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A REPORT TO
CEDAR CITY DEVELOPMENTS

PHASE II ENVIRONMENTAL SITE ASSESSMENT
CSA STANDARD

DUE DILIGENCE FOR PROPERTY ACQUISITION

7505 AIRPORT ROAD EAST
CITY OF HAMILTON

Reference No. 2302-E004-1

March 29, 2023

DISTRIBUTION

3 Copies - Cedar City Developments

EXECUTIVE SUMMARY

Soil Engineers Ltd. (SEL) was retained by Cedar City Developments to carry out a Phase II Environmental Site Assessment (Phase II ESA) in accordance with the Canadian Standards Association (CSA) Standard for a property located at 7505 Airport Road East, in the City of Hamilton (hereinafter referred to as "the subject site").

The purpose of the Phase II ESA was to determine the soil quality at the subject site, as related to the environmental concerns identified in the SEL Phase I Environmental Site Assessment (Phase I ESA). The assessment was conducted in conformance with CSA Standard Z769-00 (reaffirmed in 2018).

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

A review of the analytical test results of the soil and groundwater samples indicated the following soil exceedances for PHC parameters at fuel oil AST locations:

Soil Exceedances

Location	Sample ID	Parameter	Result (µg/g)	Table 8 Standard (µg/g)
TP1- Fuel oil AST area located to the west of barn in the north-western portion of the subject site	TP1 (0-0.4 mbgs)	PHC F2	**36**	10
		PHC F3	**320**	240
		PHC F4	**610**	120
TP4- Four (4) fuel oil ASTs area located to the southwest of the north-eastern barns in the north-eastern portion of the subject site	TP4 (0-0.4 mbgs)	PHC F4	**610**	120

The remaining parameters in the analytical test results of soil and groundwater samples at

the test locations meet the Table 8 Standards.

The extent of the contamination is not determined in this stage of the Phase II ESA. Based on the findings of the field investigation and the review of analytical results, additional testing and removal of the impacted soil along with the verification soil testing program is required at the locations of the TP1 and TP4 to bring the subject site into compliance with the Table 8 Standards.

Please note that the information supplied by this report and Previous Phase I ESA, and their format do not meet all the requirements as set out in the O. Reg. 153/04, as amended. Therefore, this report cannot be used in support of a filing of a Record of Site Condition (RSC) with the Environmental Site Registry (ESR) of the Ministry of the Environment, Conservation and Parks (MECP).

If there is intent to file an RSC, a Phase One and Phase Two ESA in accordance with all the requirements of the O. Reg. 153/04, as amended, must be completed prior for filing an RSC.

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1.0 INTRODUCTION

Soil Engineers Ltd. (SEL) was retained by Cedar City Developments to carry out a Phase II Environmental Site Assessment (Phase II ESA) in accordance with the Canadian Standards Association (CSA) Standard for a property located at 7505 Airport Road East, in the City of Hamilton (hereinafter referred to as "the subject site").

The purpose of the Phase II ESA was to determine the soil quality at the subject site, as related to the environmental concerns identified in the SEL Phase I Environmental Site Assessment (Phase I ESA). The assessment was conducted in conformance with CSA Standard Z769-00 (reaffirmed in 2018).

1.1 Site Description

The subject site, as shown on the Site Location Plan, Drawing No.1, is located at 7505 Airport Road East, in the City of Hamilton. The Property Identification Number (PIN) is 17394-0075 (LT) and the legal description of the property is Part of Lot 9 Concession 5 Glanford, as in CD270916 and CD463868; except part 1 on 62R9672; except part 1 on 62R17908; except part 1 on 62R18286; S/T in 9038 Glan; part of Lot 10 Concession 5 Glanford as in CD299372; except part 1 on 62R13163; except part 1 on 62R17907; S/T HL253775., Glanbrook; subject to an easement in gross over part 5, Plan 62R20575 as in WE1216640; City of Hamilton.

The subject site is irregular in shape, encompassing an approximate area of 93.80 hectare (ha) (231.79 acres (ac)). At the time of the assessment, the subject site was comprised of a farmland with three (3) barns in the north-western and north-eastern portions of the subject site. The subject site is located within a residential and agricultural area in the City of Hamilton. The neighbouring properties consist of agricultural and residential properties to the north, east and west, and agricultural properties to the south of the subject site. The subject site is adjacent to a roadway (Airport Road East) to the north.

The ground surface on the subject site appears to be relatively flat with minor undulations,

and the grade at the subject site descends towards the east, northeast and southwest.

1.2 Background

SEL completed a Phase I ESA (conforms to CSA Standard) for the subject site (Reference No. 2302-E004-2, dated March 29, 2023). The following potential environmental concerns were identified during Phase I ESA. The Phase II ESA was conducted to address the following concerns identified in the Phase I ESA:

- Potential use of pesticides during agricultural activities including a historical orchard located in the north-eastern portion of the subject site.
- One (1) fuel oil above-ground storage tank (AST) is located to the west of barn in the north-western portion of the subject site.
- Two (2) abandoned fuel ASTs are located to the south of barn in the north-western portion of the subject site.
- One (1) waste oil AST is located inside the northern barn at the north-eastern portion of the subject site.
- Four (4) fuel oil ASTs are located to the southwest of the north-eastern barns in the north-eastern portion of the subject site.
- Operation and maintenance yard associated with waste generator including waste oil and light fuel is located adjacent to the northeast of the subject site.

1.3 Objective

The objective of the Phase II Environmental Site Assessment was to assess the soil and groundwater quality at the subject site, as related to the identified environmental concerns in the Phase I ESA (CSA Standards).

1.4 Scope of Work

This Phase II ESA was conducted in general conformance with the CSA Standard Z769-00 (reaffirmed in 2018). The scope of work for this assessment includes:

- Locate the underground and overhead utilities.
- Advance seven (7) boreholes (designated as BH/MW5, BH6, BH/MW7, BH/MW8, BH9, BH10 and BH11) to the depths ranging from 6.6 metres below the ground surface (mbgs) to 8.5 mbgs and conduct six (6) hand-dug test pits (designated as TP1 to TP6) to depth of 0.4 mbgs.
- Collect representative soil samples from the boreholes and test pits.
- Undertake field examination of the retrieved soil samples for visual and olfactory evidence of potential contamination.
- Undertake soil vapour measurements for the retrieved soil samples using a combustible gas detector (RKI Eagle) in methane elimination mode, calibrated with hexane and having a minimum detection level of 2 ppmv (parts per million by volume).
- Install monitoring wells in three (3) of the boreholes (e.g., BH/MW5, BH/MW7 and BH/MW8) for groundwater sampling and/or groundwater flow direction.
- Conduct groundwater monitoring, and collect groundwater samples for chemical testing
- Carry out analytical testing program on selected soil and groundwater samples, including quality assurance/quality control (QA/QC) samples for Petroleum Hydrocarbons (PHCs), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs), Organochlorine Pesticides (OCs), Metals, Mercury (Hg), Chromium (Cr(VI), Cyanide (CN^-) and/or pH parameters.
- Review analytical testing results of submitted soil and groundwater samples using applicable Site Condition Standards.
- Prepare a Phase II ESA report containing the findings of the field investigation and analytical results.

2.0 APPLICABLE SITE CONDITION STANADARDS

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

- The subject site is not considered to be environmentally sensitive based on the definition set forth in the Ontario Regulation (O. Reg.) 153/04, as amended, as the property is not within/adjacent/ part of an area of natural significance and analytical testing indicated the pH of tested soil samples is between 5 and 9 for surface samples, and 5 and 11 for subsurface samples.
- The subject site is not a shallow soil property, as the bedrock was not encountered within 2.0 mbgs during the investigation.
- Based on the information obtained from the Phase I ESA, there are records of water wells at the subject site and the neighbouring properties within the 250 m boundaries at the subject site.
- Watercourse tributaries are located in the north-eastern, eastern and south western portions of the subject site.
- Generic site condition standards are to be used in this assessment.
- The intended property use of the subject site is residential.
- No grain size analysis was performed on the soil samples retrieved at the subject site.

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

3.0 FIELD WORK

The field work for this investigation was conducted on March 3 and 6, 2023, consisting of conducting seven (7) boreholes (designated as BH/MW5, BH6, BH/MW7, BH/MW8, BH9, BH10 and BH11) to the depths ranging from 6.6 mbgs to 8.5 mbgs and six (6) hand-dug test pits (designated as TP1 to TP6) to depth of 0.4 mbgs. The locations of the boreholes shown on Drawing No. 2 were advanced in the areas of the environmental concerns listed in the Section 1.2. The rationale for the selection of borehole locations is presented in the table below:

Borehole ID	RATIONALE FOR BOREHOLE/MONITORING WELL LOCATION
BH6, BH7, BH8, BH9, BH10, BH11, TP5 and TP6	Due to potential use of pesticides during agricultural activities including a historical orchard located in the north-eastern portion of the subject site.
TP1	Due to presence of one (1) fuel oil AST located to the west of barn in the north-western portion of the subject site.
TP2	Due to presence of two (2) abandoned fuel ASTs located to the south of barn in the north-western portion of the subject site.
TP3	Due to presence of one (1) waste oil AST located inside the northern barn at the north-eastern portion of the subject site.
TP4	Due to presence of four (4) fuel oil ASTs located to the southwest of the north-eastern barns in the north-eastern portion of the subject site.
BH/MW5	Due to presence of operation and maintenance yard associated with waste generator including waste oil and light fuel located adjacent to the northeast of the subject site.

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

3.1 Borehole Drilling and Soil Sampling

The boreholes were advanced using a track-mounted Geoprobe drill rig, equipped with a direct push thin-walled shelby tube soil sampler, supplied by a drilling contractor, ACE Environmental Drilling Ltd. Soil samples from the boreholes were recovered at regular intervals, using steel rod casing into the ground. Soil samples from the test pits were recovered using a hand auger. The retrieved soil samples were examined for visual and olfactory evidence of potential contamination and for soil classification.

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.

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

Soil samples from the boreholes were recovered at regular intervals, using direct push samplers. 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 with new disposable gloves in order to avoid the risk of cross-contamination between the samples. In addition, all sub-sampling equipment were decontaminated prior to each usage.

Each soil sample was split with part of the sample sealed in a laboratory-prepared sampling container and stored in a cooler with ice, and the remainder of the sample sealed in a double sealable bag for soil 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 F1 and VOCs analysis.

The subsoil conditions indicate a layer of topsoil at the ground surface underlain by strata of silty clay and/or silt at boreholes. Detailed descriptions of the encountered subsurface conditions are presented on the Borehole Logs provided in Appendix 'A'.

Based on the soil vapour measurements and/or visual and olfactory observations, representative 'worst case' soil samples from the sampling locations to determine the maximum concentration were submitted to the laboratory for chemical analyses.

The headspace vapour concentrations were measured using a portable RKI Eagle 2 gas detector, TYPE 101 (Serial Number: E091011) set to include all organic gases with the exception of methane (methane elimination mode), and having a minimum detection level of 2 ppmv (parts per million by volume). Prior to taking the measurements, the instrument was calibrated to hexane standards for both ppm and lower explosive level (LEL) scales as per the instruction manual for the instrument. SEL field personnel are trained by the supplier for the proper calibration procedure. The instrument is calibrated or tuned up by the supplier (Pine Environmental Service Inc.) seasonally.

3.2 Monitoring Well Installation and Groundwater Sampling

A total of three (3) monitoring wells (designated as BH/MW5, BH/MW7 and BH/MW8) were installed at the subject site by a licenced well contractor, ACE Environmental Drilling Ltd. The monitoring wells were constructed using 50 millimeters (mm) diameter PVC screen and 3m in length. 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. The top of each well was sealed with concrete to approximately 0.3 mbgs. At each monitoring well location, the PVC risers were protected by monument casings that have been sealed into ground with concrete. The monitoring well construction details are provided on the Borehole Logs in Appendix 'A'.

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

Groundwater development was performed on March 9, 2023. The monitoring wells were developed to remove any fluids that may have been introduced into the well during drilling and to remove particles that may have become entrained in the well and filter pack (three well casing volumes of groundwater in each well). Purged water was contained and stored at the subject site for future disposal. Water level measurements and water temperature 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 developing the wells. 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.

