes (designated as BH1 to BH12) at depths ranging from 1.4 to 7.9 mbgs.
- The subsoil conditions at the borehole locations indicate deposits of silty sand, silty sand till, silt, sand, sandy silt, gravelly sand, silty clay, clayey silt, sandy gravel 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 50 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 Petroleum Hydrocarbons (PHCs), Benzene, Toluene, Ethylbenzene, Xylene (BTEX), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs), Chlorophenols (CPs), Organochlorine Pesticides (OCs) and Metals and/or Inorganic parameters.
- 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 six (6) monitoring wells and were submitted for analysis of one or more of Petroleum Hydrocarbons (PHCs), Benzene, Toluene, Ethylbenzene, Xylene (BTEX), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs), Chlorophenols (CPs), Organochlorine Pesticides (OCs) and Metals and/or Inorganic parameters. Two of the wells remained dry during Phase Two ESA field work and subsequent SEL site visits.
- As part of the Quality Assurance / Quality Control (QA/QC) program for the investigation, QC samples in the form of field duplicate and trip blank samples were analyzed. Field duplicate samples were collected in the field for OCs, BTEX, PHCs and Metals in soil and PHCs, VOCs and PAHs in groundwater. One (1) tripblank for VOCs was shipped with the batch of the groundwater samples submitted for analysis
- The analytical test results were reviewed using the Table 2, Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for Residential/ Park/ Institutional property use for coarse textured soil (Table 2 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 in general are similar to the results for the original samples. However, the RPDs could not be calculated between the original and duplicate samples in the situation where the original and/or duplicate samples were below the reported laboratory detection 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 2 Standards. Consequently, there are no contaminants identified at the subject site at a concentration above the applicable site condition standards (Table 2 Standards) during the Phase Two ESA.

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

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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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FAX: (705) 721-7864	FAX: (905) 542-2769	FAX: (905) 725-1315	FAX: (905) 881-8335	FAX: (705) 684-8522	FAX: (905) 725-1315	FAX: (905) 542-27

TABLES

Reference No. 2206-E054

Reference No. 2206-E054

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)
BH/MW1	6.25	3	3.25 – 6.25	2.65 - 6.25	0 - 2.65
BH/MW2	7.76	3	4.76 – 7.76	4.16 - 7.76	0 - 4.16
BH/MW3	6.25	3	3.25 – 6.25	2.65 - 6.25	0 - 2.65
BH/MW4	6.35	3	3.35 – 6.35	2.75 - 6.35	0 - 2.75
BH/MW5	4.70	3	1.7 – 4.7	1.1 - 4.7	0 - 1.1
BH/MW6	4.65	3	1.65 – 4.65	1.05 - 4.65	0 - 1.05
BH/MW7	6.00	3	3 – 6	2.4 - 6	0 - 2.4
BH/MW8	6.10	3	3.1 – 6.1	2.5 - 6.1	0 - 2.5
BH/MW13	6.10	3.1	3 – 6.1	2.4 - 6.1	0 - 2.4
BH/MW14	6.10	3.1	3 – 6.1	2.4 - 6.1	0 - 2.4
BH/MW15	6.10	3.1	3 – 6.1	2.4 - 6.1	0 - 2.4
BH/MW16	4.60	3.1	1.5 – 4.6	0.9 - 4.6	0 - 0.9
BH/MW17	6.10	3.1	3 – 6.1	2.4 - 6.1	0 - 2.4

Note: mbgs – meters below ground surface

Reference No. 2206-E054
Table II – Water Levels

Monitoring Well I.D.	Ground Elevation (masl)	Measured Groundwater Level		Field Observations		
		01-Dec-22				
		Depth (mbgs)	Elevation (m)	Odour	Colour	Sheen or Free Product
BH/MW1	430.87	Dry	Dry	None	-	None
BH/MW2	431.81	Dry	Dry	None	-	None
BH/MW3	428.37	4.79	423.58	None	-	None
BH/MW4	427.63	3.91	423.72	None	-	None
BH/MW5	427.48	3.79	423.69	None	-	None
BH/MW6	443.64	3.17	440.47	None	-	None
BH/MW7	442.49	4.29	438.20	None	-	None
BH/MW8	434.36	5.83	428.53	None	-	None
BH/MW13	433.89	3.17	430.72	None	-	None
BH/MW14	442.34	Dry	Dry	None	-	None
BH/MW15	438.00	3.91	434.09	None	-	None
BH/MW16	437.70	Dry	Dry	None	-	None
BH/MW17	435.55	3.85	431.70	None	-	None

Note: mbgs = metres below ground surface
masl = metres above sea level

Soil Engineers Ltd.

Table III

SOIL CHEMICAL ANALYSIS - Metals and Inorganic Parameters

Project No. 2206-E054

Sample ID		TP1	DUPS1	TP2	TP3	TP4	TP5	TP6	TP7	TP8	BH1/5	BH2/9	BH3/6	DUPS3	BH4/6	BH5/6	BH6/4	BH7/6	BH8/7	BH10/1	BH11/1	
Sample Date		16-Nov-22	16-Nov-22	16-Nov-22	16-Nov-22	16-Nov-22	16-Nov-22	16-Nov-22	16-Nov-22	16-Nov-22	16-Nov-22	16-Nov-22	17-Nov-22	17-Nov-22	18-Nov-22	18-Nov-22	22-Nov-2022	22-Nov-2022	22-Nov-2022	22-Nov-2022	22-Nov-2022	Ontario Regulation 153/04 Table 2 RPI Standard**
Laboratory ID	RDL*	UIJ710	UIJ718	UIJ711	UIJ712	UIJ713	UIJ714	UIJ715	UIJ716	UIJ717	UIT863	UIT857	UIT858	UIT867	UIT871	UIT862	UJM449	UJM456	UJM460	UJM452	UJM453	
Bore Hole/TP No.		TP1	TP1	TP2	TP3	TP4	TP5	TP6	TP7	TP8	BH1	BH2	BH3	BH3	BH4	BH5	BH6	BH7	BH8	BH10	BH11	
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	3.0 - 3.6	6.1 - 6.7	3.8- 4.4	3.8- 4.4	3.8 - 4.4	3.8- 4.4	2.3 - 2.9	3.8- 4.4	4.6 - 5.2	0.0 - 0.7	0.0 - 0.6	
Antimony	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.22	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.38	<0.20	<0.20	7.5
Arsenic	1	4.2	4.1	4.3	4.5	4.4	4.3	7.4	6.7	6.7	1.9	1.8	3	2.5	1.7	1.9	<1.0	1.5	4.4	1.7	2.7	18
Barium	0.5	48	47	53	34	33	31	45	46	41	44	11	9.3	9	36	37	12	27	12	17	37	390
Beryllium	0.2	0.43	0.43	0.42	0.36	0.36	0.32	0.33	0.33	0.32	0.34	<0.20	<0.20	<0.20	0.24	0.26	<0.20	0.25	<0.20	<0.20	0.26	4
Boron (Hot Water Soluble)	0.05	0.68	-	0.64	0.6	0.59	0.5	0.55	0.47	0.45	-	-	-	-	-	-	-	-	-	-	-	1.5
Cadmium	0.1	0.3	0.26	0.32	0.32	0.2	0.21	0.27	0.27	0.28	<0.10	0.1	0.11	<0.10	0.33	0.37	<0.10	<0.10	0.23	0.12	0.13	1.2
Chromium	1	14	14	17	15	13	12	13	13	13	15	4.9	7.4	6.7	11	12	5.5	11	7.4	9.9	10	160
Chromium VI	0.18	<0.18	-	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	-	-	-	-	-	-	-	-	-	-	-	8
Cobalt	0.1	4.8	4.7	5.2	4.4	4.2	3.8	4	3.9	4	6	1.8	3.2	3.2	4.6	4.7	2	4.4	4.3	3.4	3.6	22
Copper	0.5	10	9.5	10	12	11	10	16	16	15	14	8	18	16	13	11	6.8	11	27	13	10	140
Lead	1	20	20	20	17	14	13	17	17	16	5.9	4.6	8.5	7.9	27	28	2.9	4	57	7.5	19	120
Mercury	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	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.27
Molybdenum	0.5	<0.50	<0.50	0.55	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.5	<0.50	<0.50	<0.50	1.8	<0.50	<0.50	6.9
Nickel	0.5	8.7	8.7	9	8	7.8	6.5	7	7.2	7.3	12	3.9	6.2	5.1	9.1	9.4	4.2	8.7	9.9	6.8	6.6	100
Selenium	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	2.4
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	20
Thallium	0.05	0.1	0.088	0.097	0.077	0.075	0.069	0.08	0.077	0.086	0.081	<0.050	<0.050	<0.050	0.085	0.096	<0.050	0.052	0.16	0.066	0.062	1
Vanadium	5	31	32	39	37	32	29	32	32	33	24	10	20	16	19	20	12	20	10	23	23	86
Zinc	5	76	75	71	56	56	46	63	63	56	32	47	41	40	100	100	29	21	130	99	59	340
pH (pH Units)	-	6.97	-	-	-	7.1	-	-	5.42	6.32	-	-	-	-	-	8.04	7.91	7.96	-	-	-	-
Cyanide, Free	0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	0.051
Boron (Total)	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	6.5	<5.0	5.5	5.5	5.3	5.7	<5.0	<5.0	12	<5.0	<5.0	120
Uranium	0.05	0.46	0.47	0.51	0.51	0.45	0.42	0.47	0.49	0.47	0.48	0.28	0.36	0.37	0.49	0.49	0.27	0.41	0.44	0.4	0.32	23

Analysis by Maxxam Analytics, all results in ppm (µg/g) unless otherwise stated

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

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

Soil Engineers Ltd.

Table III

SOIL CHEMICAL ANALYSIS - Organochlorine Pesticides (OCs) Parameters

Project No. 2206-E054

Sample ID	RDL*	TP1	DUPS1	TP2	DUPS2	TP3	TP4	TP5	TP6	TP7	TP8	BH7/6	Ontario Regulation 153/04 Table 2 RPI Standard**
Sample Date		16-Nov-22	16-Nov-22	16-Nov-22	16-Nov-22	16-Nov-22	16-Nov-22	16-Nov-22	16-Nov-22	16-Nov-22	16-Nov-22	22-Nov-22	
Laboratory ID		UIJ710	UIJ718	UIJ711	UIJ719	UIJ712	UIJ713	UIJ714	UIJ715	UIJ716	UIJ717	UJM456	
Bore Hole/TP No.		TP1	TP1	TP2	TP2	TP3	TP4	TP5	TP6	TP7	TP8	BH7	
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	0.0 - 0.3	3.8 - 4.4	
Aldrin	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.05
Chlordane (alpha)	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-
Chlordane (gamma)	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-
Chlordane (total)	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.05
o,p DDD	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-
p,p-DDD	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-
DDD (total)	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	3.3
o,p DDE	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-
p,p-DDE	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0037	0.0026	0.0021	<0.0020	-
DDE (total)	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0037	0.0026	0.0021	<0.0020	0.26
op-DDT	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-
pp-DDT	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0023	0.0024	<0.0020	<0.0020	-
DDT (total)	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0023	0.0024	<0.0020	<0.0020	1.4
Dieldrin	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.05
Endosulphan I	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-
Endosulphan II	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	-
Total Endosulphan	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.04
Endrin	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.04
Heptachlor	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.15
Heptachlor Epoxide	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.05
Lindane	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.056
Methoxychlor	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.13
Hexachlorobenzene	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.52
Hexachlorobutadiene	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.012
Hexachloroethane	0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.089

Analysis by Maxxam Analytics, all results in ppm (µg/g) unless otherwise stated

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

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

Soil Engineers Ltd.

SOIL CHEMICAL ANALYSIS - Volatile Organic Compound (VOCs) Parameters

Project No. 2206-E054

Sample ID	RDL*	BH1/6	BH2/10	BH3/7	BH4/7	BH5/6	BH6/7	BH7/5	BH8/8	Ontario Regulation 153/04 Table 2 RPI Standard**
Sample Date		16-Nov-22	16-Nov-22	17-Nov-22	18-Nov-22	18-Nov-22	22-Nov-22	22-Nov-22	22-Nov-22	
Laboratory ID		UIT864	UIT856	UIT859	UIT873	UIT862	UJM451	UJM455	UJM459	
Bore Hole No.		BH1	BH2	BH3	BH4	BH5	BH6	BH7	BH8	
Depth (mbgs)		3.8 - 4.4	6.8 - 7.4	4.6 - 5.2	4.6 - 5.2	3.8 - 4.4	4.6 - 5.0	3.0 - 3.6	5.3 - 5.9	
Acetone	0.49	<0.49	<0.49	<0.49	<0.49	<0.49	<0.49	<0.49	<0.49	16
Benzene	0.006	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	0.21
Bromodichloromethane	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	1.5
Bromoform	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.27
Bromomethane	0.04	<0.040	<0.040	<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	<0.040	<0.040	0.05
Chlorobenzene	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	2.4
Chloroform	0.04	<0.040	<0.040	<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	<0.040	<0.040	2.3
1,2-Dichlorobenzene	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	1.2
1,3-Dichlorobenzene	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	4.8
1,4-Dichlorobenzene	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.083
1,1-Dichloroethane	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.47
1,2-Dichloroethane	0.049	<0.049	<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	<0.040	<0.040	0.05
Cis-1,2-Dichloroethylene	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	1.9
Trans-1,2-Dichloroethylene	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.084
1,2-Dichloropropane	0.04	<0.040	<0.040	<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	<0.030	<0.030	-
Trans-1,3-Dichloropropylene	0.04	<0.040	<0.040	<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	<0.010	<0.010	1.1
Ethylene Dibromide	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.05
Methyl Ethyl Ketone	0.4	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	16
Methylene Chloride	0.049	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049	0.1
Methyl Isobutyl Ketone	0.4	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	1.7
Methyl-t-Butyl Ether	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.75
Styrene	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.7
1,1,1,2-Tetrachloroethane	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.058
1,1,2,2-Tetrachloroethane	0.04	<0.040	<0.040	<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	<0.020	<0.020	2.3
Tetrachloroethylene	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.28
1,1,1-Trichloroethane	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.38
1,1,2-Trichloroethane	0.04	<0.040	<0.040	<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	<0.010	<0.010	0.061
Vinyl Chloride	0.019	<0.019	<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	<0.020	<0.020	-
o-Xylene	0.02	<0.020	<0.020	<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	<0.020	<0.020	3.1
Dichlorodifluoromethane	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	16
Hexane(n)	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	2.8
Trichlorofluoromethane	0.04	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	4
1,3-Dichloropropene (cis + trans)	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.05

Analysis by Maxxam Analytics, all results in ppm (µg/g) unless otherwise stated

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

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

Soil Engineers Ltd.

SOIL CHEMICAL ANALYSIS - Petroleum Hydrocarbons (PHCs) Parameters

Project No. 2206-E054

Sample ID	RDL*	BH1/5	BH2/10	BH3/7	BH4/7	BH5/6	BH6/7	BH7/5	BH8/8	BH9/8	BH10/1	BH11/1	BH12/4	DUPS4	Ontario Regulation 153/04 Table 2 RPI Standard**
Sample Date		16-Nov-22	16-Nov-22	17-Nov-22	18-Nov-22	18-Nov-22	22-Nov-22	22-Nov-22	22-Nov-22	22-Nov-22	22-Nov-22	22-Nov-22	22-Nov-22	22-Nov-22	
Laboratory ID		UIT863	UIT856	UIT859	UIT873	UIT862	UJM451	UJM455	UJM459	UJM457	UJM452	UJM453	UJM454	UJM458	
Bore Hole No.		BH1	BH2	BH3	BH4	BH5	BH6	BH7	BH8	BH9	BH10	BH11	BH12	BH12	
Depth (mbgs)		3.0 - 3.6	6.8 - 7.4	4.6 - 5.2	4.6 - 5.2	3.8 - 4.4	4.6 - 5.0	3.0 - 3.6	5.3 - 5.9	5.3 - 5.9	0.0 - 0.7	0.0 - 0.6	2.3 - 2.9	2.3 - 2.9	
Benzene	0.02	<0.020	-	-	-	-	-	-	-	<0.020	<0.020	<0.020	<0.020	<0.020	0.21
Toluene	0.02	<0.020	-	-	-	-	-	-	-	<0.020	<0.020	<0.020	<0.020	<0.020	2.3
Ethylbenzene	0.02	<0.020	-	-	-	-	-	-	-	<0.020	<0.020	<0.020	<0.020	<0.020	1.1
m/p xylenes	0.04	<0.040	-	-	-	-	-	-	-	<0.040	<0.040	<0.040	<0.040	<0.040	-
o xylene	0.02	<0.020	-	-	-	-	-	-	-	<0.020	<0.020	<0.020	<0.020	<0.020	-
Total Xylenes	0.04	<0.040	-	-	-	-	-	-	-	<0.040	<0.040	<0.040	<0.040	<0.040	3.1
F1 (C6-C10)	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	55
F1 (C6-C10) - BTEX	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	55
F2 (C10-C16)	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	98
F3 (C16-C34)	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	200	<50	<50	300
F4 (C34-C50)	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	2800
Reached Baseline at C50	-	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	-
F4 Gravimetric	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2800

Analysis by Maxxam Analytics, all results in ppm (µg/g) unless otherwise stated

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

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

Soil Engineers Ltd.

SOIL CHEMICAL ANALYSIS - Polycyclic Aromatic Hydrocarbons (PAHs) Parameters

Project No. 2206-E054

Sample ID	RDL*	BH1/7	BH2/10	BH3/8	BH4/8	BH5/7	BH6/7	BH7/5	BH8/8	Ontario Regulation 153/04 Table 2 RPI Standard**
Sample Date		16-Nov-22	16-Nov-22	17-Nov-22	18-Nov-22	18-Nov-22	22-Nov-22	22-Nov-22	22-Nov-22	
Laboratory ID		UIT869	UIT856	UIT860	UIT874	UIT861	UJM451	UJM455	UJM459	
Bore Hole No.		BH1	BH2	BH3	BH4	BH5	BH6	BH7	BH8	
Depth (mbgs)		4.6 - 5.2	6.8 - 7.4	5.3 - 5.9	5.3 - 5.9	4.6 - 5.2	4.6 - 5.0	3.0 - 3.6	5.3 - 5.9	
Acenaphthene	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	7.9
Acenaphthylene	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.15
Anthracene	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.67
Benzo(a)anthracene	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.5
Benzo(a)pyrene	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.3
Benzo(b/j)fluoranthene	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.78
Benzo(ghi)perylene	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	6.6
Benzo(k)fluoranthene	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.78
Chrysene	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	7
Dibenzo(a,h)anthracene	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.1
Fluoranthene	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.69
Fluorene	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	62
Indeno(1,2,3-cd)pyrene	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.38
1-Methylnaphthalene	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.99
2-Methylnaphthalene	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.99
Naphthalene	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.6
Phenanthrene	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	6.2
Pyrene	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	78
Methylnaphthalene, 2-(1-)	0.071	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	0.99

Analysis by Maxxam Analytics, all results in ppm (µg/g) unless otherwise stated

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

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

Soil Engineers Ltd.

SOIL CHEMICAL ANALYSIS - Chlorophenols (CPs) Parameters

Project No. 2206-E054

Sample ID	RDL*	BH6/6	Ontario Regulation 153/04 Table 2 RPI Standard**
Sample Date		22-Nov-22	
Laboratory ID		UJM450	
Bore Hole No.		BH6	
Depth (mbgs)		3.8 - 4.4	
2-Chlorophenol	0.05	<0.05	1.6
2,4-Dichlorophenol	0.05	<0.05	0.19
Pentachlorophenol	0.05	<0.05	0.1
2,4,5-Trichlorophenol	0.05	<0.05	4.4
2,4,6-Trichlorophenol	0.05	<0.05	2.1

Analysis by Maxxam Analytics, all results in ppm (µg/g) unless otherwise stated

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

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

GROUND WATER CHEMICAL ANALYSIS - Metals and Inorganic Parameters

Project No.2206-E054

Sample ID	RDL*	MW3	MW4	MW5	MW6	MW7	MW8	Ontario Regulation 153/04 Table 2 Standards**
Sample Date		22-Nov-2022	22-Nov-2022	22-Nov-2022	22-Nov-2022	23-Nov-2022	23-Nov-2022	
Laboratory ID		UJT427	UJT428	UJT429	UJT430	UJW180	UJW181	
Bore Hole No.		BH3	BH4	BH5	BH6	BH7	BH8	
Screen Depth (mbgs)		3.25 – 6.25	3.35 – 6.35	1.7 – 4.7	1.65 – 4.65	3.0 – 6.0	3.1 – 6.1	
Antimony	0.5	<0.50	0.54	<0.50	<0.50	0.5	<0.50	6
Arsenic	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	25
Barium	2	27	85	58	39	70	43	1000
Beryllium	0.4	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	4
Boron	10	<10	38	32	24	19	73	5000
Cadmium	0.09	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	2.7
Chromium	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	50
Cobalt	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	3.8
Copper	0.9	1.2	1.1	1.5	2.6	2.5	3.4	87
Lead	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	10
Molybdenum	0.5	<0.50	5.3	3.3	4.3	3.5	4.5	70
Nickel	1	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	100
Selenium	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	10
Silver	0.09	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	1.5
Thallium	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.052	2
Vanadium	0.5	<0.50	0.57	<0.50	<0.50	<0.50	<0.50	6.2
Zinc	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	1100
Uranium	0.1	0.28	0.69	0.32	0.38	1.2	0.21	20

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 Generic Site Condition Standards in a Potable Ground Water Condition for all types of property use

GROUND WATER CHEMICAL ANALYSIS - Volatile Organic Compound (VOCs) Parameters

Project No.2206-E054

Sample ID	RDL*	MW3	DUPW1	MW4	MW5	MW6	MW7	TRIP BLANK	Ontario Regulation 153/04 Table 2 Standards**
Sample Date		22-Nov-2022	22-Nov-2022	22-Nov-2022	22-Nov-2022	22-Nov-2022	23-Nov-2022	22-Nov-2022	
Laboratory ID		UJT427	UJT432	UJT428	UJT429	UJT430	UJW180	UJT433	
Bore Hole No.		BH3	BH3	BH4	BH5	BH6	BH7	-	
Screen Depth (mbgs)		3.25 – 6.25	3.25 – 6.25	3.35 – 6.35	1.7 – 4.7	1.65 – 4.65	3.0 – 6.0		
Acetone	10	<10	<10	<10	<10	<10	29	<10	2700
Benzene	0.2	<0.17	<0.17	0.49	0.65	0.33	<0.17	<0.20	5
Bromodichloromethane	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	16
Bromoform	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	25
Bromomethane	0.5	<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	<0.19	0.79
Chlorobenzene	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	30
Chloroform	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	2.4
Dibromochloromethane	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	25
1,2-Dichlorobenzene	0.4	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	3
1,3-Dichlorobenzene	0.4	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	59
1,4-Dichlorobenzene	0.4	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	1
1,1-Dichloroethane	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	5
1,2-Dichloroethane	0.49	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.49	1.6
1,1-Dichloroethylene	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	1.6
Cis-1,2-Dichloroethylene	0.5	<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	1.6
1,2-Dichloropropane	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	5
Cis-1,3-Dichloropropylene	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	NV
Trans-1,3-Dichloropropylene	0.4	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	NV
Ethylbenzene	0.2	<0.20	<0.20	0.22	0.27	<0.20	<0.20	<0.20	2.4
Ethylene Dibromide	0.19	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.19	0.2
Methyl Ethyl Ketone	10	<10	<10	<10	<10	<10	<10	<10	1800
Methylene Chloride	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	50
Methyl Isobutyl Ketone	5	<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	15
Styrene	0.4	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	5.4
1,1,1,2-Tetrachloroethane	0.5	<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	<0.40	1
Toluene	0.2	<0.20	<0.20	1.1	1.1	0.68	0.33	<0.20	24
Tetrachloroethylene	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	1.6
1,1,1-Trichloroethane	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	200
1,1,2-Trichloroethane	0.4	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	4.7
Trichloroethylene	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	1.6
Vinyl Chloride	0.2	<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	0.43	0.5	0.34	<0.20	<0.20	NV
o-Xylene	0.2	<0.20	<0.20	0.25	0.26	<0.20	<0.20	<0.20	NV
Total Xylenes	0.2	<0.20	<0.20	0.68	0.76	0.34	<0.20	<0.20	300
Dichlorodifluoromethane	1	<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	51
Trichlorofluoromethane	0.5	<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	0.5

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 Generic Site Condition Standards in a Potable Ground Water Condition for all types of property use

Soil Engineers Ltd

Table IV

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

Project No.2206-E054

Sample ID	RDL*	MW3	DUPW1	MW4	MW5	MW6	MW7	MW8	Ontario Regulation 153/04 Table 2 Standards**
Sample Date		22-Nov-2022	22-Nov-2022	22-Nov-2022	22-Nov-2022	22-Nov-2022	23-Nov-2022	23-Nov-2022	
Laboratory ID		UJT427	UJT432	UJT428	UJT429	UJT430	UJW180	UJW181	
Bore Hole No.		BH3	BH3	BH4	BH5	BH6	BH7	BH8	
Screen Depth (mbgs)		3.25 – 6.25	3.25 – 6.25	3.35 – 6.35	1.7 – 4.7	1.65 – 4.65	3.0 – 6.0	3.1 – 6.1	
Benzene	-	-	-	-	-	-	-	0.34	5
Toluene	-	-	-	-	-	-	-	0.44	24
Ethylbenzene	-	-	-	-	-	-	-	<0.20	2.4
m/p xylenes	-	-	-	-	-	-	-	<0.40	NV
o xylene	-	-	-	-	-	-	-	<0.20	NV
Total Xylenes	-	-	-	-	-	-	-	<0.40	300
F1 (C6-C10)	25	<25	<25	<25	<25	<25	<25	<25	750
F1 (C6-C10) - BTEX	25	<25	<25	<25	<25	<25	<25	<25	750
F2 (C10-C16)	100	<100	<100	<100	<100	<100	<100	<100	150
F3 (C16-C34)	200	<200	<200	<200	<200	<200	<200	<200	500
F4 (C34-C50)	200	<200	<200	<200	<200	<200	<200	<200	500
Reached Baseline at C50		YES	YES	YES	YES	YES	YES	YES	NV
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 Generic Site Condition Standards in a Potable Ground Water Condition for all types of property use

Soil Engineers Ltd

Table IV

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

Project No.2206-E054

Sample ID	RDL*	MW3	DUPW1	MW4	MW5	MW6	MW7	Ontario Regulation 153/04 Table 2 Standards**
Sample Date		22-Nov-2022	22-Nov-2022	22-Nov-2022	22-Nov-2022	22-Nov-2022	23-Nov-2022	
Laboratory ID		UJT427	UJT432	UJT428	UJT429	UJT430	UJW180	
Bore Hole No.		BH3	BH3	BH4	BH5	BH6	BH7	
Screen Depth (mbgs)		3.25 – 6.25	3.25 – 6.25	3.35 – 6.35	1.7 – 4.7	1.65 – 4.65	3.0 – 6.0	
Acenaphthene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	4.1
Acenaphthylene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	1
Anthracene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	2.4
Benzo(a)anthracene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	1
Benzo(a)pyrene	0.009	<0.0090	<0.0090	<0.0090	<0.0090	<0.0090	<0.0090	0.01
Benzo(b/j)fluoranthene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.1
Benzo(ghi)perylene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.2
Benzo(k)fluoranthene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.1
Chrysene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.1
Dibenzo(a,h)anthracene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.2
Fluoranthene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.41
Fluorene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	120
Indeno(1,2,3-cd)pyrene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.2
1-Methylnaphthalene	0.05	<0.050	<0.050	<0.050	<0.050	0.051	<0.050	3.2
2-Methylnaphthalene	0.05	<0.050	<0.050	<0.050	<0.050	0.05	<0.050	3.2
Naphthalene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	11
Phenanthrene	0.03	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	1
Pyrene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	4.1
Methylnaphthalene, 2-(1-)	0.071	<0.071	<0.071	<0.071	<0.071	0.1	<0.071	3.2

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 Generic Site Condition Standards in a Potable Ground Water Condition for all types of property use

Soil Engineers Ltd

Table IV

GROUND WATER CHEMICAL ANALYSIS - Organochlorine Pesticides (OCs)

Project No.2206-E054

Sample ID	RDL*	MW6	Ontario Regulation 153/04 Table 2 Standards**
Sample Date		22-Nov-2022	
Laboratory ID		UJT430	
Bore Hole No.		BH6	
Screen Depth (mbgs)		1.65 – 4.65	
Aldrin	0.005	<0.005	0.35
Chlordane (alpha)	0.005	<0.005	NV
Chlordane (gamma)	0.005	<0.005	NV
Chlordane (total)	0.005	<0.005	7
o,p DDD	0.005	<0.005	NV
p,p-DDD	0.005	<0.005	NV
DDD (total)	0.005	<0.005	10
o,p DDE	0.005	<0.005	NV
p,p-DDE	0.005	<0.005	NV
DDE (total)	0.005	<0.005	10
op-DDT	0.005	<0.005	NV
pp-DDT	0.005	<0.005	NV
DDT (total)	0.005	<0.005	2.8
Dieldrin	0.005	<0.005	0.35
Endosulphan I	0.005	<0.005	NV
Endosulphan II	0.005	<0.005	NV
Total Endosulphan	0.005	<0.005	1.5
Endrin	0.005	<0.005	0.48
Heptachlor	0.005	<0.005	1.5
Hepatchlor Epoxide	0.005	<0.005	0.048
Lindane	0.003	<0.003	1.2
Methoxychlor	0.01	<0.01	6.5
Hexachlorobenzene	0.005	<0.005	1
Hexachlorobutadiene	0.009	<0.009	0.44
Hexachloroethane	0.01	<0.01	2.1

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 Generic Site Condition Standards in a Potable Ground Water Condition for all types of property use

Soil Engineers Ltd

Table IV

GROUND WATER CHEMICAL ANALYSIS - Chlorophenols (CP)

Project No.2206-E054

Sample ID	RDL*	**MW6**	Ontario Regulation 153/04 Table 2 Standards**
Sample Date		22-Nov-2022	
Laboratory ID		UJT430	
Bore Hole No.		BH6	
Screen Depth (mbgs)		1.65 – 4.65	
2-Chlorophenol	0.1	<0.1	8.9
2,4-Dichlorophenol	0.1	<0.1	20
Pentachlorophenol	0.1	<0.1	30
2,4,5-Trichlorophenol	0.1	<0.1	8.9
2,4,6-Trichlorophenol	0.1	<0.1	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 Generic Site Condition Standards in a Potable Ground Water Condition for all types of property use

Project No. 2206-E054

Table V – Maximum Concentration (Soil)

Summary of Metals and Inorganics

Parameter	Unit	Maximum Concentration	Sample ID	Sampling Depth (m)
Antimony	ug/g	0.38	BH8/7	4.6 - 5.2
Arsenic	ug/g	7.4	TP6	0.0 - 0.3
Barium	ug/g	53	TP2	0.0 - 0.3
Beryllium	ug/g	0.43	TP1	0.0 - 0.3
Boron (Hot Water Soluble)	ug/g	0.68	TP1	0.0 - 0.3
Cadmium	ug/g	0.37	BH5/6	3.8- 4.4
Chromium	ug/g	17	TP2	0.0 - 0.3
Chromium VI	ug/g	<0.18	-	-
Cobalt	ug/g	6	BH1/5	3.0 - 3.6
Copper	ug/g	27	BH8/7	4.6 - 5.2
Lead	ug/g	57	BH8/7	4.6 - 5.2
Mercury	ug/g	<0.05	-	-
Molybdenum	ug/g	1.8	BH8/7	4.6 - 5.2
Nickel	ug/g	12	BH1/5	3.0 - 3.6
Selenium	ug/g	<0.5	-	-
Silver	ug/g	<0.2	-	-
Thallium	ug/g	0.16	BH8/7	4.6 - 5.2
Vanadium	ug/g	39	TP2	0.0 - 0.3
Zinc	ug/g	130	BH8/7	4.6 - 5.2
pH (pH Units)	-	8.04	BH5/6	3.8- 4.4
Cyanide, Free	ug/g	<0.01	-	-
Boron (Total)	ug/g	12	BH8/7	4.6 - 5.2
Uranium	ug/g	0.51	TP2	0.0 - 0.3

Project No. 2206-E054

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	0.0037	TP6	0.0 - 0.3
DDE (total)	ug/g	0.0037	TP6	0.0 - 0.3
op-DDT	ug/g	<0.002	-	-
pp-DDT	ug/g	0.0024	TP7	0.0 - 0.3
DDT (total)	ug/g	0.0024	TP7	0.0 - 0.3
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. 2206-E054

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. 2206-E054

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. 2206-E054

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	200	BH11/1	0.0 - 0.6
F4 (C34-C50)	ug/g	<50	-	-
F4 Gravimetric	ug/g	<-	-	-

Project No. 2206-E054

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	<0.071	-	-

Project No. 2206-E054

Table V – Maximum Concentration (Soil)

Summary of CPs

Parameter	Unit	Maximum Concentration	Sample ID	Sampling Depth (m)
2-Chlorophenol	ug/g	<0.05	-	-
2,4-Dichlorophenol	ug/g	<0.05	-	-
Pentachlorophenol	ug/g	<0.05	-	-
2,4,5-Trichlorophenol	ug/g	<0.05	-	-
2,4,6-Trichlorophenol	ug/g	<0.05	-	-

Project No.2206-E054

Table VI – Maximum Concentration (Groundwater)

Summary of Metals and Inorganics

Parameter	Unit	Maximum Concentration	Sample ID	Screen Depth (m)
Antimony	µg/L	0.54	MW4	3.35 – 6.35
Arsenic	µg/L	<1	-	-
Barium	µg/L	85	MW4	3.35 – 6.35
Beryllium	µg/L	<0.4	-	-
Boron	µg/L	73	MW8	3.1 – 6.1
Cadmium	µg/L	<0.09	-	-
Chromium	µg/L	<5	-	-
Cobalt	µg/L	<0.5	-	-
Copper	µg/L	3.4	MW8	3.1 – 6.1
Lead	µg/L	<0.5	-	-
Molybdenum	µg/L	5.3	MW4	3.35 – 6.35
Nickel	µg/L	1.1	MW8	3.1 – 6.1
Selenium	µg/L	<2	-	-
Silver	µg/L	<0.09	-	-
Thallium	µg/L	0.052	MW8	3.1 – 6.1
Vanadium	µg/L	0.57	MW4	3.35 – 6.35
Zinc	µg/L	<5	-	-
Uranium	µg/L	1.2	MW7	3.0 – 6.0

Project No.2206-E054
Table VI – Maximum Concentration (Groundwater)

Summary of VOCs

Parameter	Unit	Maximum Concentration	Sample ID	Screen Depth (m)
Acetone	µg/L	29	MW7	3.0 – 6.0
Benzene	µg/L	0.65	MW5	1.7 – 4.7
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	0.27	MW5	1.7 – 4.7
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.2206-E054

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	1.1	MW4	3.35 – 6.35
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	0.5	MW5	1.7 – 4.7
o-Xylene	µg/L	0.26	MW5	1.7 – 4.7
Total Xylenes	µg/L	0.76	MW5	1.7 – 4.7
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.2206-E054

Table VI – Maximum Concentration (Groundwater)

Summary of CCME F1-F4

Parameter	Unit	Maximum Concentration	Sample ID	Screen Depth (m)
Benzene	µg/L	0.34	MW8	3.1 – 6.1
Toluene	µg/L	0.44	MW8	3.1 – 6.1
Ethylbenzene	µg/L	<-	-	-
m/p xylenes	µg/L	<-	-	-
o xylene	µg/L	<-	-	-
Total Xylenes	µg/L	<-	-	-
F1 (C6-C10)	µg/L	<25	-	-
F1 (C6-C10) - BTEX	µg/L	<25	-	-
F2 (C10-C16)	µg/L	<100	-	-
F3 (C16-C34)	µg/L	<200	-	-
F4 (C34-C50)	µg/L	<200	-	-
Reached Baseline at C50	µg/L	<	-	-
F4 Gravimetric	µg/L	<-	-	-

Project No.2206-E054

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	0.051	MW6	1.65 – 4.65
2-Methylnaphthalene	µg/L	0.05	MW6	1.65 – 4.65
Naphthalene	µg/L	<0.05	-	-
Phenanthrene	µg/L	<0.03	-	-
Pyrene	µg/L	<0.05	-	-
Methylnaphthalene, 2-(1-)	µg/L	0.1	MW6	1.65 – 4.65

Project No.2206-E054
Table VI – Maximum Concentration (Groundwater)

Summary of CPs

Parameter	Unit	Maximum Concentration	Sample ID	Screen Depth (m)
2-Chlorophenol	µg/L	<0.1	-	-
2,4-Dichlorophenol	µg/L	<0.1	-	-
Pentachlorophenol	µg/L	<0.1	-	-
2,4,5-Trichlorophenol	µg/L	<0.1	-	-
2,4,6-Trichlorophenol	µg/L	<0.1	-	-