Groundwater sampling was conducted on March 10, 2023, after purging and allows the water 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 sampling process.

4.0 SUBSOIL AND GROUNDWATER CONDITION

4.1 Geology

The subsoil conditions at the borehole locations indicate that beneath a layer of topsoil, the subject site is generally underlain by silty clay and/or silt deposits, at various depths and locations. No bedrock was encountered during the Phase II ESA. Detailed descriptions of the encountered subsurface conditions are presented on the Borehole Logs provided in Appendix 'A'.

4.2 Hydrogeology

Upon completion of drilling activities, groundwater was detected in the boreholes. On March 9, 2023 during groundwater monitoring and sampling event, water levels were recorded at depths of 3.56 mbgs, 3.18 mbgs and 3.75 mbgs in the monitoring wells BH/MW5, BH/MW7 and BH/MW8, respectively. Based on the field observation and groundwater monitoring records, shallow groundwater is present in the silty clay deposit.

4.3 Headspace and Organic Vapour Readings

Headspace vapour screening was conducted for the retrieved soil samples using a combustible gas detector (RKI Eagle) in methane elimination mode, calibrated with hexane and having a minimum detection level of 2 ppmv (parts per million by volume. The instrument's calibration is checked by the supplier (Pine Environmental Services Inc.) seasonally.

Soil vapour readings of non-detectable to 10 ppm were recorded for collected soil samples, retrieved during this investigation.

5.0 ANALYTICAL TESTING PROGRAM

5.1 Soil Samples

The soil samples retrieved from the borehole locations were examined for visual and olfactory evidence of potential contamination. No evidence of contamination was documented in any of the retrieved soil samples during the field investigation.

Representative "worst case" soil sample from each borehole to determine the maximum concentration 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, VOCs, PAHs, OCs, Metals, Hg, Cr(VI), CN^- and/or pH parameters. Details of soil analysis (including QA/QC sample) are presented in the table below:

Sample ID	Sample Depth (mbgs)	Type of Material	Parameters of Testing
BH5/4	2.3-3.0	Silty Clay	PAHs, Metals
BH5/5	3.0-3.8		PHCs, VOCs
BH6/1	0-0.8		OCs
BH6/2	1.5-3.0		Metals, Hg, Cr(VI), CN^-, pH
BH/7/1	0-0.8		OCs
BH7/2	0.8-1.5		Metals, Hg, Cr(VI), CN^-
BH7/4	2.3-3.0		pH
BH8/1	0-0.8		OCs
BH8/2	0.8-1.5		Metals, Hg, Cr(VI), CN^-
BH8/3	2.3-3.0		pH
BH9/1	0-0.8		OCs
BH9/2	0.8-1.5		Metals, Hg, Cr(VI), CN^-, pH
BH10/1	0-0.8		OCs, Metals, Hg, Cr(VI), CN^-, pH
BH11/1	0-0.8		OCs
BH11/2	0.8-1.5		Metals, Hg, Cr(VI), CN^-, pH
TP1	0-0.4		PHCs, BTEX, Metals
TP2	0-0.4		PHCs, BTEX, Metals

Sample ID	Sample Depth (mbgs)	Type of Material	Parameters of Testing
TP3	0-0.4	Silty Clay	PHCs, VOCs, PAHs, Metals
TP4	0-0.4		PHCs, BTEX, Metals
TP5	0-0.4		OCs, Metals, Hg, Cr(VI), CN^-, pH
TP6	0-0.4		OCs, Metals, Hg, Cr(VI), CN^-, pH
DUPS1 (from original soil sample BH9/1)	0-0.8		OCs
DUPS2 (from original soil sample BH11/2)	0.8-1.5		Metals, Hg, Cr(VI), CN^-, pH
DUPS3 (from original soil sample BH/MW5/5)	3.0-3.8		PHCs, BTEX

5.2 Groundwater Samples

There was no visible sheen or odour in the groundwater during monitoring and purging program at the monitoring wells installed at the subject site.

Groundwater samples collected from one (1) monitoring well at the subject site were submitted to the laboratory for chemical analyses of Petroleum Hydrocarbons (PHCs), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs) and Metals parameters. Details of groundwater analysis (including QA/QC sample) are presented in the table below:

Sample ID	Screen Interval (mbgs)	Parameters of Testing
BH/MW5	3.1-6.1	PHCs, VOCs, PAHs and Metals
DUPW1 (from original groundwater sample BH/MW5)	3.1-6.1	VOCs
Trip Blank	-	VOCs

6.0 RESULTS OF CHEMICAL ANALYSIS

The soil and groundwater samples were analysed by Bureau Veritas Laboratories (BV Labs) in Mississauga, Ontario. BV Labs is accredited by Canadian Association for Laboratory Accreditation (CALA) in accordance with ISO/IEC 17025:2005, as amended – "General Requirements for the Competence of Testing and Calibration Laboratories" for all the parameters analysed during this investigation. Copies of the laboratory Certificates of Analyses are enclosed in the Appendices 'B' and 'C'.

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.

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

6.1 Soil Results

A total of thirty-five (35) soil samples (including QA/QC samples) were submitted for analyses of PHCs, VOCs, PAHs, Metals, Hg, Cr (VI), CN^-, and/or pH parameters. The certificate of Analyses for the soil samples are presented in Appendix 'B'.

With the exception of the following exceedances for soil parameters, the test results indicate that the tested parameters for the soil samples at the test locations meet the Table 8 Standards:

Location	Sample ID	Parameter	Result (µg/g)	Table 8 Standard (µg/g)
TP1	TP1 (0-0.4 mbgs)	PHC F2	**36**	10
		PHC F3	**320**	240
		PHC F4	**610**	120
TP4	TP4 (0-0.4 mbgs)	PHC F4	**610**	120

The soil exceedance locations are presented on Drawing No. 3.

6.2 Groundwater Results

A total of six (6) groundwater samples (including QA/QC sample) were submitted for analysis of Petroleum Hydrocarbons (PHCs), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs) and Metals parameters. The certificate of Analyses for the groundwater samples are presented in Appendix 'C'.

The test results indicate that the tested parameters in the groundwater samples at the test locations meet the Table 8 Standards.

6.3 Quality Assurance/Quality Control Results

As part of the QA/QC program for the Phase II ESA, QC samples in the form of field duplicate samples were analysed. Field duplicate samples were collected in the field for the analyses of PHCs, BTEX, OCs, Metals Hg, Cr(VI), CN^- and pH in soil and VOCs in groundwater. One (1) trip blank for VOCs was shipped with the batch of the groundwater samples submitted for the analyses. Details of the QC samples are presented in the Section 5 of this report.

The results of the analyses of the field duplicate samples are similar to the results for the original samples, and relative percent differences (RPDs) for the detectable tested parameters are within acceptable range. The Certificates of Analysis for the QC sample are presented in Appendixes 'B' and 'C'.

7.0 SUMMARY

The objective of this investigation was to assess the soil and groundwater quality at the subject site. The Phase II ESA addressed the following potential environmental concerns, in accordance with the CSA Standard Z768-01 for the subject site.

- Potential use of pesticides during agricultural activities including a historical orchard located in the north-eastern portion of the subject site.
- One (1) fuel oil AST is located to the west of barn in the north-western portion of the subject site.
- Two (2) abandoned fuel ASTs are located to the south of barn in the north-western portion of the subject site.
- One (1) waste oil AST is located inside the northern barn at the north-eastern portion of the subject site.
- Four (4) fuel oil ASTs are located to the southwest of the north-eastern barns in the north-eastern portion of the subject site.
- Operation and maintenance yard associated with waste generator including waste oil and light fuel is located adjacent to the northeast of the subject site.

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

- The field investigation consisted of advancing seven (7) boreholes to the depths ranging from 6.6 metres below the ground surface (mbgs) to 8.5 mbgs and six (6) hand-dug test pits to depth of 0.4 mbgs at the subject site.
- The subsoil conditions at the borehole locations indicate that beneath a layer of topsoil at the surface underlain by silty clay and/or silt at all borehole locations.
- The soil samples retrieved from the boreholes were examined for visual and olfactory evidence of potential contamination. No evidence of contamination was documented in any of the retrieved soil samples during the field investigation.
- 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). Soil vapour readings of non-detectable to 10 ppm were recorded for collected soil samples during this investigation.

- Based on the soil vapour measurements and/or visual and olfactory observations, representative "worst case" soil samples to determine the maximum concentration were selected from each borehole for chemical analyses of Petroleum Hydrocarbons (PHCs), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs), Organochlorine Pesticides (OCs), Metals, Hg, Cr (VI), CN^-, and/or pH parameters.
- Groundwater samples collected from the monitoring well were submitted for analysis of Petroleum Hydrocarbons (PHCs), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs) and Metals parameters.
- As part of the QA/QC program for the investigation, QC sample in the form of field duplicate samples were analysed. Field duplicate samples were collected in the field for the analyses of PHCs, BTEX, OCs, Metals Hg, Cr (VI), CN^- and pH in soil and VOCs in groundwater.
- The overall QA/QC results are considered reliable.
- The analytical test results were reviewed using the Ministry of the Environment, Conservation and Parks (MECP) Table 8, Generic Site Condition Standards for Use within 30 m of a Water Body in a Potable Groundwater Condition, for Residential/ Parkland/Institutional/ Industrial/ Commercial/Community Property Use (Table 8 Standards), as published in the "Soil, Ground Water and Sediment Standards for Use Under Part XV. 1 of the Environmental Protection Act" (EPA), April 15, 2011.
- A review of the analytical test results of the soil and groundwater samples indicated the following soil exceedances for PHC parameters at fuel oil AST locations:

Soil Exceedances

Location	Sample ID	Parameter	Result (µg/g)	Table 8 Standard (µg/g)
TP1- Fuel oil AST area located to the west of barn in the north-western portion of the subject site	TP1 (0-0.4 mbgs)	PHC F2	**36**	10
		PHC F3	**320**	240
		PHC F4	**610**	120
TP4- Four (4) fuel oil ASTs area located to the southwest of the north-eastern barns in the north-eastern portion of the subject site	TP4 (0-0.4 mbgs)	PHC F4	**610**	120

- The remaining parameters in the analytical test results of soil and groundwater samples at the test locations meet the Table 8 Standards.
- The results of the analysis of the duplicate samples are similar to the results for the original samples, and RPDs for the detectable tested parameters are within acceptable range or non-calculable.
- The results of the analysis of the trip blank sample indicate that the tested parameters in the sample were below the reported laboratory detection limits (RDLs). There was no issue with the trip blank that was shipped with the batch of the groundwater samples submitted for analysis.

8.0 CONCLUSION AND RECOMMENDATION

A review of the analytical test results of soil and groundwater samples indicates the following exceedances in soil above Table 8 Standards:

- PHC F2-F4 impacted soil from the ground surface to a depth of 0.4 mbgs at the location of TP1.
- PHC F4 impacted soil from the ground surface to a depth of 0.4 mbgs at the location of TP4.

The remaining parameters in the analytical test results of soil and groundwater samples at the test locations meet the Table 8 Standards.

The extent of the contamination is not determined in this stage of the Phase II ESA. Based on on the findings of the field investigation and the review of analytical results, additional testing and removal of the impacted soil along with the verification soil testing program is required at the locations of the TP1 and TP4 to bring the subject site into compliance with the Table 8 Standards.

Please note that the information supplied by this report and Previous Phase I ESA, and their format do not meet all the requirements as set out in the O. Reg. 153/04, as amended. Therefore, this report cannot be used in support of a filing of a Record of Site Condition (RSC) with the Environmental Site Registry (ESR) of the Ministry of the Environment, Conservation and Parks (MECP).

If there is an intent to file an RSC, a Phase One and Phase Two ESA in accordance with all the requirements of the O. Reg. 153/04, as amended, must be completed prior for filing an RSC.

9.0 QUALIFICATIONS

Soil Engineers Ltd., formerly known as Soil-Eng Limited (founded in 1976), offers to its clients a range of specialized engineering services. Our company is staffed with both engineers and scientists who draw upon their combined experience to provide a team approach to problem solving. Specifically, our environmental division employs more than 20 people who are trained to understand the Ministry of Environment, Conservation and Parks (MECP) regulations. We play an integral role in the development of industrial, commercial, institutional and residential subdivisions, complexes, structures and their related infrastructures, by providing our clients with the needed expertise for their projects.

This report and its assessment were prepared by Mr. Ram Sah. He has a Master of Applied Science (M.A.Sc.) Degree in Environmental Engineering from Ryerson University (Toronto). He is licensed to practice in Ontario (PEO Licence 100070941). He has more than 17 years of experience in conducting Phase I/One and Phase II/Two ESAs and site remediation (soil and groundwater) in Canada.

Mr. Raj Kundu is a Senior Environmental Project Manager of Soil Engineers Ltd. He has a Bachelor's Degree in Civil Engineering. He also has a Master's Degree in Environmental Engineering from National University of Singapore. Raj is licensed to practice professional engineering in Ontario (PEO Licence 100061263). He has more than 21 years of experience in environmental site assessments, remediation, ecological and human risk assessments, air emissions and water and wastewater consulting. Raj is involved in the review of this report.

Mr. Arshad Shaikh is a Project Manager in Environmental Department of Soil Engineers Ltd. He has a Bachelor Degree in Civil Engineering from NED University (in Pakistan) and a Master Degree in Water Resources Engineering and Management from the University of Stuttgart, Germany. He is Registered Professional Engineer and License to practice in Ontario (PEO License 100196680). He has more than 13 years of experience in conducting Environmental Site assessments (ESA), remediation, site decommissioning in Ontario. He supervises ESA work and review ESA reports and involved reviewing this report.

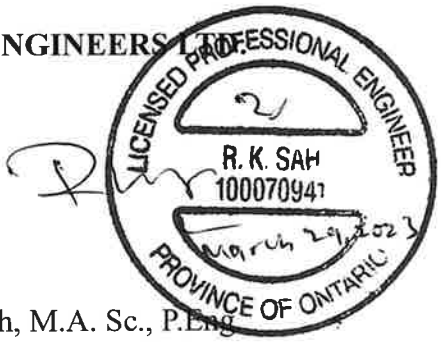
One must understand that the mandate of Soil Engineers Ltd. is to collect a finite number of soil and groundwater samples and submit representative samples to chemically characterize the contaminants in the subject site for a Phase II Environmental Site Assessment only. No other warranty or representation, expressed or implied, as to the accuracy of the information is included or intended by this assessment. One must be aware that the subsurface conditions may vary between sampling locations.

Any deleterious debris found on the surface or buried on site must be removed and disposed of properly. It should be noted that the information supplied in this report may not be sufficient to obtain approval for the disposal of any excess soil or materials generated during future construction, and supplementary chemical testing of samples may be necessary to obtain such approval.

This report was prepared by Soil Engineers Ltd. for the account of Cedar City Developments and for review by their designated agents, financial institutions and government agencies. Use of the report is subject to the conditions and limitations of the contractual agreement. The material in it reflects the judgement of Ram Sah, M.A.Sc., P.Eng., Raj Kundu, M.Sc., P.Eng. and Arshad Shaikh, M.Sc, P.Eng., QP_{ESA} in light of the information available at the time of preparation. Any use which a Third Party makes of this report, and/or any reliance on decisions to be made based on it, is the responsibility of such Third Parties. Soil Engineers Ltd. accepts no responsibility for damages, if any, suffered by any Third Party as a result of decisions made or actions based on this report.

Should any further adverse environmental conditions become apparent in the future, we request immediate notification in order to provide further assessment and recommendations.

SOIL ENGINEERS LTD.



Ram Sah, M.A. Sc., P.Eng.

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

Arshad Shaikh, P.Eng., QP_{ESA}

RS/RK/AS:rs

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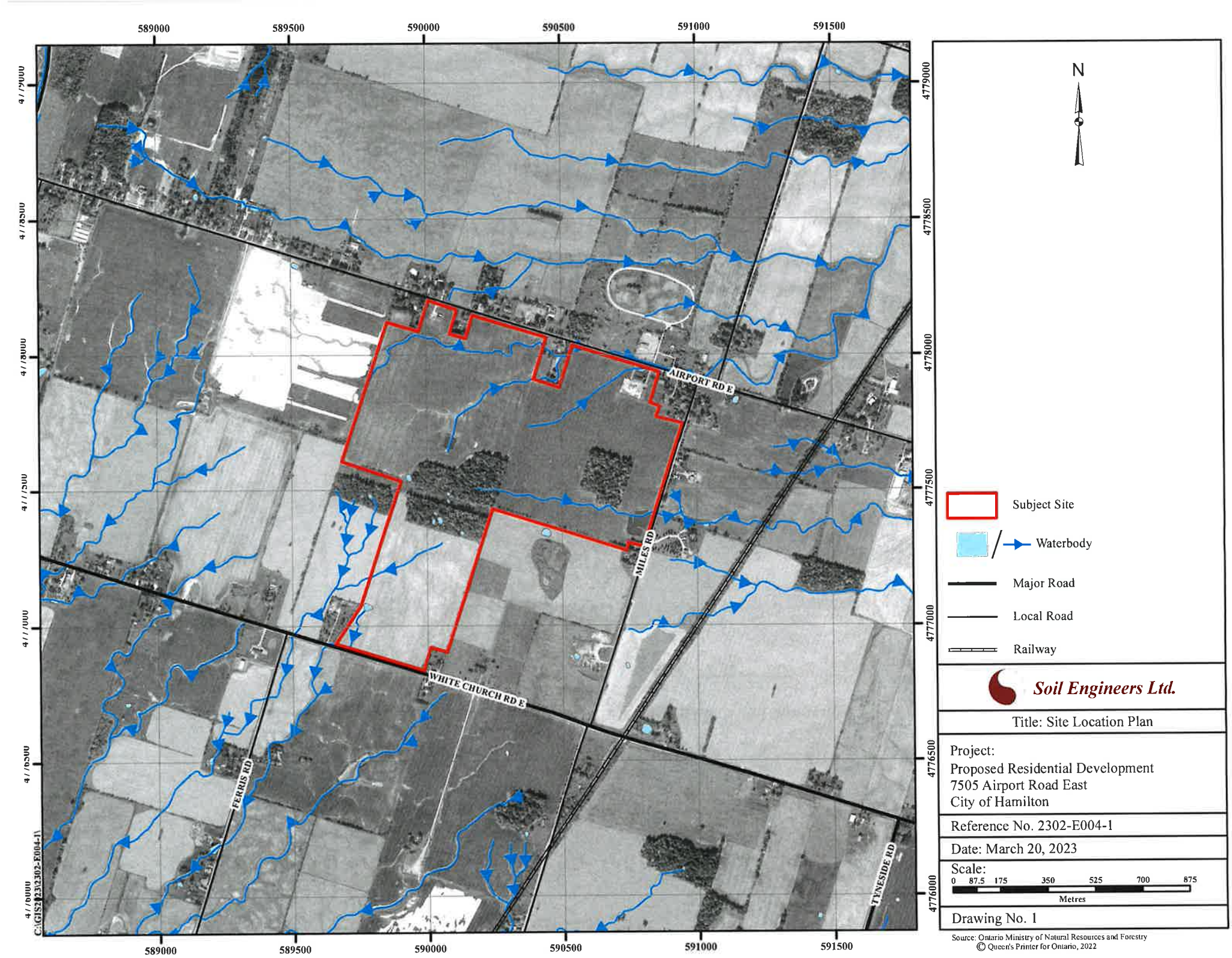
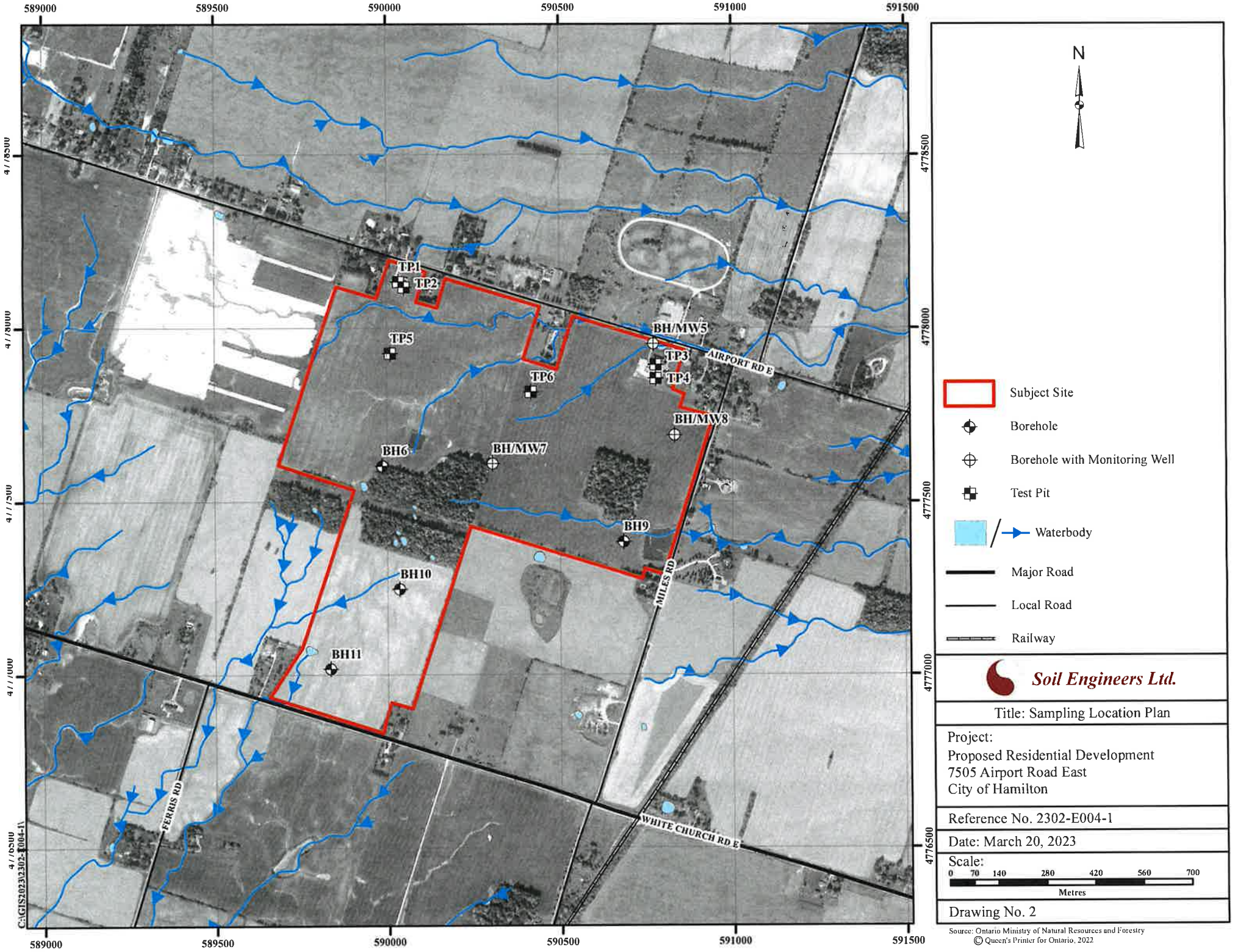
FIGURES