Soil Engineers Ltd.
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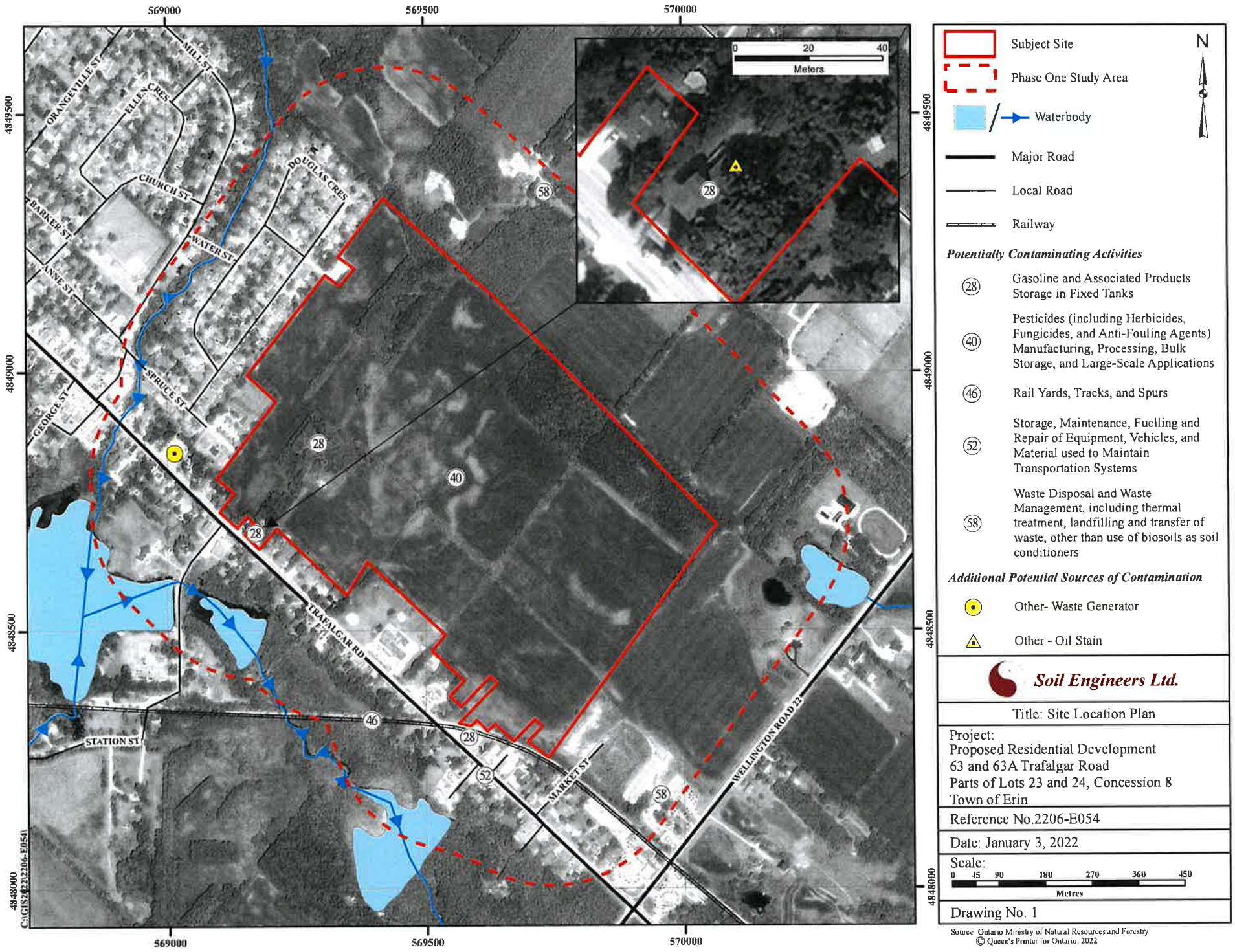
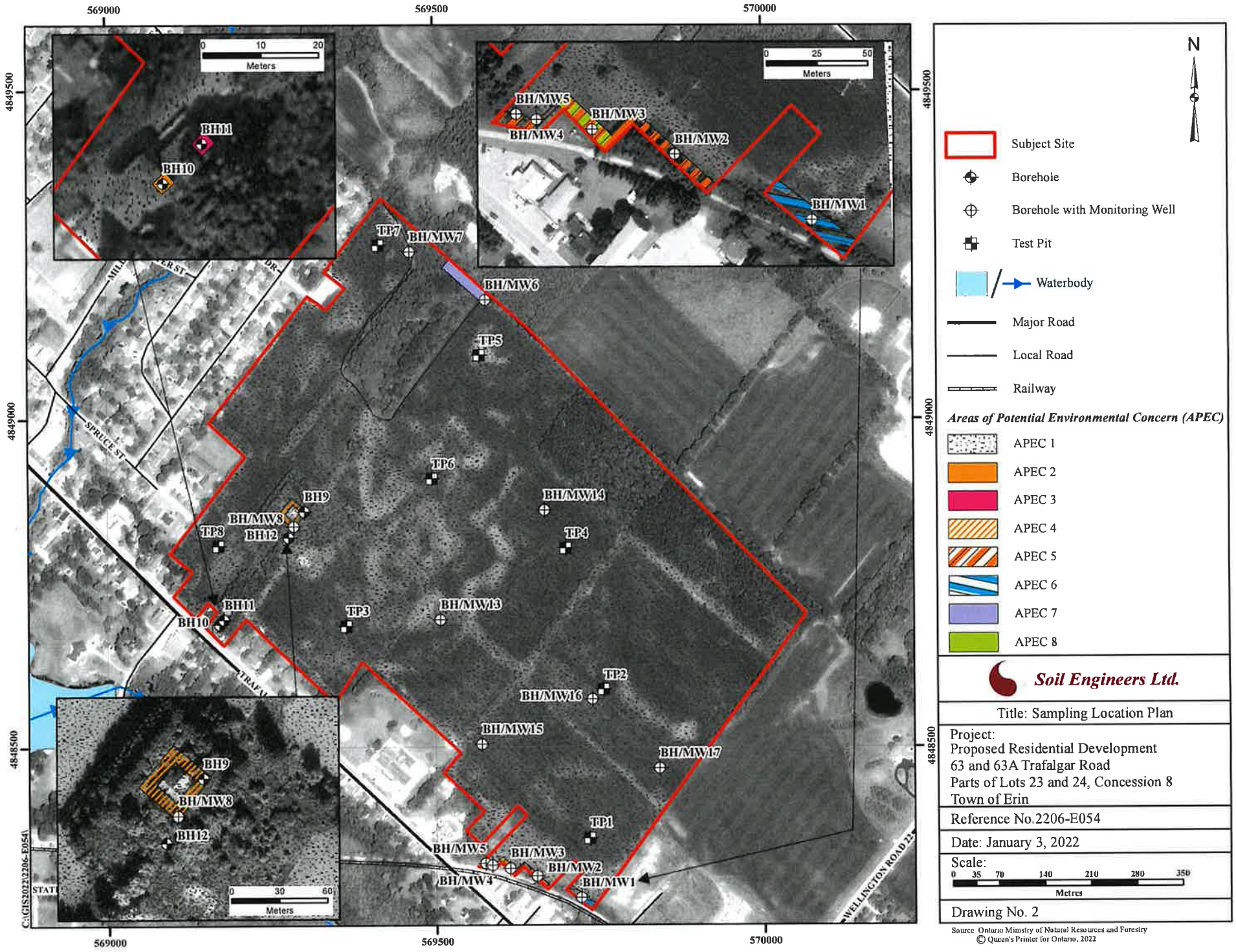
DRAWINGS

Reference No. 2206-E054



Source: Ontario Ministry of Natural Resources and Forestry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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
APEC 4
APEC 5
APEC 6
APEC 7
APEC 8
Soil Engineers Ltd.
Title: Sampling Location Plan
Project:
Proposed Residential Development
63 and 63A Trafalgar Road
Parts of Lots 23 and 24, Concession 8
Town of Erin
Reference No.2206-E054
Date: January 3, 2022
Scale:
0 35 70 140 210 280 350
Metres
Drawing No. 2
Source: Ontario Ministry of Natural Resources and Forestry
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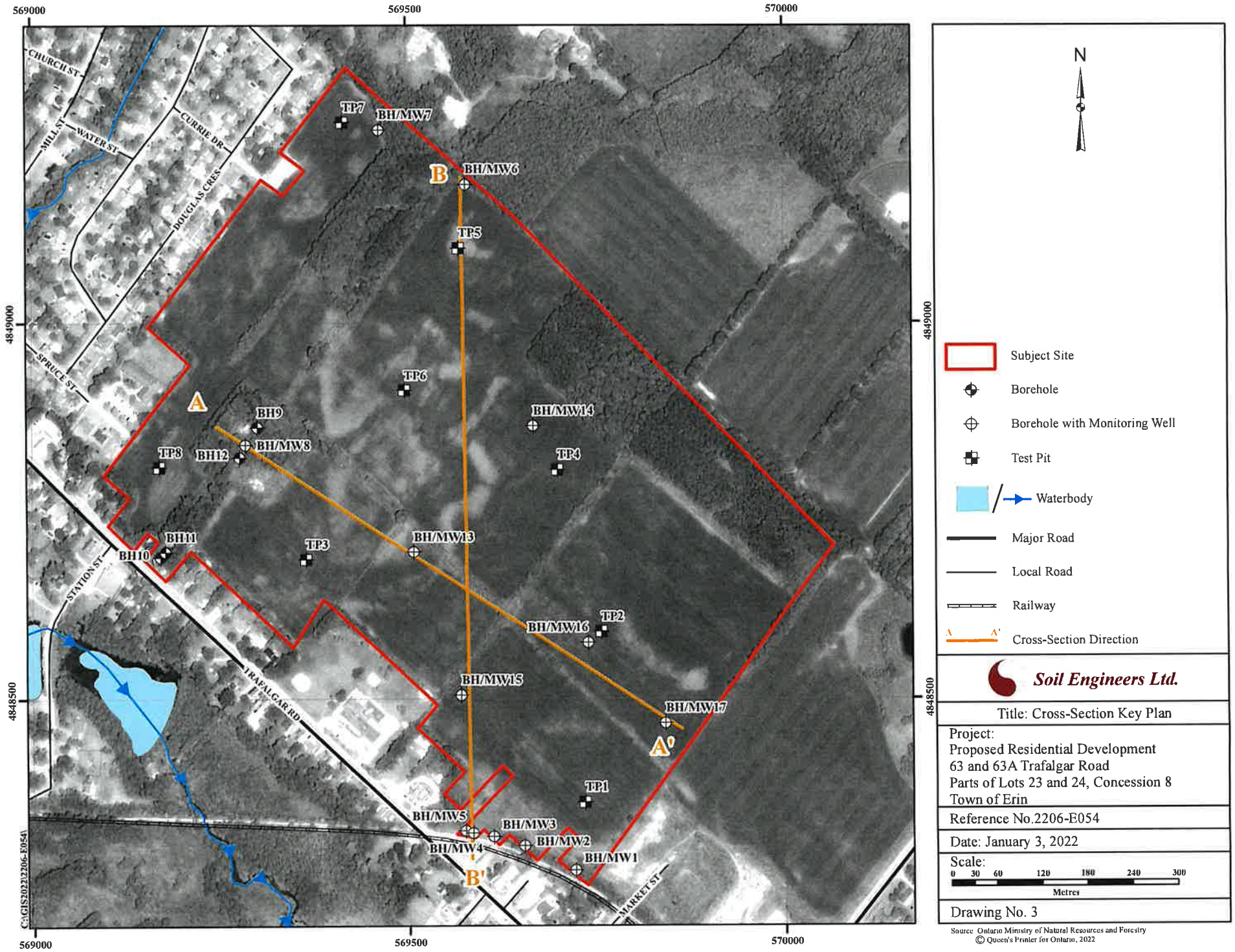
569000
569500
570000
4849000
4848500
CHURCH ST
MILL ST
WATER ST
CURRIE DR
DOUGLAS CRES
SPRUCE ST
STATION ST
TRAFALGAR RD
MARKET ST
TP7
BH/MW7
B
BH/MW6
TP5
TP6
A
BH9
BH/MW8
BH12
TP8
BH/MW14
TP4
BH11
BH10
TP3
BH/MW13
BH/MW16
TP2
BH/MW15
BH/MW17
A'
TP1
BH/MW5
BH/MW3
BH/MW2
BH/MW4
BH/MW1
B'
N
Subject Site
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 Residential Development
63 and 63A Trafalgar Road
Parts of Lots 23 and 24, Concession 8
Town of Erin
Reference No.2206-E054
Date: January 3, 2022
Scale:
0 30 60 120 180 240 300
Metres
Drawing No. 3
C:\GIS\2022\2206-E054\
Source: Ontario Ministry of Natural Resources and Forestry
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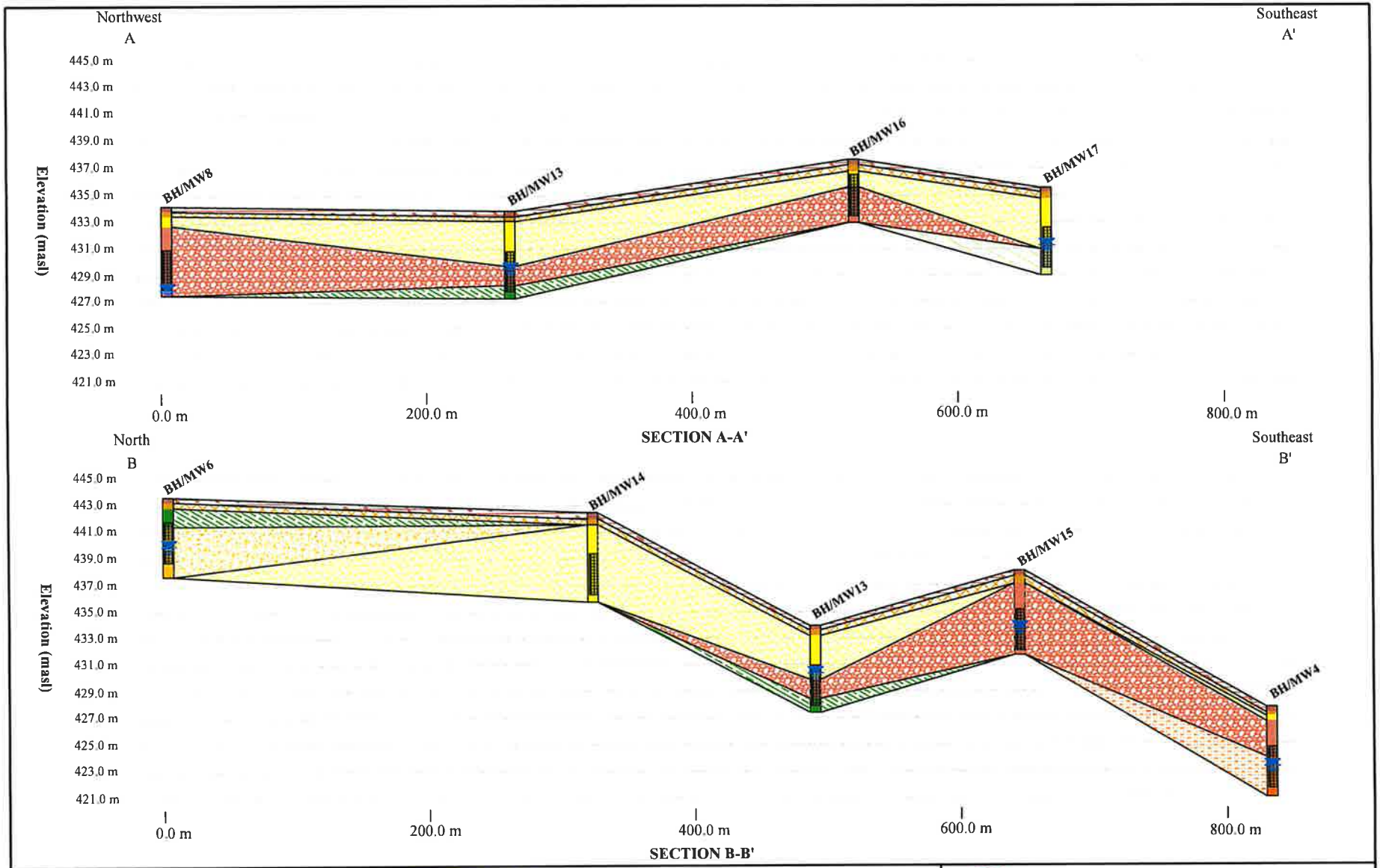

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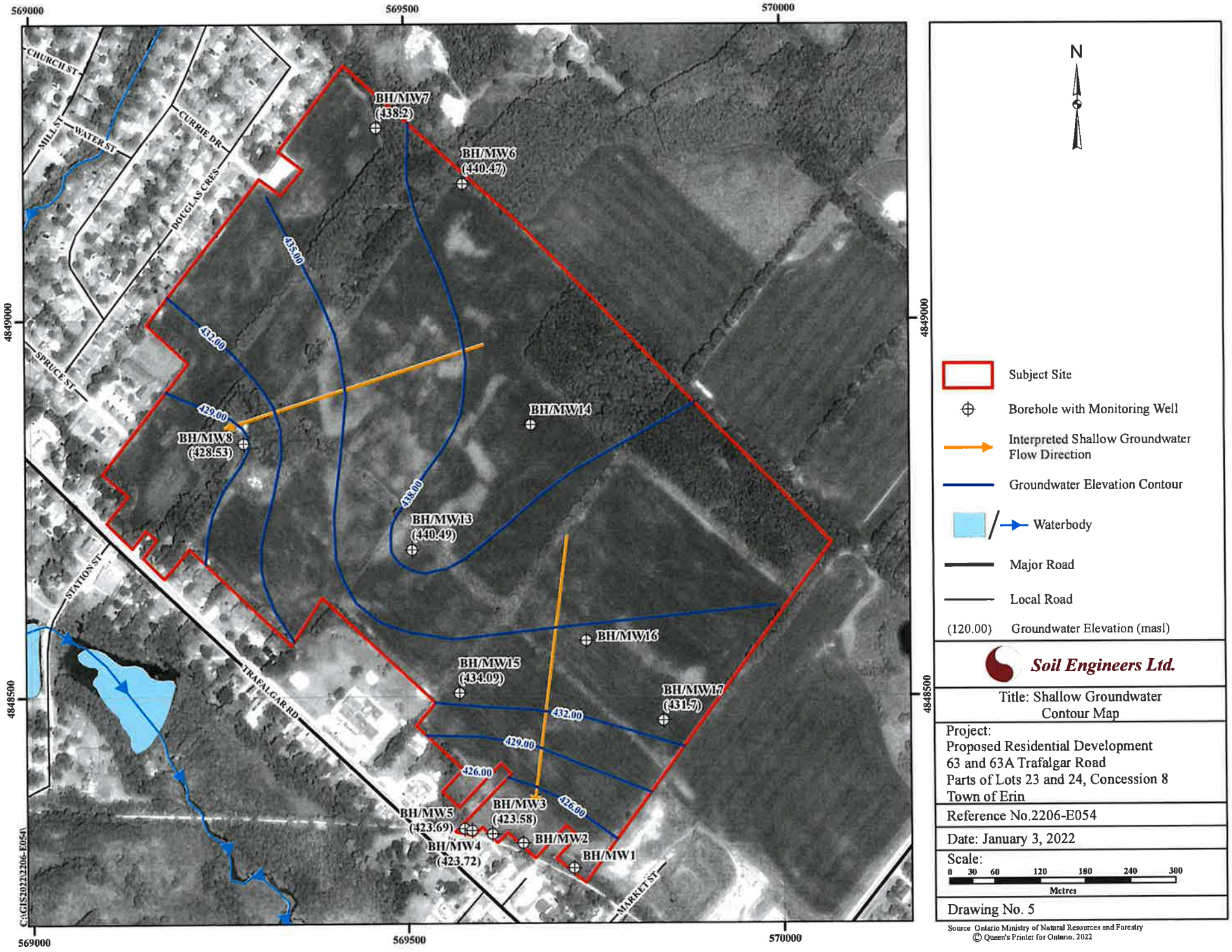
Title:	Geological Cross-Sections A-A' and B-B'
Project:	Proposed Residential Development 63 and 63A Trafalgar Road Parts of Lots 23 and 24, Concession 8 Town of Erin

Reference No:	Date:	Scale: V	Scale: H	Drawing No.
2206-E054	January 3, 2022	1:200	1:200	4


569000
569500
570000
4849000
4848500
CHURCH ST
MILL ST
WATER ST
CURRIE DR
DOUGLAS CRES
SPRUCE ST
STATION ST
TRAFALGAR RD
MARKET ST
BH/MW7 (438.2)
BH/MW6 (440.47)
BH/MW8 (428.53)
BH/MW14
BH/MW13 (440.49)
BH/MW16
BH/MW15 (434.09)
BH/MW17 (431.7)
BH/MW5 (423.69)
BH/MW4 (423.72)
BH/MW3 (423.58)
BH/MW2
BH/MW1
435.00
432.00
429.00
438.00
432.00
429.00
426.00
426.00
C:\GIS\2022\2206-E054\
N
Subject Site
Borehole with Monitoring Well
Interpreted Shallow Groundwater Flow Direction
Groundwater Elevation Contour
Waterbody
Major Road
Local Road
(120.00) Groundwater Elevation (masl)
Soil Engineers Ltd.
Title: Shallow Groundwater Contour Map
Project:
Proposed Residential Development
63 and 63A Trafalgar Road
Parts of Lots 23 and 24, Concession 8
Town of Erin
Reference No.2206-E054
Date: January 3, 2022
Scale:
0 30 60 120 180 240 300
Metres
Drawing No. 5
Source Ontario Ministry of Natural Resources and Forestry
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FAX: (705) 721-7864	FAX: (905) 542-2769	FAX: (905) 725-1315	FAX: (905) 881-8335	FAX: (705) 684-8522	FAX: (905) 725-1315	FAX: (905) 542-27

APPENDIX 'A'

SAMPLING AND ANALYSIS PLAN

Reference No. 2206-E054

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 properties which are municipally addressed as are located at 63 and 63A Trafalgar Road and an adjacent property with no municipal address but with a legal address as parts of Lots 23 and 24 in Concession 8, in the Town of Erin, 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. 2206-E054).

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 use of pesticides during agricultural activities at majority of the subject site.
APEC 2: Historical aboveground storage tanks (ASTs) at northeast portion of basement of residential building located at southwest portion of the subject site.
APEC 3: Oil stains at the backyard of the residential building at the subject site.
APEC 4: One (1) registered underground storage tank (UST) at the property located at 63A Trafalgar Road, southwestern portion of the subject site
APEC 5: Historical railway tracks located adjacent to the south of the subject site
APEC 6: Historical railway tracks located adjacent to the south of the subject site
APEC 7: Presence of waste transfer station located to the northeast of the subject site
APEC 8: Presence of a gas station with USTs at the neighbouring property located about 15 m to the south of the subject site.

2) SCOPE OF WORK

The scope of work for the Phase Two ESA includes:

- Locate the underground and overhead utilities.
- Carryout ground penetrating radar (GPR) survey to identify the registered UST surrounding the building at 63A Trafalgar Road.
- Advance twelve (12) boreholes (designated as BH1 to BH12) to depths ranging from 1.4 meter below ground surface (mbgs) to 7.9 mbgs and eight (8) hand-dug test pits (designated as TP1 to TP8) to depths 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 eight (8) monitoring wells at BH1 to BH8 locations (designated at BH/MW1 to BH/MW8) 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: Petroleum Hydrocarbons (PHCs), Benzene, Toluene, Ethylbenzene, Xylene (BTEX), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs), Chlorophenols (CPs), Organochlorine Pesticides (OCs) and Metals and/or Inorganic 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 borehole and monitoring well locations is presented in the table below:

Areas of Potential Environmental Concerns (APECs)	**Borehole / Monitoring Well ID.**
APEC 1: Potential use of pesticides during agricultural activities at majority of the	TP1 to TP8

subject site.	
APEC 2: Historical ASTs at northeast portion of basement of residential building at the subject site.	BH10
APEC 3: Oil stains at the backyard of the residential building at the subject site.	BH11
APEC 4: Registered UST at 63A Trafalgar Road, southwestern portion of the subject site	BH/MW8, BH9, BH12
APEC 5 and APEC 6: Historical railway tracks located adjacent south of the subject site	BH/MW1, BH/MW2, BH/MW3, BH/MW4, BH/MW5
APEC 7: Presence of waste transfer station located northeast of the subject site	BH/MW6, BH/MW7
APEC 8: Presence of a gas station with USTs at the neighbouring property located about 15 m south of the subject site.	BH/MW3, BH/MW4

The BH/MW1 and BH/MW2 remain dry during this investigation. The 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	CP
Soil Sample (Test Pits) (QA/QC Samples)						
TP1 to TP8	8	8	-	-	-	-
DUPS	2	1	-	-	-	-
Soil Samples (Boreholes) (QA/QC Samples)						
BH1	-	1	1	1	1	-
BH2	-	1	1	1	1	-
BH3	-	1	1	1	1	-
BH4	-	1	1	1	1	-
BH5	-	1	1	1	1	-
BH6	-	1	1	1	1	1
BH7	1	1	1	1	1	-
BH8	-	1	1	1	1	-
BH9	-	-	1	-	-	-
BH10	-	1	1	-	-	-
BH11	-	1	1	-	-	-
BH12	-	-	1	-	-	-
DUPS	-	1	1	-	-	-
Groundwater samples (QA/QC Samples)						
BH/MW3	-	1	1	1	1	-

BH/MW4	-	1	1	1	1	-
BH/MW5	-	1	1	1	1	-
BH/MW6	1	1	1	1	1	1
BH/MW7	-	1	1	1	1	-
BH/MW8	-	1	1	-	-	-
DUPW	-	-	1	1	1	-
Trip Blank	-	-	-	1		-

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

5) SOIL SAMPLING PROCEDURES

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

6) DATA QUALITY OBJECTIVES

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

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

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

7) STANDARD OPERATING PROCEDURES (SOPs)

7.1) Borehole Drilling

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

7.1.1) Underground Utilities

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

7.1.2) Drilling Methods

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

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

Flight-Auger Drilling

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

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

Hand Dug Test Pit

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.

CME 55

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

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

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

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

7.2.2) Sample Logging and Field Screening

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

7.2.3) Field Screening and Calibration Procedures

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

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APPENDIX 'B'

BOREHOLE LOGS

Reference No. 2206-E054

JOB NO.: 2206-E054

LOG OF BOREHOLE NO.: 1

FIGURE NO.: 1

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Flight Auger

PROJECT LOCATION: 63 and 63A Trafalgar Road
Parts of Lots 23 and 24, Concession 8
Town of Erin

DRILLING DATE: November 16, 2022

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES Number	Type	Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm) 20 60 100 140 180	REMARKS	WATER LEVEL
430.9	Ground Surface							
0.0	**30 cm TOPSOIL**	1A	DO	30	0			
0.3	Brown **SILTY SAND** trace of gravel and sand	1B	DO	30				
430.1 / 0.8	Brown **SAND** trace of gravel and silt	2	DO	30	1			
		3	DO	30	2			
		4	DO	35				
427.8 / 3.0	Brown **SILT** some clay	5	DO	40	3		BH1/5: PHCs, Metals	
		6	DO	40	4		BH1/6: VOCs	
		7	DO	25	5		BH1/7: PAHs	
		8	DO	0	6			
424.8 / 6.1	END OF BOREHOLE Installed 51mm standpipe @ 6.1m Bentonite seal from 0.0m to 2.5m Sand backfill from 2.5m to 6.1m 3m screen from 3.1m to 6.1m Provided with monument protective casing				7 8			Dry upon completion

Soil Engineers Ltd.

JOB NO.: 2206-E054

LOG OF BOREHOLE NO.: 2

FIGURE NO.: 2

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Flight Auger

PROJECT LOCATION: 63 and 63A Trafalgar Road
Parts of Lots 23 and 24, Concession 8
Town of Erin

DRILLING DATE: November 16&17, 2022

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES: Number	SAMPLES: Type	SAMPLES: Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm)	REMARKS	WATER LEVEL
431.8 / 0.0	Ground Surface **15 cm TOPSOIL**				0			
	Brown **SILT** trace of clay	1	DO	20				
431.1 / 0.8	Brown **GRAVELLY SAND** some silt	2	DO	25	1			
		3	DO	20	2			
429.5 / 2.3	Brown **SAND** trace of silt and gravel, piece of rock	4	DO	25				
		5	DO	25	3			
		6	DO	30	4			
	dry / moist	7	DO	20	5			
		8	DO	25				
		9	DO	25	6		BH2/9: Metals	
425.0 / 6.8	Brown **SILTY CLAY** some sand, trace of gravel	10	DO	25	7		BH2/10: PHCs, VOCs, PAHs	
		11	DO	25				
423.9 / 7.9	END OF BOREHOLE Installed 51mm standpipe @ 7.9m Bentonite seal from 0.0m to 4.3m Sand backfill from 4.3m to 7.9m 3m screen from 4.9m to 7.9m Provided with monument protective casing				8 9 10			Dry upon completion

Soil Engineers Ltd.

JOB NO.: 2206-E054

LOG OF BOREHOLE NO.: 3

FIGURE NO.: 3

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Flight Auger

PROJECT LOCATION: 63 and 63A Trafalgar Road
Parts of Lots 23 and 24, Concession 8
Town of Erin

DRILLING DATE: November 17, 2022

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES Number	Type	Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm) 20 60 100 140 180	REMARKS	WATER LEVEL
428.4	Ground Surface							
0.0	**15 cm TOPSOIL**				0			
	Brown **SILT** trace of roots	1	DO	25				
427.6								
0.8	Brown **GRAVELLY SAND** some gravel, pieces of rock	2	DO	30	1			
		3	DO	25	2			
426.1								
2.3	Brown **SAND** some gravel	4	DO	25	3			
		5	DO	30				
		6	DO	25	4		BH3/6: Metals DUPS3	
		7	DO	25	5		BH3/7: PHCs, VOCs	
423.0								
5.3	Brown to grey **SILTY CLAY**	8	DO	30	6		BH3/8: PAHs	
422.3								
6.1	END OF BOREHOLE Installed 51mm standpipe @ 6.1m Bentonite seal from 0.0m to 2.5m Sand backfill from 2.5m to 6.1m 3m screen from 3.1m to 6.1m Provided with monument protective casing				7			
					8			

W.L. @ 4.79 mbgs on December 1, 2022

Soil Engineers Ltd.

JOB NO.: 2206-E054

LOG OF BOREHOLE NO.: 4

FIGURE NO.: 4

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Flight Auger

PROJECT LOCATION: 63 and 63A Trafalgar Road
Parts of Lots 23 and 24, Concession 8
Town of Erin

DRILLING DATE: November 18, 2022

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES: Number	SAMPLES: Type	SAMPLES: Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm)	REMARKS	WATER LEVEL
427.6	Ground Surface							
0.0	**36 cm TOPSOIL**	1A	DO	0	0			
427.1	**PLOUGHED SOIL** Dark brown sand, occ. rootlets	1B	DO	0				
0.5	Brown **SAND** fine to medium grained	2A	DO	0				
426.6					1			
1.0	Brown **GRAVELLY SAND** occ. cobbles and boulders	2B	DO	0				
		3	DO	10	2			
		4	DO	15				
		5	DO	10	3			
423.9								
3.7	Brown **SILTY SAND TILL** some gravel to gravelly a trace of clay occ. cobbles and boulders	6	DO	20	4		BH4/6: Metals	
		7	DO	15	5		BH4/7: PHCs, VOCs	
		8	DO	30	6		BH4/8: PAHs	
421.0								
6.6	END OF BOREHOLE Installed 50mm standpipe @ 6.1m Bentonite seal from 0.0m to 2.4m Sand backfill from 2.4m to 6.1m 3.1m screen from 3.0m to 6.1m Provided with monument protective casing				7			
					8			
					9			
					10			

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

W.L. @ 3.91 mbgs on December 1, 2022

Soil Engineers Ltd.

JOB NO.: 2206-E054

LOG OF BOREHOLE NO.: 5

FIGURE NO.: 5

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Flight Auger

PROJECT LOCATION: 63 and 63A Trafalgar Road
Parts of Lots 23 and 24, Concession 8
Town of Erin

DRILLING DATE: November 18, 2022

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES: Number	SAMPLES: Type	SAMPLES: Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm)	REMARKS	WATER LEVEL
427.5	Ground Surface							
0.0	**20 cm TOPSOIL**				0			
	Brown **SILT**	1	DO	25				
426.7								
0.8	Brown **SAND** trace of gravel	2	DO	15	1			
		3	DO	15	2			
		4	DO	15				
		5	DO	25	3			
423.7								
3.8	Brown **CLAYEY SILT**	6	DO	35	4		BH5/6: PHCs, VOCs	
		7	DO	40	5		BH5/7: PAHs	
422.1								
5.3	END OF BOREHOLE Installed 51mm standpipe @ 5.2m Bentonite seal from 0.0m to 1.6m Sand backfill from 1.6m to 5.2m 3m screen from 2.2m to 5.2m Provided with monument protective casing				6 7 8			

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

W.L. @ 3.79 mbgs on December 1, 2022

Soil Engineers Ltd.

JOB NO.: 2206-E054

LOG OF BOREHOLE NO.: 6

FIGURE NO.: 6

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Flight Auger

PROJECT LOCATION: 63 and 63A Trafalgar Road
Parts of Lots 23 and 24, Concession 8
Town of Erin

DRILLING DATE: November 21, 2022

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES: Number	SAMPLES: Type	SAMPLES: Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm)	REMARKS	WATER LEVEL
443.6 / 0.0	Ground Surface							
	36 cm TOPSOIL				0			
	PLOUGHED SOIL Dark brown sand, occ. rootlets	1	DO	15				
442.9 / 0.8	Brown **SANDY SILT** some gravel	2	DO	20	1			
		3	DO	20	2			
441.4 / 2.3	Brown **SANDY GRAVEL** occ. cobbles and boulders	4	DO	15			BH6/4: Metals	
		5	DO	15	3			
		6	DO	15	4		BH6/6: CPs	
		7	DO	50			BH6/7: PHCs, VOCs, PAHs	
438.7 / 5.0	END OF BOREHOLE Installed 50mm standpipe @ 4.6m Bentonite seal from 0.0m to 0.9m Sand backfill from 0.9m to 4.6m 3.1m screen from 1.5m to 4.6m Provided with monument protective casing				5 6 7 8			W.L. @ 3.17 mbgs on December 1, 2022

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

Soil Engineers Ltd.

JOB NO.: 2206-E054

LOG OF BOREHOLE NO.: 7

FIGURE NO.: 7

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Flight Auger

PROJECT LOCATION: 63 and 63A Trafalgar Road
Parts of Lots 23 and 24, Concession 8
Town of Erin

DRILLING DATE: November 21, 2022

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES Number	Type	Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm) 20 60 100 140 180	REMARKS	WATER LEVEL
442.5	Ground Surface							
0.0	**15 cm TOPSOIL**				0			
0.1	Brown **SILT** trace of gravel	1	DO	15				
441.7								
0.8	Brown **GRAVELLY SAND**	2	DO	15	1			
		3	DO	0	2			
440.2								
2.3	Brown **SILTY SAND** trace of gravel	4	DO	15				
439.5					3			
3.0	Brown **SANDY SILT** some gravel, moist	5	DO	25			BH7/5: PHCs, VOCs, PAHs	
438.7								
3.8	Brown **SILT** some clay	6	DO	20	4		BH7/6: OCs, Metals	
		7	DO	15	5			
437.2								
5.3	Grey **SILTY CLAY** moist	8	DO	15	6			
436.4								
6.1	END OF BOREHOLE Installed 51mm standpipe @ 6.1m Bentonite seal from 0.0m to 2.5m Sand backfill from 2.5m to 6.1m 3m screen from 3.1m to 6.1m Provided with monument protective casing				7			W.L. @ 4.29 mbgs on December 1, 2022
					8			

Soil Engineers Ltd.

JOB NO.: 2206-E054

LOG OF BOREHOLE NO.: 8

FIGURE NO.: 8

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Flight Auger

PROJECT LOCATION: 63 and 63A Trafalgar Road
Parts of Lots 23 and 24, Concession 8
Town of Erin

DRILLING DATE: November 22, 2022

El. (masl) Depth (mbgs)	SOIL DESCRIPTION	SAMPLES Number	Type	Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm) 20 60 100 140 180	REMARKS	WATER LEVEL
434.3	Ground Surface							
0.0	**36 cm TOPSOIL**				0			
	PLOUGHED SOIL Dark brown sand, occ. rootlets	1	DO	10				
433.6								
0.7	Brown, compact **SAND** fine to medium grained	2	DO	15	1			
432.8								
1.5	Brown, dense to very dense **GRAVELLY SAND** occ. cobbles and boulders wet below 5.1 m	3	DO	15	2			
		4	DO	15				
		5	DO	15	3			
		6	DO	15	4			
		7	DO	10			BH8/7: Metals	
		8	DO	15	5		BH8/8: PHCs, VOCs, PAHs	
		9	DO	15	6			
427.6								
6.7	END OF BOREHOLE Installed 50mm standpipe @ 6.1m Bentonite seal from 0.0m to 2.4m Sand backfill from 2.4m to 6.1m 3.1m screen from 3..0m to 6.1m Provided with monument protective casing				7			
					8			W.L. @ 5.83 mbgs on December 1, 2022

JOB NO.: 2206-E054

LOG OF BOREHOLE NO.: 9

FIGURE NO.: 9

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Flight Auger

PROJECT LOCATION: 63 and 63A Trafalgar Road
Parts of Lots 23 and 24, Concession 8
Town of Erin

DRILLING DATE: November 22, 2022

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES Number	Type	Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm) 20 60 100 140 180	REMARKS	WATER LEVEL
434.3	Ground Surface							
0.0	**5 cm TOPSOIL**				0			
0.1	Dark brown **SILTY SAND** some gravel	1	DO	15				
433.6								
0.8	Brown **FINE SAND**	2	DO	15	1			
432.8								
1.5	Brown **SILTY SAND, TILL** some gravel	3	DO	15	2			
		4	DO	15				
		5	DO	15	3			
		6	DO	10	4			
429.8								
4.6	Brown **SANDY GRAVEL**	7	DO	10	5			
		8	DO	15			BH9/8: PHCs, BTEX	
		9	DO	15	6			
427.5								
6.8	END OF BOREHOLE				7			
					8			

Soil Engineers Ltd.