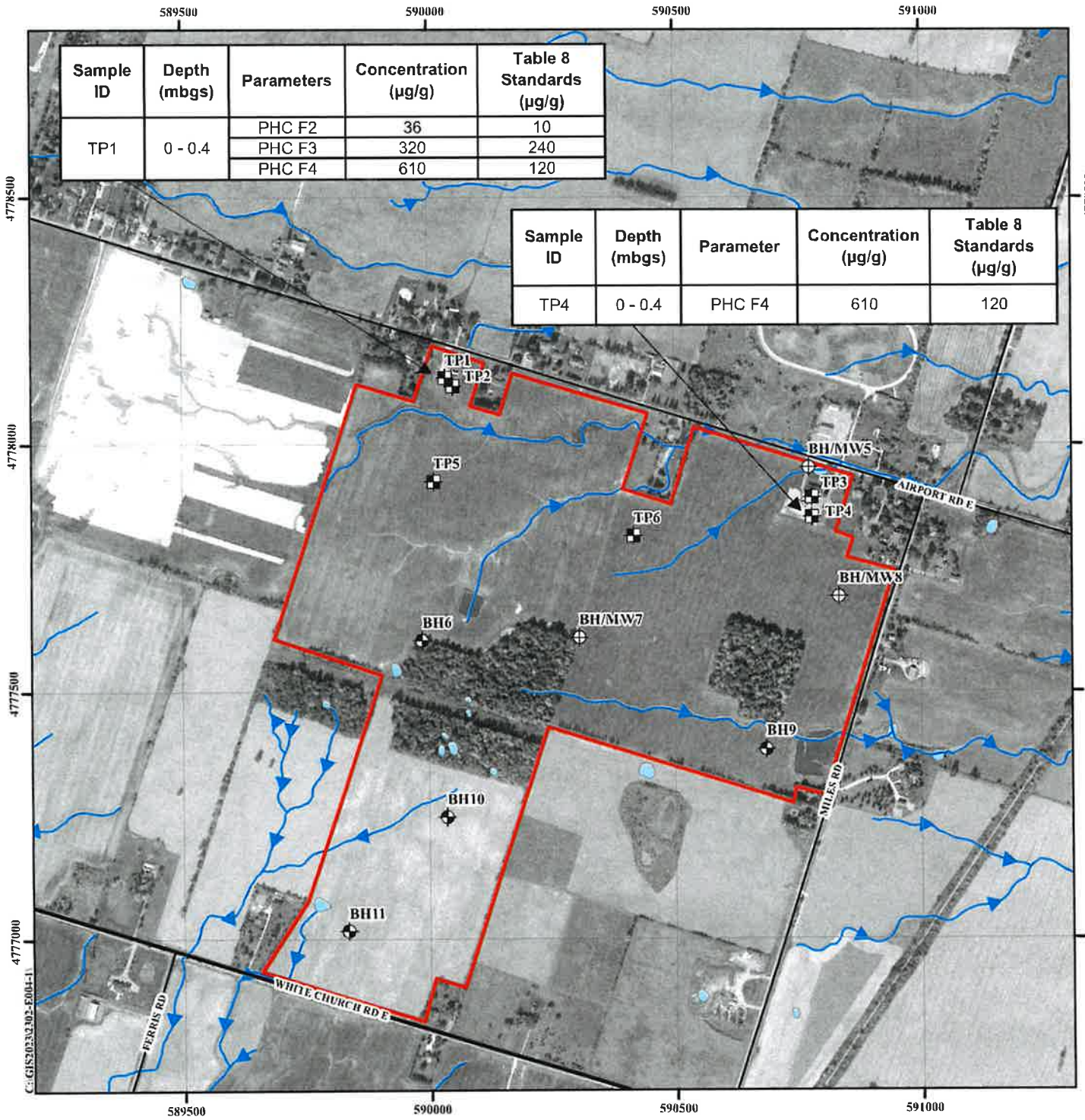
REFERENCE NO. 2302-E004-1


589000
589500
590000
590500
591000
591500
4779000
4778500
4778000
4777500
4777000
4776500
4776000
AIRPORT RD E
MILES RD
WHITE CHURCH RD E
FERRIS RD
TYNESIDE RD
N
Subject Site
Waterbody
Major Road
Local Road
Railway
Soil Engineers Ltd.
Title: Site Location Plan
Project:
Proposed Residential Development
7505 Airport Road East
City of Hamilton
Reference No. 2302-E004-1
Date: March 20, 2023
Scale:
0 87.5 175 350 525 700 875
Metres
Drawing No. 1
Source: Ontario Ministry of Natural Resources and Forestry
© Queen's Printer for Ontario, 2022


589000
589500
590000
590500
591000
591500
4778500
4778000
4777500
4777000
4776500
TP1
TP2
TP3
TP4
TP5
TP6
BH/MW5
BH/MW7
BH/MW8
BH6
BH9
BH10
BH11
AIRPORT RD E
MILES RD
FERRIS RD
WHITE CHURCH RD E
N
Subject Site
Borehole
Borehole with Monitoring Well
Test Pit
Waterbody
Major Road
Local Road
Railway
Soil Engineers Ltd.
Title: Sampling Location Plan
Project:
Proposed Residential Development
7505 Airport Road East
City of Hamilton
Reference No. 2302-E004-1
Date: March 20, 2023
Scale:
0 70 140 280 420 560 700
Metres
Drawing No. 2
C:\GIS\2023\2302-E004-1\
Source: Ontario Ministry of Natural Resources and Forestry
© Queen's Printer for Ontario, 2022

Sample ID	Depth (mbgs)	Parameters	Concentration (µg/g)	Table 8 Standards (µg/g)
TP1	0 - 0.4	PHC F2	36	10
		PHC F3	320	240
		PHC F4	610	120

Sample ID	Depth (mbgs)	Parameter	Concentration (µg/g)	Table 8 Standards (µg/g)
TP4	0 - 0.4	PHC F4	610	120



N

Subject Site

Borehole

Borehole with Monitoring Well

Test Pit

Waterbody

Major Road

Local Road

Soil Engineers Ltd.

Title: Soil Exceedance Plan

Project:
Proposed Residential Development
7505 Airport Road East
City of Hamilton

Reference No. 2302-E004-1

Date: February 13, 2023

Scale:
0 55 110 220 330 440 550
Metres

Drawing No. 3

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APPENDIX 'A'

BOREHOLE LOGS

REFERENCE NO. 2302-E004-1

JOB NO.: 2302-E004-1

LOG OF BOREHOLE NO.: 5

FIGURE NO.: 1

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Geoprobe

PROJECT LOCATION: 7505 Airport Road East
City of Hamilton

DRILLING DATE: March 6, 2023

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
225.3	Ground Surface							
0.0	**10 cm TOPSOIL**				0			
0.1	Brown to grey **SILTY CLAY**	1	TO	5				
	weathered	2	TO	5	1			
		3	TO	5	2			
		4	TO	10			BH5/4: PAHs, Metals	
		5	TO	10	3		BH5/5: PHCs, VOCs, DUPS3: PHCs, BTEX	▼ W.L. @ 3.56 mbgs on March 9, 2023
	brown grey	6	TO	0	4			
		7	TO	0	5			
		8	TO	0				
		9	TO	0	6			
		10	TO	0	7			
		11	TO	0	8			
8.5	END OF BOREHOLE Installed 51mm standpipe @ 8.5m Concrete from 0.0 to 0.3 Bentonite seal from 0.3m to 4.9m Sand backfill from 4.9m to 8.5m 3m screen from 5.5m to 8.5m Provided with monument protective casing				9			
					10			

Soil Engineers Ltd.

JOB NO.: 2302-E004-1

LOG OF BOREHOLE NO.: 6

FIGURE NO.: 2

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Geoprobe

PROJECT LOCATION: 7505 Airport Road East
City of Hamilton

DRILLING DATE: March 3, 2023

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
228.1	Ground Surface							
0.0	**8 cm TOPSOIL**				0			
0.1	Brown, Very soft to very stiff **SILTY CLAY**	1	TO	10			BH6/1: OCs	
	weathered	2	TO	5	1		BH6/2: Metals, Hg, Cr(VI), Cyanide, pH	
	a trace of sand occ. silt layers seepage at 4.6m	3	TO	5	2			
		4	TO	0				
		5	TO	0	3			
	brown grey	6	TO	0	4			
		7	TO	0				
		8	TO	0	5			
		9	TO	0	6			
221.5								
6.6	END OF BOREHOLE				7			
					8			

Soil Engineers Ltd.

JOB NO.: 2302-E004-1

LOG OF BOREHOLE NO.: 7

FIGURE NO.: 3

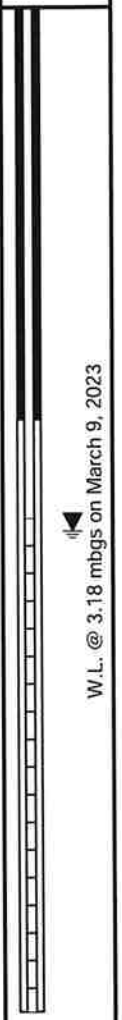
PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Geoprobe

PROJECT LOCATION: 7505 Airport Road East
City of Hamilton

DRILLING DATE: March 3, 2023

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
227.1	Ground Surface							
0.0	**5 cm TOPSOIL**				0			
0.1	Brown to grey, Firm to hard	1	TO	5			BH7/1: OCs	
	weathered				1			
	SILTY CLAY	2	TO	10			BH7/2: Metals, Hg, Cr(VI), Cyanide	
	a trace of sand occ. silt layers seepage at 4.6m	3	TO	5	2			
		4	TO	0			BH7/4: pH	
		5	TO	0	3			
	brown grey	6	TO	0	4			
		7	TO	0	5			
		8	TO	0				
		9	TO	0	6			
220.4								
6.7	END OF BOREHOLE Installed 51mm standpipe @ 6.1m Concrete from 0.0 to 0.3 Bentonite seal from 0.3m 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			



Soil Engineers Ltd.

JOB NO.: 2302-E004-1

LOG OF BOREHOLE NO.: 8

FIGURE NO.: 4

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Geoprobe

PROJECT LOCATION: 7505 Airport Road East
City of Hamilton

DRILLING DATE: March 3, 2023

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES Number	Type	Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm)	REMARKS	WATER LEVEL
225.9	Ground Surface							
0.0	**10 cm TOPSOIL**				0			
0.1	Brown to grey, Firm to very stiff	1	TO	5			BH8/1: OCs	
	SILTY CLAY	2	TO	5	1		BH8/2: Metals, Hg, Cr(VI), Cyanide	
	weathered							
	a trace of sand occ. silt layers seepage at 1.5m	3	TO	10	2		BH8/3: pH	
		4	TO	10				
		5	TO	5	3			
	brown grey							
		6	TO	0	4			
		7	TO	0	5			
		8	TO	0				
		9	TO	0	6			
219.2								
6.7	END OF BOREHOLE Installed 51mm standpipe @ 6.1m Concrete from 0.0 to 0.3 Bentonite seal from 0.3m 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			

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

W.L. @ 3.75 mbgs on March 9, 2023

Soil Engineers Ltd.

JOB NO.: 2302-E004-1

LOG OF BOREHOLE NO.: 9

FIGURE NO.: 5

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Geoprobe

PROJECT LOCATION: 7505 Airport Road East
City of Hamilton

DRILLING DATE: March 3, 2023

El. (masl) Depth (mbgs)	SOIL DESCRIPTION	SAMPLES Number	Type	Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm) 20 60 100 140 180	REMARKS	WATER LEVEL
225.3	Ground Surface							
0.0	8 cm TOPSOIL				0			
0.1	Brown, firm to very stiff SILTY CLAY — — — weathered a trace of sand occ. silt layers	1	TO	5			BH9/1: DUPS1: OCs	
		2	TO	10	1		BH9/2: Metals, Hg, Cr(VI), Cyanide, pH	
		3	TO	5	2			
		4	TO	0				
		5	TO	0	3			
221.3								
4.0	Grey, compact SILT a trace of clay wet	6	TO	0	4			
		7	TO	0	5			
219.7		8	TO	0				
5.6	Grey, very stiff SILTY CLAY a trace of sand occ. silt layers	9	TO	0	6			
218.7								
6.6	END OF BOREHOLE				7			
					8			

Soil Engineers Ltd.

JOB NO.: 2302-E004-1

LOG OF BOREHOLE NO.: 10

FIGURE NO.: 6

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Geoprobe

PROJECT LOCATION: 7505 Airport Road East
City of Hamilton

DRILLING DATE: March 3, 2023

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
227.9	Ground Surface							
0.0	**18 cm TOPSOIL**				0			
0.2	Brown, Soft to very stiff	1	TO	10			BH10/1: OCs, Metals, Hg, Cr(VI), Cyanide, pH	
	SILTY CLAY — — — weathered	2	TO	5	1			
	a trace of sand occ. silt layers seepage at 4.6m	3	TO	5	2			
	— — — — brown grey	4	TO	0				
		5	TO	0	3			
		6	TO	0	4			
		7	TO	0	5			
		8	TO	0				
		9	TO	0	6			
221.3								
6.6	END OF BOREHOLE				7			
					8			

Soil Engineers Ltd.

JOB NO.: 2302-E004-1

LOG OF BOREHOLE NO.: 11

FIGURE NO.: 7

PROJECT DESCRIPTION: Proposed Residential Development

METHOD OF BORING: Geoprobe

PROJECT LOCATION: 7505 Airport Road East
City of Hamilton

DRILLING DATE: March 3, 2023

El. (masl) / Depth (mbgs)	SOIL DESCRIPTION	SAMPLES Number	SAMPLES Type	SAMPLES Combustible Headspace Reading (ppm)	Depth Scale (mbgs)	Combustible Headspace Reading (ppm)	REMARKS	WATER LEVEL
225.6	Ground Surface							
0.0	**13 cm TOPSOIL**				0			
0.1	Brown, Firm to very stiff **SILTY CLAY**	1	TO	5			BH11/1: OCs	
	weathered a trace of sand occ. silt layers seepage at 6.1m	2	TO	10	1		BH11/2: DUPS2: Metals, Hg, Cr(VI), Cyanide, pH	
		3	TO	5	2			
		4	TO	0	3			
		5	TO	0				
	brown grey	6	TO	0	4			
		7	TO	0	5			
		8	TO	0				
		9	TO	0	6			
219.0								
6.6	END OF BOREHOLE				7			
					8			

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

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APPENDIX 'B'

CERTIFICATES OF ANALYSIS (SOIL SAMPLES)

REFERENCE NO. 2302-E004-1

Your Project #: 2302-E004-1

Attention: Ram Sah

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

Report Date: 2023/03/16
Report #: R7548637
Version: 3 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C365033
Received: 2023/03/07, 17:36

Sample Matrix: Soil
Samples Received: 24

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum	2	N/A	2023/03/10	CAM SOP-00301	EPA 8270D m
1,3-Dichloropropene Sum	2	N/A	2023/03/13		EPA 8260C m
Free (WAD) Cyanide	9	2023/03/10	2023/03/10	CAM SOP-00457	OMOE E3015 m
Hexavalent Chromium in Soil by IC (1)	6	2023/03/10	2023/03/10	CAM SOP-00436	EPA 3060/7199 m
Hexavalent Chromium in Soil by IC (1)	3	2023/03/10	2023/03/13	CAM SOP-00436	EPA 3060/7199 m
Petroleum Hydro. CCME F1 & BTEX in Soil (2)	4	N/A	2023/03/10	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Soil (3)	5	2023/03/09	2023/03/10	CAM SOP-00316	CCME CWS m
Petroleum Hydrocarbons F2-F4 in Soil (3)	1	2023/03/09	2023/03/09	CAM SOP-00316	CCME CWS m
Acid Extractable Metals by ICPMS	14	2023/03/10	2023/03/10	CAM SOP-00447	EPA 6020B m
Moisture	22	N/A	2023/03/09	CAM SOP-00445	Carter 2nd ed 51.2 m
OC Pesticides (Selected) & PCB (4)	3	2023/03/13	2023/03/14	CAM SOP-00307	EPA 8081B/ 8082A
OC Pesticides (Selected) & PCB (4)	6	2023/03/14	2023/03/15	CAM SOP-00307	EPA 8081B/ 8082A
OC Pesticides Summed Parameters	9	N/A	2023/03/10	CAM SOP-00307	EPA 8081B/ 8082A
PAH Compounds in Soil by GC/MS (SIM)	2	2023/03/09	2023/03/10	CAM SOP-00318	EPA 8270E
pH CaCl2 EXTRACT	10	2023/03/10	2023/03/10	CAM SOP-00413	EPA 9045 D m
Volatile Organic Compounds and F1 PHCs	2	N/A	2023/03/10	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.

Your Project #: 2302-E004-1

Attention: Ram Sah

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

Report Date: 2023/03/16
Report #: R7548637
Version: 3 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C365033
Received: 2023/03/07, 17:36

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

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Soils are reported on a dry weight basis unless otherwise specified.
(2) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is the date sampled unless otherwise stated.
(3) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.
(4) Chlordane (Total) = Alpha Chlordane + Gamma Chlordane

Encryption Key

Antonella Brasil
Senior Project Manager
16 Mar 2023 13:21:37

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

==========

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

Bureau Veritas Job #: C365033
Report Date: 2023/03/16

Soil Engineers Ltd
Client Project #: 2302-E004-1
Sampler Initials: AB

O.REG 153 ICPMS METALS (SOIL)

Bureau Veritas ID		VFO840	VFO841		VFO842	VFO843			
Sampling Date		2023/03/06 11:30	2023/03/06 11:50		2023/03/06 12:10	2023/03/06 13:05			
	UNITS	TP1	TP2	QC Batch	TP3	TP4	RDL	MDL	QC Batch
Metals									
Acid Extractable Antimony (Sb)	ug/g	0.46	0.25	8545799	0.20	0.28	0.20	0.10	8545205
Acid Extractable Arsenic (As)	ug/g	9.5	3.9	8545799	4.3	4.9	1.0	0.10	8545205
Acid Extractable Barium (Ba)	ug/g	51	68	8545799	71	96	0.50	0.30	8545205
Acid Extractable Beryllium (Be)	ug/g	0.34	0.64	8545799	0.69	0.64	0.20	0.020	8545205
Acid Extractable Boron (B)	ug/g	9.4	5.6	8545799	5.2	8.0	5.0	1.0	8545205
Acid Extractable Cadmium (Cd)	ug/g	0.53	0.23	8545799	0.26	0.28	0.10	0.030	8545205
Acid Extractable Chromium (Cr)	ug/g	17	20	8545799	22	18	1.0	0.20	8545205
Acid Extractable Cobalt (Co)	ug/g	6.0	9.7	8545799	10	8.4	0.10	0.020	8545205
Acid Extractable Copper (Cu)	ug/g	30	28	8545799	23	22	0.50	0.20	8545205
Acid Extractable Lead (Pb)	ug/g	39	20	8545799	20	24	1.0	0.10	8545205
Acid Extractable Molybdenum (Mo	ug/g	0.97	0.54	8545799	0.53	1.1	0.50	0.10	8545205
Acid Extractable Nickel (Ni)	ug/g	12	20	8545799	21	17	0.50	0.20	8545205
Acid Extractable Selenium (Se)	ug/g	<0.50	<0.50	8545799	<0.50	<0.50	0.50	0.10	8545205
Acid Extractable Silver (Ag)	ug/g	<0.20	<0.20	8545799	<0.20	<0.20	0.20	0.040	8545205
Acid Extractable Thallium (Tl)	ug/g	0.10	0.13	8545799	0.13	0.13	0.050	0.010	8545205
Acid Extractable Uranium (U)	ug/g	0.56	0.63	8545799	0.75	0.84	0.050	0.030	8545205
Acid Extractable Vanadium (V)	ug/g	19	28	8545799	30	25	5.0	0.50	8545205
Acid Extractable Zinc (Zn)	ug/g	240	120	8545799	93	94	5.0	0.50	8545205
Acid Extractable Mercury (Hg)	ug/g	<0.050	0.054	8545799	<0.050	0.071	0.050	0.030	8545205

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID		VFO825				VFO828		VFO830			
Sampling Date		2023/03/06 09:15				2023/03/03 08:55		2023/03/03 10:15			
	UNITS	BH/MW 5/4	RDL	MDL	QC Batch	BH 6/2	QC Batch	BH/MW 7/2	RDL	MDL	QC Batch
Inorganics											
Available (CaCl2) pH	pH	7.72			8545401	7.58	8545471				
WAD Cyanide (Free)	ug/g					<0.01	8545201	<0.01	0.01	0.005	8545201
Chromium (VI)	ug/g					<0.18	8545384	<0.18	0.18	0.050	8545390
Metals											
Acid Extractable Antimony (Sb)	ug/g	<0.20	0.20	0.10	8545236	<0.20	8545236	<0.20	0.20	0.10	8545799
Acid Extractable Arsenic (As)	ug/g	5.3	1.0	0.10	8545236	4.5	8545236	5.9	1.0	0.10	8545799
Acid Extractable Barium (Ba)	ug/g	77	0.50	0.30	8545236	72	8545236	77	0.50	0.30	8545799
Acid Extractable Beryllium (Be)	ug/g	0.67	0.20	0.020	8545236	0.55	8545236	0.73	0.20	0.020	8545799
Acid Extractable Boron (B)	ug/g	8.6	5.0	1.0	8545236	7.0	8545236	6.4	5.0	1.0	8545799
Acid Extractable Cadmium (Cd)	ug/g	<0.10	0.10	0.030	8545236	0.13	8545236	0.14	0.10	0.030	8545799
Acid Extractable Chromium (Cr)	ug/g	22	1.0	0.20	8545236	17	8545236	22	1.0	0.20	8545799
Acid Extractable Cobalt (Co)	ug/g	14	0.10	0.020	8545236	9.7	8545236	12	0.10	0.020	8545799
Acid Extractable Copper (Cu)	ug/g	32	0.50	0.20	8545236	33	8545236	34	0.50	0.20	8545799
Acid Extractable Lead (Pb)	ug/g	12	1.0	0.10	8545236	16	8545236	12	1.0	0.10	8545799
Acid Extractable Molybdenum (Mo	ug/g	<0.50	0.50	0.10	8545236	<0.50	8545236	<0.50	0.50	0.10	8545799
Acid Extractable Nickel (Ni)	ug/g	28	0.50	0.20	8545236	21	8545236	27	0.50	0.20	8545799
Acid Extractable Selenium (Se)	ug/g	<0.50	0.50	0.10	8545236	<0.50	8545236	<0.50	0.50	0.10	8545799
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	0.040	8545236	<0.20	8545236	<0.20	0.20	0.040	8545799
Acid Extractable Thallium (Tl)	ug/g	0.13	0.050	0.010	8545236	0.11	8545236	0.14	0.050	0.010	8545799
Acid Extractable Uranium (U)	ug/g	0.58	0.050	0.030	8545236	0.50	8545236	0.64	0.050	0.030	8545799
Acid Extractable Vanadium (V)	ug/g	29	5.0	0.50	8545236	25	8545236	31	5.0	0.50	8545799
Acid Extractable Zinc (Zn)	ug/g	65	5.0	0.50	8545236	72	8545236	59	5.0	0.50	8545799
Acid Extractable Mercury (Hg)	ug/g	<0.050	0.050	0.030	8545236	<0.050	8545236	<0.050	0.050	0.030	8545799

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas Job #: C365033
Report Date: 2023/03/16