JOB NO.: 2206-E054

LOG OF BOREHOLE NO.: 10

FIGURE NO.: 10

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Pionjar

PROJECT LOCATION: 63 and 63A Trafalgar Road
Parts of Lots 23 and 24, Concession 8
Town of Erin

DRILLING DATE: November 22, 2022

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES Number	SAMPLES Type	SAMPLES Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm) 20 60 100 140 180	REMARKS	WATER LEVEL
435.1 / 0.0	Ground Surface				0			
	Brown **SANDY SILT** some gravel	1	DO	10		●	BH10/1: PHCs, BTEX; Metals	
		2	DO	10	1	●		
433.7 / 1.4	END OF BOREHOLE				2			
					3			
					4			
					5			
					6			
					7			
					8			

JOB NO.: 2206-E054

LOG OF BOREHOLE NO.: 11

FIGURE NO.: 11

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Geoprobe

PROJECT LOCATION: 63 and 63A Trafalgar Road
Parts of Lots 23 and 24, Concession 8
Town of Erin

DRILLING DATE: November 22, 2022

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES: Number	SAMPLES: Type	SAMPLES: Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm)	REMARKS	WATER LEVEL
434.9	Ground Surface							
0.0	**10 cm TOPSOIL**				0			
	Brown **SANDY SILT** some gravel	1	TO	15		●	BH11/1: PHCs, BTEX, Metals	
434.1 / 0.8					1			
	Brown **SILT** trace of gravel	2	TO	15		●		
433.4 / 1.5					2			
	Brown **SANDY SILT** some gravel	3	TO	15		●		
		4	TO	15		●		
431.9 / 3.0	END OF BOREHOLE				3			
					4			
					5			
					6			
					7			
					8			

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

JOB NO.: 2206-E054

LOG OF BOREHOLE NO.: 12

FIGURE NO.: 12

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Geoprobe

PROJECT LOCATION: 63 and 63A Trafalgar Road
Parts of Lots 23 and 24, Concession 8
Town of Erin

DRILLING DATE: November 22, 2022

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES: Number	SAMPLES: Type	SAMPLES: Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm)	REMARKS	WATER LEVEL
434.5	Ground Surface							
0.0	**10 cm TOPSOIL**				0			
433.7	Brown **SAND** trace of gravel	1	TO	15				
0.8					1			
432.9	Brown **SILT** trace of gravel	2	TO	15				
1.5					2			
432.2	Brown **SILTY SAND** some gravel	3	TO	15				
2.3								
431.4	Brown **SAND** some gravel	4	TO	15	3		BH12/4: PHCs, BTEX DUPS4	
3.0	END OF BOREHOLE				4			
					5			
					6			
					7			
					8			

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

Soil Engineers Ltd.

JOB NO.: 2206-E054

LOG OF BOREHOLE NO.: 13

FIGURE NO.: 13

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Flight Auger

PROJECT LOCATION: 63 and 63A Trafalgar Road
Parts of Lots 23 and 24, Concession 8
Town of Erin

DRILLING DATE: November 24, 2022

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES: Number	SAMPLES: Type	SAMPLES: Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm) (20 60 100 140 180)	REMARKS	WATER LEVEL
433.9	Ground Surface							
0.0	**36 cm TOPSOIL**	1	DO	0	0			
	PLOUGHED SOIL Dark brown sand, occ. rootlets							
433.2		2	DO	0	1			
1.3	Brown, compact **SAND** fine grained some silt	3	DO	0	2			
		4	DO	0				
		5	DO	0	3			
429.8					4			
4.1	Brown, dense **GRAVELLY SAND** occ. cobbles and boulders	6	DO	0	5			
428.3								
5.6	Brown, dense **SANDY SILT TILL** traces of gravel and clay occ. cobbles and boulders	7	DO	0	6			
427.3								
6.6	END OF BOREHOLE Installed 50mm standpipe @ 6.1m Bentonite seal from 0.0m to 2.4m Sand backfill from 2.4m to 6.1m 3.1m screen from 3.0m to 6.1m Provided with monument protective casing				7			
					8			
					9			
					10			

W.L. @3.17 mbgs on December 1, 2022

Soil Engineers Ltd.

JOB NO.: 2206-E054

LOG OF BOREHOLE NO.: 14

FIGURE NO.: 14

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Flight Auger

PROJECT LOCATION: 63 and 63A Trafalgar Road
Parts of Lots 23 and 24, Concession 8
Town of Erin

DRILLING DATE: November 23, 2022

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES: Number	SAMPLES: Type	SAMPLES: Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm)	REMARKS	WATER LEVEL
442.3	Ground Surface							
0.0	**36 cm TOPSOIL**				0			
	PLOUGHED SOIL Dark brown sand, occ. rootlets	1	DO	0				
441.5								
0.8	Brown **SAND** a trace to some gravel	2	DO	0	1			
		3	DO	0	2			
		4	DO	0				
		5	DO	0	3			
					4			
		6	DO	0	5			
					6			
		7	DO	0				
435.7								
6.6	END OF BOREHOLE Installed 50mm standpipe @ 6.1m Bentonite seal from 0.0m to 2.4m Sand backfill from 2.4m to 6.1m 3.1m screen from 3.0m to 6.1m Provided with monument protective casing				7			
					8			
					9			
					10			

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

Dry upon Completion

Soil Engineers Ltd.

JOB NO.: 2206-E054

LOG OF BOREHOLE NO.: 15

FIGURE NO.: 15

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Flight Auger

PROJECT LOCATION: 63 and 63A Trafalgar Road
Parts of Lots 23 and 24, Concession 8
Town of Erin

DRILLING DATE: November 25, 2022

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES: Number	SAMPLES: Type	SAMPLES: Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm) (20 60 100 140 180)	REMARKS	WATER LEVEL
438.0 / 0.0	Ground Surface							
	36 cm TOPSOIL	1	DO	0	0			
	PLOUGHED SOIL Dark brown sand, occ. rootlets							
437.1		2	DO	0	1			
1.0	Brown, dense to very dense **GRAVELLY SAND** occ. cobbles and boulders							
		3	DO	0	2			
		4	DO	0				
		5	DO	0	3			
					4			
		6	DO	0	5			
					6			
431.6		7	DO	0				
6.4	END OF BOREHOLE Installed 50mm standpipe @ 6.1m Bentonite seal from 0.0m to 2.4m Sand backfill from 2.4m to 6.1m 3.1m screen from 3.0m to 6.1m Provided with monument protective casing				7			
					8			
					9			
					10			

W.L. @ 3.91 mbgs on December 1, 2022

JOB NO.: 2206-E054

LOG OF BOREHOLE NO.: 16

FIGURE NO.: 16

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Flight Auger

PROJECT LOCATION: 63 and 63A Trafalgar Road
Parts of Lots 23 and 24, Concession 8
Town of Erin

DRILLING DATE: November 24, 2022

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES: Number	SAMPLES: Type	SAMPLES: Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm) (20 60 100 140 180)	REMARKS	WATER LEVEL
437.7	Ground Surface							
0.0	**36 cm TOPSOIL**				0			
	PLOUGHED SOIL Dark brown sand, occ. rootlets	1	DO	0				
436.9								
0.8	Brown **SAND** fine to medium grained	2	DO	0	1			
		3	DO	0				
435.7					2			
2.0	Brown **GRAVELLY SAND** occ. cobbles and boulders	4	DO	0				
		5	DO	0	3			
					4			
433.0		6	DO	0				
4.7	END OF BOREHOLE Installed 50mm standpipe @ 4.6m Bentonite seal from 0.0m to 0.9m Sand backfill from 0.9m to 4.6m 3.1m screen from 1.5m to 4.6m Provided with monument protective casing				5			Dry upon Completion
					6			
					7			
					8			
					9			
					10			

JOB NO.: 2206-E054

LOG OF BOREHOLE NO.: 17

FIGURE NO.: 17

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Flight Auger

PROJECT LOCATION: 63 and 63A Trafalgar Road
Parts of Lots 23 and 24, Concession 8
Town of Erin

DRILLING DATE: November 25, 2022

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES Number	SAMPLES Type	SAMPLES Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm) (20 60 100 140 180)	REMARKS	WATER LEVEL
435.6 / 0.0	Ground Surface **36 cm TOPSOIL**				0			
434.8 / 0.8	**PLOUGHED SOIL** Dark brown sand, occ. rootlets	1	DO	0				
	Brown **SAND** trace to some gravel	2	DO	0	1			
		3	DO	0	2			
		4	DO	0	3			
431.0 / 4.6		5	DO	0	4			
	Dense **SILT** occ. clay seams	6	DO	0	5			
	brown / grey	7	DO	0	6			
429.0 / 6.6	END OF BOREHOLE Installed 50mm standpipe @ 6.1m Bentonite seal from 0.0m to 2.4m Sand backfill from 2.4m to 6.1m 3.1m screen from 3.0m to 6.1m Provided with monument protective casing				7 8 9 10			W.L. @ 3.85 mbgs on December 1, 2022

Soil Engineers Ltd.

Soil Engineers Ltd.
CONSULTING ENGINEERS
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TEL: (705) 721-7863	TEL: (905) 542-7605	TEL: (905) 440-2040	TEL: (905) 853-0647	TEL: (705) 684-4242	TEL: (905) 440-2040	TEL: (905) 777-79
FAX: (705) 721-7864	FAX: (905) 542-2769	FAX: (905) 725-1315	FAX: (905) 881-8335	FAX: (705) 684-8522	FAX: (905) 725-1315	FAX: (905) 542-27

APPENDIX 'C'

CERTIFICATE OF ANALYSIS
(SOIL SAMPLES)

Reference No. 2206-E054

Your Project #: 2206-E054
Your C.O.C. #: na

Attention: Madan K. Suwal

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

Report Date: 2022/11/25
Report #: R7404342
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2X8204
Received: 2022/11/17, 14:58

Sample Matrix: Soil
Samples Received: 10

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Hot Water Extractable Boron	7	2022/11/21	2022/11/22	CAM SOP-00408	R153 Ana. Prot. 2011
Hot Water Extractable Boron	1	2022/11/21	2022/11/23	CAM SOP-00408	R153 Ana. Prot. 2011
Free (WAD) Cyanide	8	2022/11/22	2022/11/22	CAM SOP-00457	OMOE E3015 m
Hexavalent Chromium in Soil by IC (1)	8	2022/11/22	2022/11/23	CAM SOP-00436	EPA 3060/7199 m
Acid Extractable Metals by ICPMS	9	2022/11/21	2022/11/23	CAM SOP-00447	EPA 6020B m
Moisture	10	N/A	2022/11/21	CAM SOP-00445	Carter 2nd ed 51.2 m
OC Pesticides (Selected) & PCB (2)	8	2022/11/22	2022/11/23	CAM SOP-00307	SW846 8081, 8082
OC Pesticides (Selected) & PCB (2)	2	2022/11/23	2022/11/24	CAM SOP-00307	SW846 8081, 8082
OC Pesticides Summed Parameters	10	N/A	2022/11/22	CAM SOP-00307	EPA 8081/8082 m
pH CaCl2 EXTRACT	4	2022/11/22	2022/11/22	CAM SOP-00413	EPA 9045 D m

Remarks:

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

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

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

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

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

Your Project #: 2206-E054
Your C.O.C. #: na

Attention: Madan K. Suwal

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

Report Date: 2022/11/25
Report #: R7404342
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2X8204

Received: 2022/11/17, 14:58

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

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

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

Encryption Key

Bureau Veritas
25 Nov 2022 15:58:57

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 ICPMS METALS (SOIL)

Bureau Veritas ID		UIJ718		
Sampling Date		2022/11/16		
COC Number		na		
	UNITS	DUPS1	RDL	QC Batch
Metals				
Acid Extractable Antimony (Sb)	ug/g	<0.20	0.20	8357955
Acid Extractable Arsenic (As)	ug/g	4.1	1.0	8357955
Acid Extractable Barium (Ba)	ug/g	47	0.50	8357955
Acid Extractable Beryllium (Be)	ug/g	0.43	0.20	8357955
Acid Extractable Boron (B)	ug/g	<5.0	5.0	8357955
Acid Extractable Cadmium (Cd)	ug/g	0.26	0.10	8357955
Acid Extractable Chromium (Cr)	ug/g	14	1.0	8357955
Acid Extractable Cobalt (Co)	ug/g	4.7	0.10	8357955
Acid Extractable Copper (Cu)	ug/g	9.5	0.50	8357955
Acid Extractable Lead (Pb)	ug/g	20	1.0	8357955
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	0.50	8357955
Acid Extractable Nickel (Ni)	ug/g	8.7	0.50	8357955
Acid Extractable Selenium (Se)	ug/g	<0.50	0.50	8357955
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	8357955
Acid Extractable Thallium (Tl)	ug/g	0.088	0.050	8357955
Acid Extractable Uranium (U)	ug/g	0.47	0.050	8357955
Acid Extractable Vanadium (V)	ug/g	32	5.0	8357955
Acid Extractable Zinc (Zn)	ug/g	75	5.0	8357955
Acid Extractable Mercury (Hg)	ug/g	<0.050	0.050	8357955

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Bureau Veritas Job #: C2X8204
Report Date: 2022/11/25

Soil Engineers Ltd
Client Project #: 2206-E054
Sampler Initials: ANK

O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID		UIJ710		UIJ711	UIJ712			UIJ712		
Sampling Date		2022/11/16		2022/11/16	2022/11/16			2022/11/16		
COC Number		na		na	na			na		
	UNITS	TP1	QC Batch	TP2	TP3	RDL	QC Batch	TP3 Lab-Dup	RDL	QC Batch
Inorganics										
Available (CaCl2) pH	pH	6.97	8359663							
WAD Cyanide (Free)	ug/g	<0.01	8359412	<0.01	<0.01	0.01	8359412			
Chromium (VI)	ug/g	<0.18	8359716	<0.18	<0.18	0.18	8359716	<0.18	0.18	8359716
Metals										
Hot Water Ext. Boron (B)	ug/g	0.68	8358041	0.64	0.60	0.050	8358041			
Acid Extractable Antimony (Sb)	ug/g	<0.20	8357955	<0.20	<0.20	0.20	8357955			
Acid Extractable Arsenic (As)	ug/g	4.2	8357955	4.3	4.5	1.0	8357955			
Acid Extractable Barium (Ba)	ug/g	48	8357955	53	34	0.50	8357955			
Acid Extractable Beryllium (Be)	ug/g	0.43	8357955	0.42	0.36	0.20	8357955			
Acid Extractable Boron (B)	ug/g	<5.0	8357955	<5.0	<5.0	5.0	8357955			
Acid Extractable Cadmium (Cd)	ug/g	0.30	8357955	0.32	0.32	0.10	8357955			
Acid Extractable Chromium (Cr)	ug/g	14	8357955	17	15	1.0	8357955			
Acid Extractable Cobalt (Co)	ug/g	4.8	8357955	5.2	4.4	0.10	8357955			
Acid Extractable Copper (Cu)	ug/g	10	8357955	10	12	0.50	8357955			
Acid Extractable Lead (Pb)	ug/g	20	8357955	20	17	1.0	8357955			
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	8357955	0.55	<0.50	0.50	8357955			
Acid Extractable Nickel (Ni)	ug/g	8.7	8357955	9.0	8.0	0.50	8357955			
Acid Extractable Selenium (Se)	ug/g	<0.50	8357955	<0.50	<0.50	0.50	8357955			
Acid Extractable Silver (Ag)	ug/g	<0.20	8357955	<0.20	<0.20	0.20	8357955			
Acid Extractable Thallium (Tl)	ug/g	0.10	8357955	0.097	0.077	0.050	8357955			
Acid Extractable Uranium (U)	ug/g	0.46	8357955	0.51	0.51	0.050	8357955			
Acid Extractable Vanadium (V)	ug/g	31	8357955	39	37	5.0	8357955			
Acid Extractable Zinc (Zn)	ug/g	76	8357955	71	56	5.0	8357955			
Acid Extractable Mercury (Hg)	ug/g	<0.050	8357955	<0.050	<0.050	0.050	8357955			

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

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O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID		UIJ713			UIJ713			UIJ714	UIJ715		
Sampling Date		2022/11/16			2022/11/16			2022/11/16	2022/11/16		
COC Number		na			na			na	na		
	UNITS	TP4	RDL	QC Batch	TP4 Lab-Dup	RDL	QC Batch	TP5	TP6	RDL	QC Batch
Inorganics											
Available (CaCl2) pH	pH	7.10		8359663							
WAD Cyanide (Free)	ug/g	<0.01	0.01	8359412	<0.01	0.01	8359412	<0.01	<0.01	0.01	8359412
Chromium (VI)	ug/g	<0.18	0.18	8359716				<0.18	<0.18	0.18	8359716
Metals											
Hot Water Ext. Boron (B)	ug/g	0.59	0.050	8358041	0.57	0.050	8358041	0.50	0.55	0.050	8358041
Acid Extractable Antimony (Sb)	ug/g	<0.20	0.20	8357955				<0.20	0.22	0.20	8357955
Acid Extractable Arsenic (As)	ug/g	4.4	1.0	8357955				4.3	7.4	1.0	8357955
Acid Extractable Barium (Ba)	ug/g	33	0.50	8357955				31	45	0.50	8357955
Acid Extractable Beryllium (Be)	ug/g	0.36	0.20	8357955				0.32	0.33	0.20	8357955
Acid Extractable Boron (B)	ug/g	<5.0	5.0	8357955				<5.0	<5.0	5.0	8357955
Acid Extractable Cadmium (Cd)	ug/g	0.20	0.10	8357955				0.21	0.27	0.10	8357955
Acid Extractable Chromium (Cr)	ug/g	13	1.0	8357955				12	13	1.0	8357955
Acid Extractable Cobalt (Co)	ug/g	4.2	0.10	8357955				3.8	4.0	0.10	8357955
Acid Extractable Copper (Cu)	ug/g	11	0.50	8357955				10	16	0.50	8357955
Acid Extractable Lead (Pb)	ug/g	14	1.0	8357955				13	17	1.0	8357955
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	0.50	8357955				<0.50	<0.50	0.50	8357955
Acid Extractable Nickel (Ni)	ug/g	7.8	0.50	8357955				6.5	7.0	0.50	8357955
Acid Extractable Selenium (Se)	ug/g	<0.50	0.50	8357955				<0.50	<0.50	0.50	8357955
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	8357955				<0.20	<0.20	0.20	8357955
Acid Extractable Thallium (Tl)	ug/g	0.075	0.050	8357955				0.069	0.080	0.050	8357955
Acid Extractable Uranium (U)	ug/g	0.45	0.050	8357955				0.42	0.47	0.050	8357955
Acid Extractable Vanadium (V)	ug/g	32	5.0	8357955				29	32	5.0	8357955
Acid Extractable Zinc (Zn)	ug/g	56	5.0	8357955				46	63	5.0	8357955
Acid Extractable Mercury (Hg)	ug/g	<0.050	0.050	8357955				<0.050	<0.050	0.050	8357955

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

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O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID		UIJ716	UIJ717		
Sampling Date		2022/11/16	2022/11/16		
COC Number		na	na		
	UNITS	TP7	TP8	RDL	QC Batch
Inorganics					
Available (CaCl2) pH	pH	5.42	6.32		8359663
WAD Cyanide (Free)	ug/g	<0.01	<0.01	0.01	8359412
Chromium (VI)	ug/g	<0.18	<0.18	0.18	8359716
Metals					
Hot Water Ext. Boron (B)	ug/g	0.47	0.45	0.050	8358041
Acid Extractable Antimony (Sb)	ug/g	<0.20	<0.20	0.20	8357955
Acid Extractable Arsenic (As)	ug/g	6.7	6.7	1.0	8357955
Acid Extractable Barium (Ba)	ug/g	46	41	0.50	8357955
Acid Extractable Beryllium (Be)	ug/g	0.33	0.32	0.20	8357955
Acid Extractable Boron (B)	ug/g	<5.0	<5.0	5.0	8357955
Acid Extractable Cadmium (Cd)	ug/g	0.27	0.28	0.10	8357955
Acid Extractable Chromium (Cr)	ug/g	13	13	1.0	8357955
Acid Extractable Cobalt (Co)	ug/g	3.9	4.0	0.10	8357955
Acid Extractable Copper (Cu)	ug/g	16	15	0.50	8357955
Acid Extractable Lead (Pb)	ug/g	17	16	1.0	8357955
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	<0.50	0.50	8357955
Acid Extractable Nickel (Ni)	ug/g	7.2	7.3	0.50	8357955
Acid Extractable Selenium (Se)	ug/g	<0.50	<0.50	0.50	8357955
Acid Extractable Silver (Ag)	ug/g	<0.20	<0.20	0.20	8357955
Acid Extractable Thallium (Tl)	ug/g	0.077	0.086	0.050	8357955
Acid Extractable Uranium (U)	ug/g	0.49	0.47	0.050	8357955
Acid Extractable Vanadium (V)	ug/g	32	33	5.0	8357955
Acid Extractable Zinc (Zn)	ug/g	63	56	5.0	8357955
Acid Extractable Mercury (Hg)	ug/g	<0.050	<0.050	0.050	8357955

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Bureau Veritas Job #: C2X8204
Report Date: 2022/11/25

Soil Engineers Ltd
Client Project #: 2206-E054
Sampler Initials: ANK

O.REG 153 OC PESTICIDES (SOIL)

Bureau Veritas ID		UIJ710			UIJ710			UIJ711	UIJ712		
Sampling Date		2022/11/16			2022/11/16			2022/11/16	2022/11/16		
COC Number		na			na			na	na		
	UNITS	TP1	RDL	QC Batch	TP1 Lab-Dup	RDL	QC Batch	TP2	TP3	RDL	QC Batch
Inorganics											
Moisture	%	17	1.0	8357623				18	16	1.0	8357623
Calculated Parameters											
Chlordane (Total)	ug/g	<0.0020	0.0020	8351186				<0.0020	<0.0020	0.0020	8351186
o,p-DDD + p,p-DDD	ug/g	<0.0020	0.0020	8351186				<0.0020	<0.0020	0.0020	8351186
o,p-DDE + p,p-DDE	ug/g	<0.0020	0.0020	8351186				<0.0020	<0.0020	0.0020	8351186
o,p-DDT + p,p-DDT	ug/g	<0.0020	0.0020	8351186				<0.0020	<0.0020	0.0020	8351186
Total Endosulfan	ug/g	<0.0020	0.0020	8351186				<0.0020	<0.0020	0.0020	8351186
Pesticides & Herbicides											
Aldrin	ug/g	<0.0020	0.0020	8361100	<0.0020	0.0020	8361100	<0.0020	<0.0020	0.0020	8361100
a-Chlordane	ug/g	<0.0020	0.0020	8361100	<0.0020	0.0020	8361100	<0.0020	<0.0020	0.0020	8361100
g-Chlordane	ug/g	<0.0020	0.0020	8361100	<0.0020	0.0020	8361100	<0.0020	<0.0020	0.0020	8361100
o,p-DDD	ug/g	<0.0020	0.0020	8361100	<0.0020	0.0020	8361100	<0.0020	<0.0020	0.0020	8361100
p,p-DDD	ug/g	<0.0020	0.0020	8361100	<0.0020	0.0020	8361100	<0.0020	<0.0020	0.0020	8361100
o,p-DDE	ug/g	<0.0020	0.0020	8361100	<0.0020	0.0020	8361100	<0.0020	<0.0020	0.0020	8361100
p,p-DDE	ug/g	<0.0020	0.0020	8361100	<0.0020	0.0020	8361100	<0.0020	<0.0020	0.0020	8361100
o,p-DDT	ug/g	<0.0020	0.0020	8361100	<0.0020	0.0020	8361100	<0.0020	<0.0020	0.0020	8361100
p,p-DDT	ug/g	<0.0020	0.0020	8361100	<0.0020	0.0020	8361100	<0.0020	<0.0020	0.0020	8361100
Dieldrin	ug/g	<0.0020	0.0020	8361100	<0.0020	0.0020	8361100	<0.0020	<0.0020	0.0020	8361100
Lindane	ug/g	<0.0020	0.0020	8361100	<0.0020	0.0020	8361100	<0.0020	<0.0020	0.0020	8361100
Endosulfan I (alpha)	ug/g	<0.0020	0.0020	8361100	<0.0020	0.0020	8361100	<0.0020	<0.0020	0.0020	8361100
Endosulfan II (beta)	ug/g	<0.0020	0.0020	8361100	<0.0020	0.0020	8361100	<0.0020	<0.0020	0.0020	8361100
Endrin	ug/g	<0.0020	0.0020	8361100	<0.0020	0.0020	8361100	<0.0020	<0.0020	0.0020	8361100
Heptachlor	ug/g	<0.0020	0.0020	8361100	<0.0020	0.0020	8361100	<0.0020	<0.0020	0.0020	8361100
Heptachlor epoxide	ug/g	<0.0020	0.0020	8361100	<0.0020	0.0020	8361100	<0.0020	<0.0020	0.0020	8361100
Hexachlorobenzene	ug/g	<0.0020	0.0020	8361100	<0.0020	0.0020	8361100	<0.0020	<0.0020	0.0020	8361100
Hexachlorobutadiene	ug/g	<0.0020	0.0020	8361100	<0.0020	0.0020	8361100	<0.0020	<0.0020	0.0020	8361100
Hexachloroethane	ug/g	<0.0020	0.0020	8361100	<0.0020	0.0020	8361100	<0.0020	<0.0020	0.0020	8361100
Methoxychlor	ug/g	<0.0050	0.0050	8361100	<0.0050	0.0050	8361100	<0.0050	<0.0050	0.0050	8361100
Surrogate Recovery (%)											
2,4,5,6-Tetrachloro-m-xylene	%	81		8361100	84		8361100	80	82		8361100
Decachlorobiphenyl	%	117		8361100	102		8361100	109	122		8361100

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

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O.REG 153 OC PESTICIDES (SOIL)

Bureau Veritas ID		UIJ713	UIJ714	UIJ715	UIJ716	UIJ717		
Sampling Date		2022/11/16	2022/11/16	2022/11/16	2022/11/16	2022/11/16		
COC Number		na	na	na	na	na		
	UNITS	TP4	TP5	TP6	TP7	TP8	RDL	QC Batch
Inorganics								
Moisture	%	17	14	16	15	15	1.0	8357623
Calculated Parameters								
Chlordane (Total)	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8351186
o,p-DDD + p,p-DDD	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8351186
o,p-DDE + p,p-DDE	ug/g	<0.0020	<0.0020	0.0037	0.0026	0.0021	0.0020	8351186
o,p-DDT + p,p-DDT	ug/g	<0.0020	<0.0020	0.0023	0.0024	<0.0020	0.0020	8351186
Total Endosulfan	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8351186
Pesticides & Herbicides								
Aldrin	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8361100
a-Chlordane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8361100
g-Chlordane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8361100
o,p-DDD	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8361100
p,p-DDD	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8361100
o,p-DDE	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8361100
p,p-DDE	ug/g	<0.0020	<0.0020	0.0037	0.0026	0.0021	0.0020	8361100
o,p-DDT	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8361100
p,p-DDT	ug/g	<0.0020	<0.0020	0.0023	0.0024	<0.0020	0.0020	8361100
Dieldrin	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8361100
Lindane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8361100
Endosulfan I (alpha)	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8361100
Endosulfan II (beta)	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8361100
Endrin	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8361100
Heptachlor	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8361100
Heptachlor epoxide	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8361100
Hexachlorobenzene	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8361100
Hexachlorobutadiene	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8361100
Hexachloroethane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	8361100
Methoxychlor	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8361100
Surrogate Recovery (%)								
2,4,5,6-Tetrachloro-m-xylene	%	83	79	81	77	78		8361100
Decachlorobiphenyl	%	105	116	118	91	103		8361100

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O.REG 153 OC PESTICIDES (SOIL)

Bureau Veritas ID		UIJ718	UIJ719		
Sampling Date		2022/11/16	2022/11/16		
COC Number		na	na		
	UNITS	DUPS1	DUPS2	RDL	QC Batch
Inorganics					
Moisture	%	16	18	1.0	8357623
Calculated Parameters					
Chlordane (Total)	ug/g	<0.0020	<0.0020	0.0020	8351186
o,p-DDD + p,p-DDD	ug/g	<0.0020	<0.0020	0.0020	8351186
o,p-DDE + p,p-DDE	ug/g	<0.0020	<0.0020	0.0020	8351186
o,p-DDT + p,p-DDT	ug/g	<0.0020	<0.0020	0.0020	8351186
Total Endosulfan	ug/g	<0.0020	<0.0020	0.0020	8351186
Pesticides & Herbicides					
Aldrin	ug/g	<0.0020	<0.0020	0.0020	8363328
a-Chlordane	ug/g	<0.0020	<0.0020	0.0020	8363328
g-Chlordane	ug/g	<0.0020	<0.0020	0.0020	8363328
o,p-DDD	ug/g	<0.0020	<0.0020	0.0020	8363328
p,p-DDD	ug/g	<0.0020	<0.0020	0.0020	8363328
o,p-DDE	ug/g	<0.0020	<0.0020	0.0020	8363328
p,p-DDE	ug/g	<0.0020	<0.0020	0.0020	8363328
o,p-DDT	ug/g	<0.0020	<0.0020	0.0020	8363328
p,p-DDT	ug/g	<0.0020	<0.0020	0.0020	8363328
Dieldrin	ug/g	<0.0020	<0.0020	0.0020	8363328
Lindane	ug/g	<0.0020	<0.0020	0.0020	8363328
Endosulfan I (alpha)	ug/g	<0.0020	<0.0020	0.0020	8363328
Endosulfan II (beta)	ug/g	<0.0020	<0.0020	0.0020	8363328
Endrin	ug/g	<0.0020	<0.0020	0.0020	8363328
Heptachlor	ug/g	<0.0020	<0.0020	0.0020	8363328
Heptachlor epoxide	ug/g	<0.0020	<0.0020	0.0020	8363328
Hexachlorobenzene	ug/g	<0.0020	<0.0020	0.0020	8363328
Hexachlorobutadiene	ug/g	<0.0020	<0.0020	0.0020	8363328
Hexachloroethane	ug/g	<0.0020	<0.0020	0.0020	8363328
Methoxychlor	ug/g	<0.0050	<0.0050	0.0050	8363328
Surrogate Recovery (%)					
2,4,5,6-Tetrachloro-m-xylene	%	72	73		8363328
Decachlorobiphenyl	%	96	108		8363328

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Bureau Veritas Job #: C2X8204
Report Date: 2022/11/25

Soil Engineers Ltd
Client Project #: 2206-E054
Sampler Initials: ANK

TEST SUMMARY

Bureau Veritas ID: UIJ710
Sample ID: TP1
Matrix: Soil

Collected: 2022/11/16
Shipped:
Received: 2022/11/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8358041	2022/11/21	2022/11/22	Jaswinder Kaur
Free (WAD) Cyanide	TECH	8359412	2022/11/22	2022/11/22	Chloe Pollock
Hexavalent Chromium in Soil by IC	IC/SPEC	8359716	2022/11/22	2022/11/23	Surleen Kaur Romana
Acid Extractable Metals by ICPMS	ICP/MS	8357955	2022/11/21	2022/11/23	Azita Fazaeli
Moisture	BAL	8357623	N/A	2022/11/21	Mathew Bowles
OC Pesticides (Selected) & PCB	GC/ECD	8361100	2022/11/22	2022/11/23	Li Peng
OC Pesticides Summed Parameters	CALC	8351186	N/A	2022/11/22	Automated Statchk
pH CaCl2 EXTRACT	AT	8359663	2022/11/22	2022/11/22	Taslima Aktar

Bureau Veritas ID: UIJ710 Dup
Sample ID: TP1
Matrix: Soil

Collected: 2022/11/16
Shipped:
Received: 2022/11/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
OC Pesticides (Selected) & PCB	GC/ECD	8361100	2022/11/22	2022/11/23	Li Peng

Bureau Veritas ID: UIJ711
Sample ID: TP2
Matrix: Soil

Collected: 2022/11/16
Shipped:
Received: 2022/11/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8358041	2022/11/21	2022/11/22	Jaswinder Kaur
Free (WAD) Cyanide	TECH	8359412	2022/11/22	2022/11/22	Chloe Pollock
Hexavalent Chromium in Soil by IC	IC/SPEC	8359716	2022/11/22	2022/11/23	Surleen Kaur Romana
Acid Extractable Metals by ICPMS	ICP/MS	8357955	2022/11/21	2022/11/23	Azita Fazaeli
Moisture	BAL	8357623	N/A	2022/11/21	Mathew Bowles
OC Pesticides (Selected) & PCB	GC/ECD	8361100	2022/11/22	2022/11/23	Li Peng
OC Pesticides Summed Parameters	CALC	8351186	N/A	2022/11/22	Automated Statchk

Bureau Veritas ID: UIJ712
Sample ID: TP3
Matrix: Soil

Collected: 2022/11/16
Shipped:
Received: 2022/11/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8358041	2022/11/21	2022/11/22	Jaswinder Kaur
Free (WAD) Cyanide	TECH	8359412	2022/11/22	2022/11/22	Chloe Pollock
Hexavalent Chromium in Soil by IC	IC/SPEC	8359716	2022/11/22	2022/11/23	Surleen Kaur Romana
Acid Extractable Metals by ICPMS	ICP/MS	8357955	2022/11/21	2022/11/23	Azita Fazaeli
Moisture	BAL	8357623	N/A	2022/11/21	Mathew Bowles
OC Pesticides (Selected) & PCB	GC/ECD	8361100	2022/11/22	2022/11/23	Li Peng
OC Pesticides Summed Parameters	CALC	8351186	N/A	2022/11/22	Automated Statchk

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Bureau Veritas Job #: C2X8204
Report Date: 2022/11/25

Soil Engineers Ltd
Client Project #: 2206-E054
Sampler Initials: ANK

TEST SUMMARY

Bureau Veritas ID: UIJ712 Dup
Sample ID: TP3
Matrix: Soil

Collected: 2022/11/16
Shipped:
Received: 2022/11/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hexavalent Chromium in Soil by IC	IC/SPEC	8359716	2022/11/22	2022/11/23	Surleen Kaur Romana

Bureau Veritas ID: UIJ713
Sample ID: TP4
Matrix: Soil

Collected: 2022/11/16
Shipped:
Received: 2022/11/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8358041	2022/11/21	2022/11/22	Jaswinder Kaur
Free (WAD) Cyanide	TECH	8359412	2022/11/22	2022/11/22	Chloe Pollock
Hexavalent Chromium in Soil by IC	IC/SPEC	8359716	2022/11/22	2022/11/23	Surleen Kaur Romana
Acid Extractable Metals by ICPMS	ICP/MS	8357955	2022/11/21	2022/11/23	Azita Fazaeli
Moisture	BAL	8357623	N/A	2022/11/21	Mathew Bowles
OC Pesticides (Selected) & PCB	GC/ECD	8361100	2022/11/22	2022/11/23	Li Peng
OC Pesticides Summed Parameters	CALC	8351186	N/A	2022/11/22	Automated Statchk
pH CaCl2 EXTRACT	AT	8359663	2022/11/22	2022/11/22	Taslima Aktar

Bureau Veritas ID: UIJ713 Dup
Sample ID: TP4
Matrix: Soil

Collected: 2022/11/16
Shipped:
Received: 2022/11/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8358041	2022/11/21	2022/11/22	Jaswinder Kaur
Free (WAD) Cyanide	TECH	8359412	2022/11/22	2022/11/22	Chloe Pollock

Bureau Veritas ID: UIJ714
Sample ID: TP5
Matrix: Soil

Collected: 2022/11/16
Shipped:
Received: 2022/11/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8358041	2022/11/21	2022/11/22	Jaswinder Kaur
Free (WAD) Cyanide	TECH	8359412	2022/11/22	2022/11/22	Chloe Pollock
Hexavalent Chromium in Soil by IC	IC/SPEC	8359716	2022/11/22	2022/11/23	Surleen Kaur Romana
Acid Extractable Metals by ICPMS	ICP/MS	8357955	2022/11/21	2022/11/23	Azita Fazaeli
Moisture	BAL	8357623	N/A	2022/11/21	Mathew Bowles
OC Pesticides (Selected) & PCB	GC/ECD	8361100	2022/11/22	2022/11/23	Li Peng
OC Pesticides Summed Parameters	CALC	8351186	N/A	2022/11/22	Automated Statchk

Bureau Veritas ID: UIJ715
Sample ID: TP6
Matrix: Soil

Collected: 2022/11/16
Shipped:
Received: 2022/11/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8358041	2022/11/21	2022/11/22	Jaswinder Kaur
Free (WAD) Cyanide	TECH	8359412	2022/11/22	2022/11/22	Chloe Pollock
Hexavalent Chromium in Soil by IC	IC/SPEC	8359716	2022/11/22	2022/11/23	Surleen Kaur Romana
Acid Extractable Metals by ICPMS	ICP/MS	8357955	2022/11/21	2022/11/23	Azita Fazaeli

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Bureau Veritas Job #: C2X8204
Report Date: 2022/11/25

Soil Engineers Ltd
Client Project #: 2206-E054
Sampler Initials: ANK

TEST SUMMARY

Bureau Veritas ID: UIJ715
Sample ID: TP6
Matrix: Soil

Collected: 2022/11/16
Shipped:
Received: 2022/11/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	8357623	N/A	2022/11/21	Mathew Bowles
OC Pesticides (Selected) & PCB	GC/ECD	8361100	2022/11/22	2022/11/23	Li Peng
OC Pesticides Summed Parameters	CALC	8351186	N/A	2022/11/22	Automated Statchk

Bureau Veritas ID: UIJ716
Sample ID: TP7
Matrix: Soil

Collected: 2022/11/16
Shipped:
Received: 2022/11/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8358041	2022/11/21	2022/11/22	Jaswinder Kaur
Free (WAD) Cyanide	TECH	8359412	2022/11/22	2022/11/22	Chloe Pollock
Hexavalent Chromium in Soil by IC	IC/SPEC	8359716	2022/11/22	2022/11/23	Surleen Kaur Romana
Acid Extractable Metals by ICPMS	ICP/MS	8357955	2022/11/21	2022/11/23	Azita Fazaeli
Moisture	BAL	8357623	N/A	2022/11/21	Mathew Bowles
OC Pesticides (Selected) & PCB	GC/ECD	8361100	2022/11/22	2022/11/23	Li Peng
OC Pesticides Summed Parameters	CALC	8351186	N/A	2022/11/22	Automated Statchk
pH CaCl2 EXTRACT	AT	8359663	2022/11/22	2022/11/22	Taslima Aktar

Bureau Veritas ID: UIJ717
Sample ID: TP8
Matrix: Soil

Collected: 2022/11/16
Shipped:
Received: 2022/11/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8358041	2022/11/21	2022/11/23	Jaswinder Kaur
Free (WAD) Cyanide	TECH	8359412	2022/11/22	2022/11/22	Chloe Pollock
Hexavalent Chromium in Soil by IC	IC/SPEC	8359716	2022/11/22	2022/11/23	Surleen Kaur Romana
Acid Extractable Metals by ICPMS	ICP/MS	8357955	2022/11/21	2022/11/23	Azita Fazaeli
Moisture	BAL	8357623	N/A	2022/11/21	Mathew Bowles
OC Pesticides (Selected) & PCB	GC/ECD	8361100	2022/11/22	2022/11/23	Li Peng
OC Pesticides Summed Parameters	CALC	8351186	N/A	2022/11/22	Automated Statchk
pH CaCl2 EXTRACT	AT	8359663	2022/11/22	2022/11/22	Taslima Aktar

Bureau Veritas ID: UIJ718
Sample ID: DUPS1
Matrix: Soil

Collected: 2022/11/16
Shipped:
Received: 2022/11/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractable Metals by ICPMS	ICP/MS	8357955	2022/11/21	2022/11/23	Azita Fazaeli
Moisture	BAL	8357623	N/A	2022/11/21	Mathew Bowles
OC Pesticides (Selected) & PCB	GC/ECD	8363328	2022/11/23	2022/11/24	Li Peng
OC Pesticides Summed Parameters	CALC	8351186	N/A	2022/11/22	Automated Statchk

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Bureau Veritas Job #: C2X8204
Report Date: 2022/11/25

Soil Engineers Ltd
Client Project #: 2206-E054
Sampler Initials: ANK

TEST SUMMARY

Bureau Veritas ID: UIJ719
Sample ID: DUPS2
Matrix: Soil

Collected: 2022/11/16
Shipped:
Received: 2022/11/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	8357623	N/A	2022/11/21	Mathew Bowles
OC Pesticides (Selected) & PCB	GC/ECD	8363328	2022/11/23	2022/11/24	Li Peng
OC Pesticides Summed Parameters	CALC	8351186	N/A	2022/11/22	Automated Statchk

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GENERAL COMMENTS

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

Package 1	0.0°C

Cooler custody seal was present and intact.