Soil Engineers Ltd
Client Project #: 2302-E004-1
Sampler Initials: AB

O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID		VFO833				VFO833				VFO836			
Sampling Date		2023/03/03 11:40				2023/03/03 11:40				2023/03/03 12:55			
	UNITS	BH/MW 8/2	RDL	MDL	QC Batch	BH/MW 8/2 Lab-Dup	RDL	MDL	QC Batch	BH 9/2	RDL	MDL	QC Batch
Inorganics													
Available (CaCl2) pH	pH									7.56			8545471
WAD Cyanide (Free)	ug/g	<0.01	0.01	0.005	8545201					<0.01	0.01	0.005	8545201
Chromium (VI)	ug/g	<0.18	0.18	0.050	8545384					<0.18	0.18	0.050	8545384
Metals													
Acid Extractable Antimony (Sb)	ug/g	<0.20	0.20	0.10	8545236	<0.20	0.20	0.10	8545236	<0.20	0.20	0.10	8545236
Acid Extractable Arsenic (As)	ug/g	7.5	1.0	0.10	8545236	7.3	1.0	0.10	8545236	5.4	1.0	0.10	8545236
Acid Extractable Barium (Ba)	ug/g	83	0.50	0.30	8545236	80	0.50	0.30	8545236	74	0.50	0.30	8545236
Acid Extractable Beryllium (Be)	ug/g	0.80	0.20	0.020	8545236	0.77	0.20	0.020	8545236	0.67	0.20	0.020	8545236
Acid Extractable Boron (B)	ug/g	5.4	5.0	1.0	8545236	5.2	5.0	1.0	8545236	7.5	5.0	1.0	8545236
Acid Extractable Cadmium (Cd)	ug/g	0.15	0.10	0.030	8545236	0.13	0.10	0.030	8545236	<0.10	0.10	0.030	8545236
Acid Extractable Chromium (Cr)	ug/g	26	1.0	0.20	8545236	26	1.0	0.20	8545236	21	1.0	0.20	8545236
Acid Extractable Cobalt (Co)	ug/g	14	0.10	0.020	8545236	13	0.10	0.020	8545236	14	0.10	0.020	8545236
Acid Extractable Copper (Cu)	ug/g	41	0.50	0.20	8545236	40	0.50	0.20	8545236	34	0.50	0.20	8545236
Acid Extractable Lead (Pb)	ug/g	13	1.0	0.10	8545236	12	1.0	0.10	8545236	11	1.0	0.10	8545236
Acid Extractable Molybdenum (Mo	ug/g	0.52	0.50	0.10	8545236	<0.50	0.50	0.10	8545236	<0.50	0.50	0.10	8545236
Acid Extractable Nickel (Ni)	ug/g	33	0.50	0.20	8545236	31	0.50	0.20	8545236	28	0.50	0.20	8545236
Acid Extractable Selenium (Se)	ug/g	<0.50	0.50	0.10	8545236	<0.50	0.50	0.10	8545236	<0.50	0.50	0.10	8545236
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	0.040	8545236	<0.20	0.20	0.040	8545236	<0.20	0.20	0.040	8545236
Acid Extractable Thallium (Tl)	ug/g	0.16	0.050	0.010	8545236	0.14	0.050	0.010	8545236	0.14	0.050	0.010	8545236
Acid Extractable Uranium (U)	ug/g	0.56	0.050	0.030	8545236	0.53	0.050	0.030	8545236	0.54	0.050	0.030	8545236
Acid Extractable Vanadium (V)	ug/g	35	5.0	0.50	8545236	35	5.0	0.50	8545236	30	5.0	0.50	8545236
Acid Extractable Zinc (Zn)	ug/g	70	5.0	0.50	8545236	67	5.0	0.50	8545236	67	5.0	0.50	8545236
Acid Extractable Mercury (Hg)	ug/g	<0.050	0.050	0.030	8545236	<0.050	0.050	0.030	8545236	<0.050	0.050	0.030	8545236

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		VFO836			VFO837	VFO839	VFO844			
Sampling Date		2023/03/03 12:55			2023/03/03 13:45	2023/03/03 15:25	2023/03/06 13:50			
	UNITS	BH 9/2 Lab-Dup	MDL	QC Batch	BH 10/1	BH 11/2	TP5	RDL	MDL	QC Batch
Inorganics										
Available (CaCl2) pH	pH	7.61		8545471	7.57	7.65	6.02			8545401
WAD Cyanide (Free)	ug/g				<0.01	<0.01	<0.01	0.01	0.005	8545201
Chromium (VI)	ug/g				<0.18	<0.18	<0.18	0.18	0.050	8545384
Metals										
Acid Extractable Antimony (Sb)	ug/g				<0.20	<0.20	<0.20	0.20	0.10	8545236
Acid Extractable Arsenic (As)	ug/g				6.0	7.1	4.0	1.0	0.10	8545236
Acid Extractable Barium (Ba)	ug/g				95	100	74	0.50	0.30	8545236
Acid Extractable Beryllium (Be)	ug/g				0.92	1.0	0.72	0.20	0.020	8545236
Acid Extractable Boron (B)	ug/g				6.6	7.5	<5.0	5.0	1.0	8545236
Acid Extractable Cadmium (Cd)	ug/g				0.17	0.15	0.25	0.10	0.030	8545236
Acid Extractable Chromium (Cr)	ug/g				26	31	21	1.0	0.20	8545236
Acid Extractable Cobalt (Co)	ug/g				12	18	8.5	0.10	0.020	8545236
Acid Extractable Copper (Cu)	ug/g				32	39	23	0.50	0.20	8545236
Acid Extractable Lead (Pb)	ug/g				13	18	17	1.0	0.10	8545236
Acid Extractable Molybdenum (Mo	ug/g				0.51	<0.50	0.50	0.50	0.10	8545236
Acid Extractable Nickel (Ni)	ug/g				26	41	19	0.50	0.20	8545236
Acid Extractable Selenium (Se)	ug/g				<0.50	<0.50	<0.50	0.50	0.10	8545236
Acid Extractable Silver (Ag)	ug/g				<0.20	<0.20	<0.20	0.20	0.040	8545236
Acid Extractable Thallium (Tl)	ug/g				0.13	0.20	0.11	0.050	0.010	8545236
Acid Extractable Uranium (U)	ug/g				1.1	0.58	1.2	0.050	0.030	8545236
Acid Extractable Vanadium (V)	ug/g				40	41	29	5.0	0.50	8545236
Acid Extractable Zinc (Zn)	ug/g				70	89	91	5.0	0.50	8545236
Acid Extractable Mercury (Hg)	ug/g				<0.050	<0.050	<0.050	0.050	0.030	8545236

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		VFO845				VFO845				VFO847			
Sampling Date		2023/03/06 14:15				2023/03/06 14:15				2023/03/03			
	UNITS	TP6	RDL	MDL	QC Batch	TP6 Lab-Dup	RDL	MDL	QC Batch	DUPS2	RDL	MDL	QC Batch
Inorganics													
Available (CaCl2) pH	pH	6.04			8545401					7.63			8545492
WAD Cyanide (Free)	ug/g	<0.01	0.01	0.005	8545201					<0.01	0.01	0.005	8545201
Chromium (VI)	ug/g	<0.18	0.18	0.050	8545390	<0.18	0.18	0.050	8545390	<0.18	0.18	0.050	8545390
Metals													
Acid Extractable Antimony (Sb)	ug/g	<0.20	0.20	0.10	8545799					<0.20	0.20	0.10	8545799
Acid Extractable Arsenic (As)	ug/g	4.0	1.0	0.10	8545799					7.2	1.0	0.10	8545799
Acid Extractable Barium (Ba)	ug/g	83	0.50	0.30	8545799					100	0.50	0.30	8545799
Acid Extractable Beryllium (Be)	ug/g	0.80	0.20	0.020	8545799					1.0	0.20	0.020	8545799
Acid Extractable Boron (B)	ug/g	<5.0	5.0	1.0	8545799					8.7	5.0	1.0	8545799
Acid Extractable Cadmium (Cd)	ug/g	0.27	0.10	0.030	8545799					0.19	0.10	0.030	8545799
Acid Extractable Chromium (Cr)	ug/g	23	1.0	0.20	8545799					30	1.0	0.20	8545799
Acid Extractable Cobalt (Co)	ug/g	8.9	0.10	0.020	8545799					18	0.10	0.020	8545799
Acid Extractable Copper (Cu)	ug/g	25	0.50	0.20	8545799					42	0.50	0.20	8545799
Acid Extractable Lead (Pb)	ug/g	20	1.0	0.10	8545799					18	1.0	0.10	8545799
Acid Extractable Molybdenum (Mo	ug/g	0.52	0.50	0.10	8545799					<0.50	0.50	0.10	8545799
Acid Extractable Nickel (Ni)	ug/g	20	0.50	0.20	8545799					40	0.50	0.20	8545799
Acid Extractable Selenium (Se)	ug/g	0.58	0.50	0.10	8545799					<0.50	0.50	0.10	8545799
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	0.040	8545799					<0.20	0.20	0.040	8545799
Acid Extractable Thallium (Tl)	ug/g	0.12	0.050	0.010	8545799					0.21	0.050	0.010	8545799
Acid Extractable Uranium (U)	ug/g	1.4	0.050	0.030	8545799					0.59	0.050	0.030	8545799
Acid Extractable Vanadium (V)	ug/g	32	5.0	0.50	8545799					40	5.0	0.50	8545799
Acid Extractable Zinc (Zn)	ug/g	100	5.0	0.50	8545799					90	5.0	0.50	8545799
Acid Extractable Mercury (Hg)	ug/g	0.052	0.050	0.030	8545799					<0.050	0.050	0.030	8545799

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		VFO827	VFO829	VFO832	VFO835		VFO837			
Sampling Date		2023/03/03 08:45	2023/03/03 10:05	2023/03/03 11:30	2023/03/03 12:40		2023/03/03 13:45			
	UNITS	BH 6/1	BH/MW 7/1	BH/MW 8/1	BH 9/1	QC Batch	BH 10/1	RDL	MDL	QC Batch
Calculated Parameters										
Chlordane (Total)	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	8540721	<0.0020	0.0020	N/A	8540721
o,p-DDD + p,p-DDD	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	8540721	<0.0020	0.0020	N/A	8540721
o,p-DDE + p,p-DDE	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	8540721	<0.0020	0.0020	N/A	8540721
o,p-DDT + p,p-DDT	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	8540721	<0.0020	0.0020	N/A	8540721
Total Endosulfan	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	8540721	<0.0020	0.0020	N/A	8540721
Pesticides & Herbicides										
Aldrin	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	8551240	<0.0020	0.0020	0.00040	8549305
a-Chlordane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	8551240	<0.0020	0.0020	0.00040	8549305
g-Chlordane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	8551240	<0.0020	0.0020	0.00040	8549305
o,p-DDD	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	8551240	<0.0020	0.0020	0.00040	8549305
p,p-DDD	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	8551240	<0.0020	0.0020	0.00040	8549305
o,p-DDE	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	8551240	<0.0020	0.0020	0.00040	8549305
p,p-DDE	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	8551240	<0.0020	0.0020	0.00040	8549305
o,p-DDT	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	8551240	<0.0020	0.0020	0.00040	8549305
p,p-DDT	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	8551240	<0.0020	0.0020	0.00040	8549305
Dieldrin	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	8551240	<0.0020	0.0020	0.00040	8549305
Lindane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	8551240	<0.0020	0.0020	0.00040	8549305
Endosulfan I (alpha)	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	8551240	<0.0020	0.0020	0.00040	8549305
Endosulfan II (beta)	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	8551240	<0.0020	0.0020	0.00040	8549305
Endrin	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	8551240	<0.0020	0.0020	0.00040	8549305
Heptachlor	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	8551240	<0.0020	0.0020	0.00040	8549305
Heptachlor epoxide	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	8551240	<0.0020	0.0020	0.00040	8549305
Hexachlorobenzene	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	8551240	<0.0020	0.0020	0.00040	8549305
Hexachlorobutadiene	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	8551240	<0.0020	0.0020	N/A	8549305
Hexachloroethane	ug/g	<0.0020	<0.0020	<0.0020	<0.0020	8551240	<0.0020	0.0020	N/A	8549305
Methoxychlor	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	8551240	<0.0050	0.0050	0.0016	8549305
Surrogate Recovery (%)										
2,4,5,6-Tetrachloro-m-xylen	%	81	66	76	78	8551240	66			8549305
Decachlorobiphenyl	%	99	96	93	92	8551240	93			8549305

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

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O.REG 153 OC PESTICIDES (SOIL)