Results relate only to the items tested.

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Bureau Veritas Job #: C2X8204
Report Date: 2022/11/25

QUALITY ASSURANCE REPORT

Soil Engineers Ltd
Client Project #: 2206-E054
Sampler Initials: ANK

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8361100	2,4,5,6-Tetrachloro-m-xylene	2022/11/23	84	50 - 130	80	50 - 130	79	%		
8361100	Decachlorobiphenyl	2022/11/23	117	50 - 130	119	50 - 130	115	%		
8363328	2,4,5,6-Tetrachloro-m-xylene	2022/11/24	62	50 - 130	69	50 - 130	67	%		
8363328	Decachlorobiphenyl	2022/11/24	108	50 - 130	107	50 - 130	116	%		
8357623	Moisture	2022/11/21							0	20
8357955	Acid Extractable Antimony (Sb)	2022/11/23	96	75 - 125	104	80 - 120	<0.20	ug/g	NC	30
8357955	Acid Extractable Arsenic (As)	2022/11/23	106	75 - 125	100	80 - 120	<1.0	ug/g	8.6	30
8357955	Acid Extractable Barium (Ba)	2022/11/23	NC	75 - 125	103	80 - 120	<0.50	ug/g	0.72	30
8357955	Acid Extractable Beryllium (Be)	2022/11/23	111	75 - 125	105	80 - 120	<0.20	ug/g	2.5	30
8357955	Acid Extractable Boron (B)	2022/11/23	110	75 - 125	104	80 - 120	<5.0	ug/g	3.7	30
8357955	Acid Extractable Cadmium (Cd)	2022/11/23	104	75 - 125	100	80 - 120	<0.10	ug/g	5.1	30
8357955	Acid Extractable Chromium (Cr)	2022/11/23	109	75 - 125	103	80 - 120	<1.0	ug/g	0.48	30
8357955	Acid Extractable Cobalt (Co)	2022/11/23	105	75 - 125	101	80 - 120	<0.10	ug/g	0.013	30
8357955	Acid Extractable Copper (Cu)	2022/11/23	99	75 - 125	102	80 - 120	<0.50	ug/g	4.0	30
8357955	Acid Extractable Lead (Pb)	2022/11/23	100	75 - 125	98	80 - 120	<1.0	ug/g	0.45	30
8357955	Acid Extractable Mercury (Hg)	2022/11/23	99	75 - 125	96	80 - 120	<0.050	ug/g	NC	30
8357955	Acid Extractable Molybdenum (Mo)	2022/11/23	103	75 - 125	99	80 - 120	<0.50	ug/g	1.8	30
8357955	Acid Extractable Nickel (Ni)	2022/11/23	103	75 - 125	103	80 - 120	<0.50	ug/g	3.1	30
8357955	Acid Extractable Selenium (Se)	2022/11/23	105	75 - 125	105	80 - 120	<0.50	ug/g	NC	30
8357955	Acid Extractable Silver (Ag)	2022/11/23	102	75 - 125	102	80 - 120	<0.20	ug/g	NC	30
8357955	Acid Extractable Thallium (Tl)	2022/11/23	98	75 - 125	98	80 - 120	<0.050	ug/g	0.53	30
8357955	Acid Extractable Uranium (U)	2022/11/23	104	75 - 125	99	80 - 120	<0.050	ug/g	3.9	30
8357955	Acid Extractable Vanadium (V)	2022/11/23	NC	75 - 125	103	80 - 120	<5.0	ug/g	1.8	30
8357955	Acid Extractable Zinc (Zn)	2022/11/23	NC	75 - 125	102	80 - 120	<5.0	ug/g	3.7	30
8358041	Hot Water Ext. Boron (B)	2022/11/22	113	75 - 125	104	75 - 125	<0.050	ug/g	4.5	40
8359412	WAD Cyanide (Free)	2022/11/22	98	75 - 125	106	80 - 120	<0.01	ug/g	NC	35
8359663	Available (CaCl2) pH	2022/11/22			100	97 - 103			0.58	N/A
8359716	Chromium (VI)	2022/11/23	0 (1)	70 - 130	93	80 - 120	<0.18	ug/g	NC	35
8361100	a-Chlordane	2022/11/23	91	50 - 130	78	50 - 130	<0.0020	ug/g	NC	40
8361100	Aldrin	2022/11/23	100	50 - 130	94	50 - 130	<0.0020	ug/g	NC	40
8361100	Dieldrin	2022/11/23	100	50 - 130	78	50 - 130	<0.0020	ug/g	NC	40

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

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8361100	Endosulfan I (alpha)	2022/11/23	86	50 - 130	70	50 - 130	<0.0020	ug/g	NC	40
8361100	Endosulfan II (beta)	2022/11/23	94	50 - 130	71	50 - 130	<0.0020	ug/g	NC	40
8361100	Endrin	2022/11/23	93	50 - 130	69	50 - 130	<0.0020	ug/g	NC	40
8361100	g-Chlordane	2022/11/23	84	50 - 130	68	50 - 130	<0.0020	ug/g	NC	40
8361100	Heptachlor epoxide	2022/11/23	86	50 - 130	70	50 - 130	<0.0020	ug/g	NC	40
8361100	Heptachlor	2022/11/23	110	50 - 130	100	50 - 130	<0.0020	ug/g	NC	40
8361100	Hexachlorobenzene	2022/11/23	93	50 - 130	89	50 - 130	<0.0020	ug/g	NC	40
8361100	Hexachlorobutadiene	2022/11/23	102	50 - 130	104	50 - 130	<0.0020	ug/g	NC	40
8361100	Hexachloroethane	2022/11/23	76	50 - 130	75	50 - 130	<0.0020	ug/g	NC	40
8361100	Lindane	2022/11/23	74	50 - 130	60	50 - 130	<0.0020	ug/g	NC	40
8361100	Methoxychlor	2022/11/23	93	50 - 130	73	50 - 130	<0.0050	ug/g	NC	40
8361100	o,p-DDD	2022/11/23	106	50 - 130	83	50 - 130	<0.0020	ug/g	NC	40
8361100	o,p-DDE	2022/11/23	110	50 - 130	106	50 - 130	<0.0020	ug/g	NC	40
8361100	o,p-DDT	2022/11/23	108	50 - 130	104	50 - 130	<0.0020	ug/g	NC	40
8361100	p,p-DDD	2022/11/23	112	50 - 130	84	50 - 130	<0.0020	ug/g	NC	40
8361100	p,p-DDE	2022/11/23	110	50 - 130	108	50 - 130	<0.0020	ug/g	NC	40
8361100	p,p-DDT	2022/11/23	115	50 - 130	85	50 - 130	<0.0020	ug/g	NC	40
8363328	a-Chlordane	2022/11/24	98	50 - 130	104	50 - 130	<0.0020	ug/g	NC	40
8363328	Aldrin	2022/11/24	83	50 - 130	92	50 - 130	<0.0020	ug/g	NC	40
8363328	Dieldrin	2022/11/24	92	50 - 130	112	50 - 130	<0.0020	ug/g	NC	40
8363328	Endosulfan I (alpha)	2022/11/24	75	50 - 130	105	50 - 130	<0.0020	ug/g	NC	40
8363328	Endosulfan II (beta)	2022/11/24	90	50 - 130	108	50 - 130	<0.0020	ug/g	NC	40
8363328	Endrin	2022/11/24	88	50 - 130	103	50 - 130	<0.0020	ug/g	NC	40
8363328	g-Chlordane	2022/11/24	85	50 - 130	98	50 - 130	<0.0020	ug/g	NC	40
8363328	Heptachlor epoxide	2022/11/24	81	50 - 130	100	50 - 130	<0.0020	ug/g	NC	40
8363328	Heptachlor	2022/11/24	92	50 - 130	99	50 - 130	<0.0020	ug/g	NC	40
8363328	Hexachlorobenzene	2022/11/24	74	50 - 130	93	50 - 130	<0.0020	ug/g	NC	40
8363328	Hexachlorobutadiene	2022/11/24	69	50 - 130	75	50 - 130	<0.0020	ug/g	NC	40
8363328	Hexachloroethane	2022/11/24	59	50 - 130	53	50 - 130	<0.0020	ug/g	NC	40
8363328	Lindane	2022/11/24	67	50 - 130	82	50 - 130	<0.0020	ug/g	NC	40
8363328	Methoxychlor	2022/11/24	105	50 - 130	111	50 - 130	<0.0050	ug/g	NC	40

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8363328	o,p-DDD	2022/11/24	111	50 - 130	121	50 - 130	<0.0020	ug/g	NC	40
8363328	o,p-DDE	2022/11/24	102	50 - 130	108	50 - 130	<0.0020	ug/g	NC	40
8363328	o,p-DDT	2022/11/24	112	50 - 130	110	50 - 130	<0.0020	ug/g	NC	40
8363328	p,p-DDD	2022/11/24	107	50 - 130	121	50 - 130	<0.0020	ug/g	NC	40
8363328	p,p-DDE	2022/11/24	98	50 - 130	98	50 - 130	<0.0020	ug/g	NC	40
8363328	p,p-DDT	2022/11/24	116	50 - 130	102	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 sample was reanalyzed with the same results.

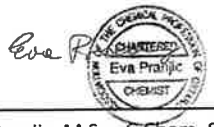
Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Bureau Veritas Job #: C2X8204
Report Date: 2022/11/25

Soil Engineers Ltd
Client Project #: 2206-E054
Sampler Initials: ANK

VALIDATION SIGNATURE PAGE

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



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

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Your Project #: 2206-E054
Site Location: ERIN
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: 2022/11/29
Report #: R7408610
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C2Y0178
Received: 2022/11/18, 18:01

Sample Matrix: Soil
Samples Received: 14

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum	5	N/A	2022/11/26	CAM SOP-00301	EPA 8270D m
1,3-Dichloropropene Sum	1	N/A	2022/11/22		EPA 8260C m
1,3-Dichloropropene Sum	4	N/A	2022/11/24		EPA 8260C m
Petroleum Hydro. CCME F1 & BTEX in Soil (1)	1	N/A	2022/11/24	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Soil (2)	5	2022/11/27	2022/11/28	CAM SOP-00316	CCME CWS m
Acid Extractable Metals by ICPMS	6	2022/11/23	2022/11/24	CAM SOP-00447	EPA 6020B m
Moisture	1	N/A	2022/11/21	CAM SOP-00445	Carter 2nd ed 51.2 m
Moisture	9	N/A	2022/11/23	CAM SOP-00445	Carter 2nd ed 51.2 m
PAH Compounds in Soil by GC/MS (SIM)	5	2022/11/25	2022/11/25	CAM SOP-00318	EPA 8270D m
pH CaCl2 EXTRACT	1	2022/11/24	2022/11/24	CAM SOP-00413	EPA 9045 D m
Volatile Organic Compounds and F1 PHCs	4	N/A	2022/11/22	CAM SOP-00230	EPA 8260C m
Volatile Organic Compounds in Soil	1	N/A	2022/11/20	CAM SOP-00228	EPA 8260C m

Remarks:

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

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

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

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

Your Project #: 2206-E054
Site Location: ERIN
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: 2022/11/29
Report #: R7408610
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C2Y0178
Received: 2022/11/18, 18:01

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

Encryption Key

Antonella Brasil
Senior Project Manager
29 Nov 2022 13:08:08

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 #: C2Y0178
Report Date: 2022/11/29

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

O.REG 153 ICPMS METALS (SOIL)

Bureau Veritas ID		UIT857	UIT858	UIT863	UIT863	UIT867	UIT871		
Sampling Date		2022/11/16	2022/11/17	2022/11/16	2022/11/16	2022/11/17	2022/11/18		
COC Number		n/a	n/a	n/a	n/a	n/a	n/a		
	UNITS	BH2/9	BH3/6	BH1/5	BH1/5 Lab-Dup	DUPS3	BH4/6	RDL	QC Batch
Metals									
Acid Extractable Antimony (Sb)	ug/g	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	8363470
Acid Extractable Arsenic (As)	ug/g	1.8	3.0	1.9	1.9	2.5	1.7	1.0	8363470
Acid Extractable Barium (Ba)	ug/g	11	9.3	44	43	9.0	36	0.50	8363470
Acid Extractable Beryllium (Be)	ug/g	<0.20	<0.20	0.34	0.33	<0.20	0.24	0.20	8363470
Acid Extractable Boron (B)	ug/g	<5.0	5.5	6.5	6.7	5.5	5.3	5.0	8363470
Acid Extractable Cadmium (Cd)	ug/g	0.10	0.11	<0.10	<0.10	<0.10	0.33	0.10	8363470
Acid Extractable Chromium (Cr)	ug/g	4.9	7.4	15	15	6.7	11	1.0	8363470
Acid Extractable Cobalt (Co)	ug/g	1.8	3.2	6.0	6.1	3.2	4.6	0.10	8363470
Acid Extractable Copper (Cu)	ug/g	8.0	18	14	14	16	13	0.50	8363470
Acid Extractable Lead (Pb)	ug/g	4.6	8.5	5.9	5.9	7.9	27	1.0	8363470
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	0.50	8363470
Acid Extractable Nickel (Ni)	ug/g	3.9	6.2	12	13	5.1	9.1	0.50	8363470
Acid Extractable Selenium (Se)	ug/g	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	8363470
Acid Extractable Silver (Ag)	ug/g	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	8363470
Acid Extractable Thallium (Tl)	ug/g	<0.050	<0.050	0.081	0.096	<0.050	0.085	0.050	8363470
Acid Extractable Uranium (U)	ug/g	0.28	0.36	0.48	0.47	0.37	0.49	0.050	8363470
Acid Extractable Vanadium (V)	ug/g	10	20	24	24	16	19	5.0	8363470
Acid Extractable Zinc (Zn)	ug/g	47	41	32	33	40	100	5.0	8363470
Acid Extractable Mercury (Hg)	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	8363470

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

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Bureau Veritas Job #: C2Y0178
Report Date: 2022/11/29

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID		UIT862		
Sampling Date		2022/11/18		
COC Number		n/a		
	UNITS	BH5/6	RDL	QC Batch
Inorganics				
Available (CaCl2) pH	pH	8.04		8365043
Metals				
Acid Extractable Antimony (Sb)	ug/g	<0.20	0.20	8363618
Acid Extractable Arsenic (As)	ug/g	1.9	1.0	8363618
Acid Extractable Barium (Ba)	ug/g	37	0.50	8363618
Acid Extractable Beryllium (Be)	ug/g	0.26	0.20	8363618
Acid Extractable Boron (B)	ug/g	5.7	5.0	8363618
Acid Extractable Cadmium (Cd)	ug/g	0.37	0.10	8363618
Acid Extractable Chromium (Cr)	ug/g	12	1.0	8363618
Acid Extractable Cobalt (Co)	ug/g	4.7	0.10	8363618
Acid Extractable Copper (Cu)	ug/g	11	0.50	8363618
Acid Extractable Lead (Pb)	ug/g	28	1.0	8363618
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	0.50	8363618
Acid Extractable Nickel (Ni)	ug/g	9.4	0.50	8363618
Acid Extractable Selenium (Se)	ug/g	<0.50	0.50	8363618
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	8363618
Acid Extractable Thallium (Tl)	ug/g	0.096	0.050	8363618
Acid Extractable Uranium (U)	ug/g	0.49	0.050	8363618
Acid Extractable Vanadium (V)	ug/g	20	5.0	8363618
Acid Extractable Zinc (Zn)	ug/g	100	5.0	8363618
Acid Extractable Mercury (Hg)	ug/g	<0.050	0.050	8363618

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Bureau Veritas Job #: C2Y0178
Report Date: 2022/11/29

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

O.REG 153 PAHS (SOIL)

Bureau Veritas ID		UIT856			UIT860	UIT861	UIT869	UIT874		
Sampling Date		2022/11/16			2022/11/17	2022/11/18	2022/11/16	2022/11/18		
COC Number		n/a			n/a	n/a	n/a	n/a		
	UNITS	BH2/10	RDL	QC Batch	BH3/8	BH5/7	BH1/7	BH4/8	RDL	QC Batch
Inorganics										
Moisture	%				18	8.0	15	8.6	1.0	8363098
Calculated Parameters										
Methylnaphthalene, 2-(1-)	ug/g	<0.0071	0.0071	8356233	<0.0071	<0.0071	<0.0071	<0.0071	0.0071	8356233
Polyaromatic Hydrocarbons										
Acenaphthene	ug/g	<0.0050	0.0050	8367122	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8367122
Acenaphthylene	ug/g	<0.0050	0.0050	8367122	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8367122
Anthracene	ug/g	<0.0050	0.0050	8367122	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8367122
Benzo(a)anthracene	ug/g	<0.0050	0.0050	8367122	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8367122
Benzo(a)pyrene	ug/g	<0.0050	0.0050	8367122	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8367122
Benzo(b/j)fluoranthene	ug/g	<0.0050	0.0050	8367122	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8367122
Benzo(g,h,i)perylene	ug/g	<0.0050	0.0050	8367122	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8367122
Benzo(k)fluoranthene	ug/g	<0.0050	0.0050	8367122	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8367122
Chrysene	ug/g	<0.0050	0.0050	8367122	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8367122
Dibenzo(a,h)anthracene	ug/g	<0.0050	0.0050	8367122	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8367122
Fluoranthene	ug/g	<0.0050	0.0050	8367122	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8367122
Fluorene	ug/g	<0.0050	0.0050	8367122	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8367122
Indeno(1,2,3-cd)pyrene	ug/g	<0.0050	0.0050	8367122	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8367122
1-Methylnaphthalene	ug/g	<0.0050	0.0050	8367122	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8367122
2-Methylnaphthalene	ug/g	<0.0050	0.0050	8367122	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8367122
Naphthalene	ug/g	<0.0050	0.0050	8367122	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8367122
Phenanthrene	ug/g	<0.0050	0.0050	8367122	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8367122
Pyrene	ug/g	<0.0050	0.0050	8367122	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8367122
Surrogate Recovery (%)										
D10-Anthracene	%	102		8367122	101	101	99	102		8367122
D14-Terphenyl (FS)	%	107		8367122	107	106	104	109		8367122
D8-Acenaphthylene	%	103		8367122	103	103	101	105		8367122

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Bureau Veritas Job #: C2Y0178
Report Date: 2022/11/29

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

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

Bureau Veritas ID		UIT863			UIT863		
Sampling Date		2022/11/16			2022/11/16		
COC Number		n/a			n/a		
	UNITS	BH1/5	RDL	QC Batch	BH1/5 Lab-Dup	RDL	QC Batch
Inorganics							
Moisture	%	18	1.0	8363098	16	1.0	8363098
BTEX & F1 Hydrocarbons							
Benzene	ug/g	<0.020	0.020	8363828	<0.020	0.020	8363828
Toluene	ug/g	<0.020	0.020	8363828	<0.020	0.020	8363828
Ethylbenzene	ug/g	<0.020	0.020	8363828	<0.020	0.020	8363828
o-Xylene	ug/g	<0.020	0.020	8363828	<0.020	0.020	8363828
p+m-Xylene	ug/g	<0.040	0.040	8363828	<0.040	0.040	8363828
Total Xylenes	ug/g	<0.040	0.040	8363828	<0.040	0.040	8363828
F1 (C6-C10)	ug/g	<10	10	8363828	<10	10	8363828
F1 (C6-C10) - BTEX	ug/g	<10	10	8363828	<10	10	8363828
F2-F4 Hydrocarbons							
F2 (C10-C16 Hydrocarbons)	ug/g	<10	10	8369921			
F3 (C16-C34 Hydrocarbons)	ug/g	<50	50	8369921			
F4 (C34-C50 Hydrocarbons)	ug/g	<50	50	8369921			
Reached Baseline at C50	ug/g	Yes		8369921			
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	99		8363828	101		8363828
4-Bromofluorobenzene	%	98		8363828	98		8363828
D10-o-Xylene	%	93		8363828	95		8363828
D4-1,2-Dichloroethane	%	86		8363828	85		8363828
o-Terphenyl	%	79		8369921			

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

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Bureau Veritas Job #: C2Y0178
Report Date: 2022/11/29

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

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

Bureau Veritas ID		UIT856	UIT859	UIT862	UIT873		
Sampling Date		2022/11/16	2022/11/17	2022/11/18	2022/11/18		
COC Number		n/a	n/a	n/a	n/a		
	UNITS	BH2/10	BH3/7	BH5/6	BH4/7	RDL	QC Batch
Inorganics							
Moisture	%	8.1	11	8.6	7.7	1.0	8363098
Calculated Parameters							
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	8356234
Volatile Organics							
Acetone (2-Propanone)	ug/g	<0.49	<0.49	<0.49	<0.49	0.49	8358762
Benzene	ug/g	<0.0060	<0.0060	<0.0060	<0.0060	0.0060	8358762
Bromodichloromethane	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	8358762
Bromoform	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	8358762
Bromomethane	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	8358762
Carbon Tetrachloride	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	8358762
Chlorobenzene	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	8358762
Chloroform	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	8358762
Dibromochloromethane	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	8358762
1,2-Dichlorobenzene	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	8358762
1,3-Dichlorobenzene	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	8358762
1,4-Dichlorobenzene	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	8358762
Dichlorodifluoromethane (FREON 12)	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	8358762
1,1-Dichloroethane	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	8358762
1,2-Dichloroethane	ug/g	<0.049	<0.049	<0.049	<0.049	0.049	8358762
1,1-Dichloroethylene	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	8358762
cis-1,2-Dichloroethylene	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	8358762
trans-1,2-Dichloroethylene	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	8358762
1,2-Dichloropropane	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	8358762
cis-1,3-Dichloropropene	ug/g	<0.030	<0.030	<0.030	<0.030	0.030	8358762
trans-1,3-Dichloropropene	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	8358762
Ethylbenzene	ug/g	<0.010	<0.010	<0.010	<0.010	0.010	8358762
Ethylene Dibromide	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	8358762
Hexane	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	8358762
Methylene Chloride(Dichloromethane)	ug/g	<0.049	<0.049	<0.049	<0.049	0.049	8358762
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.40	<0.40	<0.40	<0.40	0.40	8358762
Methyl Isobutyl Ketone	ug/g	<0.40	<0.40	<0.40	<0.40	0.40	8358762
Methyl t-butyl ether (MTBE)	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	8358762
Styrene	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	8358762
1,1,1,2-Tetrachloroethane	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	8358762

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Bureau Veritas Job #: C2Y0178
Report Date: 2022/11/29

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

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

Bureau Veritas ID		UIT856	UIT859	UIT862	UIT873		
Sampling Date		2022/11/16	2022/11/17	2022/11/18	2022/11/18		
COC Number		n/a	n/a	n/a	n/a		
	UNITS	BH2/10	BH3/7	BH5/6	BH4/7	RDL	QC Batch
1,1,2,2-Tetrachloroethane	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	8358762
Tetrachloroethylene	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	8358762
Toluene	ug/g	<0.020	<0.020	<0.020	<0.020	0.020	8358762
1,1,1-Trichloroethane	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	8358762
1,1,2-Trichloroethane	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	8358762
Trichloroethylene	ug/g	<0.010	<0.010	<0.010	<0.010	0.010	8358762
Trichlorofluoromethane (FREON 11)	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	8358762
Vinyl Chloride	ug/g	<0.019	<0.019	<0.019	<0.019	0.019	8358762
p+m-Xylene	ug/g	<0.020	<0.020	<0.020	<0.020	0.020	8358762
o-Xylene	ug/g	<0.020	<0.020	<0.020	<0.020	0.020	8358762
Total Xylenes	ug/g	<0.020	<0.020	<0.020	<0.020	0.020	8358762
F1 (C6-C10)	ug/g	<10	<10	<10	<10	10	8358762
F1 (C6-C10) - BTEX	ug/g	<10	<10	<10	<10	10	8358762
F2-F4 Hydrocarbons							
F2 (C10-C16 Hydrocarbons)	ug/g	<10	<10	<10	<10	10	8369921
F3 (C16-C34 Hydrocarbons)	ug/g	<50	<50	<50	<50	50	8369921
F4 (C34-C50 Hydrocarbons)	ug/g	<50	<50	<50	<50	50	8369921
Reached Baseline at C50	ug/g	Yes	Yes	Yes	Yes		8369921
Surrogate Recovery (%)							
o-Terphenyl	%	70	77	86	86		8369921
4-Bromofluorobenzene	%	93	91	93	93		8358762
D10-o-Xylene	%	119	111	115	103		8358762
D4-1,2-Dichloroethane	%	107	106	108	107		8358762
D8-Toluene	%	97	97	95	97		8358762

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O.REG 153 VOCS BY HS (SOIL)

Bureau Veritas ID		UIT864			UIT864		
Sampling Date		2022/11/16			2022/11/16		
COC Number		n/a			n/a		
	UNITS	BH1/6	RDL	QC Batch	BH1/6 Lab-Dup	RDL	QC Batch
Inorganics							
Moisture	%	21	1.0	8357933	20	1.0	8357933
Calculated Parameters							
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	0.050	8356234			
Volatile Organics							
Acetone (2-Propanone)	ug/g	<0.49	0.49	8356706			
Benzene	ug/g	<0.0060	0.0060	8356706			
Bromodichloromethane	ug/g	<0.040	0.040	8356706			
Bromoform	ug/g	<0.040	0.040	8356706			
Bromomethane	ug/g	<0.040	0.040	8356706			
Carbon Tetrachloride	ug/g	<0.040	0.040	8356706			
Chlorobenzene	ug/g	<0.040	0.040	8356706			
Chloroform	ug/g	<0.040	0.040	8356706			
Dibromochloromethane	ug/g	<0.040	0.040	8356706			
1,2-Dichlorobenzene	ug/g	<0.040	0.040	8356706			
1,3-Dichlorobenzene	ug/g	<0.040	0.040	8356706			
1,4-Dichlorobenzene	ug/g	<0.040	0.040	8356706			
Dichlorodifluoromethane (FREON 12)	ug/g	<0.040	0.040	8356706			
1,1-Dichloroethane	ug/g	<0.040	0.040	8356706			
1,2-Dichloroethane	ug/g	<0.049	0.049	8356706			
1,1-Dichloroethylene	ug/g	<0.040	0.040	8356706			
cis-1,2-Dichloroethylene	ug/g	<0.040	0.040	8356706			
trans-1,2-Dichloroethylene	ug/g	<0.040	0.040	8356706			
1,2-Dichloropropane	ug/g	<0.040	0.040	8356706			
cis-1,3-Dichloropropene	ug/g	<0.030	0.030	8356706			
trans-1,3-Dichloropropene	ug/g	<0.040	0.040	8356706			
Ethylbenzene	ug/g	<0.010	0.010	8356706			
Ethylene Dibromide	ug/g	<0.040	0.040	8356706			
Hexane	ug/g	<0.040	0.040	8356706			
Methylene Chloride(Dichloromethane)	ug/g	<0.049	0.049	8356706			
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.40	0.40	8356706			
Methyl Isobutyl Ketone	ug/g	<0.40	0.40	8356706			
Methyl t-butyl ether (MTBE)	ug/g	<0.040	0.040	8356706			
Styrene	ug/g	<0.040	0.040	8356706			
1,1,1,2-Tetrachloroethane	ug/g	<0.040	0.040	8356706			

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

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O.REG 153 VOCS BY HS (SOIL)

Bureau Veritas ID		UIT864			UIT864		
Sampling Date		2022/11/16			2022/11/16		
COC Number		n/a			n/a		
	UNITS	BH1/6	RDL	QC Batch	BH1/6 Lab-Dup	RDL	QC Batch
1,1,2,2-Tetrachloroethane	ug/g	<0.040	0.040	8356706			
Tetrachloroethylene	ug/g	<0.040	0.040	8356706			
Toluene	ug/g	<0.020	0.020	8356706			
1,1,1-Trichloroethane	ug/g	<0.040	0.040	8356706			
1,1,2-Trichloroethane	ug/g	<0.040	0.040	8356706			
Trichloroethylene	ug/g	<0.010	0.010	8356706			
Trichlorofluoromethane (FREON 11)	ug/g	<0.040	0.040	8356706			
Vinyl Chloride	ug/g	<0.019	0.019	8356706			
p+m-Xylene	ug/g	<0.020	0.020	8356706			
o-Xylene	ug/g	<0.020	0.020	8356706			
Total Xylenes	ug/g	<0.020	0.020	8356706			
Surrogate Recovery (%)							
4-Bromofluorobenzene	%	99		8356706			
D10-o-Xylene	%	111		8356706			
D4-1,2-Dichloroethane	%	100		8356706			
D8-Toluene	%	102		8356706			

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

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Bureau Veritas Job #: C2Y0178
Report Date: 2022/11/29

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

TEST SUMMARY

Bureau Veritas ID: UIT856
Sample ID: BH2/10
Matrix: Soil

Collected: 2022/11/16
Shipped:
Received: 2022/11/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8356233	N/A	2022/11/26	Automated Statchk
1,3-Dichloropropene Sum	CALC	8356234	N/A	2022/11/24	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8369921	2022/11/27	2022/11/28	Dennis Ngondu
Moisture	BAL	8363098	N/A	2022/11/23	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8367122	2022/11/25	2022/11/25	Mitesh Raj
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8358762	N/A	2022/11/22	Denis Reid

Bureau Veritas ID: UIT857
Sample ID: BH2/9
Matrix: Soil

Collected: 2022/11/16
Shipped:
Received: 2022/11/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractable Metals by ICPMS	ICP/MS	8363470	2022/11/23	2022/11/24	Viviana Canzonieri

Bureau Veritas ID: UIT858
Sample ID: BH3/6
Matrix: Soil

Collected: 2022/11/17
Shipped:
Received: 2022/11/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractable Metals by ICPMS	ICP/MS	8363470	2022/11/23	2022/11/24	Viviana Canzonieri

Bureau Veritas ID: UIT859
Sample ID: BH3/7
Matrix: Soil

Collected: 2022/11/17
Shipped:
Received: 2022/11/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	8356234	N/A	2022/11/24	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8369921	2022/11/27	2022/11/28	Dennis Ngondu
Moisture	BAL	8363098	N/A	2022/11/23	Simrat Bhathal
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8358762	N/A	2022/11/22	Denis Reid

Bureau Veritas ID: UIT860
Sample ID: BH3/8
Matrix: Soil

Collected: 2022/11/17
Shipped:
Received: 2022/11/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8356233	N/A	2022/11/26	Automated Statchk
Moisture	BAL	8363098	N/A	2022/11/23	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8367122	2022/11/25	2022/11/25	Mitesh Raj

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Bureau Veritas Job #: C2Y0178
Report Date: 2022/11/29

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

TEST SUMMARY

Bureau Veritas ID: UIT861
Sample ID: BH5/7
Matrix: Soil

Collected: 2022/11/18
Shipped:
Received: 2022/11/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8356233	N/A	2022/11/26	Automated Statchk
Moisture	BAL	8363098	N/A	2022/11/23	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8367122	2022/11/25	2022/11/25	Mitesh Raj

Bureau Veritas ID: UIT862
Sample ID: BH5/6
Matrix: Soil

Collected: 2022/11/18
Shipped:
Received: 2022/11/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	8356234	N/A	2022/11/24	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8369921	2022/11/27	2022/11/28	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8363618	2022/11/23	2022/11/24	Viviana Canzonieri
Moisture	BAL	8363098	N/A	2022/11/23	Simrat Bhathal
pH CaCl2 EXTRACT	AT	8365043	2022/11/24	2022/11/24	Taslima Aktar
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8358762	N/A	2022/11/22	Denis Reid

Bureau Veritas ID: UIT863
Sample ID: BH1/5
Matrix: Soil

Collected: 2022/11/16
Shipped:
Received: 2022/11/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8363828	N/A	2022/11/24	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8369921	2022/11/27	2022/11/28	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8363470	2022/11/23	2022/11/24	Viviana Canzonieri
Moisture	BAL	8363098	N/A	2022/11/23	Simrat Bhathal

Bureau Veritas ID: UIT863 Dup
Sample ID: BH1/5
Matrix: Soil

Collected: 2022/11/16
Shipped:
Received: 2022/11/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8363828	N/A	2022/11/24	Georgeta Rusu
Acid Extractable Metals by ICPMS	ICP/MS	8363470	2022/11/23	2022/11/24	Viviana Canzonieri
Moisture	BAL	8363098	N/A	2022/11/23	Simrat Bhathal

Bureau Veritas ID: UIT864
Sample ID: BH1/6
Matrix: Soil

Collected: 2022/11/16
Shipped:
Received: 2022/11/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	8356234	N/A	2022/11/22	Automated Statchk
Moisture	BAL	8357933	N/A	2022/11/21	Muhammad Chhaidan
Volatile Organic Compounds in Soil	GC/MS	8356706	N/A	2022/11/20	Gladys Guerrero

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Bureau Veritas Job #: C2Y0178
Report Date: 2022/11/29

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

TEST SUMMARY

Bureau Veritas ID: UIT864 Dup
Sample ID: BH1/6
Matrix: Soil

Collected: 2022/11/16
Shipped:
Received: 2022/11/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	8357933	N/A	2022/11/21	Muhammad Chhaidan

Bureau Veritas ID: UIT867
Sample ID: DUPS3
Matrix: Soil

Collected: 2022/11/17
Shipped:
Received: 2022/11/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractable Metals by ICPMS	ICP/MS	8363470	2022/11/23	2022/11/24	Viviana Canzonieri

Bureau Veritas ID: UIT869
Sample ID: BH1/7
Matrix: Soil

Collected: 2022/11/16
Shipped:
Received: 2022/11/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8356233	N/A	2022/11/26	Automated Statchk
Moisture	BAL	8363098	N/A	2022/11/23	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8367122	2022/11/25	2022/11/25	Mitesh Raj

Bureau Veritas ID: UIT871
Sample ID: BH4/6
Matrix: Soil

Collected: 2022/11/18
Shipped:
Received: 2022/11/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractable Metals by ICPMS	ICP/MS	8363470	2022/11/23	2022/11/24	Viviana Canzonieri

Bureau Veritas ID: UIT873
Sample ID: BH4/7
Matrix: Soil

Collected: 2022/11/18
Shipped:
Received: 2022/11/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	8356234	N/A	2022/11/24	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8369921	2022/11/27	2022/11/28	Dennis Ngondu
Moisture	BAL	8363098	N/A	2022/11/23	Simrat Bhathal
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8358762	N/A	2022/11/22	Denis Reid

Bureau Veritas ID: UIT874
Sample ID: BH4/8
Matrix: Soil

Collected: 2022/11/18
Shipped:
Received: 2022/11/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8356233	N/A	2022/11/26	Automated Statchk
Moisture	BAL	8363098	N/A	2022/11/23	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8367122	2022/11/25	2022/11/25	Mitesh Raj

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GENERAL COMMENTS

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

Package 1	1.3°C

Cooler custody seal was present and intact .

Revised Report (2022/11/29): Excel file for OEC 0036 included.

Sample UIT863 [BH1/5] : F1 BTEX analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

Results relate only to the items tested.

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Bureau Veritas Job #: C2Y0178
Report Date: 2022/11/29

QUALITY ASSURANCE REPORT

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8356706	4-Bromofluorobenzene	2022/11/20	98	60 - 140	99	60 - 140	100	%		
8356706	D10-o-Xylene	2022/11/20	98	60 - 130	112	60 - 130	117	%		
8356706	D4-1,2-Dichloroethane	2022/11/20	99	60 - 140	102	60 - 140	104	%		
8356706	D8-Toluene	2022/11/20	101	60 - 140	100	60 - 140	99	%		
8358762	4-Bromofluorobenzene	2022/11/22	100	60 - 140	100	60 - 140	92	%		
8358762	D10-o-Xylene	2022/11/22	132 (1)	60 - 130	95	60 - 130	101	%		
8358762	D4-1,2-Dichloroethane	2022/11/22	108	60 - 140	108	60 - 140	104	%		
8358762	D8-Toluene	2022/11/22	100	60 - 140	99	60 - 140	97	%		
8363828	1,4-Difluorobenzene	2022/11/24	99	60 - 140	98	60 - 140	100	%		
8363828	4-Bromofluorobenzene	2022/11/24	96	60 - 140	98	60 - 140	96	%		
8363828	D10-o-Xylene	2022/11/24	89	60 - 140	86	60 - 140	88	%		
8363828	D4-1,2-Dichloroethane	2022/11/24	83	60 - 140	85	60 - 140	86	%		
8367122	D10-Anthracene	2022/11/25	94	50 - 130	90	50 - 130	93	%		
8367122	D14-Terphenyl (FS)	2022/11/25	101	50 - 130	97	50 - 130	98	%		
8367122	D8-Acenaphthylene	2022/11/25	94	50 - 130	89	50 - 130	92	%		
8369921	o-Terphenyl	2022/11/27	75	60 - 130	98	60 - 130	80	%		
8356706	1,1,1,2-Tetrachloroethane	2022/11/20	89	60 - 140	98	60 - 130	<0.040	ug/g	NC	50
8356706	1,1,1-Trichloroethane	2022/11/20	94	60 - 140	100	60 - 130	<0.040	ug/g	NC	50
8356706	1,1,2,2-Tetrachloroethane	2022/11/20	81	60 - 140	96	60 - 130	<0.040	ug/g	NC	50
8356706	1,1,2-Trichloroethane	2022/11/20	87	60 - 140	99	60 - 130	<0.040	ug/g	NC	50
8356706	1,1-Dichloroethane	2022/11/20	90	60 - 140	96	60 - 130	<0.040	ug/g	NC	50
8356706	1,1-Dichloroethylene	2022/11/20	96	60 - 140	101	60 - 130	<0.040	ug/g	NC	50
8356706	1,2-Dichlorobenzene	2022/11/20	86	60 - 140	95	60 - 130	<0.040	ug/g	NC	50
8356706	1,2-Dichloroethane	2022/11/20	87	60 - 140	96	60 - 130	<0.049	ug/g	NC	50
8356706	1,2-Dichloropropane	2022/11/20	89	60 - 140	98	60 - 130	<0.040	ug/g	NC	50
8356706	1,3-Dichlorobenzene	2022/11/20	89	60 - 140	97	60 - 130	<0.040	ug/g	NC	50
8356706	1,4-Dichlorobenzene	2022/11/20	103	60 - 140	113	60 - 130	<0.040	ug/g	NC	50
8356706	Acetone (2-Propanone)	2022/11/20	89	60 - 140	102	60 - 140	<0.49	ug/g	NC	50
8356706	Benzene	2022/11/20	89	60 - 140	96	60 - 130	<0.0060	ug/g	NC	50
8356706	Bromodichloromethane	2022/11/20	92	60 - 140	101	60 - 130	<0.040	ug/g	NC	50
8356706	Bromoform	2022/11/20	81	60 - 140	95	60 - 130	<0.040	ug/g	NC	50

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8356706	Bromomethane	2022/11/20	90	60 - 140	95	60 - 140	<0.040	ug/g	NC	50
8356706	Carbon Tetrachloride	2022/11/20	92	60 - 140	97	60 - 130	<0.040	ug/g	NC	50
8356706	Chlorobenzene	2022/11/20	86	60 - 140	94	60 - 130	<0.040	ug/g	NC	50
8356706	Chloroform	2022/11/20	90	60 - 140	97	60 - 130	<0.040	ug/g	NC	50
8356706	cis-1,2-Dichloroethylene	2022/11/20	92	60 - 140	99	60 - 130	<0.040	ug/g	NC	50
8356706	cis-1,3-Dichloropropene	2022/11/20	92	60 - 140	99	60 - 130	<0.030	ug/g	NC	50
8356706	Dibromochloromethane	2022/11/20	85	60 - 140	96	60 - 130	<0.040	ug/g	NC	50
8356706	Dichlorodifluoromethane (FREON 12)	2022/11/20	118	60 - 140	123	60 - 140	<0.040	ug/g	NC	50
8356706	Ethylbenzene	2022/11/20	84	60 - 140	91	60 - 130	<0.010	ug/g	NC	50
8356706	Ethylene Dibromide	2022/11/20	81	60 - 140	93	60 - 130	<0.040	ug/g	NC	50
8356706	Hexane	2022/11/20	99	60 - 140	103	60 - 130	<0.040	ug/g	NC	50
8356706	Methyl Ethyl Ketone (2-Butanone)	2022/11/20	89	60 - 140	106	60 - 140	<0.40	ug/g	NC	50
8356706	Methyl Isobutyl Ketone	2022/11/20	86	60 - 140	103	60 - 130	<0.40	ug/g	NC	50
8356706	Methyl t-butyl ether (MTBE)	2022/11/20	86	60 - 140	94	60 - 130	<0.040	ug/g	NC	50
8356706	Methylene Chloride(Dichloromethane)	2022/11/20	94	60 - 140	102	60 - 130	<0.049	ug/g	NC	50
8356706	o-Xylene	2022/11/20	85	60 - 140	93	60 - 130	<0.020	ug/g	NC	50
8356706	p+m-Xylene	2022/11/20	87	60 - 140	94	60 - 130	<0.020	ug/g	NC	50
8356706	Styrene	2022/11/20	93	60 - 140	102	60 - 130	<0.040	ug/g	NC	50
8356706	Tetrachloroethylene	2022/11/20	84	60 - 140	90	60 - 130	<0.040	ug/g	NC	50
8356706	Toluene	2022/11/20	85	60 - 140	92	60 - 130	<0.020	ug/g	NC	50
8356706	Total Xylenes	2022/11/20					<0.020	ug/g	NC	50
8356706	trans-1,2-Dichloroethylene	2022/11/20	95	60 - 140	101	60 - 130	<0.040	ug/g	NC	50
8356706	trans-1,3-Dichloropropene	2022/11/20	94	60 - 140	101	60 - 130	<0.040	ug/g	NC	50
8356706	Trichloroethylene	2022/11/20	95	60 - 140	101	60 - 130	<0.010	ug/g	NC	50
8356706	Trichlorofluoromethane (FREON 11)	2022/11/20	93	60 - 140	98	60 - 130	<0.040	ug/g	NC	50
8356706	Vinyl Chloride	2022/11/20	91	60 - 140	95	60 - 130	<0.019	ug/g	NC	50
8357933	Moisture	2022/11/21							3.9	20
8358762	1,1,1,2-Tetrachloroethane	2022/11/23	101	60 - 140	100	60 - 130	<0.040	ug/g	NC	50
8358762	1,1,1-Trichloroethane	2022/11/23	97	60 - 140	95	60 - 130	<0.040	ug/g	NC	50
8358762	1,1,2,2-Tetrachloroethane	2022/11/23	111	60 - 140	113	60 - 130	<0.040	ug/g	NC	50
8358762	1,1,2-Trichloroethane	2022/11/23	107	60 - 140	106	60 - 130	<0.040	ug/g	NC	50

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Bureau Veritas Job #: C2Y0178
Report Date: 2022/11/29

QUALITY ASSURANCE REPORT(CONT'D)

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8358762	1,1-Dichloroethane	2022/11/23	95	60 - 140	93	60 - 130	<0.040	ug/g	NC	50
8358762	1,1-Dichloroethylene	2022/11/23	97	60 - 140	95	60 - 130	<0.040	ug/g	NC	50
8358762	1,2-Dichlorobenzene	2022/11/23	90	60 - 140	89	60 - 130	<0.040	ug/g	NC	50
8358762	1,2-Dichloroethane	2022/11/23	100	60 - 140	98	60 - 130	<0.049	ug/g	NC	50
8358762	1,2-Dichloropropane	2022/11/23	98	60 - 140	96	60 - 130	<0.040	ug/g	NC	50
8358762	1,3-Dichlorobenzene	2022/11/23	92	60 - 140	90	60 - 130	<0.040	ug/g	NC	50
8358762	1,4-Dichlorobenzene	2022/11/23	105	60 - 140	99	60 - 130	<0.040	ug/g	NC	50
8358762	Acetone (2-Propanone)	2022/11/23	107	60 - 140	106	60 - 140	<0.49	ug/g	NC	50
8358762	Benzene	2022/11/23	91	60 - 140	89	60 - 130	<0.0060	ug/g	NC	50
8358762	Bromodichloromethane	2022/11/23	105	60 - 140	104	60 - 130	<0.040	ug/g	NC	50
8358762	Bromoform	2022/11/23	110	60 - 140	112	60 - 130	<0.040	ug/g	NC	50
8358762	Bromomethane	2022/11/23	90	60 - 140	90	60 - 140	<0.040	ug/g	NC	50
8358762	Carbon Tetrachloride	2022/11/23	101	60 - 140	99	60 - 130	<0.040	ug/g	NC	50
8358762	Chlorobenzene	2022/11/23	95	60 - 140	93	60 - 130	<0.040	ug/g	NC	50
8358762	Chloroform	2022/11/23	100	60 - 140	98	60 - 130	<0.040	ug/g	NC	50
8358762	cis-1,2-Dichloroethylene	2022/11/23	99	60 - 140	98	60 - 130	<0.040	ug/g	NC	50
8358762	cis-1,3-Dichloropropene	2022/11/23	87	60 - 140	87	60 - 130	<0.030	ug/g	NC	50
8358762	Dibromochloromethane	2022/11/23	105	60 - 140	135 (2)	60 - 130	<0.040	ug/g	NC	50
8358762	Dichlorodifluoromethane (FREON 12)	2022/11/23	92	60 - 140	94	60 - 140	<0.040	ug/g	NC	50
8358762	Ethylbenzene	2022/11/23	89	60 - 140	86	60 - 130	<0.010	ug/g	NC	50
8358762	Ethylene Dibromide	2022/11/23	97	60 - 140	97	60 - 130	<0.040	ug/g	NC	50
8358762	F1 (C6-C10) - BTEX	2022/11/23					<10	ug/g	NC	30
8358762	F1 (C6-C10)	2022/11/23	101	60 - 140	94	80 - 120	<10	ug/g	NC	30
8358762	Hexane	2022/11/23	94	60 - 140	94	60 - 130	<0.040	ug/g	NC	50
8358762	Methyl Ethyl Ketone (2-Butanone)	2022/11/23	108	60 - 140	110	60 - 140	<0.40	ug/g	NC	50
8358762	Methyl Isobutyl Ketone	2022/11/23	102	60 - 140	106	60 - 130	<0.40	ug/g	NC	50
8358762	Methyl t-butyl ether (MTBE)	2022/11/23	87	60 - 140	85	60 - 130	<0.040	ug/g	NC	50
8358762	Methylene Chloride(Dichloromethane)	2022/11/23	101	60 - 140	100	60 - 130	<0.049	ug/g	NC	50
8358762	o-Xylene	2022/11/23	90	60 - 140	87	60 - 130	<0.020	ug/g	NC	50
8358762	p+m-Xylene	2022/11/23	90	60 - 140	87	60 - 130	<0.020	ug/g	NC	50
8358762	Styrene	2022/11/23	99	60 - 140	97	60 - 130	<0.040	ug/g	NC	50

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8358762	Tetrachloroethylene	2022/11/23	90	60 - 140	87	60 - 130	<0.040	ug/g	NC	50
8358762	Toluene	2022/11/23	93	60 - 140	91	60 - 130	<0.020	ug/g	NC	50
8358762	Total Xylenes	2022/11/23					<0.020	ug/g	NC	50
8358762	trans-1,2-Dichloroethylene	2022/11/23	96	60 - 140	93	60 - 130	<0.040	ug/g	NC	50
8358762	trans-1,3-Dichloropropene	2022/11/23	90	60 - 140	88	60 - 130	<0.040	ug/g	NC	50
8358762	Trichloroethylene	2022/11/23	100	60 - 140	97	60 - 130	<0.010	ug/g	NC	50
8358762	Trichlorofluoromethane (FREON 11)	2022/11/23	95	60 - 140	94	60 - 130	<0.040	ug/g	NC	50
8358762	Vinyl Chloride	2022/11/23	83	60 - 140	84	60 - 130	<0.019	ug/g	NC	50
8363098	Moisture	2022/11/23							6.5	20
8363470	Acid Extractable Antimony (Sb)	2022/11/24	97	75 - 125	104	80 - 120	<0.20	ug/g	NC	30
8363470	Acid Extractable Arsenic (As)	2022/11/24	97	75 - 125	100	80 - 120	<1.0	ug/g	3.9	30
8363470	Acid Extractable Barium (Ba)	2022/11/24	NC	75 - 125	105	80 - 120	<0.50	ug/g	0.74	30
8363470	Acid Extractable Beryllium (Be)	2022/11/24	97	75 - 125	98	80 - 120	<0.20	ug/g	1.7	30
8363470	Acid Extractable Boron (B)	2022/11/24	97	75 - 125	101	80 - 120	<5.0	ug/g	1.9	30
8363470	Acid Extractable Cadmium (Cd)	2022/11/24	99	75 - 125	101	80 - 120	<0.10	ug/g	NC	30
8363470	Acid Extractable Chromium (Cr)	2022/11/24	97	75 - 125	99	80 - 120	<1.0	ug/g	0.66	30
8363470	Acid Extractable Cobalt (Co)	2022/11/24	96	75 - 125	102	80 - 120	<0.10	ug/g	0.76	30
8363470	Acid Extractable Copper (Cu)	2022/11/24	97	75 - 125	102	80 - 120	<0.50	ug/g	3.4	30
8363470	Acid Extractable Lead (Pb)	2022/11/24	97	75 - 125	102	80 - 120	<1.0	ug/g	0.45	30
8363470	Acid Extractable Mercury (Hg)	2022/11/24	91	75 - 125	94	80 - 120	<0.050	ug/g	NC	30
8363470	Acid Extractable Molybdenum (Mo)	2022/11/24	102	75 - 125	99	80 - 120	<0.50	ug/g	NC	30
8363470	Acid Extractable Nickel (Ni)	2022/11/24	97	75 - 125	102	80 - 120	<0.50	ug/g	7.4	30
8363470	Acid Extractable Selenium (Se)	2022/11/24	98	75 - 125	102	80 - 120	<0.50	ug/g	NC	30
8363470	Acid Extractable Silver (Ag)	2022/11/24	98	75 - 125	100	80 - 120	<0.20	ug/g	NC	30
8363470	Acid Extractable Thallium (Tl)	2022/11/24	98	75 - 125	104	80 - 120	<0.050	ug/g	18	30
8363470	Acid Extractable Uranium (U)	2022/11/24	100	75 - 125	103	80 - 120	<0.050	ug/g	1.3	30
8363470	Acid Extractable Vanadium (V)	2022/11/24	104	75 - 125	99	80 - 120	<5.0	ug/g	0.34	30
8363470	Acid Extractable Zinc (Zn)	2022/11/24	NC	75 - 125	104	80 - 120	<5.0	ug/g	3.1	30
8363618	Acid Extractable Antimony (Sb)	2022/11/24	101	75 - 125	102	80 - 120	<0.20	ug/g	NC	30
8363618	Acid Extractable Arsenic (As)	2022/11/24	98	75 - 125	100	80 - 120	<1.0	ug/g	NC	30
8363618	Acid Extractable Barium (Ba)	2022/11/24	94	75 - 125	100	80 - 120	<0.50	ug/g	4.6	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8363618	Acid Extractable Beryllium (Be)	2022/11/24	98	75 - 125	97	80 - 120	<0.20	ug/g	NC	30
8363618	Acid Extractable Boron (B)	2022/11/24	96	75 - 125	98	80 - 120	<5.0	ug/g	NC	30
8363618	Acid Extractable Cadmium (Cd)	2022/11/24	99	75 - 125	99	80 - 120	<0.10	ug/g	NC	30
8363618	Acid Extractable Chromium (Cr)	2022/11/24	96	75 - 125	100	80 - 120	<1.0	ug/g	4.4	30
8363618	Acid Extractable Cobalt (Co)	2022/11/24	98	75 - 125	99	80 - 120	<0.10	ug/g	13	30
8363618	Acid Extractable Copper (Cu)	2022/11/24	98	75 - 125	102	80 - 120	<0.50	ug/g	1.7	30
8363618	Acid Extractable Lead (Pb)	2022/11/24	99	75 - 125	103	80 - 120	<1.0	ug/g	NC	30
8363618	Acid Extractable Mercury (Hg)	2022/11/24	91	75 - 125	97	80 - 120	<0.050	ug/g	NC	30
8363618	Acid Extractable Molybdenum (Mo)	2022/11/24	100	75 - 125	101	80 - 120	<0.50	ug/g	NC	30
8363618	Acid Extractable Nickel (Ni)	2022/11/24	100	75 - 125	101	80 - 120	<0.50	ug/g	7.0	30
8363618	Acid Extractable Selenium (Se)	2022/11/24	102	75 - 125	100	80 - 120	<0.50	ug/g	NC	30
8363618	Acid Extractable Silver (Ag)	2022/11/24	101	75 - 125	101	80 - 120	<0.20	ug/g	NC	30
8363618	Acid Extractable Thallium (Tl)	2022/11/24	101	75 - 125	103	80 - 120	<0.050	ug/g	NC	30
8363618	Acid Extractable Uranium (U)	2022/11/24	104	75 - 125	104	80 - 120	<0.050	ug/g	1.9	30
8363618	Acid Extractable Vanadium (V)	2022/11/24	96	75 - 125	97	80 - 120	<5.0	ug/g	2.3	30
8363618	Acid Extractable Zinc (Zn)	2022/11/24	100	75 - 125	100	80 - 120	<5.0	ug/g	2.8	30
8363828	Benzene	2022/11/24	80	50 - 140	79	50 - 140	<0.020	ug/g	NC	50
8363828	Ethylbenzene	2022/11/24	81	50 - 140	79	50 - 140	<0.020	ug/g	NC	50
8363828	F1 (C6-C10) - BTEX	2022/11/24					<10	ug/g	NC	30
8363828	F1 (C6-C10)	2022/11/24	86	60 - 140	89	80 - 120	<10	ug/g	NC	30
8363828	o-Xylene	2022/11/24	88	50 - 140	86	50 - 140	<0.020	ug/g	NC	50
8363828	p+m-Xylene	2022/11/24	89	50 - 140	84	50 - 140	<0.040	ug/g	NC	50
8363828	Toluene	2022/11/24	82	50 - 140	80	50 - 140	<0.020	ug/g	NC	50
8363828	Total Xylenes	2022/11/24					<0.040	ug/g	NC	50
8365043	Available (CaCl2) pH	2022/11/24			100	97 - 103			1.3	N/A
8367122	1-Methylnaphthalene	2022/11/25	83	50 - 130	84	50 - 130	<0.0050	ug/g	NC	40
8367122	2-Methylnaphthalene	2022/11/25	78	50 - 130	79	50 - 130	<0.0050	ug/g	NC	40
8367122	Acenaphthene	2022/11/25	92	50 - 130	88	50 - 130	<0.0050	ug/g	NC	40
8367122	Acenaphthylene	2022/11/25	90	50 - 130	85	50 - 130	<0.0050	ug/g	NC	40
8367122	Anthracene	2022/11/25	92	50 - 130	88	50 - 130	<0.0050	ug/g	NC	40
8367122	Benzo(a)anthracene	2022/11/25	103	50 - 130	90	50 - 130	<0.0050	ug/g	NC	40

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8367122	Benzo(a)pyrene	2022/11/25	98	50 - 130	88	50 - 130	<0.0050	ug/g	NC	40
8367122	Benzo(b/j)fluoranthene	2022/11/25	94	50 - 130	88	50 - 130	<0.0050	ug/g	NC	40
8367122	Benzo(g,h,i)perylene	2022/11/25	105	50 - 130	96	50 - 130	<0.0050	ug/g	NC	40
8367122	Benzo(k)fluoranthene	2022/11/25	93	50 - 130	85	50 - 130	<0.0050	ug/g	NC	40
8367122	Chrysene	2022/11/25	94	50 - 130	88	50 - 130	<0.0050	ug/g	NC	40
8367122	Dibenzo(a,h)anthracene	2022/11/25	98	50 - 130	83	50 - 130	<0.0050	ug/g	NC	40
8367122	Fluoranthene	2022/11/25	100	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
8367122	Fluorene	2022/11/25	98	50 - 130	92	50 - 130	<0.0050	ug/g	NC	40
8367122	Indeno(1,2,3-cd)pyrene	2022/11/25	98	50 - 130	89	50 - 130	<0.0050	ug/g	NC	40
8367122	Naphthalene	2022/11/25	77	50 - 130	83	50 - 130	<0.0050	ug/g	NC	40
8367122	Phenanthrene	2022/11/25	91	50 - 130	86	50 - 130	<0.0050	ug/g	NC	40
8367122	Pyrene	2022/11/25	96	50 - 130	91	50 - 130	<0.0050	ug/g	NC	40
8369921	F2 (C10-C16 Hydrocarbons)	2022/11/28	79	60 - 130	98	80 - 120	<10	ug/g	NC	30
8369921	F3 (C16-C34 Hydrocarbons)	2022/11/28	80	60 - 130	104	80 - 120	<50	ug/g	NC	30
8369921	F4 (C34-C50 Hydrocarbons)	2022/11/28	79	60 - 130	104	80 - 120	<50	ug/g	NC	30

N/A = Not Applicable

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

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

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

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

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

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

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

(1) The recovery for the extraction surrogate compound was above the upper control limit for duplicate analyses of the soil sample. Visible loss of methanol was observed in this sample. As a result, there is an increased level of uncertainty associated with the values reported for this sample.

(2) 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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Bureau Veritas Job #: C2Y0178
Report Date: 2022/11/29

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

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 {0}, {1} responsible for {2} {3} laboratory operations.

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Your Project #: 2206-E054
Site Location: ERIN
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: 2022/11/30
Report #: R7410888
Version: 3 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2Y3355
Received: 2022/11/22, 17:47

Sample Matrix: Soil
Samples Received: 12

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum	3	N/A	2022/11/29	CAM SOP-00301	EPA 8270D m
1,3-Dichloropropene Sum	3	N/A	2022/11/28		EPA 8260C m
Acid Extractables by GC/MS	1	2022/11/29	2022/11/30	CAM SOP-00332	EPA 8270E m
Petroleum Hydro. CCME F1 & BTEX in Soil (1)	3	N/A	2022/11/28	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydro. CCME F1 & BTEX in Soil (1)	2	N/A	2022/11/29	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Soil (2)	8	2022/11/28	2022/11/29	CAM SOP-00316	CCME CWS m
Acid Extractable Metals by ICPMS	5	2022/11/25	2022/11/26	CAM SOP-00447	EPA 6020B m
Moisture	10	N/A	2022/11/24	CAM SOP-00445	Carter 2nd ed 51.2 m
OC Pesticides (Selected) & PCB (3)	1	2022/11/28	2022/11/29	CAM SOP-00307	SW846 8081, 8082
OC Pesticides Summed Parameters	1	N/A	2022/11/25	CAM SOP-00307	EPA 8081/8082 m
PAH Compounds in Soil by GC/MS (SIM)	3	2022/11/28	2022/11/29	CAM SOP-00318	EPA 8270D m
pH CaCl2 EXTRACT	2	2022/11/25	2022/11/25	CAM SOP-00413	EPA 9045 D m
Volatile Organic Compounds and F1 PHCs	3	N/A	2022/11/27	CAM SOP-00230	EPA 8260C m

Remarks:

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

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

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

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

Your Project #: 2206-E054
Site Location: ERIN
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: 2022/11/30
Report #: R7410888
Version: 3 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2Y3355

Received: 2022/11/22, 17:47

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) 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.
(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
30 Nov 2022 17:21:52

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

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

Bureau Veritas Job #: C2Y3355
Report Date: 2022/11/30

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

O.REG 153 CHLOROPHENOLS (SOIL)

Bureau Veritas ID		UJM450		
Sampling Date		2022/11/22		
COC Number		N/A		
	UNITS	BH6/6	RDL	QC Batch
Phenolics				
2-Chlorophenol	ug/g	<0.05	0.05	8374034
2,4-Dichlorophenol	ug/g	<0.05	0.05	8374034
2,4,6-Trichlorophenol	ug/g	<0.05	0.05	8374034
Pentachlorophenol	ug/g	<0.05	0.05	8374034
2,4,5-Trichlorophenol	ug/g	<0.05	0.05	8374034
3 & 4-Chlorophenol	ug/g	<0.05	0.05	8374034
Surrogate Recovery (%)				
2,4,6-Tribromophenol	%	84		8374034
2-Fluorophenol	%	70		8374034
D5-Phenol	%	76		8374034

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Bureau Veritas Job #: C2Y3355
Report Date: 2022/11/30

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

O.REG 153 ICPMS METALS (SOIL)

Bureau Veritas ID		UJM449	UJM452	UJM453	UJM456	UJM460		
Sampling Date		2022/11/22	2022/11/22	2022/11/22	2022/11/22	2022/11/22		
COC Number		N/A	N/A	N/A	N/A	N/A		
	UNITS	BH6/4	BH10/1	BH11/1	BH7/6	BH8/7	RDL	QC Batch
Metals								
Acid Extractable Antimony (Sb)	ug/g	<0.20	<0.20	<0.20	<0.20	0.38	0.20	8367267
Acid Extractable Arsenic (As)	ug/g	<1.0	1.7	2.7	1.5	4.4	1.0	8367267
Acid Extractable Barium (Ba)	ug/g	12	17	37	27	12	0.50	8367267
Acid Extractable Beryllium (Be)	ug/g	<0.20	<0.20	0.26	0.25	<0.20	0.20	8367267
Acid Extractable Boron (B)	ug/g	<5.0	<5.0	<5.0	<5.0	12	5.0	8367267
Acid Extractable Cadmium (Cd)	ug/g	<0.10	0.12	0.13	<0.10	0.23	0.10	8367267
Acid Extractable Chromium (Cr)	ug/g	5.5	9.9	10	11	7.4	1.0	8367267
Acid Extractable Cobalt (Co)	ug/g	2.0	3.4	3.6	4.4	4.3	0.10	8367267
Acid Extractable Copper (Cu)	ug/g	6.8	13	10	11	27	0.50	8367267
Acid Extractable Lead (Pb)	ug/g	2.9	7.5	19	4.0	57	1.0	8367267
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	<0.50	<0.50	<0.50	1.8	0.50	8367267
Acid Extractable Nickel (Ni)	ug/g	4.2	6.8	6.6	8.7	9.9	0.50	8367267
Acid Extractable Selenium (Se)	ug/g	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	8367267
Acid Extractable Silver (Ag)	ug/g	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	8367267
Acid Extractable Thallium (Tl)	ug/g	<0.050	0.066	0.062	0.052	0.16	0.050	8367267
Acid Extractable Uranium (U)	ug/g	0.27	0.40	0.32	0.41	0.44	0.050	8367267
Acid Extractable Vanadium (V)	ug/g	12	23	23	20	10	5.0	8367267
Acid Extractable Zinc (Zn)	ug/g	29	99	59	21	130	5.0	8367267
Acid Extractable Mercury (Hg)	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	8367267

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O.REG 153 OC PESTICIDES (SOIL)

Bureau Veritas ID		UJM456		
Sampling Date		2022/11/22		
COC Number		N/A		
	UNITS	BH7/6	RDL	QC Batch
Inorganics				
Moisture	%	16	1.0	8366932
Calculated Parameters				
Chlordane (Total)	ug/g	<0.0020	0.0020	8362250
o,p-DDD + p,p-DDD	ug/g	<0.0020	0.0020	8362250
o,p-DDE + p,p-DDE	ug/g	<0.0020	0.0020	8362250
o,p-DDT + p,p-DDT	ug/g	<0.0020	0.0020	8362250
Total Endosulfan	ug/g	<0.0020	0.0020	8362250
Pesticides & Herbicides				
Aldrin	ug/g	<0.0020	0.0020	8372432
a-Chlordane	ug/g	<0.0020	0.0020	8372432
g-Chlordane	ug/g	<0.0020	0.0020	8372432
o,p-DDD	ug/g	<0.0020	0.0020	8372432
p,p-DDD	ug/g	<0.0020	0.0020	8372432
o,p-DDE	ug/g	<0.0020	0.0020	8372432
p,p-DDE	ug/g	<0.0020	0.0020	8372432
o,p-DDT	ug/g	<0.0020	0.0020	8372432
p,p-DDT	ug/g	<0.0020	0.0020	8372432
Dieldrin	ug/g	<0.0020	0.0020	8372432
Lindane	ug/g	<0.0020	0.0020	8372432
Endosulfan I (alpha)	ug/g	<0.0020	0.0020	8372432
Endosulfan II (beta)	ug/g	<0.0020	0.0020	8372432
Endrin	ug/g	<0.0020	0.0020	8372432
Heptachlor	ug/g	<0.0020	0.0020	8372432
Heptachlor epoxide	ug/g	<0.0020	0.0020	8372432
Hexachlorobenzene	ug/g	<0.0020	0.0020	8372432
Hexachlorobutadiene	ug/g	<0.0020	0.0020	8372432
Hexachloroethane	ug/g	<0.0020	0.0020	8372432
Methoxychlor	ug/g	<0.0050	0.0050	8372432
Surrogate Recovery (%)				
2,4,5,6-Tetrachloro-m-xylene	%	95		8372432
Decachlorobiphenyl	%	97		8372432

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Bureau Veritas Job #: C2Y3355
Report Date: 2022/11/30

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

O.REG 153 PAHS (SOIL)

Bureau Veritas ID		UJM451	UJM455			UJM455			UJM459		
Sampling Date		2022/11/22	2022/11/22			2022/11/22			2022/11/22		
COC Number		N/A	N/A			N/A			N/A		
	UNITS	BH6/7	BH7/5	RDL	QC Batch	BH7/5 Lab-Dup	RDL	QC Batch	BH8/8	RDL	QC Batch
Calculated Parameters											
Methylnaphthalene, 2-(1-)	ug/g	<0.0071	<0.0071	0.0071	8362254				<0.0071	0.0071	8362254
Polyaromatic Hydrocarbons											
Acenaphthene	ug/g	<0.0050	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443
Acenaphthylene	ug/g	<0.0050	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443
Anthracene	ug/g	<0.0050	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443
Benzo(a)anthracene	ug/g	<0.0050	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443
Benzo(a)pyrene	ug/g	<0.0050	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443
Benzo(b/j)fluoranthene	ug/g	<0.0050	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443
Benzo(g,h,i)perylene	ug/g	<0.0050	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443
Benzo(k)fluoranthene	ug/g	<0.0050	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443
Chrysene	ug/g	<0.0050	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443
Dibenzo(a,h)anthracene	ug/g	<0.0050	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443
Fluoranthene	ug/g	<0.0050	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443
Fluorene	ug/g	<0.0050	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443
Indeno(1,2,3-cd)pyrene	ug/g	<0.0050	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443
1-Methylnaphthalene	ug/g	<0.0050	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443
2-Methylnaphthalene	ug/g	<0.0050	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443
Naphthalene	ug/g	<0.0050	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443
Phenanthrene	ug/g	<0.0050	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443
Pyrene	ug/g	<0.0050	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443	<0.0050	0.0050	8372443
Surrogate Recovery (%)											
D10-Anthracene	%	96	94		8372443	99		8372443	90		8372443
D14-Terphenyl (FS)	%	96	105		8372443	111		8372443	89		8372443
D8-Acenaphthylene	%	89	86		8372443	88		8372443	81		8372443

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

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Bureau Veritas Job #: C2Y3355
Report Date: 2022/11/30

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

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

Bureau Veritas ID		UJM452	UJM453			UJM453			UJM454		
Sampling Date		2022/11/22	2022/11/22			2022/11/22			2022/11/22		
COC Number		N/A	N/A			N/A			N/A		
	UNITS	BH10/1	BH11/1	RDL	QC Batch	BH11/1 Lab-Dup	RDL	QC Batch	BH12/4	RDL	QC Batch
Inorganics											
Moisture	%	5.8	8.9	1.0	8366932				7.1	1.0	8366932
BTEX & F1 Hydrocarbons											
Benzene	ug/g	<0.020	<0.020	0.020	8372071	<0.020	0.020	8372071	<0.020	0.020	8372071
Toluene	ug/g	<0.020	<0.020	0.020	8372071	<0.020	0.020	8372071	<0.020	0.020	8372071
Ethylbenzene	ug/g	<0.020	<0.020	0.020	8372071	<0.020	0.020	8372071	<0.020	0.020	8372071
o-Xylene	ug/g	<0.020	<0.020	0.020	8372071	<0.020	0.020	8372071	<0.020	0.020	8372071
p+m-Xylene	ug/g	<0.040	<0.040	0.040	8372071	<0.040	0.040	8372071	<0.040	0.040	8372071
Total Xylenes	ug/g	<0.040	<0.040	0.040	8372071	<0.040	0.040	8372071	<0.040	0.040	8372071
F1 (C6-C10)	ug/g	<10	<10	10	8372071	<10	10	8372071	<10	10	8372071
F1 (C6-C10) - BTEX	ug/g	<10	<10	10	8372071	<10	10	8372071	<10	10	8372071
F2-F4 Hydrocarbons											
F2 (C10-C16 Hydrocarbons)	ug/g	<10	<10	10	8370975				<10	10	8370975
F3 (C16-C34 Hydrocarbons)	ug/g	<50	200	50	8370975				<50	50	8370975
F4 (C34-C50 Hydrocarbons)	ug/g	<50	<50	50	8370975				<50	50	8370975
Reached Baseline at C50	ug/g	Yes	Yes		8370975				Yes		8370975
Surrogate Recovery (%)											
1,4-Difluorobenzene	%	99	99		8372071	99		8372071	99		8372071
4-Bromofluorobenzene	%	96	97		8372071	97		8372071	97		8372071
D10-o-Xylene	%	97	91		8372071	89		8372071	88		8372071
D4-1,2-Dichloroethane	%	85	87		8372071	86		8372071	84		8372071
o-Terphenyl	%	79	103		8370975				103		8370975

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

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Bureau Veritas Job #: C2Y3355
Report Date: 2022/11/30

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

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

Bureau Veritas ID		UJM457	UJM458		
Sampling Date		2022/11/22	2022/11/22		
COC Number		N/A	N/A		
	UNITS	BH9/8	DUPS4	RDL	QC Batch
Inorganics					
Moisture	%	9.0	6.7	1.0	8366932
BTEX & F1 Hydrocarbons					
Benzene	ug/g	<0.020	<0.020	0.020	8372071
Toluene	ug/g	<0.020	<0.020	0.020	8372071
Ethylbenzene	ug/g	<0.020	<0.020	0.020	8372071
o-Xylene	ug/g	<0.020	<0.020	0.020	8372071
p+m-Xylene	ug/g	<0.040	<0.040	0.040	8372071
Total Xylenes	ug/g	<0.040	<0.040	0.040	8372071
F1 (C6-C10)	ug/g	<10	<10	10	8372071
F1 (C6-C10) - BTEX	ug/g	<10	<10	10	8372071
F2-F4 Hydrocarbons					
F2 (C10-C16 Hydrocarbons)	ug/g	<10	<10	10	8370975
F3 (C16-C34 Hydrocarbons)	ug/g	<50	<50	50	8370975
F4 (C34-C50 Hydrocarbons)	ug/g	<50	<50	50	8370975
Reached Baseline at C50	ug/g	Yes	Yes		8370975
Surrogate Recovery (%)					
1,4-Difluorobenzene	%	100	102		8372071
4-Bromofluorobenzene	%	96	96		8372071
D10-o-Xylene	%	81	90		8372071
D4-1,2-Dichloroethane	%	85	83		8372071
o-Terphenyl	%	103	100		8370975

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Bureau Veritas Job #: C2Y3355
Report Date: 2022/11/30

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

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

Bureau Veritas ID		UJM451	UJM455			UJM455		
Sampling Date		2022/11/22	2022/11/22			2022/11/22		
COC Number		N/A	N/A			N/A		
	UNITS	BH6/7	BH7/5	RDL	QC Batch	BH7/5 Lab-Dup	RDL	QC Batch
Inorganics								
Moisture	%	14	14	1.0	8366932	15	1.0	8366932
Calculated Parameters								
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	<0.050	0.050	8362249			
Volatile Organics								
Acetone (2-Propanone)	ug/g	<0.49	<0.49	0.49	8369549			
Benzene	ug/g	<0.0060	<0.0060	0.0060	8369549			
Bromodichloromethane	ug/g	<0.040	<0.040	0.040	8369549			
Bromoform	ug/g	<0.040	<0.040	0.040	8369549			
Bromomethane	ug/g	<0.040	<0.040	0.040	8369549			
Carbon Tetrachloride	ug/g	<0.040	<0.040	0.040	8369549			
Chlorobenzene	ug/g	<0.040	<0.040	0.040	8369549			
Chloroform	ug/g	<0.040	<0.040	0.040	8369549			
Dibromochloromethane	ug/g	<0.040	<0.040	0.040	8369549			
1,2-Dichlorobenzene	ug/g	<0.040	<0.040	0.040	8369549			
1,3-Dichlorobenzene	ug/g	<0.040	<0.040	0.040	8369549			
1,4-Dichlorobenzene	ug/g	<0.040	<0.040	0.040	8369549			
Dichlorodifluoromethane (FREON 12)	ug/g	<0.040	<0.040	0.040	8369549			
1,1-Dichloroethane	ug/g	<0.040	<0.040	0.040	8369549			
1,2-Dichloroethane	ug/g	<0.049	<0.049	0.049	8369549			
1,1-Dichloroethylene	ug/g	<0.040	<0.040	0.040	8369549			
cis-1,2-Dichloroethylene	ug/g	<0.040	<0.040	0.040	8369549			
trans-1,2-Dichloroethylene	ug/g	<0.040	<0.040	0.040	8369549			
1,2-Dichloropropane	ug/g	<0.040	<0.040	0.040	8369549			
cis-1,3-Dichloropropene	ug/g	<0.030	<0.030	0.030	8369549			
trans-1,3-Dichloropropene	ug/g	<0.040	<0.040	0.040	8369549			
Ethylbenzene	ug/g	<0.010	<0.010	0.010	8369549			
Ethylene Dibromide	ug/g	<0.040	<0.040	0.040	8369549			
Hexane	ug/g	<0.040	<0.040	0.040	8369549			
Methylene Chloride(Dichloromethane)	ug/g	<0.049	<0.049	0.049	8369549			
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.40	<0.40	0.40	8369549			
Methyl Isobutyl Ketone	ug/g	<0.40	<0.40	0.40	8369549			
Methyl t-butyl ether (MTBE)	ug/g	<0.040	<0.040	0.040	8369549			
Styrene	ug/g	<0.040	<0.040	0.040	8369549			
1,1,1,2-Tetrachloroethane	ug/g	<0.040	<0.040	0.040	8369549			