Bureau Veritas ID		VFO838		VFO844	VFO845		VFO846			
Sampling Date		2023/03/03 15:10		2023/03/06 13:50	2023/03/06 14:15		2023/03/03			
	UNITS	BH 11/1	QC Batch	TP5	TP6	QC Batch	DUPS1	RDL	MDL	QC Batch
Calculated Parameters										
Chlordane (Total)	ug/g	<0.0020	8540721	<0.0020	<0.0020	8540721	<0.0020	0.0020	N/A	8540721
o,p-DDD + p,p-DDD	ug/g	<0.0020	8540721	<0.0020	<0.0020	8540721	<0.0020	0.0020	N/A	8540721
o,p-DDE + p,p-DDE	ug/g	<0.0020	8540721	<0.0020	<0.0020	8540721	<0.0020	0.0020	N/A	8540721
o,p-DDT + p,p-DDT	ug/g	<0.0020	8540721	<0.0020	<0.0020	8540721	<0.0020	0.0020	N/A	8540721
Total Endosulfan	ug/g	<0.0020	8540721	<0.0020	<0.0020	8540721	<0.0020	0.0020	N/A	8540721
Pesticides & Herbicides										
Aldrin	ug/g	<0.0020	8551240	<0.0020	<0.0020	8549305	<0.0020	0.0020	0.00040	8551240
a-Chlordane	ug/g	<0.0020	8551240	<0.0020	<0.0020	8549305	<0.0020	0.0020	0.00040	8551240
g-Chlordane	ug/g	<0.0020	8551240	<0.0020	<0.0020	8549305	<0.0020	0.0020	0.00040	8551240
o,p-DDD	ug/g	<0.0020	8551240	<0.0020	<0.0020	8549305	<0.0020	0.0020	0.00040	8551240
p,p-DDD	ug/g	<0.0020	8551240	<0.0020	<0.0020	8549305	<0.0020	0.0020	0.00040	8551240
o,p-DDE	ug/g	<0.0020	8551240	<0.0020	<0.0020	8549305	<0.0020	0.0020	0.00040	8551240
p,p-DDE	ug/g	<0.0020	8551240	<0.0020	<0.0020	8549305	<0.0020	0.0020	0.00040	8551240
o,p-DDT	ug/g	<0.0020	8551240	<0.0020	<0.0020	8549305	<0.0020	0.0020	0.00040	8551240
p,p-DDT	ug/g	<0.0020	8551240	<0.0020	<0.0020	8549305	<0.0020	0.0020	0.00040	8551240
Dieldrin	ug/g	<0.0020	8551240	<0.0020	<0.0020	8549305	<0.0020	0.0020	0.00040	8551240
Lindane	ug/g	<0.0020	8551240	<0.0020	<0.0020	8549305	<0.0020	0.0020	0.00040	8551240
Endosulfan I (alpha)	ug/g	<0.0020	8551240	<0.0020	<0.0020	8549305	<0.0020	0.0020	0.00040	8551240
Endosulfan II (beta)	ug/g	<0.0020	8551240	<0.0020	<0.0020	8549305	<0.0020	0.0020	0.00040	8551240
Endrin	ug/g	<0.0020	8551240	<0.0020	<0.0020	8549305	<0.0020	0.0020	0.00040	8551240
Heptachlor	ug/g	<0.0020	8551240	<0.0020	<0.0020	8549305	<0.0020	0.0020	0.00040	8551240
Heptachlor epoxide	ug/g	<0.0020	8551240	<0.0020	<0.0020	8549305	<0.0020	0.0020	0.00040	8551240
Hexachlorobenzene	ug/g	<0.0020	8551240	<0.0020	<0.0020	8549305	<0.0020	0.0020	0.00040	8551240
Hexachlorobutadiene	ug/g	<0.0020	8551240	<0.0020	<0.0020	8549305	<0.0020	0.0020	N/A	8551240
Hexachloroethane	ug/g	<0.0020	8551240	<0.0020	<0.0020	8549305	<0.0020	0.0020	N/A	8551240
Methoxychlor	ug/g	<0.0050	8551240	<0.0050	<0.0050	8549305	<0.0050	0.0050	0.0016	8551240
Surrogate Recovery (%)										
2,4,5,6-Tetrachloro-m-xylen	%	75	8551240	75	69	8549305	73			8551240
Decachlorobiphenyl	%	88	8551240	90	88	8549305	98			8551240

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

O.REG 153 PAHS (SOIL)

Bureau Veritas ID		VFO825	VFO842			
Sampling Date		2023/03/06 09:15	2023/03/06 12:10			
	UNITS	BH/MW 5/4	TP3	RDL	MDL	QC Batch
Calculated Parameters						
Methylnaphthalene, 2-(1-)	ug/g	<0.0071	<0.0071	0.0071	N/A	8540213
Polyaromatic Hydrocarbons						
Acenaphthene	ug/g	<0.0050	<0.0050	0.0050	0.0020	8543936
Acenaphthylene	ug/g	<0.0050	<0.0050	0.0050	0.0010	8543936
Anthracene	ug/g	<0.0050	<0.0050	0.0050	0.0010	8543936
Benzo(a)anthracene	ug/g	<0.0050	0.014	0.0050	0.0020	8543936
Benzo(a)pyrene	ug/g	<0.0050	0.020	0.0050	0.0010	8543936
Benzo(b/j)fluoranthene	ug/g	<0.0050	0.030	0.0050	0.0020	8543936
Benzo(g,h,i)perylene	ug/g	<0.0050	0.016	0.0050	0.0040	8543936
Benzo(k)fluoranthene	ug/g	<0.0050	0.0093	0.0050	0.0020	8543936
Chrysene	ug/g	<0.0050	0.018	0.0050	0.0020	8543936
Dibenzo(a,h)anthracene	ug/g	<0.0050	<0.0050	0.0050	0.0040	8543936
Fluoranthene	ug/g	<0.0050	0.048	0.0050	0.0010	8543936
Fluorene	ug/g	<0.0050	<0.0050	0.0050	0.0010	8543936
Indeno(1,2,3-cd)pyrene	ug/g	<0.0050	0.016	0.0050	0.0040	8543936
1-Methylnaphthalene	ug/g	<0.0050	<0.0050	0.0050	0.0010	8543936
2-Methylnaphthalene	ug/g	<0.0050	<0.0050	0.0050	0.0010	8543936
Naphthalene	ug/g	<0.0050	<0.0050	0.0050	0.0010	8543936
Phenanthrene	ug/g	<0.0050	0.015	0.0050	0.0010	8543936
Pyrene	ug/g	<0.0050	0.039	0.0050	0.0010	8543936
Surrogate Recovery (%)						
D10-Anthracene	%	104	98			8543936
D14-Terphenyl (FS)	%	92	92			8543936
D8-Acenaphthylene	%	95	94			8543936

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

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

Bureau Veritas ID		VFO840	VFO841	VFO843	VFO848			
Sampling Date		2023/03/06 11:30	2023/03/06 11:50	2023/03/06 13:05	2023/03/06			
	UNITS	TP1	TP2	TP4	DUPS3	RDL	MDL	QC Batch
BTEX & F1 Hydrocarbons								
Benzene	ug/g	<0.020	<0.020	<0.020	<0.020	0.020	0.020	8545247
Toluene	ug/g	<0.020	<0.020	<0.020	<0.020	0.020	0.020	8545247
Ethylbenzene	ug/g	<0.020	<0.020	<0.020	<0.020	0.020	0.020	8545247
o-Xylene	ug/g	<0.020	<0.020	<0.020	<0.020	0.020	0.020	8545247
p+m-Xylene	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	0.040	8545247
Total Xylenes	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	0.040	8545247
F1 (C6-C10)	ug/g	<10	<10	<10	<10	10	5.0	8545247
F1 (C6-C10) - BTEX	ug/g	<10	<10	<10	<10	10	5.0	8545247
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/g	36	<10	<10	<10	10	5.0	8543906
F3 (C16-C34 Hydrocarbons)	ug/g	320	<50	190	<50	50	5.0	8543906
F4 (C34-C50 Hydrocarbons)	ug/g	610	<50	610	<50	50	10	8543906
Reached Baseline at C50	ug/g	No	Yes	No	Yes			8543906
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	97	96	98	97			8545247
4-Bromofluorobenzene	%	110	100	104	92			8545247
D10-o-Xylene	%	103	105	115	111			8545247
D4-1,2-Dichloroethane	%	100	100	102	101			8545247
o-Terphenyl	%	98	99	98	96			8543906

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		VFO826	VFO842			
Sampling Date		2023/03/06 09:30	2023/03/06 12:10			
	UNITS	BH/MW 5/5	TP3	RDL	MDL	QC Batch
Calculated Parameters						
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	<0.050	0.050	0.010	8540311
Volatile Organics						
Acetone (2-Propanone)	ug/g	<0.49	<0.49	0.49	0.49	8543322
Benzene	ug/g	<0.0060	<0.0060	0.0060	0.0060	8543322
Bromodichloromethane	ug/g	<0.040	<0.040	0.040	0.040	8543322
Bromoform	ug/g	<0.040	<0.040	0.040	0.040	8543322
Bromomethane	ug/g	<0.040	<0.040	0.040	0.040	8543322
Carbon Tetrachloride	ug/g	<0.040	<0.040	0.040	0.040	8543322
Chlorobenzene	ug/g	<0.040	<0.040	0.040	0.040	8543322
Chloroform	ug/g	<0.040	<0.040	0.040	0.040	8543322
Dibromochloromethane	ug/g	<0.040	<0.040	0.040	0.040	8543322
1,2-Dichlorobenzene	ug/g	<0.040	<0.040	0.040	0.040	8543322
1,3-Dichlorobenzene	ug/g	<0.040	<0.040	0.040	0.040	8543322
1,4-Dichlorobenzene	ug/g	<0.040	<0.040	0.040	0.040	8543322
Dichlorodifluoromethane (FREON 12)	ug/g	<0.040	<0.040	0.040	0.040	8543322
1,1-Dichloroethane	ug/g	<0.040	<0.040	0.040	0.040	8543322
1,2-Dichloroethane	ug/g	<0.049	<0.049	0.049	0.049	8543322
1,1-Dichloroethylene	ug/g	<0.040	<0.040	0.040	0.040	8543322
cis-1,2-Dichloroethylene	ug/g	<0.040	<0.040	0.040	0.040	8543322
trans-1,2-Dichloroethylene	ug/g	<0.040	<0.040	0.040	0.040	8543322
1,2-Dichloropropane	ug/g	<0.040	<0.040	0.040	0.040	8543322
cis-1,3-Dichloropropene	ug/g	<0.030	<0.030	0.030	0.030	8543322
trans-1,3-Dichloropropene	ug/g	<0.040	<0.040	0.040	0.040	8543322
Ethylbenzene	ug/g	<0.010	<0.010	0.010	0.010	8543322
Ethylene Dibromide	ug/g	<0.040	<0.040	0.040	0.040	8543322
Hexane	ug/g	<0.040	<0.040	0.040	0.040	8543322
Methylene Chloride(Dichloromethane	ug/g	<0.049	<0.049	0.049	0.049	8543322
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.40	<0.40	0.40	0.40	8543322
Methyl Isobutyl Ketone	ug/g	<0.40	<0.40	0.40	0.40	8543322
Methyl t-butyl ether (MTBE)	ug/g	<0.040	<0.040	0.040	0.040	8543322
Styrene	ug/g	<0.040	<0.040	0.040	0.040	8543322
1,1,1,2-Tetrachloroethane	ug/g	<0.040	<0.040	0.040	0.040	8543322
1,1,2,2-Tetrachloroethane	ug/g	<0.040	<0.040	0.040	0.040	8543322
Tetrachloroethylene	ug/g	<0.040	<0.040	0.040	0.040	8543322
Toluene	ug/g	<0.020	<0.020	0.020	0.020	8543322
1,1,1-Trichloroethane	ug/g	<0.040	<0.040	0.040	0.040	8543322

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		VFO826	VFO842			
Sampling Date		2023/03/06 09:30	2023/03/06 12:10			
	UNITS	BH/MW 5/5	TP3	RDL	MDL	QC Batch
1,1,2-Trichloroethane	ug/g	<0.040	<0.040	0.040	0.040	8543322
Trichloroethylene	ug/g	<0.010	<0.010	0.010	0.010	8543322
Trichlorofluoromethane (FREON 11)	ug/g	<0.040	<0.040	0.040	0.040	8543322
Vinyl Chloride	ug/g	<0.019	<0.019	0.019	0.019	8543322
p+m-Xylene	ug/g	<0.020	<0.020	0.020	0.020	8543322
o-Xylene	ug/g	<0.020	<0.020	0.020	0.020	8543322
Total Xylenes	ug/g	<0.020	<0.020	0.020	0.020	8543322
F1 (C6-C10)	ug/g	<10	<10	10	2.0	8543322
F1 (C6-C10) - BTEX	ug/g	<10	<10	10	2.0	8543322
F2-F4 Hydrocarbons						
F2 (C10-C16 Hydrocarbons)	ug/g	<10	<10	10	5.0	8543906
F3 (C16-C34 Hydrocarbons)	ug/g	<50	<50	50	5.0	8543906
F4 (C34-C50 Hydrocarbons)	ug/g	<50	<50	50	10	8543906
Reached Baseline at C50	ug/g	Yes	Yes			8543906
Surrogate Recovery (%)						
o-Terphenyl	%	99	96			8543906
4-Bromofluorobenzene	%	74	73			8543322
D10-o-Xylene	%	80	83			8543322
D4-1,2-Dichloroethane	%	108	111			8543322
D8-Toluene	%	100	99			8543322