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

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Bureau Veritas Job #: C2Y3355
Report Date: 2022/11/30

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

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

Bureau Veritas ID		UJM451	UJM455			UJM455		
Sampling Date		2022/11/22	2022/11/22			2022/11/22		
COC Number		N/A	N/A			N/A		
	UNITS	BH6/7	BH7/5	RDL	QC Batch	BH7/5 Lab-Dup	RDL	QC Batch
1,1,2,2-Tetrachloroethane	ug/g	<0.040	<0.040	0.040	8369549			
Tetrachloroethylene	ug/g	<0.040	<0.040	0.040	8369549			
Toluene	ug/g	<0.020	<0.020	0.020	8369549			
1,1,1-Trichloroethane	ug/g	<0.040	<0.040	0.040	8369549			
1,1,2-Trichloroethane	ug/g	<0.040	<0.040	0.040	8369549			
Trichloroethylene	ug/g	<0.010	<0.010	0.010	8369549			
Trichlorofluoromethane (FREON 11)	ug/g	<0.040	<0.040	0.040	8369549			
Vinyl Chloride	ug/g	<0.019	<0.019	0.019	8369549			
p+m-Xylene	ug/g	<0.020	<0.020	0.020	8369549			
o-Xylene	ug/g	<0.020	<0.020	0.020	8369549			
Total Xylenes	ug/g	<0.020	<0.020	0.020	8369549			
F1 (C6-C10)	ug/g	<10	<10	10	8369549			
F1 (C6-C10) - BTEX	ug/g	<10	<10	10	8369549			
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/g	<10	<10	10	8370975			
F3 (C16-C34 Hydrocarbons)	ug/g	<50	<50	50	8370975			
F4 (C34-C50 Hydrocarbons)	ug/g	<50	<50	50	8370975			
Reached Baseline at C50	ug/g	Yes	Yes		8370975			
Surrogate Recovery (%)								
o-Terphenyl	%	102	102		8370975			
4-Bromofluorobenzene	%	91	89		8369549			
D10-o-Xylene	%	94	92		8369549			
D4-1,2-Dichloroethane	%	104	105		8369549			
D8-Toluene	%	94	94		8369549			

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

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

Bureau Veritas ID		UJM459		
Sampling Date		2022/11/22		
COC Number		N/A		
	UNITS	BH8/8	RDL	QC Batch
Inorganics				
Moisture	%	10	1.0	8366932
Calculated Parameters				
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	0.050	8362249
Volatile Organics				
Acetone (2-Propanone)	ug/g	<0.49	0.49	8369549
Benzene	ug/g	<0.0060	0.0060	8369549
Bromodichloromethane	ug/g	<0.040	0.040	8369549
Bromoform	ug/g	<0.040	0.040	8369549
Bromomethane	ug/g	<0.040	0.040	8369549
Carbon Tetrachloride	ug/g	<0.040	0.040	8369549
Chlorobenzene	ug/g	<0.040	0.040	8369549
Chloroform	ug/g	<0.040	0.040	8369549
Dibromochloromethane	ug/g	<0.040	0.040	8369549
1,2-Dichlorobenzene	ug/g	<0.040	0.040	8369549
1,3-Dichlorobenzene	ug/g	<0.040	0.040	8369549
1,4-Dichlorobenzene	ug/g	<0.040	0.040	8369549
Dichlorodifluoromethane (FREON 12)	ug/g	<0.040	0.040	8369549
1,1-Dichloroethane	ug/g	<0.040	0.040	8369549
1,2-Dichloroethane	ug/g	<0.049	0.049	8369549
1,1-Dichloroethylene	ug/g	<0.040	0.040	8369549
cis-1,2-Dichloroethylene	ug/g	<0.040	0.040	8369549
trans-1,2-Dichloroethylene	ug/g	<0.040	0.040	8369549
1,2-Dichloropropane	ug/g	<0.040	0.040	8369549
cis-1,3-Dichloropropene	ug/g	<0.030	0.030	8369549
trans-1,3-Dichloropropene	ug/g	<0.040	0.040	8369549
Ethylbenzene	ug/g	<0.010	0.010	8369549
Ethylene Dibromide	ug/g	<0.040	0.040	8369549
Hexane	ug/g	<0.040	0.040	8369549
Methylene Chloride(Dichloromethane)	ug/g	<0.049	0.049	8369549
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.40	0.40	8369549
Methyl Isobutyl Ketone	ug/g	<0.40	0.40	8369549
Methyl t-butyl ether (MTBE)	ug/g	<0.040	0.040	8369549
Styrene	ug/g	<0.040	0.040	8369549
1,1,1,2-Tetrachloroethane	ug/g	<0.040	0.040	8369549

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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

Bureau Veritas ID		UJM459		
Sampling Date		2022/11/22		
COC Number		N/A		
	UNITS	BH8/8	RDL	QC Batch
1,1,2,2-Tetrachloroethane	ug/g	<0.040	0.040	8369549
Tetrachloroethylene	ug/g	<0.040	0.040	8369549
Toluene	ug/g	<0.020	0.020	8369549
1,1,1-Trichloroethane	ug/g	<0.040	0.040	8369549
1,1,2-Trichloroethane	ug/g	<0.040	0.040	8369549
Trichloroethylene	ug/g	<0.010	0.010	8369549
Trichlorofluoromethane (FREON 11)	ug/g	<0.040	0.040	8369549
Vinyl Chloride	ug/g	<0.019	0.019	8369549
p+m-Xylene	ug/g	<0.020	0.020	8369549
o-Xylene	ug/g	<0.020	0.020	8369549
Total Xylenes	ug/g	<0.020	0.020	8369549
F1 (C6-C10)	ug/g	<10	10	8369549
F1 (C6-C10) - BTEX	ug/g	<10	10	8369549
F2-F4 Hydrocarbons				
F2 (C10-C16 Hydrocarbons)	ug/g	<10	10	8370975
F3 (C16-C34 Hydrocarbons)	ug/g	<50	50	8370975
F4 (C34-C50 Hydrocarbons)	ug/g	<50	50	8370975
Reached Baseline at C50	ug/g	Yes		8370975
Surrogate Recovery (%)				
o-Terphenyl	%	103		8370975
4-Bromofluorobenzene	%	91		8369549
D10-o-Xylene	%	120		8369549
D4-1,2-Dichloroethane	%	105		8369549
D8-Toluene	%	93		8369549

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Bureau Veritas Job #: C2Y3355
Report Date: 2022/11/30

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID		UJM449		UJM450			UJM456	
Sampling Date		2022/11/22		2022/11/22			2022/11/22	
COC Number		N/A		N/A			N/A	
	UNITS	BH6/4	QC Batch	BH6/6	RDL	QC Batch	BH7/6	QC Batch
Inorganics								
Moisture	%			12	1.0	8366932		
Available (CaCl2) pH	pH	7.91	8367485				7.96	8367485

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Bureau Veritas Job #: C2Y3355
Report Date: 2022/11/30

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

TEST SUMMARY

Bureau Veritas ID: UJM449
Sample ID: BH6/4
Matrix: Soil

Collected: 2022/11/22
Shipped:
Received: 2022/11/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractable Metals by ICPMS	ICP/MS	8367267	2022/11/25	2022/11/26	Azita Fazaeli
pH CaCl2 EXTRACT	AT	8367485	2022/11/25	2022/11/25	Taslima Aktar

Bureau Veritas ID: UJM450
Sample ID: BH6/6
Matrix: Soil

Collected: 2022/11/22
Shipped:
Received: 2022/11/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractables by GC/MS	GC/MS	8374034	2022/11/29	2022/11/30	May Yin Mak
Moisture	BAL	8366932	N/A	2022/11/24	Mathew Bowles

Bureau Veritas ID: UJM451
Sample ID: BH6/7
Matrix: Soil

Collected: 2022/11/22
Shipped:
Received: 2022/11/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8362254	N/A	2022/11/29	Automated Statchk
1,3-Dichloropropene Sum	CALC	8362249	N/A	2022/11/28	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8370975	2022/11/28	2022/11/29	Jeevaraj Jeevaratrnam
Moisture	BAL	8366932	N/A	2022/11/24	Mathew Bowles
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8372443	2022/11/28	2022/11/29	Joe Paino
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8369549	N/A	2022/11/27	Anna Gabrielyan

Bureau Veritas ID: UJM452
Sample ID: BH10/1
Matrix: Soil

Collected: 2022/11/22
Shipped:
Received: 2022/11/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8372071	N/A	2022/11/28	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8370975	2022/11/28	2022/11/29	Jeevaraj Jeevaratrnam
Acid Extractable Metals by ICPMS	ICP/MS	8367267	2022/11/25	2022/11/26	Azita Fazaeli
Moisture	BAL	8366932	N/A	2022/11/24	Mathew Bowles

Bureau Veritas ID: UJM453
Sample ID: BH11/1
Matrix: Soil

Collected: 2022/11/22
Shipped:
Received: 2022/11/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8372071	N/A	2022/11/28	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8370975	2022/11/28	2022/11/29	Jeevaraj Jeevaratrnam
Acid Extractable Metals by ICPMS	ICP/MS	8367267	2022/11/25	2022/11/26	Azita Fazaeli
Moisture	BAL	8366932	N/A	2022/11/24	Mathew Bowles

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Bureau Veritas Job #: C2Y3355
Report Date: 2022/11/30

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

TEST SUMMARY

Bureau Veritas ID: UJM453 Dup
Sample ID: BH11/1
Matrix: Soil

Collected: 2022/11/22
Shipped:
Received: 2022/11/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8372071	N/A	2022/11/28	Georgeta Rusu

Bureau Veritas ID: UJM454
Sample ID: BH12/4
Matrix: Soil

Collected: 2022/11/22
Shipped:
Received: 2022/11/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8372071	N/A	2022/11/28	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8370975	2022/11/28	2022/11/29	Jeevaraj Jeevaratrnam
Moisture	BAL	8366932	N/A	2022/11/24	Mathew Bowles

Bureau Veritas ID: UJM455
Sample ID: BH7/5
Matrix: Soil

Collected: 2022/11/22
Shipped:
Received: 2022/11/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8362254	N/A	2022/11/29	Automated Statchk
1,3-Dichloropropene Sum	CALC	8362249	N/A	2022/11/28	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8370975	2022/11/28	2022/11/29	Jeevaraj Jeevaratrnam
Moisture	BAL	8366932	N/A	2022/11/24	Mathew Bowles
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8372443	2022/11/28	2022/11/29	Joe Paino
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8369549	N/A	2022/11/27	Anna Gabrielyan

Bureau Veritas ID: UJM455 Dup
Sample ID: BH7/5
Matrix: Soil

Collected: 2022/11/22
Shipped:
Received: 2022/11/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	8366932	N/A	2022/11/24	Mathew Bowles
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8372443	2022/11/28	2022/11/29	Joe Paino

Bureau Veritas ID: UJM456
Sample ID: BH7/6
Matrix: Soil

Collected: 2022/11/22
Shipped:
Received: 2022/11/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractable Metals by ICPMS	ICP/MS	8367267	2022/11/25	2022/11/26	Azita Fazaeli
Moisture	BAL	8366932	N/A	2022/11/24	Mathew Bowles
OC Pesticides (Selected) & PCB	GC/ECD	8372432	2022/11/28	2022/11/29	Li Peng
OC Pesticides Summed Parameters	CALC	8362250	N/A	2022/11/25	Automated Statchk
pH CaCl2 EXTRACT	AT	8367485	2022/11/25	2022/11/25	Taslima Aktar

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Bureau Veritas Job #: C2Y3355
Report Date: 2022/11/30

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

TEST SUMMARY

Bureau Veritas ID: UJM457
Sample ID: BH9/8
Matrix: Soil

Collected: 2022/11/22
Shipped:
Received: 2022/11/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8372071	N/A	2022/11/29	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8370975	2022/11/28	2022/11/29	Jeevaraj Jeevaratrnam
Moisture	BAL	8366932	N/A	2022/11/24	Mathew Bowles

Bureau Veritas ID: UJM458
Sample ID: DUPS4
Matrix: Soil

Collected: 2022/11/22
Shipped:
Received: 2022/11/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8372071	N/A	2022/11/29	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8370975	2022/11/28	2022/11/29	Jeevaraj Jeevaratrnam
Moisture	BAL	8366932	N/A	2022/11/24	Mathew Bowles

Bureau Veritas ID: UJM459
Sample ID: BH8/8
Matrix: Soil

Collected: 2022/11/22
Shipped:
Received: 2022/11/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8362254	N/A	2022/11/29	Automated Statchk
1,3-Dichloropropene Sum	CALC	8362249	N/A	2022/11/28	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8370975	2022/11/28	2022/11/29	Jeevaraj Jeevaratrnam
Moisture	BAL	8366932	N/A	2022/11/24	Mathew Bowles
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8372443	2022/11/28	2022/11/29	Joe Paino
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8369549	N/A	2022/11/27	Anna Gabrielyan

Bureau Veritas ID: UJM460
Sample ID: BH8/7
Matrix: Soil

Collected: 2022/11/22
Shipped:
Received: 2022/11/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractable Metals by ICPMS	ICP/MS	8367267	2022/11/25	2022/11/26	Azita Fazaeli

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Bureau Veritas Job #: C2Y3355
Report Date: 2022/11/30

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

GENERAL COMMENTS

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

Package 1	1.7°C

Cooler custody seal was present and intact.

Sample UJM457 [BH9/8] : F1/BTEX Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

Results relate only to the items tested.

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Bureau Veritas Job #: C2Y3355
Report Date: 2022/11/30

QUALITY ASSURANCE REPORT

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8369549	4-Bromofluorobenzene	2022/11/26	101	60 - 140	100	60 - 140	92	%		
8369549	D10-o-Xylene	2022/11/26	111	60 - 130	100	60 - 130	91	%		
8369549	D4-1,2-Dichloroethane	2022/11/26	100	60 - 140	100	60 - 140	102	%		
8369549	D8-Toluene	2022/11/26	104	60 - 140	104	60 - 140	95	%		
8370975	o-Terphenyl	2022/11/29	67	60 - 130	101	60 - 130	108	%		
8372071	1,4-Difluorobenzene	2022/11/28	99	60 - 140	99	60 - 140	99	%		
8372071	4-Bromofluorobenzene	2022/11/28	96	60 - 140			97	%		
8372071	D10-o-Xylene	2022/11/28	88	60 - 140	86	60 - 140	83	%		
8372071	D4-1,2-Dichloroethane	2022/11/28	83	60 - 140	84	60 - 140	85	%		
8372432	2,4,5,6-Tetrachloro-m-xylene	2022/11/29	92	50 - 130	86	50 - 130	81	%		
8372432	Decachlorobiphenyl	2022/11/29	101	50 - 130	86	50 - 130	83	%		
8372443	D10-Anthracene	2022/11/29	90	50 - 130	94	50 - 130	99	%		
8372443	D14-Terphenyl (FS)	2022/11/29	102	50 - 130	107	50 - 130	110	%		
8372443	D8-Acenaphthylene	2022/11/29	84	50 - 130	92	50 - 130	93	%		
8374034	2,4,6-Tribromophenol	2022/11/30	99	50 - 130	95	50 - 130	97	%		
8374034	2-Fluorophenol	2022/11/30	70	50 - 130	47 (1)	50 - 130	49 (1)	%		
8374034	D5-Phenol	2022/11/30	75	30 - 130	82	30 - 130	86	%		
8366932	Moisture	2022/11/24							4.8	20
8367267	Acid Extractable Antimony (Sb)	2022/11/26	101	75 - 125	97	80 - 120	<0.20	ug/g	NC	30
8367267	Acid Extractable Arsenic (As)	2022/11/26	105	75 - 125	98	80 - 120	<1.0	ug/g	NC	30
8367267	Acid Extractable Barium (Ba)	2022/11/26	103	75 - 125	97	80 - 120	<0.50	ug/g	1.0	30
8367267	Acid Extractable Beryllium (Be)	2022/11/26	105	75 - 125	96	80 - 120	<0.20	ug/g	NC	30
8367267	Acid Extractable Boron (B)	2022/11/26	107	75 - 125	96	80 - 120	<5.0	ug/g	NC	30
8367267	Acid Extractable Cadmium (Cd)	2022/11/26	102	75 - 125	95	80 - 120	<0.10	ug/g	NC	30
8367267	Acid Extractable Chromium (Cr)	2022/11/26	100	75 - 125	98	80 - 120	<1.0	ug/g	17	30
8367267	Acid Extractable Cobalt (Co)	2022/11/26	102	75 - 125	98	80 - 120	<0.10	ug/g	4.7	30
8367267	Acid Extractable Copper (Cu)	2022/11/26	103	75 - 125	99	80 - 120	<0.50	ug/g	5.9	30
8367267	Acid Extractable Lead (Pb)	2022/11/26	98	75 - 125	94	80 - 120	<1.0	ug/g	NC	30
8367267	Acid Extractable Mercury (Hg)	2022/11/26	95	75 - 125	92	80 - 120	<0.050	ug/g	NC	30
8367267	Acid Extractable Molybdenum (Mo)	2022/11/26	103	75 - 125	97	80 - 120	<0.50	ug/g	NC	30
8367267	Acid Extractable Nickel (Ni)	2022/11/26	104	75 - 125	99	80 - 120	<0.50	ug/g	11	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8367267	Acid Extractable Selenium (Se)	2022/11/26	103	75 - 125	99	80 - 120	<0.50	ug/g	NC	30
8367267	Acid Extractable Silver (Ag)	2022/11/26	102	75 - 125	96	80 - 120	<0.20	ug/g	NC	30
8367267	Acid Extractable Thallium (Tl)	2022/11/26	98	75 - 125	94	80 - 120	<0.050	ug/g	NC	30
8367267	Acid Extractable Uranium (U)	2022/11/26	100	75 - 125	94	80 - 120	<0.050	ug/g	16	30
8367267	Acid Extractable Vanadium (V)	2022/11/26	97	75 - 125	98	80 - 120	<5.0	ug/g	1.0	30
8367267	Acid Extractable Zinc (Zn)	2022/11/26	96	75 - 125	97	80 - 120	<5.0	ug/g	11	30
8367485	Available (CaCl2) pH	2022/11/25			100	97 - 103			0.86	N/A
8369549	1,1,1,2-Tetrachloroethane	2022/11/27	98	60 - 140	98	60 - 130	<0.040	ug/g	NC	50
8369549	1,1,1-Trichloroethane	2022/11/27	101	60 - 140	101	60 - 130	<0.040	ug/g	NC	50
8369549	1,1,2,2-Tetrachloroethane	2022/11/27	90	60 - 140	90	60 - 130	<0.040	ug/g	NC	50
8369549	1,1,2-Trichloroethane	2022/11/27	99	60 - 140	98	60 - 130	<0.040	ug/g	NC	50
8369549	1,1-Dichloroethane	2022/11/27	93	60 - 140	93	60 - 130	<0.040	ug/g	NC	50
8369549	1,1-Dichloroethylene	2022/11/27	99	60 - 140	99	60 - 130	<0.040	ug/g	NC	50
8369549	1,2-Dichlorobenzene	2022/11/27	92	60 - 140	92	60 - 130	<0.040	ug/g	NC	50
8369549	1,2-Dichloroethane	2022/11/27	93	60 - 140	93	60 - 130	<0.049	ug/g	NC	50
8369549	1,2-Dichloropropane	2022/11/27	95	60 - 140	94	60 - 130	<0.040	ug/g	NC	50
8369549	1,3-Dichlorobenzene	2022/11/27	96	60 - 140	96	60 - 130	<0.040	ug/g	NC	50
8369549	1,4-Dichlorobenzene	2022/11/27	113	60 - 140	112	60 - 130	<0.040	ug/g	NC	50
8369549	Acetone (2-Propanone)	2022/11/27	102	60 - 140	99	60 - 140	<0.49	ug/g	NC	50
8369549	Benzene	2022/11/27	89	60 - 140	89	60 - 130	<0.0060	ug/g	NC	50
8369549	Bromodichloromethane	2022/11/27	97	60 - 140	97	60 - 130	<0.040	ug/g	NC	50
8369549	Bromoform	2022/11/27	93	60 - 140	93	60 - 130	<0.040	ug/g	NC	50
8369549	Bromomethane	2022/11/27	92	60 - 140	91	60 - 140	<0.040	ug/g	NC	50
8369549	Carbon Tetrachloride	2022/11/27	99	60 - 140	99	60 - 130	<0.040	ug/g	NC	50
8369549	Chlorobenzene	2022/11/27	94	60 - 140	94	60 - 130	<0.040	ug/g	NC	50
8369549	Chloroform	2022/11/27	95	60 - 140	95	60 - 130	<0.040	ug/g	NC	50
8369549	cis-1,2-Dichloroethylene	2022/11/27	99	60 - 140	99	60 - 130	<0.040	ug/g	NC	50
8369549	cis-1,3-Dichloropropene	2022/11/27	82	60 - 140	80	60 - 130	<0.030	ug/g	NC	50
8369549	Dibromochloromethane	2022/11/27	94	60 - 140	93	60 - 130	<0.040	ug/g	NC	50
8369549	Dichlorodifluoromethane (FREON 12)	2022/11/27	115	60 - 140	116	60 - 140	<0.040	ug/g	NC	50
8369549	Ethylbenzene	2022/11/27	85	60 - 140	86	60 - 130	<0.010	ug/g	NC	50

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8369549	Ethylene Dibromide	2022/11/27	91	60 - 140	90	60 - 130	<0.040	ug/g	NC	50
8369549	F1 (C6-C10) - BTEX	2022/11/27					<10	ug/g	NC	30
8369549	F1 (C6-C10)	2022/11/27	93	60 - 140	92	80 - 120	<10	ug/g	NC	30
8369549	Hexane	2022/11/27	102	60 - 140	102	60 - 130	<0.040	ug/g	NC	50
8369549	Methyl Ethyl Ketone (2-Butanone)	2022/11/27	98	60 - 140	96	60 - 140	<0.40	ug/g	NC	50
8369549	Methyl Isobutyl Ketone	2022/11/27	97	60 - 140	95	60 - 130	<0.40	ug/g	NC	50
8369549	Methyl t-butyl ether (MTBE)	2022/11/27	90	60 - 140	89	60 - 130	<0.040	ug/g	NC	50
8369549	Methylene Chloride(Dichloromethane)	2022/11/27	98	60 - 140	98	60 - 130	<0.049	ug/g	NC	50
8369549	o-Xylene	2022/11/27	90	60 - 140	90	60 - 130	<0.020	ug/g	NC	50
8369549	p+m-Xylene	2022/11/27	87	60 - 140	87	60 - 130	<0.020	ug/g	NC	50
8369549	Styrene	2022/11/27	97	60 - 140	97	60 - 130	<0.040	ug/g	NC	50
8369549	Tetrachloroethylene	2022/11/27	92	60 - 140	93	60 - 130	<0.040	ug/g	NC	50
8369549	Toluene	2022/11/27	92	60 - 140	92	60 - 130	<0.020	ug/g	NC	50
8369549	Total Xylenes	2022/11/27					<0.020	ug/g	NC	50
8369549	trans-1,2-Dichloroethylene	2022/11/27	98	60 - 140	99	60 - 130	<0.040	ug/g	NC	50
8369549	trans-1,3-Dichloropropene	2022/11/27	86	60 - 140	82	60 - 130	<0.040	ug/g	NC	50
8369549	Trichloroethylene	2022/11/27	101	60 - 140	101	60 - 130	<0.010	ug/g	NC	50
8369549	Trichlorofluoromethane (FREON 11)	2022/11/27	101	60 - 140	101	60 - 130	<0.040	ug/g	NC	50
8369549	Vinyl Chloride	2022/11/27	90	60 - 140	91	60 - 130	<0.019	ug/g	NC	50
8370975	F2 (C10-C16 Hydrocarbons)	2022/11/29	70	60 - 130	105	80 - 120	<10	ug/g	NC	30
8370975	F3 (C16-C34 Hydrocarbons)	2022/11/29	71	60 - 130	105	80 - 120	<50	ug/g	NC	30
8370975	F4 (C34-C50 Hydrocarbons)	2022/11/29	71	60 - 130	105	80 - 120	<50	ug/g	NC	30
8372071	Benzene	2022/11/28	75	50 - 140	75	50 - 140	<0.020	ug/g	NC	50
8372071	Ethylbenzene	2022/11/28	85	50 - 140	84	50 - 140	<0.020	ug/g	NC	50
8372071	F1 (C6-C10) - BTEX	2022/11/28					<10	ug/g	NC	30
8372071	F1 (C6-C10)	2022/11/28	82	60 - 140	85	80 - 120	<10	ug/g	NC	30
8372071	o-Xylene	2022/11/28	82	50 - 140	81	50 - 140	<0.020	ug/g	NC	50
8372071	p+m-Xylene	2022/11/28	82	50 - 140	82	50 - 140	<0.040	ug/g	NC	50
8372071	Toluene	2022/11/28	77	50 - 140	76	50 - 140	<0.020	ug/g	NC	50
8372071	Total Xylenes	2022/11/28					<0.040	ug/g	NC	50
8372432	a-Chlordane	2022/11/29	102	50 - 130	96	50 - 130	<0.0020	ug/g	NC	40

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8372432	Aldrin	2022/11/29	97	50 - 130	97	50 - 130	<0.0020	ug/g	NC	40
8372432	Dieldrin	2022/11/29	107	50 - 130	108	50 - 130	<0.0020	ug/g	NC	40
8372432	Endosulfan I (alpha)	2022/11/29	93	50 - 130	93	50 - 130	<0.0020	ug/g	NC	40
8372432	Endosulfan II (beta)	2022/11/29	98	50 - 130	95	50 - 130	<0.0020	ug/g	NC	40
8372432	Endrin	2022/11/29	99	50 - 130	97	50 - 130	<0.0020	ug/g	NC	40
8372432	g-Chlordane	2022/11/29	99	50 - 130	94	50 - 130	<0.0020	ug/g	NC	40
8372432	Heptachlor epoxide	2022/11/29	98	50 - 130	97	50 - 130	<0.0020	ug/g	NC	40
8372432	Heptachlor	2022/11/29	101	50 - 130	101	50 - 130	<0.0020	ug/g	NC	40
8372432	Hexachlorobenzene	2022/11/29	97	50 - 130	93	50 - 130	<0.0020	ug/g	NC	40
8372432	Hexachlorobutadiene	2022/11/29	102	50 - 130	105	50 - 130	<0.0020	ug/g	NC	40
8372432	Hexachloroethane	2022/11/29	70	50 - 130	90	50 - 130	<0.0020	ug/g	NC	40
8372432	Lindane	2022/11/29	87	50 - 130	93	50 - 130	<0.0020	ug/g	NC	40
8372432	Methoxychlor	2022/11/29	101	50 - 130	92	50 - 130	<0.0050	ug/g	NC	40
8372432	o,p-DDD	2022/11/29	110	50 - 130	104	50 - 130	<0.0020	ug/g	NC	40
8372432	o,p-DDE	2022/11/29	106	50 - 130	97	50 - 130	<0.0020	ug/g	NC	40
8372432	o,p-DDT	2022/11/29	115	50 - 130	99	50 - 130	<0.0020	ug/g	NC	40
8372432	p,p-DDD	2022/11/29	109	50 - 130	100	50 - 130	<0.0020	ug/g	NC	40
8372432	p,p-DDE	2022/11/29	107	50 - 130	93	50 - 130	<0.0020	ug/g	NC	40
8372432	p,p-DDT	2022/11/29	109	50 - 130	96	50 - 130	<0.0020	ug/g	NC	40
8372443	1-Methylnaphthalene	2022/11/29	99	50 - 130	99	50 - 130	<0.0050	ug/g	NC	40
8372443	2-Methylnaphthalene	2022/11/29	92	50 - 130	92	50 - 130	<0.0050	ug/g	NC	40
8372443	Acenaphthene	2022/11/29	90	50 - 130	89	50 - 130	<0.0050	ug/g	NC	40
8372443	Acenaphthylene	2022/11/29	87	50 - 130	88	50 - 130	<0.0050	ug/g	NC	40
8372443	Anthracene	2022/11/29	91	50 - 130	90	50 - 130	<0.0050	ug/g	NC	40
8372443	Benzo(a)anthracene	2022/11/29	95	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
8372443	Benzo(a)pyrene	2022/11/29	87	50 - 130	87	50 - 130	<0.0050	ug/g	NC	40
8372443	Benzo(b/j)fluoranthene	2022/11/29	85	50 - 130	85	50 - 130	<0.0050	ug/g	NC	40
8372443	Benzo(g,h,i)perylene	2022/11/29	77	50 - 130	78	50 - 130	<0.0050	ug/g	NC	40
8372443	Benzo(k)fluoranthene	2022/11/29	90	50 - 130	89	50 - 130	<0.0050	ug/g	NC	40
8372443	Chrysene	2022/11/29	88	50 - 130	87	50 - 130	<0.0050	ug/g	NC	40
8372443	Dibenzo(a,h)anthracene	2022/11/29	82	50 - 130	81	50 - 130	<0.0050	ug/g	NC	40

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8372443	Fluoranthene	2022/11/29	97	50 - 130	97	50 - 130	<0.0050	ug/g	NC	40
8372443	Fluorene	2022/11/29	90	50 - 130	90	50 - 130	<0.0050	ug/g	NC	40
8372443	Indeno(1,2,3-cd)pyrene	2022/11/29	81	50 - 130	81	50 - 130	<0.0050	ug/g	NC	40
8372443	Naphthalene	2022/11/29	87	50 - 130	88	50 - 130	<0.0050	ug/g	NC	40
8372443	Phenanthrene	2022/11/29	86	50 - 130	85	50 - 130	<0.0050	ug/g	NC	40
8372443	Pyrene	2022/11/29	99	50 - 130	99	50 - 130	<0.0050	ug/g	NC	40
8374034	2,4,5-Trichlorophenol	2022/11/30	102	50 - 130	89	50 - 130	<0.05	ug/g	NC	50
8374034	2,4,6-Trichlorophenol	2022/11/30	81	50 - 130	84	50 - 130	<0.05	ug/g	NC	50
8374034	2,4-Dichlorophenol	2022/11/30	79	50 - 130	84	50 - 130	<0.05	ug/g	NC	50
8374034	2-Chlorophenol	2022/11/30	71	50 - 130	70	50 - 130	<0.05	ug/g	NC	50
8374034	3 & 4-Chlorophenol	2022/11/30	85	10 - 130	79	10 - 130	<0.05	ug/g	NC	50
8374034	Pentachlorophenol	2022/11/30	102	50 - 130	99	50 - 130	<0.05	ug/g	NC	50

N/A = Not Applicable

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

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

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

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

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

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

(1) Surrogate recovery was below the lower control limit . This may represent a low bias in some results.

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Bureau Veritas Job #: C2Y3355
Report Date: 2022/11/30

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

VALIDATION SIGNATURE PAGE

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

Anastassia Hamanov, Scientific Specialist

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

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Soil Engineers Ltd.
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APPENDIX 'D'

CERTIFICATE OF ANALYSIS
(GROUNDWATER SAMPLES)

Reference No. 2206-E054

Your Project #: 2206-E054
Site Location: ERIN
Your C.O.C. #: na

Attention: Madan K. Suwal

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

Report Date: 2022/11/28
Report #: R7407287
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2Y4331
Received: 2022/11/23, 15:06

Sample Matrix: Ground Water
Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum	5	N/A	2022/11/25	CAM SOP-00301	EPA 8270D m
1,3-Dichloropropene Sum	1	N/A	2022/11/25		EPA 8260C m
1,3-Dichloropropene Sum	5	N/A	2022/11/26		EPA 8260C m
Acid Extractables by GC/MS	1	2022/11/25	2022/11/26	CAM SOP-00332	EPA 8270E m
Petroleum Hydrocarbons F2-F4 in Water (1)	5	2022/11/24	2022/11/25	CAM SOP-00316	CCME PHC-CWS m
Dissolved Metals by ICPMS	4	N/A	2022/11/24	CAM SOP-00447	EPA 6020B m
OC Pesticides (Selected) & PCB (2)	1	2022/11/26	2022/11/27	CAM SOP-00307	EPA 8081A/8082B m
OC Pesticides Summed Parameters	1	N/A	2022/11/25	CAM SOP-00307	EPA 8081A/8082B m
PAH Compounds in Water by GC/MS (SIM)	5	2022/11/24	2022/11/25	CAM SOP-00318	EPA 8270D m
Volatile Organic Compounds and F1 PHCs	5	N/A	2022/11/25	CAM SOP-00230	EPA 8260C m
Volatile Organic Compounds in Water	1	N/A	2022/11/25	CAM SOP-00228	EPA 8260C m

Remarks:

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

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

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

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

Your Project #: 2206-E054
Site Location: ERIN
Your C.O.C. #: na

Attention: Madan K. Suwal

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

Report Date: 2022/11/28
Report #: R7407287
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2Y4331

Received: 2022/11/23, 15:06

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 reported using validated cold solvent extraction instead of Soxhlet extraction.

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

Encryption Key

Antonella Brasil
Senior Project Manager
28 Nov 2022 16:46:33

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 CHLOROPHENOLS (WATER)

Bureau Veritas ID		UJT430		
Sampling Date		2022/11/22		
COC Number		na		
	UNITS	MW6	RDL	QC Batch
Phenolics				
2-Chlorophenol	ug/L	<0.1	0.1	8368493
2,4-Dichlorophenol	ug/L	<0.1	0.1	8368493
2,4,6-Trichlorophenol	ug/L	<0.1	0.1	8368493
Pentachlorophenol	ug/L	<0.1	0.1	8368493
2,4,5-Trichlorophenol	ug/L	<0.1	0.1	8368493
3 & 4-Chlorophenol	ug/L	<0.1	0.1	8368493
Surrogate Recovery (%)				
2,4,6-Tribromophenol	%	95		8368493
2-Fluorophenol	%	48 (1)		8368493
D5-Phenol	%	70		8368493

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Surrogate recovery was below the lower control limit. This may represent a lower bias in some results.

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Bureau Veritas Job #: C2Y4331
Report Date: 2022/11/28

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: CHR

O.REG 153 DISSOLVED ICPMS METALS (WATER)

Bureau Veritas ID		UJT427	UJT428	UJT429	UJT430		
Sampling Date		2022/11/22	2022/11/22	2022/11/22	2022/11/22		
COC Number		na	na	na	na		
	UNITS	MW3	MW4	MW5	MW6	RDL	QC Batch
Metals							
Dissolved Antimony (Sb)	ug/L	<0.50	0.54	<0.50	<0.50	0.50	8364770
Dissolved Arsenic (As)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	8364770
Dissolved Barium (Ba)	ug/L	27	85	58	39	2.0	8364770
Dissolved Beryllium (Be)	ug/L	<0.40	<0.40	<0.40	<0.40	0.40	8364770
Dissolved Boron (B)	ug/L	<10	38	32	24	10	8364770
Dissolved Cadmium (Cd)	ug/L	<0.090	<0.090	<0.090	<0.090	0.090	8364770
Dissolved Chromium (Cr)	ug/L	<5.0	<5.0	<5.0	<5.0	5.0	8364770
Dissolved Cobalt (Co)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	8364770
Dissolved Copper (Cu)	ug/L	1.2	1.1	1.5	2.6	0.90	8364770
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	8364770
Dissolved Molybdenum (Mo)	ug/L	<0.50	5.3	3.3	4.3	0.50	8364770
Dissolved Nickel (Ni)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	8364770
Dissolved Selenium (Se)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	8364770
Dissolved Silver (Ag)	ug/L	<0.090	<0.090	<0.090	<0.090	0.090	8364770
Dissolved Thallium (Tl)	ug/L	<0.050	<0.050	<0.050	<0.050	0.050	8364770
Dissolved Uranium (U)	ug/L	0.28	0.69	0.32	0.38	0.10	8364770
Dissolved Vanadium (V)	ug/L	<0.50	0.57	<0.50	<0.50	0.50	8364770
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	<5.0	<5.0	5.0	8364770

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Bureau Veritas Job #: C2Y4331
Report Date: 2022/11/28

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: CHR

O.REG 153 OC PESTICIDES (WATER)

Bureau Veritas ID		UJT430		
Sampling Date		2022/11/22		
COC Number		na		
	UNITS	MW6	RDL	QC Batch
Calculated Parameters				
Chlordane (Total)	ug/L	<0.005	0.005	8362828
o,p-DDD + p,p-DDD	ug/L	<0.005	0.005	8362828
o,p-DDE + p,p-DDE	ug/L	<0.005	0.005	8362828
o,p-DDT + p,p-DDT	ug/L	<0.005	0.005	8362828
Total Endosulfan	ug/L	<0.005	0.005	8362828
Pesticides & Herbicides				
Aldrin	ug/L	<0.005	0.005	8369484
Dieldrin	ug/L	<0.005	0.005	8369484
a-Chlordane	ug/L	<0.005	0.005	8369484
g-Chlordane	ug/L	<0.005	0.005	8369484
o,p-DDD	ug/L	<0.005	0.005	8369484
p,p-DDD	ug/L	<0.005	0.005	8369484
o,p-DDE	ug/L	<0.005	0.005	8369484
p,p-DDE	ug/L	<0.005	0.005	8369484
o,p-DDT	ug/L	<0.005	0.005	8369484
p,p-DDT	ug/L	<0.005	0.005	8369484
Lindane	ug/L	<0.003	0.003	8369484
Endosulfan I (alpha)	ug/L	<0.005	0.005	8369484
Endosulfan II (beta)	ug/L	<0.005	0.005	8369484
Endrin	ug/L	<0.005	0.005	8369484
Heptachlor	ug/L	<0.005	0.005	8369484
Heptachlor epoxide	ug/L	<0.005	0.005	8369484
Hexachlorobenzene	ug/L	<0.005	0.005	8369484
Hexachlorobutadiene	ug/L	<0.009	0.009	8369484
Hexachloroethane	ug/L	<0.01	0.01	8369484
Methoxychlor	ug/L	<0.01	0.01	8369484
Surrogate Recovery (%)				
2,4,5,6-Tetrachloro-m-xylene	%	64		8369484
Decachlorobiphenyl	%	81		8369484

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Bureau Veritas Job #: C2Y4331
Report Date: 2022/11/28

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: CHR

O.REG 153 PAHS (GROUND WATER)

Bureau Veritas ID		UJT427	UJT428			UJT428			UJT429		
Sampling Date		2022/11/22	2022/11/22			2022/11/22			2022/11/22		
COC Number		na	na			na			na		
	UNITS	MW3	MW4	RDL	QC Batch	MW4 Lab-Dup	RDL	QC Batch	MW5	RDL	QC Batch
Calculated Parameters											
Methylnaphthalene, 2-(1-)	ug/L	<0.071	<0.071	0.071	8362383				<0.071	0.071	8362383
Polyaromatic Hydrocarbons											
Acenaphthene	ug/L	<0.050	<0.050	0.050	8365857	<0.050	0.050	8365857	<0.050	0.050	8365857
Acenaphthylene	ug/L	<0.050	<0.050	0.050	8365857	<0.050	0.050	8365857	<0.050	0.050	8365857
Anthracene	ug/L	<0.050	<0.050	0.050	8365857	<0.050	0.050	8365857	<0.050	0.050	8365857
Benzo(a)anthracene	ug/L	<0.050	<0.050	0.050	8365857	<0.050	0.050	8365857	<0.050	0.050	8365857
Benzo(a)pyrene	ug/L	<0.0090	<0.0090	0.0090	8365857	<0.0090	0.0090	8365857	<0.0090	0.0090	8365857
Benzo(b/j)fluoranthene	ug/L	<0.050	<0.050	0.050	8365857	<0.050	0.050	8365857	<0.050	0.050	8365857
Benzo(g,h,i)perylene	ug/L	<0.050	<0.050	0.050	8365857	<0.050	0.050	8365857	<0.050	0.050	8365857
Benzo(k)fluoranthene	ug/L	<0.050	<0.050	0.050	8365857	<0.050	0.050	8365857	<0.050	0.050	8365857
Chrysene	ug/L	<0.050	<0.050	0.050	8365857	<0.050	0.050	8365857	<0.050	0.050	8365857
Dibenzo(a,h)anthracene	ug/L	<0.050	<0.050	0.050	8365857	<0.050	0.050	8365857	<0.050	0.050	8365857
Fluoranthene	ug/L	<0.050	<0.050	0.050	8365857	<0.050	0.050	8365857	<0.050	0.050	8365857
Fluorene	ug/L	<0.050	<0.050	0.050	8365857	<0.050	0.050	8365857	<0.050	0.050	8365857
Indeno(1,2,3-cd)pyrene	ug/L	<0.050	<0.050	0.050	8365857	<0.050	0.050	8365857	<0.050	0.050	8365857
1-Methylnaphthalene	ug/L	<0.050	<0.050	0.050	8365857	<0.050	0.050	8365857	<0.050	0.050	8365857
2-Methylnaphthalene	ug/L	<0.050	<0.050	0.050	8365857	<0.050	0.050	8365857	<0.050	0.050	8365857
Naphthalene	ug/L	<0.050	<0.050	0.050	8365857	<0.050	0.050	8365857	<0.050	0.050	8365857
Phenanthrene	ug/L	<0.030	<0.030	0.030	8365857	<0.030	0.030	8365857	<0.030	0.030	8365857
Pyrene	ug/L	<0.050	<0.050	0.050	8365857	<0.050	0.050	8365857	<0.050	0.050	8365857
Surrogate Recovery (%)											
D10-Anthracene	%	97	80		8365857	82		8365857	100		8365857
D14-Terphenyl (FS)	%	92	92		8365857	93		8365857	95		8365857
D8-Acenaphthylene	%	88	84		8365857	83		8365857	89		8365857

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

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Bureau Veritas Job #: C2Y4331
Report Date: 2022/11/28

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: CHR

O.REG 153 PAHS (GROUND WATER)

Bureau Veritas ID		UJT430	UJT432		
Sampling Date		2022/11/22	2022/11/22		
COC Number		na	na		
	UNITS	MW6	DUPW1	RDL	QC Batch
Calculated Parameters					
Methylnaphthalene, 2-(1-)	ug/L	0.10	<0.071	0.071	8362383
Polyaromatic Hydrocarbons					
Acenaphthene	ug/L	<0.050	<0.050	0.050	8365857
Acenaphthylene	ug/L	<0.050	<0.050	0.050	8365857
Anthracene	ug/L	<0.050	<0.050	0.050	8365857
Benzo(a)anthracene	ug/L	<0.050	<0.050	0.050	8365857
Benzo(a)pyrene	ug/L	<0.0090	<0.0090	0.0090	8365857
Benzo(b/j)fluoranthene	ug/L	<0.050	<0.050	0.050	8365857
Benzo(g,h,i)perylene	ug/L	<0.050	<0.050	0.050	8365857
Benzo(k)fluoranthene	ug/L	<0.050	<0.050	0.050	8365857
Chrysene	ug/L	<0.050	<0.050	0.050	8365857
Dibenzo(a,h)anthracene	ug/L	<0.050	<0.050	0.050	8365857
Fluoranthene	ug/L	<0.050	<0.050	0.050	8365857
Fluorene	ug/L	<0.050	<0.050	0.050	8365857
Indeno(1,2,3-cd)pyrene	ug/L	<0.050	<0.050	0.050	8365857
1-Methylnaphthalene	ug/L	0.051	<0.050	0.050	8365857
2-Methylnaphthalene	ug/L	0.050	<0.050	0.050	8365857
Naphthalene	ug/L	<0.050	<0.050	0.050	8365857
Phenanthrene	ug/L	<0.030	<0.030	0.030	8365857
Pyrene	ug/L	<0.050	<0.050	0.050	8365857
Surrogate Recovery (%)					
D10-Anthracene	%	103	105		8365857
D14-Terphenyl (FS)	%	95	96		8365857
D8-Acenaphthylene	%	91	93		8365857

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Bureau Veritas Job #: C2Y4331
Report Date: 2022/11/28

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: CHR

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

Bureau Veritas ID		UJT427			UJT427			UJT428		
Sampling Date		2022/11/22			2022/11/22			2022/11/22		
COC Number		na			na			na		
	UNITS	MW3	RDL	QC Batch	MW3 Lab-Dup	RDL	QC Batch	MW4	RDL	QC Batch
Calculated Parameters										
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	0.50	8363263				<0.50	0.50	8363263
Volatile Organics										
Acetone (2-Propanone)	ug/L	<10	10	8365179	<10	10	8365179	<10	10	8365179
Benzene	ug/L	<0.17	0.17	8365179	<0.17	0.17	8365179	0.49	0.17	8365179
Bromodichloromethane	ug/L	<0.50	0.50	8365179	<0.50	0.50	8365179	<0.50	0.50	8365179
Bromoform	ug/L	<1.0	1.0	8365179	<1.0	1.0	8365179	<1.0	1.0	8365179
Bromomethane	ug/L	<0.50	0.50	8365179	<0.50	0.50	8365179	<0.50	0.50	8365179
Carbon Tetrachloride	ug/L	<0.20	0.20	8365179	<0.20	0.20	8365179	<0.20	0.20	8365179
Chlorobenzene	ug/L	<0.20	0.20	8365179	<0.20	0.20	8365179	<0.20	0.20	8365179
Chloroform	ug/L	<0.20	0.20	8365179	<0.20	0.20	8365179	<0.20	0.20	8365179
Dibromochloromethane	ug/L	<0.50	0.50	8365179	<0.50	0.50	8365179	<0.50	0.50	8365179
1,2-Dichlorobenzene	ug/L	<0.50	0.50	8365179	<0.50	0.50	8365179	<0.50	0.50	8365179
1,3-Dichlorobenzene	ug/L	<0.50	0.50	8365179	<0.50	0.50	8365179	<0.50	0.50	8365179
1,4-Dichlorobenzene	ug/L	<0.50	0.50	8365179	<0.50	0.50	8365179	<0.50	0.50	8365179
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	1.0	8365179	<1.0	1.0	8365179	<1.0	1.0	8365179
1,1-Dichloroethane	ug/L	<0.20	0.20	8365179	<0.20	0.20	8365179	<0.20	0.20	8365179
1,2-Dichloroethane	ug/L	<0.50	0.50	8365179	<0.50	0.50	8365179	<0.50	0.50	8365179
1,1-Dichloroethylene	ug/L	<0.20	0.20	8365179	<0.20	0.20	8365179	<0.20	0.20	8365179
cis-1,2-Dichloroethylene	ug/L	<0.50	0.50	8365179	<0.50	0.50	8365179	<0.50	0.50	8365179
trans-1,2-Dichloroethylene	ug/L	<0.50	0.50	8365179	<0.50	0.50	8365179	<0.50	0.50	8365179
1,2-Dichloropropane	ug/L	<0.20	0.20	8365179	<0.20	0.20	8365179	<0.20	0.20	8365179
cis-1,3-Dichloropropene	ug/L	<0.30	0.30	8365179	<0.30	0.30	8365179	<0.30	0.30	8365179
trans-1,3-Dichloropropene	ug/L	<0.40	0.40	8365179	<0.40	0.40	8365179	<0.40	0.40	8365179
Ethylbenzene	ug/L	<0.20	0.20	8365179	<0.20	0.20	8365179	0.22	0.20	8365179
Ethylene Dibromide	ug/L	<0.20	0.20	8365179	<0.20	0.20	8365179	<0.20	0.20	8365179
Hexane	ug/L	<1.0	1.0	8365179	<1.0	1.0	8365179	<1.0	1.0	8365179
Methylene Chloride(Dichloromethane)	ug/L	<2.0	2.0	8365179	<2.0	2.0	8365179	<2.0	2.0	8365179
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	10	8365179	<10	10	8365179	<10	10	8365179
Methyl Isobutyl Ketone	ug/L	<5.0	5.0	8365179	<5.0	5.0	8365179	<5.0	5.0	8365179
Methyl t-butyl ether (MTBE)	ug/L	<0.50	0.50	8365179	<0.50	0.50	8365179	<0.50	0.50	8365179
Styrene	ug/L	<0.50	0.50	8365179	<0.50	0.50	8365179	<0.50	0.50	8365179
1,1,1,2-Tetrachloroethane	ug/L	<0.50	0.50	8365179	<0.50	0.50	8365179	<0.50	0.50	8365179
1,1,2,2-Tetrachloroethane	ug/L	<0.50	0.50	8365179	<0.50	0.50	8365179	<0.50	0.50	8365179
Tetrachloroethylene	ug/L	<0.20	0.20	8365179	<0.20	0.20	8365179	<0.20	0.20	8365179

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

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Bureau Veritas Job #: C2Y4331
Report Date: 2022/11/28

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: CHR

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

Bureau Veritas ID		UJT427			UJT427			UJT428		
Sampling Date		2022/11/22			2022/11/22			2022/11/22		
COC Number		na			na			na		
	UNITS	MW3	RDL	QC Batch	MW3 Lab-Dup	RDL	QC Batch	MW4	RDL	QC Batch
Toluene	ug/L	<0.20	0.20	8365179	<0.20	0.20	8365179	1.1	0.20	8365179
1,1,1-Trichloroethane	ug/L	<0.20	0.20	8365179	<0.20	0.20	8365179	<0.20	0.20	8365179
1,1,2-Trichloroethane	ug/L	<0.50	0.50	8365179	<0.50	0.50	8365179	<0.50	0.50	8365179
Trichloroethylene	ug/L	<0.20	0.20	8365179	<0.20	0.20	8365179	<0.20	0.20	8365179
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	0.50	8365179	<0.50	0.50	8365179	<0.50	0.50	8365179
Vinyl Chloride	ug/L	<0.20	0.20	8365179	<0.20	0.20	8365179	<0.20	0.20	8365179
p+m-Xylene	ug/L	<0.20	0.20	8365179	<0.20	0.20	8365179	0.43	0.20	8365179
o-Xylene	ug/L	<0.20	0.20	8365179	<0.20	0.20	8365179	0.25	0.20	8365179
Total Xylenes	ug/L	<0.20	0.20	8365179	<0.20	0.20	8365179	0.68	0.20	8365179
F1 (C6-C10)	ug/L	<25	25	8365179	<25	25	8365179	<25	25	8365179
F1 (C6-C10) - BTEX	ug/L	<25	25	8365179	<25	25	8365179	<25	25	8365179
F2-F4 Hydrocarbons										
F2 (C10-C16 Hydrocarbons)	ug/L	<100	100	8365892				<100	100	8365892
F3 (C16-C34 Hydrocarbons)	ug/L	<200	200	8365892				<200	200	8365892
F4 (C34-C50 Hydrocarbons)	ug/L	<200	200	8365892				<200	200	8365892
Reached Baseline at C50	ug/L	Yes		8365892				Yes		8365892
Surrogate Recovery (%)										
o-Terphenyl	%	100		8365892				99		8365892
4-Bromofluorobenzene	%	91		8365179	90		8365179	90		8365179
D4-1,2-Dichloroethane	%	99		8365179	100		8365179	101		8365179
D8-Toluene	%	98		8365179	98		8365179	97		8365179

RDL = Reportable Detection Limit
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Bureau Veritas Job #: C2Y4331
Report Date: 2022/11/28

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: CHR

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

Bureau Veritas ID		UJT428			UJT429	UJT430	UJT432		
Sampling Date		2022/11/22			2022/11/22	2022/11/22	2022/11/22		
COC Number		na			na	na	na		
	UNITS	MW4 Lab-Dup	RDL	QC Batch	MW5	MW6	DUPW1	RDL	QC Batch
Calculated Parameters									
1,3-Dichloropropene (cis+trans)	ug/L				<0.50	<0.50	<0.50	0.50	8363263
Volatile Organics									
Acetone (2-Propanone)	ug/L				<10	<10	<10	10	8365179
Benzene	ug/L				0.65	0.33	<0.17	0.17	8365179
Bromodichloromethane	ug/L				<0.50	<0.50	<0.50	0.50	8365179
Bromoform	ug/L				<1.0	<1.0	<1.0	1.0	8365179
Bromomethane	ug/L				<0.50	<0.50	<0.50	0.50	8365179
Carbon Tetrachloride	ug/L				<0.20	<0.20	<0.20	0.20	8365179
Chlorobenzene	ug/L				<0.20	<0.20	<0.20	0.20	8365179
Chloroform	ug/L				<0.20	<0.20	<0.20	0.20	8365179
Dibromochloromethane	ug/L				<0.50	<0.50	<0.50	0.50	8365179
1,2-Dichlorobenzene	ug/L				<0.50	<0.50	<0.50	0.50	8365179
1,3-Dichlorobenzene	ug/L				<0.50	<0.50	<0.50	0.50	8365179
1,4-Dichlorobenzene	ug/L				<0.50	<0.50	<0.50	0.50	8365179
Dichlorodifluoromethane (FREON 12)	ug/L				<1.0	<1.0	<1.0	1.0	8365179
1,1-Dichloroethane	ug/L				<0.20	<0.20	<0.20	0.20	8365179
1,2-Dichloroethane	ug/L				<0.50	<0.50	<0.50	0.50	8365179
1,1-Dichloroethylene	ug/L				<0.20	<0.20	<0.20	0.20	8365179
cis-1,2-Dichloroethylene	ug/L				<0.50	<0.50	<0.50	0.50	8365179
trans-1,2-Dichloroethylene	ug/L				<0.50	<0.50	<0.50	0.50	8365179
1,2-Dichloropropane	ug/L				<0.20	<0.20	<0.20	0.20	8365179
cis-1,3-Dichloropropene	ug/L				<0.30	<0.30	<0.30	0.30	8365179
trans-1,3-Dichloropropene	ug/L				<0.40	<0.40	<0.40	0.40	8365179
Ethylbenzene	ug/L				0.27	<0.20	<0.20	0.20	8365179
Ethylene Dibromide	ug/L				<0.20	<0.20	<0.20	0.20	8365179
Hexane	ug/L				<1.0	<1.0	<1.0	1.0	8365179
Methylene Chloride(Dichloromethane)	ug/L				<2.0	<2.0	<2.0	2.0	8365179
Methyl Ethyl Ketone (2-Butanone)	ug/L				<10	<10	<10	10	8365179
Methyl Isobutyl Ketone	ug/L				<5.0	<5.0	<5.0	5.0	8365179
Methyl t-butyl ether (MTBE)	ug/L				<0.50	<0.50	<0.50	0.50	8365179
Styrene	ug/L				<0.50	<0.50	<0.50	0.50	8365179
1,1,1,2-Tetrachloroethane	ug/L				<0.50	<0.50	<0.50	0.50	8365179
1,1,2,2-Tetrachloroethane	ug/L				<0.50	<0.50	<0.50	0.50	8365179
Tetrachloroethylene	ug/L				<0.20	<0.20	<0.20	0.20	8365179

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

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Bureau Veritas Job #: C2Y4331
Report Date: 2022/11/28

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: CHR

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

Bureau Veritas ID		UJT428			UJT429	UJT430	UJT432		
Sampling Date		2022/11/22			2022/11/22	2022/11/22	2022/11/22		
COC Number		na			na	na	na		
	UNITS	MW4 Lab-Dup	RDL	QC Batch	MW5	MW6	DUPW1	RDL	QC Batch
Toluene	ug/L				1.1	0.68	<0.20	0.20	8365179
1,1,1-Trichloroethane	ug/L				<0.20	<0.20	<0.20	0.20	8365179
1,1,2-Trichloroethane	ug/L				<0.50	<0.50	<0.50	0.50	8365179
Trichloroethylene	ug/L				<0.20	<0.20	<0.20	0.20	8365179
Trichlorofluoromethane (FREON 11)	ug/L				<0.50	<0.50	<0.50	0.50	8365179
Vinyl Chloride	ug/L				<0.20	<0.20	<0.20	0.20	8365179
p+m-Xylene	ug/L				0.50	0.34	<0.20	0.20	8365179
o-Xylene	ug/L				0.26	<0.20	<0.20	0.20	8365179
Total Xylenes	ug/L				0.76	0.34	<0.20	0.20	8365179
F1 (C6-C10)	ug/L				<25	<25	<25	25	8365179
F1 (C6-C10) - BTEX	ug/L				<25	<25	<25	25	8365179
F2-F4 Hydrocarbons									
F2 (C10-C16 Hydrocarbons)	ug/L	<100	100	8365892	<100	<100	<100	100	8365892
F3 (C16-C34 Hydrocarbons)	ug/L	<200	200	8365892	<200	<200	<200	200	8365892
F4 (C34-C50 Hydrocarbons)	ug/L	<200	200	8365892	<200	<200	<200	200	8365892
Reached Baseline at C50	ug/L	Yes		8365892	Yes	Yes	Yes		8365892
Surrogate Recovery (%)									
o-Terphenyl	%	99		8365892	104	100	100		8365892
4-Bromofluorobenzene	%				90	89	89		8365179
D4-1,2-Dichloroethane	%				107	103	101		8365179
D8-Toluene	%				97	97	99		8365179

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

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O.REG 153 VOCS BY HS (WATER)

Bureau Veritas ID		UJT433		
Sampling Date		2022/11/22		
COC Number		na		
	UNITS	TRIP BLANK	RDL	QC Batch
Calculated Parameters				
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	0.50	8363263
Volatile Organics				
Acetone (2-Propanone)	ug/L	<10	10	8363324
Benzene	ug/L	<0.20	0.20	8363324
Bromodichloromethane	ug/L	<0.50	0.50	8363324
Bromoform	ug/L	<1.0	1.0	8363324
Bromomethane	ug/L	<0.50	0.50	8363324
Carbon Tetrachloride	ug/L	<0.19	0.19	8363324
Chlorobenzene	ug/L	<0.20	0.20	8363324
Chloroform	ug/L	<0.20	0.20	8363324
Dibromochloromethane	ug/L	<0.50	0.50	8363324
1,2-Dichlorobenzene	ug/L	<0.40	0.40	8363324
1,3-Dichlorobenzene	ug/L	<0.40	0.40	8363324
1,4-Dichlorobenzene	ug/L	<0.40	0.40	8363324
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	1.0	8363324
1,1-Dichloroethane	ug/L	<0.20	0.20	8363324
1,2-Dichloroethane	ug/L	<0.49	0.49	8363324
1,1-Dichloroethylene	ug/L	<0.20	0.20	8363324
cis-1,2-Dichloroethylene	ug/L	<0.50	0.50	8363324
trans-1,2-Dichloroethylene	ug/L	<0.50	0.50	8363324
1,2-Dichloropropane	ug/L	<0.20	0.20	8363324
cis-1,3-Dichloropropene	ug/L	<0.30	0.30	8363324
trans-1,3-Dichloropropene	ug/L	<0.40	0.40	8363324
Ethylbenzene	ug/L	<0.20	0.20	8363324
Ethylene Dibromide	ug/L	<0.19	0.19	8363324
Hexane	ug/L	<1.0	1.0	8363324
Methylene Chloride(Dichloromethane)	ug/L	<2.0	2.0	8363324
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	10	8363324
Methyl Isobutyl Ketone	ug/L	<5.0	5.0	8363324
Methyl t-butyl ether (MTBE)	ug/L	<0.50	0.50	8363324
Styrene	ug/L	<0.40	0.40	8363324
1,1,1,2-Tetrachloroethane	ug/L	<0.50	0.50	8363324
1,1,2,2-Tetrachloroethane	ug/L	<0.40	0.40	8363324
Tetrachloroethylene	ug/L	<0.20	0.20	8363324

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O.REG 153 VOCS BY HS (WATER)

Bureau Veritas ID		UJT433		
Sampling Date		2022/11/22		
COC Number		na		
	UNITS	TRIP BLANK	RDL	QC Batch
Toluene	ug/L	<0.20	0.20	8363324
1,1,1-Trichloroethane	ug/L	<0.20	0.20	8363324
1,1,2-Trichloroethane	ug/L	<0.40	0.40	8363324
Trichloroethylene	ug/L	<0.20	0.20	8363324
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	0.50	8363324
Vinyl Chloride	ug/L	<0.20	0.20	8363324
p+m-Xylene	ug/L	<0.20	0.20	8363324
o-Xylene	ug/L	<0.20	0.20	8363324
Total Xylenes	ug/L	<0.20	0.20	8363324
Surrogate Recovery (%)				
4-Bromofluorobenzene	%	92		8363324
D4-1,2-Dichloroethane	%	111		8363324
D8-Toluene	%	100		8363324

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Bureau Veritas Job #: C2Y4331
Report Date: 2022/11/28

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: CHR

TEST SUMMARY

Bureau Veritas ID: UJT427
Sample ID: MW3
Matrix: Ground Water

Collected: 2022/11/22
Shipped:
Received: 2022/11/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8362383	N/A	2022/11/25	Automated Statchk
1,3-Dichloropropene Sum	CALC	8363263	N/A	2022/11/26	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8365892	2022/11/24	2022/11/25	Jeevaraj Jeevaratrnam
Dissolved Metals by ICPMS	ICP/MS	8364770	N/A	2022/11/24	Prempal Bhatti
PAH Compounds in Water by GC/MS (SIM)	GC/MS	8365857	2022/11/24	2022/11/25	Mitesh Raj
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8365179	N/A	2022/11/25	Juan Pangilinan

Bureau Veritas ID: UJT427 Dup
Sample ID: MW3
Matrix: Ground Water

Collected: 2022/11/22
Shipped:
Received: 2022/11/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8365179	N/A	2022/11/25	Juan Pangilinan

Bureau Veritas ID: UJT428
Sample ID: MW4
Matrix: Ground Water

Collected: 2022/11/22
Shipped:
Received: 2022/11/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8362383	N/A	2022/11/25	Automated Statchk
1,3-Dichloropropene Sum	CALC	8363263	N/A	2022/11/26	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8365892	2022/11/24	2022/11/25	Jeevaraj Jeevaratrnam
Dissolved Metals by ICPMS	ICP/MS	8364770	N/A	2022/11/24	Prempal Bhatti
PAH Compounds in Water by GC/MS (SIM)	GC/MS	8365857	2022/11/24	2022/11/25	Mitesh Raj
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8365179	N/A	2022/11/25	Juan Pangilinan

Bureau Veritas ID: UJT428 Dup
Sample ID: MW4
Matrix: Ground Water

Collected: 2022/11/22
Shipped:
Received: 2022/11/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8365892	2022/11/24	2022/11/25	Jeevaraj Jeevaratrnam
PAH Compounds in Water by GC/MS (SIM)	GC/MS	8365857	2022/11/24	2022/11/25	Mitesh Raj

Bureau Veritas ID: UJT429
Sample ID: MW5
Matrix: Ground Water

Collected: 2022/11/22
Shipped:
Received: 2022/11/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8362383	N/A	2022/11/25	Automated Statchk
1,3-Dichloropropene Sum	CALC	8363263	N/A	2022/11/26	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8365892	2022/11/24	2022/11/25	Jeevaraj Jeevaratrnam
Dissolved Metals by ICPMS	ICP/MS	8364770	N/A	2022/11/24	Prempal Bhatti
PAH Compounds in Water by GC/MS (SIM)	GC/MS	8365857	2022/11/24	2022/11/25	Mitesh Raj
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8365179	N/A	2022/11/25	Juan Pangilinan

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Bureau Veritas Job #: C2Y4331
Report Date: 2022/11/28

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: CHR

TEST SUMMARY

Bureau Veritas ID: UJT430
Sample ID: MW6
Matrix: Ground Water

Collected: 2022/11/22
Shipped:
Received: 2022/11/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8362383	N/A	2022/11/25	Automated Statchk
1,3-Dichloropropene Sum	CALC	8363263	N/A	2022/11/26	Automated Statchk
Acid Extractables by GC/MS	GC/MS	8368493	2022/11/25	2022/11/26	May Yin Mak
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8365892	2022/11/24	2022/11/25	Jeevaraj Jeevaratrnam
Dissolved Metals by ICPMS	ICP/MS	8364770	N/A	2022/11/24	Prempal Bhatti
OC Pesticides (Selected) & PCB	GC/ECD	8369484	2022/11/26	2022/11/27	Li Peng
OC Pesticides Summed Parameters	CALC	8362828	N/A	2022/11/25	Automated Statchk
PAH Compounds in Water by GC/MS (SIM)	GC/MS	8365857	2022/11/24	2022/11/25	Mitesh Raj
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8365179	N/A	2022/11/25	Juan Pangilinan

Bureau Veritas ID: UJT432
Sample ID: DUPW1
Matrix: Ground Water

Collected: 2022/11/22
Shipped:
Received: 2022/11/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8362383	N/A	2022/11/25	Automated Statchk
1,3-Dichloropropene Sum	CALC	8363263	N/A	2022/11/26	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8365892	2022/11/24	2022/11/25	Jeevaraj Jeevaratrnam
PAH Compounds in Water by GC/MS (SIM)	GC/MS	8365857	2022/11/24	2022/11/25	Mitesh Raj
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8365179	N/A	2022/11/25	Juan Pangilinan

Bureau Veritas ID: UJT433
Sample ID: TRIP BLANK
Matrix: Ground Water

Collected: 2022/11/22
Shipped:
Received: 2022/11/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	8363263	N/A	2022/11/25	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	8363324	N/A	2022/11/25	Gladys Guerrero

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GENERAL COMMENTS

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

Package 1	3.3°C

Cooler custody seal was present and intact.

Results relate only to the items tested.

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Bureau Veritas Job #: C2Y4331
Report Date: 2022/11/28

QUALITY ASSURANCE REPORT

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: CHR

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8363324	4-Bromofluorobenzene	2022/11/24	95	70 - 130	94	70 - 130	95	%		
8363324	D4-1,2-Dichloroethane	2022/11/24	112	70 - 130	110	70 - 130	107	%		
8363324	D8-Toluene	2022/11/24	101	70 - 130	102	70 - 130	99	%		
8365179	4-Bromofluorobenzene	2022/11/25	103	70 - 130	104	70 - 130	92	%		
8365179	D4-1,2-Dichloroethane	2022/11/25	101	70 - 130	97	70 - 130	95	%		
8365179	D8-Toluene	2022/11/25	101	70 - 130	101	70 - 130	98	%		
8365857	D10-Anthracene	2022/11/25	99	50 - 130	105	50 - 130	103	%		
8365857	D14-Terphenyl (FS)	2022/11/25	94	50 - 130	102	50 - 130	101	%		
8365857	D8-Acenaphthylene	2022/11/25	89	50 - 130	92	50 - 130	90	%		
8365892	o-Terphenyl	2022/11/24	100	60 - 130	99	60 - 130	100	%		
8368493	2,4,6-Tribromophenol	2022/11/26			89	50 - 130	88	%		
8368493	2-Fluorophenol	2022/11/26			65	50 - 130	61	%		
8368493	D5-Phenol	2022/11/26			70	30 - 130	63	%		
8369484	2,4,5,6-Tetrachloro-m-xylene	2022/11/27	70	50 - 130	63	50 - 130	60	%		
8369484	Decachlorobiphenyl	2022/11/27	80	50 - 130	77	50 - 130	89	%		
8363324	1,1,1,2-Tetrachloroethane	2022/11/24	88	70 - 130	92	70 - 130	<0.50	ug/L	NC	30
8363324	1,1,1-Trichloroethane	2022/11/24	88	70 - 130	94	70 - 130	<0.20	ug/L	NC	30
8363324	1,1,2,2-Tetrachloroethane	2022/11/24	94	70 - 130	94	70 - 130	<0.40	ug/L	NC	30
8363324	1,1,2-Trichloroethane	2022/11/24	104	70 - 130	106	70 - 130	<0.40	ug/L	NC	30
8363324	1,1-Dichloroethane	2022/11/24	87	70 - 130	92	70 - 130	<0.20	ug/L	NC	30
8363324	1,1-Dichloroethylene	2022/11/24	88	70 - 130	95	70 - 130	<0.20	ug/L	NC	30
8363324	1,2-Dichlorobenzene	2022/11/24	90	70 - 130	95	70 - 130	<0.40	ug/L	NC	30
8363324	1,2-Dichloroethane	2022/11/24	94	70 - 130	97	70 - 130	<0.49	ug/L	NC	30
8363324	1,2-Dichloropropane	2022/11/24	90	70 - 130	93	70 - 130	<0.20	ug/L	NC	30
8363324	1,3-Dichlorobenzene	2022/11/24	86	70 - 130	94	70 - 130	<0.40	ug/L	NC	30
8363324	1,4-Dichlorobenzene	2022/11/24	99	70 - 130	108	70 - 130	<0.40	ug/L	NC	30
8363324	Acetone (2-Propanone)	2022/11/24	108	60 - 140	108	60 - 140	<10	ug/L	NC	30
8363324	Benzene	2022/11/24	83	70 - 130	87	70 - 130	<0.20	ug/L	NC	30
8363324	Bromodichloromethane	2022/11/24	90	70 - 130	93	70 - 130	<0.50	ug/L	NC	30
8363324	Bromoform	2022/11/24	92	70 - 130	93	70 - 130	<1.0	ug/L	NC	30
8363324	Bromomethane	2022/11/24	83	60 - 140	88	60 - 140	<0.50	ug/L	NC	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8363324	Carbon Tetrachloride	2022/11/24	86	70 - 130	91	70 - 130	<0.19	ug/L	NC	30
8363324	Chlorobenzene	2022/11/24	87	70 - 130	94	70 - 130	<0.20	ug/L	NC	30
8363324	Chloroform	2022/11/24	87	70 - 130	92	70 - 130	<0.20	ug/L	NC	30
8363324	cis-1,2-Dichloroethylene	2022/11/24	90	70 - 130	96	70 - 130	<0.50	ug/L	NC	30
8363324	cis-1,3-Dichloropropene	2022/11/24	86	70 - 130	84	70 - 130	<0.30	ug/L	NC	30
8363324	Dibromochloromethane	2022/11/24	89	70 - 130	92	70 - 130	<0.50	ug/L	NC	30
8363324	Dichlorodifluoromethane (FREON 12)	2022/11/24	94	60 - 140	104	60 - 140	<1.0	ug/L	NC	30
8363324	Ethylbenzene	2022/11/24	81	70 - 130	88	70 - 130	<0.20	ug/L	NC	30
8363324	Ethylene Dibromide	2022/11/24	91	70 - 130	93	70 - 130	<0.19	ug/L	NC	30
8363324	Hexane	2022/11/24	80	70 - 130	90	70 - 130	<1.0	ug/L	NC	30
8363324	Methyl Ethyl Ketone (2-Butanone)	2022/11/24	109	60 - 140	108	60 - 140	<10	ug/L	NC	30
8363324	Methyl Isobutyl Ketone	2022/11/24	101	70 - 130	100	70 - 130	<5.0	ug/L	NC	30
8363324	Methyl t-butyl ether (MTBE)	2022/11/24	86	70 - 130	88	70 - 130	<0.50	ug/L	NC	30
8363324	Methylene Chloride(Dichloromethane)	2022/11/24	90	70 - 130	96	70 - 130	<2.0	ug/L	NC	30
8363324	o-Xylene	2022/11/24	83	70 - 130	89	70 - 130	<0.20	ug/L	NC	30
8363324	p+m-Xylene	2022/11/24	82	70 - 130	89	70 - 130	<0.20	ug/L	NC	30
8363324	Styrene	2022/11/24	89	70 - 130	95	70 - 130	<0.40	ug/L	NC	30
8363324	Tetrachloroethylene	2022/11/24	76	70 - 130	84	70 - 130	<0.20	ug/L	NC	30
8363324	Toluene	2022/11/24	81	70 - 130	88	70 - 130	<0.20	ug/L	NC	30
8363324	Total Xylenes	2022/11/24					<0.20	ug/L	NC	30
8363324	trans-1,2-Dichloroethylene	2022/11/24	86	70 - 130	94	70 - 130	<0.50	ug/L	NC	30
8363324	trans-1,3-Dichloropropene	2022/11/24	86	70 - 130	85	70 - 130	<0.40	ug/L	NC	30
8363324	Trichloroethylene	2022/11/24	84	70 - 130	91	70 - 130	<0.20	ug/L	NC	30
8363324	Trichlorofluoromethane (FREON 11)	2022/11/24	85	70 - 130	91	70 - 130	<0.50	ug/L	NC	30
8363324	Vinyl Chloride	2022/11/24	76	70 - 130	83	70 - 130	<0.20	ug/L	NC	30
8364770	Dissolved Antimony (Sb)	2022/11/24	105	80 - 120	101	80 - 120	<0.50	ug/L	2.9	20
8364770	Dissolved Arsenic (As)	2022/11/24	105	80 - 120	99	80 - 120	<1.0	ug/L	NC	20
8364770	Dissolved Barium (Ba)	2022/11/24	NC	80 - 120	98	80 - 120	<2.0	ug/L	0.016	20
8364770	Dissolved Beryllium (Be)	2022/11/24	95	80 - 120	97	80 - 120	<0.40	ug/L	NC	20
8364770	Dissolved Boron (B)	2022/11/24	94	80 - 120	98	80 - 120	<10	ug/L	2.8	20
8364770	Dissolved Cadmium (Cd)	2022/11/24	99	80 - 120	99	80 - 120	<0.090	ug/L	NC	20

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8364770	Dissolved Chromium (Cr)	2022/11/24	105	80 - 120	98	80 - 120	<5.0	ug/L	NC	20
8364770	Dissolved Cobalt (Co)	2022/11/24	103	80 - 120	100	80 - 120	<0.50	ug/L	1.7	20
8364770	Dissolved Copper (Cu)	2022/11/24	98	80 - 120	98	80 - 120	<0.90	ug/L	2.5	20
8364770	Dissolved Lead (Pb)	2022/11/24	94	80 - 120	98	80 - 120	<0.50	ug/L	NC	20
8364770	Dissolved Molybdenum (Mo)	2022/11/24	110	80 - 120	101	80 - 120	<0.50	ug/L	1.1	20
8364770	Dissolved Nickel (Ni)	2022/11/24	99	80 - 120	100	80 - 120	<1.0	ug/L	2.2	20
8364770	Dissolved Selenium (Se)	2022/11/24	103	80 - 120	102	80 - 120	<2.0	ug/L	NC	20
8364770	Dissolved Silver (Ag)	2022/11/24	86	80 - 120	101	80 - 120	<0.090	ug/L	NC	20
8364770	Dissolved Thallium (Tl)	2022/11/24	97	80 - 120	100	80 - 120	<0.050	ug/L	7.3	20
8364770	Dissolved Uranium (U)	2022/11/24	101	80 - 120	100	80 - 120	<0.10	ug/L	0.82	20
8364770	Dissolved Vanadium (V)	2022/11/24	108	80 - 120	98	80 - 120	<0.50	ug/L	2.6	20
8364770	Dissolved Zinc (Zn)	2022/11/24	93	80 - 120	99	80 - 120	<5.0	ug/L	NC	20
8365179	1,1,1,2-Tetrachloroethane	2022/11/25	104	70 - 130	102	70 - 130	<0.50	ug/L	NC	30
8365179	1,1,1-Trichloroethane	2022/11/25	105	70 - 130	103	70 - 130	<0.20	ug/L	NC	30
8365179	1,1,2,2-Tetrachloroethane	2022/11/25	102	70 - 130	97	70 - 130	<0.50	ug/L	NC	30
8365179	1,1,2-Trichloroethane	2022/11/25	108	70 - 130	102	70 - 130	<0.50	ug/L	NC	30
8365179	1,1-Dichloroethane	2022/11/25	102	70 - 130	98	70 - 130	<0.20	ug/L	NC	30
8365179	1,1-Dichloroethylene	2022/11/25	106	70 - 130	105	70 - 130	<0.20	ug/L	NC	30
8365179	1,2-Dichlorobenzene	2022/11/25	103	70 - 130	102	70 - 130	<0.50	ug/L	NC	30
8365179	1,2-Dichloroethane	2022/11/25	103	70 - 130	96	70 - 130	<0.50	ug/L	NC	30
8365179	1,2-Dichloropropane	2022/11/25	104	70 - 130	99	70 - 130	<0.20	ug/L	NC	30
8365179	1,3-Dichlorobenzene	2022/11/25	109	70 - 130	109	70 - 130	<0.50	ug/L	NC	30
8365179	1,4-Dichlorobenzene	2022/11/25	107	70 - 130	107	70 - 130	<0.50	ug/L	NC	30
8365179	Acetone (2-Propanone)	2022/11/25	114	60 - 140	105	60 - 140	<10	ug/L	NC	30
8365179	Benzene	2022/11/25	97	70 - 130	94	70 - 130	<0.17	ug/L	NC	30
8365179	Bromodichloromethane	2022/11/25	107	70 - 130	102	70 - 130	<0.50	ug/L	NC	30
8365179	Bromoform	2022/11/25	103	70 - 130	99	70 - 130	<1.0	ug/L	NC	30
8365179	Bromomethane	2022/11/25	113	60 - 140	102	60 - 140	<0.50	ug/L	NC	30
8365179	Carbon Tetrachloride	2022/11/25	104	70 - 130	103	70 - 130	<0.20	ug/L	NC	30
8365179	Chlorobenzene	2022/11/25	105	70 - 130	104	70 - 130	<0.20	ug/L	NC	30
8365179	Chloroform	2022/11/25	103	70 - 130	100	70 - 130	<0.20	ug/L	NC	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8365179	cis-1,2-Dichloroethylene	2022/11/25	108	70 - 130	104	70 - 130	<0.50	ug/L	NC	30
8365179	cis-1,3-Dichloropropene	2022/11/25	109	70 - 130	97	70 - 130	<0.30	ug/L	NC	30
8365179	Dibromochloromethane	2022/11/25	111	70 - 130	107	70 - 130	<0.50	ug/L	NC	30
8365179	Dichlorodifluoromethane (FREON 12)	2022/11/25	110	60 - 140	109	60 - 140	<1.0	ug/L	NC	30
8365179	Ethylbenzene	2022/11/25	96	70 - 130	96	70 - 130	<0.20	ug/L	NC	30
8365179	Ethylene Dibromide	2022/11/25	103	70 - 130	97	70 - 130	<0.20	ug/L	NC	30
8365179	F1 (C6-C10) - BTEX	2022/11/25					<25	ug/L	NC	30
8365179	F1 (C6-C10)	2022/11/25	100	60 - 140	101	60 - 140	<25	ug/L	NC	30
8365179	Hexane	2022/11/25	105	70 - 130	105	70 - 130	<1.0	ug/L	NC	30
8365179	Methyl Ethyl Ketone (2-Butanone)	2022/11/25	118	60 - 140	110	60 - 140	<10	ug/L	NC	30
8365179	Methyl Isobutyl Ketone	2022/11/25	86	70 - 130	81	70 - 130	<5.0	ug/L	NC	30
8365179	Methyl t-butyl ether (MTBE)	2022/11/25	100	70 - 130	96	70 - 130	<0.50	ug/L	NC	30
8365179	Methylene Chloride(Dichloromethane)	2022/11/25	111	70 - 130	105	70 - 130	<2.0	ug/L	NC	30
8365179	o-Xylene	2022/11/25	98	70 - 130	98	70 - 130	<0.20	ug/L	NC	30
8365179	p+m-Xylene	2022/11/25	102	70 - 130	102	70 - 130	<0.20	ug/L	NC	30
8365179	Styrene	2022/11/25	116	70 - 130	116	70 - 130	<0.50	ug/L	NC	30
8365179	Tetrachloroethylene	2022/11/25	100	70 - 130	101	70 - 130	<0.20	ug/L	NC	30
8365179	Toluene	2022/11/25	99	70 - 130	99	70 - 130	<0.20	ug/L	NC	30
8365179	Total Xylenes	2022/11/25					<0.20	ug/L	NC	30
8365179	trans-1,2-Dichloroethylene	2022/11/25	104	70 - 130	102	70 - 130	<0.50	ug/L	NC	30
8365179	trans-1,3-Dichloropropene	2022/11/25	113	70 - 130	97	70 - 130	<0.40	ug/L	NC	30
8365179	Trichloroethylene	2022/11/25	110	70 - 130	109	70 - 130	<0.20	ug/L	NC	30
8365179	Trichlorofluoromethane (FREON 11)	2022/11/25	106	70 - 130	104	70 - 130	<0.50	ug/L	NC	30
8365179	Vinyl Chloride	2022/11/25	100	70 - 130	98	70 - 130	<0.20	ug/L	NC	30
8365857	1-Methylnaphthalene	2022/11/25	91	50 - 130	89	50 - 130	<0.050	ug/L	NC	30
8365857	2-Methylnaphthalene	2022/11/25	84	50 - 130	81	50 - 130	<0.050	ug/L	NC	30
8365857	Acenaphthene	2022/11/25	94	50 - 130	93	50 - 130	<0.050	ug/L	NC	30
8365857	Acenaphthylene	2022/11/25	91	50 - 130	90	50 - 130	<0.050	ug/L	NC	30
8365857	Anthracene	2022/11/25	99	50 - 130	101	50 - 130	<0.050	ug/L	NC	30
8365857	Benzo(a)anthracene	2022/11/25	94	50 - 130	94	50 - 130	<0.050	ug/L	NC	30
8365857	Benzo(a)pyrene	2022/11/25	92	50 - 130	93	50 - 130	<0.0090	ug/L	NC	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8365857	Benzo(b/j)fluoranthene	2022/11/25	97	50 - 130	99	50 - 130	<0.050	ug/L	NC	30
8365857	Benzo(g,h,i)perylene	2022/11/25	96	50 - 130	98	50 - 130	<0.050	ug/L	NC	30
8365857	Benzo(k)fluoranthene	2022/11/25	96	50 - 130	98	50 - 130	<0.050	ug/L	NC	30
8365857	Chrysene	2022/11/25	96	50 - 130	97	50 - 130	<0.050	ug/L	NC	30
8365857	Dibenzo(a,h)anthracene	2022/11/25	86	50 - 130	87	50 - 130	<0.050	ug/L	NC	30
8365857	Fluoranthene	2022/11/25	104	50 - 130	105	50 - 130	<0.050	ug/L	NC	30
8365857	Fluorene	2022/11/25	95	50 - 130	95	50 - 130	<0.050	ug/L	NC	30
8365857	Indeno(1,2,3-cd)pyrene	2022/11/25	94	50 - 130	95	50 - 130	<0.050	ug/L	NC	30
8365857	Naphthalene	2022/11/25	84	50 - 130	81	50 - 130	<0.050	ug/L	NC	30
8365857	Phenanthrene	2022/11/25	97	50 - 130	98	50 - 130	<0.030	ug/L	NC	30
8365857	Pyrene	2022/11/25	104	50 - 130	106	50 - 130	<0.050	ug/L	NC	30
8365892	F2 (C10-C16 Hydrocarbons)	2022/11/25	103	60 - 130	100	60 - 130	<100	ug/L	NC	30
8365892	F3 (C16-C34 Hydrocarbons)	2022/11/25	107	60 - 130	109	60 - 130	<200	ug/L	NC	30
8365892	F4 (C34-C50 Hydrocarbons)	2022/11/25	110	60 - 130	111	60 - 130	<200	ug/L	NC	30
8368493	2,4,5-Trichlorophenol	2022/11/26			83	50 - 130	<0.1	ug/L	0.12	30
8368493	2,4,6-Trichlorophenol	2022/11/26			85	10 - 130	<0.1	ug/L	0.25	30
8368493	2,4-Dichlorophenol	2022/11/26			83	50 - 130	<0.1	ug/L	1.5	30
8368493	2-Chlorophenol	2022/11/26			78	50 - 130	<0.1	ug/L	4.5	30
8368493	3 & 4-Chlorophenol	2022/11/26			90	10 - 130	<0.1	ug/L	0.82	40
8368493	Pentachlorophenol	2022/11/26			101	50 - 130	<0.1	ug/L	1.2	30
8369484	a-Chlordane	2022/11/27	96	50 - 130	101	50 - 130	<0.005	ug/L	8.1	30
8369484	Aldrin	2022/11/27	84	50 - 130	85	50 - 130	<0.005	ug/L	8.5	30
8369484	Dieldrin	2022/11/27	111	50 - 130	111	50 - 130	<0.005	ug/L	11	30
8369484	Endosulfan I (alpha)	2022/11/27	89	50 - 130	111	50 - 130	<0.005	ug/L	4.9	30
8369484	Endosulfan II (beta)	2022/11/27	100	50 - 130	101	50 - 130	<0.005	ug/L	12	30
8369484	Endrin	2022/11/27	121	50 - 130	114	50 - 130	<0.005	ug/L	9.9	30
8369484	g-Chlordane	2022/11/27	96	50 - 130	102	50 - 130	<0.005	ug/L	9.4	30
8369484	Heptachlor epoxide	2022/11/27	100	50 - 130	106	50 - 130	<0.005	ug/L	8.0	30
8369484	Heptachlor	2022/11/27	114	50 - 130	112	50 - 130	<0.005	ug/L	5.3	30
8369484	Hexachlorobenzene	2022/11/27	90	50 - 130	85	50 - 130	<0.005	ug/L	NC	30
8369484	Hexachlorobutadiene	2022/11/27	76	50 - 130	70	50 - 130	<0.009	ug/L	10	30

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			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8369484	Hexachloroethane	2022/11/27	63	50 - 130	57	50 - 130	<0.01	ug/L	14	30
8369484	Lindane	2022/11/27	99	50 - 130	100	50 - 130	<0.003	ug/L	9.7	30
8369484	Methoxychlor	2022/11/27	81	50 - 130	93	50 - 130	<0.01	ug/L	4.7	30
8369484	o,p-DDD	2022/11/27	122	50 - 130	112	50 - 130	<0.005	ug/L	8.1	30
8369484	o,p-DDE	2022/11/27	93	50 - 130	97	50 - 130	<0.005	ug/L	8.0	30
8369484	o,p-DDT	2022/11/27	130	50 - 130	112	50 - 130	<0.005	ug/L	14	30
8369484	p,p-DDD	2022/11/27	125	50 - 130	119	50 - 130	<0.005	ug/L	4.7	30
8369484	p,p-DDE	2022/11/27	97	50 - 130	108	50 - 130	<0.005	ug/L	5.9	30
8369484	p,p-DDT	2022/11/27	119	50 - 130	109	50 - 130	<0.005	ug/L	15	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).

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Bureau Veritas Job #: C2Y4331
Report Date: 2022/11/28

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: CHR

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 {0}, {1} responsible for {2} {3} laboratory operations.

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Your Project #: 2206-E054
Site Location: ERIN
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: 2022/11/29
Report #: R7409130
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2Y4835
Received: 2022/11/23, 17:28

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum	1	N/A	2022/11/29	CAM SOP-00301	EPA 8270D m
1,3-Dichloropropene Sum	1	N/A	2022/11/26		EPA 8260C m
Petroleum Hydro. CCME F1 & BTEX in Water	1	N/A	2022/11/26	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (1)	2	2022/11/26	2022/11/27	CAM SOP-00316	CCME PHC-CWS m
Dissolved Metals by ICPMS	2	N/A	2022/11/25	CAM SOP-00447	EPA 6020B m
PAH Compounds in Water by GC/MS (SIM)	1	2022/11/26	2022/11/26	CAM SOP-00318	EPA 8270D m
Volatile Organic Compounds and F1 PHCs	1	N/A	2022/11/26	CAM SOP-00230	EPA 8260C m

Remarks:

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

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

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

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

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

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

Your Project #: 2206-E054
Site Location: ERIN
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: 2022/11/29
Report #: R7409130
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2Y4835

Received: 2022/11/23, 17:28

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
29 Nov 2022 16:48:07

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 #: C2Y4835
Report Date: 2022/11/29

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

O.REG 153 DISSOLVED ICPMS METALS (WATER)

Bureau Veritas ID		UJW180	UJW181		
Sampling Date		2022/11/23	2022/11/23		
COC Number		n/a	n/a		
	UNITS	MW7	MW8	RDL	QC Batch
Metals					
Dissolved Antimony (Sb)	ug/L	0.50	<0.50	0.50	8365125
Dissolved Arsenic (As)	ug/L	<1.0	<1.0	1.0	8365125
Dissolved Barium (Ba)	ug/L	70	43	2.0	8365125
Dissolved Beryllium (Be)	ug/L	<0.40	<0.40	0.40	8365125
Dissolved Boron (B)	ug/L	19	73	10	8365125
Dissolved Cadmium (Cd)	ug/L	<0.090	<0.090	0.090	8365125
Dissolved Chromium (Cr)	ug/L	<5.0	<5.0	5.0	8365125
Dissolved Cobalt (Co)	ug/L	<0.50	<0.50	0.50	8365125
Dissolved Copper (Cu)	ug/L	2.5	3.4	0.90	8365125
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	0.50	8365125
Dissolved Molybdenum (Mo)	ug/L	3.5	4.5	0.50	8365125
Dissolved Nickel (Ni)	ug/L	<1.0	1.1	1.0	8365125
Dissolved Selenium (Se)	ug/L	<2.0	<2.0	2.0	8365125
Dissolved Silver (Ag)	ug/L	<0.090	<0.090	0.090	8365125
Dissolved Thallium (Tl)	ug/L	<0.050	0.052	0.050	8365125
Dissolved Uranium (U)	ug/L	1.2	0.21	0.10	8365125
Dissolved Vanadium (V)	ug/L	<0.50	<0.50	0.50	8365125
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	5.0	8365125

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Bureau Veritas Job #: C2Y4835
Report Date: 2022/11/29

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

O.REG 153 PAHS (WATER)

Bureau Veritas ID		UJW180		
Sampling Date		2022/11/23		
COC Number		n/a		
	UNITS	MW7	RDL	QC Batch
Calculated Parameters				
Methylnaphthalene, 2-(1-)	ug/L	<0.071	0.071	8362383
Polyaromatic Hydrocarbons				
Acenaphthene	ug/L	<0.050	0.050	8369338
Acenaphthylene	ug/L	<0.050	0.050	8369338
Anthracene	ug/L	<0.050	0.050	8369338
Benzo(a)anthracene	ug/L	<0.050	0.050	8369338
Benzo(a)pyrene	ug/L	<0.0090	0.0090	8369338
Benzo(b/j)fluoranthene	ug/L	<0.050	0.050	8369338
Benzo(g,h,i)perylene	ug/L	<0.050	0.050	8369338
Benzo(k)fluoranthene	ug/L	<0.050	0.050	8369338
Chrysene	ug/L	<0.050	0.050	8369338
Dibenzo(a,h)anthracene	ug/L	<0.050	0.050	8369338
Fluoranthene	ug/L	<0.050	0.050	8369338
Fluorene	ug/L	<0.050	0.050	8369338
Indeno(1,2,3-cd)pyrene	ug/L	<0.050	0.050	8369338
1-Methylnaphthalene	ug/L	<0.050	0.050	8369338
2-Methylnaphthalene	ug/L	<0.050	0.050	8369338
Naphthalene	ug/L	<0.050	0.050	8369338
Phenanthrene	ug/L	<0.030	0.030	8369338
Pyrene	ug/L	<0.050	0.050	8369338
Surrogate Recovery (%)				
D10-Anthracene	%	104		8369338
D14-Terphenyl (FS)	%	98		8369338
D8-Acenaphthylene	%	95		8369338

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Bureau Veritas Job #: C2Y4835
Report Date: 2022/11/29

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

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

Bureau Veritas ID		UJW181		
Sampling Date		2022/11/23		
COC Number		n/a		
	UNITS	MW8	RDL	QC Batch
BTEX & F1 Hydrocarbons				
Benzene	ug/L	0.34	0.20	8368559
Toluene	ug/L	0.44	0.20	8368559
Ethylbenzene	ug/L	<0.20	0.20	8368559
o-Xylene	ug/L	<0.20	0.20	8368559
p+m-Xylene	ug/L	<0.40	0.40	8368559
Total Xylenes	ug/L	<0.40	0.40	8368559
F1 (C6-C10)	ug/L	<25	25	8368559
F1 (C6-C10) - BTEX	ug/L	<25	25	8368559
F2-F4 Hydrocarbons				
F2 (C10-C16 Hydrocarbons)	ug/L	<100	100	8369340
F3 (C16-C34 Hydrocarbons)	ug/L	<200	200	8369340
F4 (C34-C50 Hydrocarbons)	ug/L	<200	200	8369340
Reached Baseline at C50	ug/L	Yes		8369340
Surrogate Recovery (%)				
1,4-Difluorobenzene	%	99		8368559
4-Bromofluorobenzene	%	98		8368559
D10-o-Xylene	%	84		8368559
D4-1,2-Dichloroethane	%	97		8368559
o-Terphenyl	%	97		8369340

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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

Bureau Veritas ID		UJW180			UJW180		
Sampling Date		2022/11/23			2022/11/23		
COC Number		n/a			n/a		
	UNITS	MW7	RDL	QC Batch	MW7 Lab-Dup	RDL	QC Batch
Calculated Parameters							
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	0.50	8364393			
Volatile Organics							
Acetone (2-Propanone)	ug/L	29	10	8366174	35	10	8366174
Benzene	ug/L	<0.17	0.17	8366174	<0.17	0.17	8366174
Bromodichloromethane	ug/L	<0.50	0.50	8366174	<0.50	0.50	8366174
Bromoform	ug/L	<1.0	1.0	8366174	<1.0	1.0	8366174
Bromomethane	ug/L	<0.50	0.50	8366174	<0.50	0.50	8366174
Carbon Tetrachloride	ug/L	<0.20	0.20	8366174	<0.20	0.20	8366174
Chlorobenzene	ug/L	<0.20	0.20	8366174	<0.20	0.20	8366174
Chloroform	ug/L	<0.20	0.20	8366174	<0.20	0.20	8366174
Dibromochloromethane	ug/L	<0.50	0.50	8366174	<0.50	0.50	8366174
1,2-Dichlorobenzene	ug/L	<0.50	0.50	8366174	<0.50	0.50	8366174
1,3-Dichlorobenzene	ug/L	<0.50	0.50	8366174	<0.50	0.50	8366174
1,4-Dichlorobenzene	ug/L	<0.50	0.50	8366174	<0.50	0.50	8366174
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	1.0	8366174	<1.0	1.0	8366174
1,1-Dichloroethane	ug/L	<0.20	0.20	8366174	<0.20	0.20	8366174
1,2-Dichloroethane	ug/L	<0.50	0.50	8366174	<0.50	0.50	8366174
1,1-Dichloroethylene	ug/L	<0.20	0.20	8366174	<0.20	0.20	8366174
cis-1,2-Dichloroethylene	ug/L	<0.50	0.50	8366174	<0.50	0.50	8366174
trans-1,2-Dichloroethylene	ug/L	<0.50	0.50	8366174	<0.50	0.50	8366174
1,2-Dichloropropane	ug/L	<0.20	0.20	8366174	<0.20	0.20	8366174
cis-1,3-Dichloropropene	ug/L	<0.30	0.30	8366174	<0.30	0.30	8366174
trans-1,3-Dichloropropene	ug/L	<0.40	0.40	8366174	<0.40	0.40	8366174
Ethylbenzene	ug/L	<0.20	0.20	8366174	<0.20	0.20	8366174
Ethylene Dibromide	ug/L	<0.20	0.20	8366174	<0.20	0.20	8366174
Hexane	ug/L	<1.0	1.0	8366174	<1.0	1.0	8366174
Methylene Chloride(Dichloromethane)	ug/L	<2.0	2.0	8366174	<2.0	2.0	8366174
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	10	8366174	<10	10	8366174
Methyl Isobutyl Ketone	ug/L	<5.0	5.0	8366174	<5.0	5.0	8366174
Methyl t-butyl ether (MTBE)	ug/L	<0.50	0.50	8366174	<0.50	0.50	8366174
Styrene	ug/L	<0.50	0.50	8366174	<0.50	0.50	8366174
1,1,1,2-Tetrachloroethane	ug/L	<0.50	0.50	8366174	<0.50	0.50	8366174
1,1,2,2-Tetrachloroethane	ug/L	<0.50	0.50	8366174	<0.50	0.50	8366174
Tetrachloroethylene	ug/L	<0.20	0.20	8366174	<0.20	0.20	8366174

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

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

Bureau Veritas ID		UJW180			UJW180		
Sampling Date		2022/11/23			2022/11/23		
COC Number		n/a			n/a		
	UNITS	MW7	RDL	QC Batch	MW7 Lab-Dup	RDL	QC Batch
Toluene	ug/L	0.33	0.20	8366174	0.35	0.20	8366174
1,1,1-Trichloroethane	ug/L	<0.20	0.20	8366174	<0.20	0.20	8366174
1,1,2-Trichloroethane	ug/L	<0.50	0.50	8366174	<0.50	0.50	8366174
Trichloroethylene	ug/L	<0.20	0.20	8366174	<0.20	0.20	8366174
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	0.50	8366174	<0.50	0.50	8366174
Vinyl Chloride	ug/L	<0.20	0.20	8366174	<0.20	0.20	8366174
p+m-Xylene	ug/L	<0.20	0.20	8366174	<0.20	0.20	8366174
o-Xylene	ug/L	<0.20	0.20	8366174	<0.20	0.20	8366174
Total Xylenes	ug/L	<0.20	0.20	8366174	<0.20	0.20	8366174
F1 (C6-C10)	ug/L	<25	25	8366174	<25	25	8366174
F1 (C6-C10) - BTEX	ug/L	<25	25	8366174	<25	25	8366174
F2-F4 Hydrocarbons							
F2 (C10-C16 Hydrocarbons)	ug/L	<100	100	8369340			
F3 (C16-C34 Hydrocarbons)	ug/L	<200	200	8369340			
F4 (C34-C50 Hydrocarbons)	ug/L	<200	200	8369340			
Reached Baseline at C50	ug/L	Yes		8369340			
Surrogate Recovery (%)							
o-Terphenyl	%	96		8369340			
4-Bromofluorobenzene	%	88		8366174	89		8366174
D4-1,2-Dichloroethane	%	104		8366174	103		8366174
D8-Toluene	%	97		8366174	97		8366174

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

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Bureau Veritas Job #: C2Y4835
Report Date: 2022/11/29

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

TEST SUMMARY

Bureau Veritas ID: UJW180
Sample ID: MW7
Matrix: Water

Collected: 2022/11/23
Shipped:
Received: 2022/11/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8362383	N/A	2022/11/29	Automated Statchk
1,3-Dichloropropene Sum	CALC	8364393	N/A	2022/11/26	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8369340	2022/11/26	2022/11/27	Jeevaraj Jeevaratrnam
Dissolved Metals by ICPMS	ICP/MS	8365125	N/A	2022/11/25	Arefa Dabhad
PAH Compounds in Water by GC/MS (SIM)	GC/MS	8369338	2022/11/26	2022/11/26	Jonghan Yoon
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8366174	N/A	2022/11/26	Denis Reid

Bureau Veritas ID: UJW180 Dup
Sample ID: MW7
Matrix: Water

Collected: 2022/11/23
Shipped:
Received: 2022/11/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8366174	N/A	2022/11/26	Denis Reid

Bureau Veritas ID: UJW181
Sample ID: MW8
Matrix: Water

Collected: 2022/11/23
Shipped:
Received: 2022/11/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	8368559	N/A	2022/11/26	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8369340	2022/11/26	2022/11/27	Jeevaraj Jeevaratrnam
Dissolved Metals by ICPMS	ICP/MS	8365125	N/A	2022/11/25	Arefa Dabhad

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Bureau Veritas Job #: C2Y4835
Report Date: 2022/11/29

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

GENERAL COMMENTS

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

Package 1	4.7°C

Cooler custody seal was present and intact.

Results relate only to the items tested.

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Bureau Veritas Job #: C2Y4835
Report Date: 2022/11/29

QUALITY ASSURANCE REPORT

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8366174	4-Bromofluorobenzene	2022/11/26	96	70 - 130	97	70 - 130	89	%		
8366174	D4-1,2-Dichloroethane	2022/11/26	103	70 - 130	105	70 - 130	103	%		
8366174	D8-Toluene	2022/11/26	101	70 - 130	102	70 - 130	96	%		
8368559	1,4-Difluorobenzene	2022/11/25	99	70 - 130	100	70 - 130	101	%		
8368559	4-Bromofluorobenzene	2022/11/25	97	70 - 130	97	70 - 130	96	%		
8368559	D10-o-Xylene	2022/11/25	88	70 - 130	90	70 - 130	82	%		
8368559	D4-1,2-Dichloroethane	2022/11/25	92	70 - 130	89	70 - 130	88	%		
8369338	D10-Anthracene	2022/11/26	108	50 - 130	110	50 - 130	108	%		
8369338	D14-Terphenyl (FS)	2022/11/26	104	50 - 130	104	50 - 130	102	%		
8369338	D8-Acenaphthylene	2022/11/26	101	50 - 130	103	50 - 130	98	%		
8369340	o-Terphenyl	2022/11/27	100	60 - 130	102	60 - 130	98	%		
8365125	Dissolved Antimony (Sb)	2022/11/25	102	80 - 120	104	80 - 120	<0.50	ug/L		
8365125	Dissolved Arsenic (As)	2022/11/25	97	80 - 120	100	80 - 120	<1.0	ug/L		
8365125	Dissolved Barium (Ba)	2022/11/25	102	80 - 120	105	80 - 120	<2.0	ug/L		
8365125	Dissolved Beryllium (Be)	2022/11/25	98	80 - 120	100	80 - 120	<0.40	ug/L		
8365125	Dissolved Boron (B)	2022/11/25	93	80 - 120	97	80 - 120	<10	ug/L		
8365125	Dissolved Cadmium (Cd)	2022/11/25	100	80 - 120	101	80 - 120	<0.090	ug/L		
8365125	Dissolved Chromium (Cr)	2022/11/25	94	80 - 120	96	80 - 120	<5.0	ug/L		
8365125	Dissolved Cobalt (Co)	2022/11/25	94	80 - 120	100	80 - 120	<0.50	ug/L		
8365125	Dissolved Copper (Cu)	2022/11/25	99	80 - 120	102	80 - 120	<0.90	ug/L		
8365125	Dissolved Lead (Pb)	2022/11/25	95	80 - 120	98	80 - 120	<0.50	ug/L	NC	20
8365125	Dissolved Molybdenum (Mo)	2022/11/25	97	80 - 120	97	80 - 120	<0.50	ug/L		
8365125	Dissolved Nickel (Ni)	2022/11/25	93	80 - 120	95	80 - 120	<1.0	ug/L		
8365125	Dissolved Selenium (Se)	2022/11/25	94	80 - 120	99	80 - 120	<2.0	ug/L		
8365125	Dissolved Silver (Ag)	2022/11/25	96	80 - 120	97	80 - 120	<0.090	ug/L		
8365125	Dissolved Thallium (Tl)	2022/11/25	102	80 - 120	100	80 - 120	<0.050	ug/L		
8365125	Dissolved Uranium (U)	2022/11/25	97	80 - 120	100	80 - 120	<0.10	ug/L		
8365125	Dissolved Vanadium (V)	2022/11/25	96	80 - 120	97	80 - 120	<0.50	ug/L		
8365125	Dissolved Zinc (Zn)	2022/11/25	97	80 - 120	98	80 - 120	<5.0	ug/L		
8366174	1,1,1,2-Tetrachloroethane	2022/11/26	97	70 - 130	102	70 - 130	<0.50	ug/L	NC	30
8366174	1,1,1-Trichloroethane	2022/11/26	95	70 - 130	99	70 - 130	<0.20	ug/L	NC	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8366174	1,1,2,2-Tetrachloroethane	2022/11/26	105	70 - 130	114	70 - 130	<0.50	ug/L	NC	30
8366174	1,1,2-Trichloroethane	2022/11/26	101	70 - 130	106	70 - 130	<0.50	ug/L	NC	30
8366174	1,1-Dichloroethane	2022/11/26	95	70 - 130	98	70 - 130	<0.20	ug/L	NC	30
8366174	1,1-Dichloroethylene	2022/11/26	96	70 - 130	99	70 - 130	<0.20	ug/L	NC	30
8366174	1,2-Dichlorobenzene	2022/11/26	88	70 - 130	90	70 - 130	<0.50	ug/L	NC	30
8366174	1,2-Dichloroethane	2022/11/26	94	70 - 130	98	70 - 130	<0.50	ug/L	NC	30
8366174	1,2-Dichloropropane	2022/11/26	97	70 - 130	101	70 - 130	<0.20	ug/L	NC	30
8366174	1,3-Dichlorobenzene	2022/11/26	90	70 - 130	90	70 - 130	<0.50	ug/L	NC	30
8366174	1,4-Dichlorobenzene	2022/11/26	101	70 - 130	99	70 - 130	<0.50	ug/L	NC	30
8366174	Acetone (2-Propanone)	2022/11/26	110	60 - 140	116	60 - 140	<10	ug/L	18	30
8366174	Benzene	2022/11/26	91	70 - 130	94	70 - 130	<0.17	ug/L	NC	30
8366174	Bromodichloromethane	2022/11/26	102	70 - 130	107	70 - 130	<0.50	ug/L	NC	30
8366174	Bromoform	2022/11/26	103	70 - 130	112	70 - 130	<1.0	ug/L	NC	30
8366174	Bromomethane	2022/11/26	91	60 - 140	96	60 - 140	<0.50	ug/L	NC	30
8366174	Carbon Tetrachloride	2022/11/26	98	70 - 130	102	70 - 130	<0.20	ug/L	NC	30
8366174	Chlorobenzene	2022/11/26	92	70 - 130	95	70 - 130	<0.20	ug/L	NC	30
8366174	Chloroform	2022/11/26	97	70 - 130	101	70 - 130	<0.20	ug/L	NC	30
8366174	cis-1,2-Dichloroethylene	2022/11/26	98	70 - 130	101	70 - 130	<0.50	ug/L	NC	30
8366174	cis-1,3-Dichloropropene	2022/11/26	80	70 - 130	86	70 - 130	<0.30	ug/L	NC	30
8366174	Dibromochloromethane	2022/11/26	101	70 - 130	107	70 - 130	<0.50	ug/L	NC	30
8366174	Dichlorodifluoromethane (FREON 12)	2022/11/26	91	60 - 140	98	60 - 140	<1.0	ug/L	NC	30
8366174	Ethylbenzene	2022/11/26	85	70 - 130	88	70 - 130	<0.20	ug/L	NC	30
8366174	Ethylene Dibromide	2022/11/26	94	70 - 130	99	70 - 130	<0.20	ug/L	NC	30
8366174	F1 (C6-C10) - BTEX	2022/11/26					<25	ug/L	NC	30
8366174	F1 (C6-C10)	2022/11/26	98	60 - 140	92	60 - 140	<25	ug/L	NC	30
8366174	Hexane	2022/11/26	99	70 - 130	101	70 - 130	<1.0	ug/L	NC	30
8366174	Methyl Ethyl Ketone (2-Butanone)	2022/11/26	112	60 - 140	119	60 - 140	<10	ug/L	NC	30
8366174	Methyl Isobutyl Ketone	2022/11/26	99	70 - 130	108	70 - 130	<5.0	ug/L	NC	30
8366174	Methyl t-butyl ether (MTBE)	2022/11/26	84	70 - 130	89	70 - 130	<0.50	ug/L	NC	30
8366174	Methylene Chloride(Dichloromethane)	2022/11/26	101	70 - 130	104	70 - 130	<2.0	ug/L	NC	30
8366174	o-Xylene	2022/11/26	86	70 - 130	89	70 - 130	<0.20	ug/L	NC	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8366174	p+m-Xylene	2022/11/26	86	70 - 130	88	70 - 130	<0.20	ug/L	NC	30
8366174	Styrene	2022/11/26	92	70 - 130	97	70 - 130	<0.50	ug/L	NC	30
8366174	Tetrachloroethylene	2022/11/26	85	70 - 130	86	70 - 130	<0.20	ug/L	NC	30
8366174	Toluene	2022/11/26	91	70 - 130	94	70 - 130	<0.20	ug/L	5.3	30
8366174	Total Xylenes	2022/11/26					<0.20	ug/L	NC	30
8366174	trans-1,2-Dichloroethylene	2022/11/26	94	70 - 130	96	70 - 130	<0.50	ug/L	NC	30
8366174	trans-1,3-Dichloropropene	2022/11/26	81	70 - 130	88	70 - 130	<0.40	ug/L	NC	30
8366174	Trichloroethylene	2022/11/26	97	70 - 130	99	70 - 130	<0.20	ug/L	NC	30
8366174	Trichlorofluoromethane (FREON 11)	2022/11/26	94	70 - 130	98	70 - 130	<0.50	ug/L	NC	30
8366174	Vinyl Chloride	2022/11/26	87	70 - 130	91	70 - 130	<0.20	ug/L	NC	30
8368559	Benzene	2022/11/25	92	50 - 140	92	50 - 140	<0.20	ug/L	NC	30
8368559	Ethylbenzene	2022/11/25	97	50 - 140	99	50 - 140	<0.20	ug/L	NC	30
8368559	F1 (C6-C10) - BTEX	2022/11/25					<25	ug/L	NC	30
8368559	F1 (C6-C10)	2022/11/25	101	60 - 140	102	60 - 140	<25	ug/L	NC	30
8368559	o-Xylene	2022/11/25	93	50 - 140	94	50 - 140	<0.20	ug/L	NC	30
8368559	p+m-Xylene	2022/11/25	94	50 - 140	97	50 - 140	<0.40	ug/L	NC	30
8368559	Toluene	2022/11/25	90	50 - 140	91	50 - 140	<0.20	ug/L	NC	30
8368559	Total Xylenes	2022/11/25					<0.40	ug/L	NC	30
8369338	1-Methylnaphthalene	2022/11/26	118	50 - 130	122	50 - 130	<0.050	ug/L	12	30
8369338	2-Methylnaphthalene	2022/11/26	110	50 - 130	114	50 - 130	<0.050	ug/L	12	30
8369338	Acenaphthene	2022/11/26	113	50 - 130	116	50 - 130	<0.050	ug/L	11	30
8369338	Acenaphthylene	2022/11/26	111	50 - 130	115	50 - 130	<0.050	ug/L	8.9	30
8369338	Anthracene	2022/11/26	113	50 - 130	116	50 - 130	<0.050	ug/L	9.8	30
8369338	Benzo(a)anthracene	2022/11/26	109	50 - 130	113	50 - 130	<0.050	ug/L	NC	30
8369338	Benzo(a)pyrene	2022/11/26	105	50 - 130	109	50 - 130	<0.0090	ug/L	2.0	30
8369338	Benzo(b/j)fluoranthene	2022/11/26	110	50 - 130	110	50 - 130	<0.050	ug/L	NC	30
8369338	Benzo(g,h,i)perylene	2022/11/26	111	50 - 130	118	50 - 130	<0.050	ug/L	NC	30
8369338	Benzo(k)fluoranthene	2022/11/26	108	50 - 130	114	50 - 130	<0.050	ug/L	NC	30
8369338	Chrysene	2022/11/26	110	50 - 130	114	50 - 130	<0.050	ug/L	NC	30
8369338	Dibenzo(a,h)anthracene	2022/11/26	99	50 - 130	106	50 - 130	<0.050	ug/L	NC	30
8369338	Fluoranthene	2022/11/26	118	50 - 130	122	50 - 130	<0.050	ug/L	4.3	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8369338	Fluorene	2022/11/26	111	50 - 130	114	50 - 130	<0.050	ug/L	9.6	30
8369338	Indeno(1,2,3-cd)pyrene	2022/11/26	106	50 - 130	114	50 - 130	<0.050	ug/L	NC	30
8369338	Naphthalene	2022/11/26	110	50 - 130	113	50 - 130	<0.050	ug/L	12	30
8369338	Phenanthrene	2022/11/26	111	50 - 130	115	50 - 130	<0.030	ug/L	8.4	30
8369338	Pyrene	2022/11/26	119	50 - 130	122	50 - 130	<0.050	ug/L	6.4	30
8369340	F2 (C10-C16 Hydrocarbons)	2022/11/27	104	60 - 130	102	60 - 130	<100	ug/L	3.7	30
8369340	F3 (C16-C34 Hydrocarbons)	2022/11/27	101	60 - 130	104	60 - 130	<200	ug/L	1.0	30
8369340	F4 (C34-C50 Hydrocarbons)	2022/11/27	101	60 - 130	103	60 - 130	<200	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 (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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Bureau Veritas Job #: C2Y4835
Report Date: 2022/11/29

Soil Engineers Ltd
Client Project #: 2206-E054
Site Location: ERIN
Sampler Initials: ANK

VALIDATION SIGNATURE PAGE

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

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

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