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID		VFO825	VFO826		VFO827		VFO828		VFO829			
Sampling Date		2023/03/06 09:15	2023/03/06 09:30		2023/03/03 08:45		2023/03/03 08:55		2023/03/03 10:05			
	UNITS	BH/MW 5/4	BH/MW 5/5	QC Batch	BH 6/1	QC Batch	BH 6/2	QC Batch	BH/MW 7/1	RDL	MDL	QC Batch
Inorganics												
Moisture	%	15	14	8544043	20	8544600	15	8543296	21	1.0	0.50	8544600

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas ID		VFO830				VFO831			VFO832			
Sampling Date		2023/03/03 10:15				2023/03/03 10:30			2023/03/03 11:30			
	UNITS	BH/MW 7/2	RDL	MDL	QC Batch	BH/MW 7/4	MDL	QC Batch	BH/MW 8/1	RDL	MDL	QC Batch
Inorganics												
Moisture	%	21	1.0	0.50	8544043				18	1.0	0.50	8544600
Available (CaCl2) pH	pH					7.83		8545471				

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas ID		VFO833	VFO833				VFO834			VFO835			
Sampling Date		2023/03/03 11:40	2023/03/03 11:40				2023/03/03 11:55			2023/03/03 12:40			
	UNITS	BH/MW 8/2	BH/MW 8/2 Lab-Dup	RDL	MDL	QC Batch	BH/MW 8/3	MDL	QC Batch	BH 9/1	RDL	MDL	QC Batch
Inorganics													
Moisture	%	20	20	1.0	0.50	8543296				22	1.0	0.50	8544600
Available (CaCl2) pH	pH						7.74		8545471				

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

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RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID		VFO835		VFO836	VFO837		VFO838		VFO839			
Sampling Date		2023/03/03 12:40		2023/03/03 12:55	2023/03/03 13:45		2023/03/03 15:10		2023/03/03 15:25			
	UNITS	BH 9/1 Lab-Dup	QC Batch	BH 9/2	BH 10/1	QC Batch	BH 11/1	QC Batch	BH 11/2	RDL	MDL	QC Batch
Inorganics												
Moisture	%	20	8544600	15	22	8543296	18	8544600	20	1.0	0.50	8543296

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

Bureau Veritas ID		VFO840	VFO841	VFO842	VFO843		VFO844			
Sampling Date		2023/03/06 11:30	2023/03/06 11:50	2023/03/06 12:10	2023/03/06 13:05		2023/03/06 13:50			
	UNITS	TP1	TP2	TP3	TP4	QC Batch	TP5	RDL	MDL	QC Batch
Inorganics										
Moisture	%	13	25	21	20	8544043	25	1.0	0.50	8543296

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas ID		VFO845		VFO846		VFO847	VFO848			
Sampling Date		2023/03/06 14:15		2023/03/03		2023/03/03	2023/03/06			
	UNITS	TP6	QC Batch	DUPS1	QC Batch	DUPS2	DUPS3	RDL	MDL	QC Batch
Inorganics										
Moisture	%	24	8544043	19	8544600	20	15	1.0	0.50	8544043

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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TEST SUMMARY

Bureau Veritas ID: VFO825
Sample ID: BH/MW 5/4
Matrix: Soil

Collected: 2023/03/06
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8540213	N/A	2023/03/10	Automated Statchk
Acid Extractable Metals by ICPMS	ICP/MS	8545236	2023/03/10	2023/03/10	Azita Fazaeli
Moisture	BAL	8544043	N/A	2023/03/09	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8543936	2023/03/09	2023/03/10	Mitesh Raj
pH CaCl2 EXTRACT	AT	8545401	2023/03/10	2023/03/10	Taslima Aktar

Bureau Veritas ID: VFO826
Sample ID: BH/MW 5/5
Matrix: Soil

Collected: 2023/03/06
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	8540311	N/A	2023/03/13	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8543906	2023/03/09	2023/03/09	Emir Danisman
Moisture	BAL	8544043	N/A	2023/03/09	Simrat Bhathal
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8543322	N/A	2023/03/10	Jett Wu

Bureau Veritas ID: VFO827
Sample ID: BH 6/1
Matrix: Soil

Collected: 2023/03/03
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	8544600	N/A	2023/03/09	Rajkumar Patel
OC Pesticides (Selected) & PCB	GC/ECD	8551240	2023/03/14	2023/03/15	Li Peng
OC Pesticides Summed Parameters	CALC	8540721	N/A	2023/03/10	Automated Statchk

Bureau Veritas ID: VFO828
Sample ID: BH 6/2
Matrix: Soil

Collected: 2023/03/03
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	8545201	2023/03/10	2023/03/10	Kruti Jitesh Patel
Hexavalent Chromium in Soil by IC	IC/SPEC	8545384	2023/03/10	2023/03/10	Surleen Kaur Romana
Acid Extractable Metals by ICPMS	ICP/MS	8545236	2023/03/10	2023/03/10	Azita Fazaeli
Moisture	BAL	8543296	N/A	2023/03/09	Simrat Bhathal
pH CaCl2 EXTRACT	AT	8545471	2023/03/10	2023/03/10	Taslima Aktar

Bureau Veritas ID: VFO829
Sample ID: BH/MW 7/1
Matrix: Soil

Collected: 2023/03/03
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	8544600	N/A	2023/03/09	Rajkumar Patel
OC Pesticides (Selected) & PCB	GC/ECD	8551240	2023/03/14	2023/03/15	Li Peng
OC Pesticides Summed Parameters	CALC	8540721	N/A	2023/03/10	Automated Statchk

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TEST SUMMARY

Bureau Veritas ID: VFO830
Sample ID: BH/MW 7/2
Matrix: Soil

Collected: 2023/03/03
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	8545201	2023/03/10	2023/03/10	Kruti Jitesh Patel
Hexavalent Chromium in Soil by IC	IC/SPEC	8545390	2023/03/10	2023/03/13	Sousan Besharatlou
Acid Extractable Metals by ICPMS	ICP/MS	8545799	2023/03/10	2023/03/10	Azita Fazaeli
Moisture	BAL	8544043	N/A	2023/03/09	Simrat Bhathal

Bureau Veritas ID: VFO831
Sample ID: BH/MW 7/4
Matrix: Soil

Collected: 2023/03/03
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	8545471	2023/03/10	2023/03/10	Taslima Aktar

Bureau Veritas ID: VFO832
Sample ID: BH/MW 8/1
Matrix: Soil

Collected: 2023/03/03
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	8544600	N/A	2023/03/09	Rajkumar Patel
OC Pesticides (Selected) & PCB	GC/ECD	8551240	2023/03/14	2023/03/15	Li Peng
OC Pesticides Summed Parameters	CALC	8540721	N/A	2023/03/10	Automated Statchk

Bureau Veritas ID: VFO833
Sample ID: BH/MW 8/2
Matrix: Soil

Collected: 2023/03/03
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	8545201	2023/03/10	2023/03/10	Kruti Jitesh Patel
Hexavalent Chromium in Soil by IC	IC/SPEC	8545384	2023/03/10	2023/03/10	Surleen Kaur Romana
Acid Extractable Metals by ICPMS	ICP/MS	8545236	2023/03/10	2023/03/10	Azita Fazaeli
Moisture	BAL	8543296	N/A	2023/03/09	Simrat Bhathal

Bureau Veritas ID: VFO833 Dup
Sample ID: BH/MW 8/2
Matrix: Soil

Collected: 2023/03/03
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractable Metals by ICPMS	ICP/MS	8545236	2023/03/10	2023/03/10	Azita Fazaeli
Moisture	BAL	8543296	N/A	2023/03/09	Simrat Bhathal

Bureau Veritas ID: VFO834
Sample ID: BH/MW 8/3
Matrix: Soil

Collected: 2023/03/03
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	8545471	2023/03/10	2023/03/10	Taslima Aktar

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TEST SUMMARY

Bureau Veritas ID: VFO835
Sample ID: BH 9/1
Matrix: Soil

Collected: 2023/03/03
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	8544600	N/A	2023/03/09	Rajkumar Patel
OC Pesticides (Selected) & PCB	GC/ECD	8551240	2023/03/14	2023/03/15	Li Peng
OC Pesticides Summed Parameters	CALC	8540721	N/A	2023/03/10	Automated Statchk

Bureau Veritas ID: VFO835 Dup
Sample ID: BH 9/1
Matrix: Soil

Collected: 2023/03/03
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	8544600	N/A	2023/03/09	Rajkumar Patel

Bureau Veritas ID: VFO836
Sample ID: BH 9/2
Matrix: Soil

Collected: 2023/03/03
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	8545201	2023/03/10	2023/03/10	Kruti Jitesh Patel
Hexavalent Chromium in Soil by IC	IC/SPEC	8545384	2023/03/10	2023/03/10	Surleen Kaur Romana
Acid Extractable Metals by ICPMS	ICP/MS	8545236	2023/03/10	2023/03/10	Azita Fazaeli
Moisture	BAL	8543296	N/A	2023/03/09	Simrat Bhathal
pH CaCl2 EXTRACT	AT	8545471	2023/03/10	2023/03/10	Taslima Aktar

Bureau Veritas ID: VFO836 Dup
Sample ID: BH 9/2
Matrix: Soil

Collected: 2023/03/03
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	8545471	2023/03/10	2023/03/10	Taslima Aktar

Bureau Veritas ID: VFO837
Sample ID: BH 10/1
Matrix: Soil

Collected: 2023/03/03
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	8545201	2023/03/10	2023/03/10	Kruti Jitesh Patel
Hexavalent Chromium in Soil by IC	IC/SPEC	8545384	2023/03/10	2023/03/10	Surleen Kaur Romana
Acid Extractable Metals by ICPMS	ICP/MS	8545236	2023/03/10	2023/03/10	Azita Fazaeli
Moisture	BAL	8543296	N/A	2023/03/09	Simrat Bhathal
OC Pesticides (Selected) & PCB	GC/ECD	8549305	2023/03/13	2023/03/14	Li Peng
OC Pesticides Summed Parameters	CALC	8540721	N/A	2023/03/10	Automated Statchk
pH CaCl2 EXTRACT	AT	8545401	2023/03/10	2023/03/10	Taslima Aktar

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TEST SUMMARY

Bureau Veritas ID: VFO838
Sample ID: BH 11/1
Matrix: Soil

Collected: 2023/03/03
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	8544600	N/A	2023/03/09	Rajkumar Patel
OC Pesticides (Selected) & PCB	GC/ECD	8551240	2023/03/14	2023/03/15	Li Peng
OC Pesticides Summed Parameters	CALC	8540721	N/A	2023/03/10	Automated Statchk

Bureau Veritas ID: VFO839
Sample ID: BH 11/2
Matrix: Soil

Collected: 2023/03/03
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	8545201	2023/03/10	2023/03/10	Kruti Jitesh Patel
Hexavalent Chromium in Soil by IC	IC/SPEC	8545384	2023/03/10	2023/03/10	Surleen Kaur Romana
Acid Extractable Metals by ICPMS	ICP/MS	8545236	2023/03/10	2023/03/10	Azita Fazaeli
Moisture	BAL	8543296	N/A	2023/03/09	Simrat Bhathal
pH CaCl2 EXTRACT	AT	8545401	2023/03/10	2023/03/10	Taslima Aktar

Bureau Veritas ID: VFO840
Sample ID: TP1
Matrix: Soil

Collected: 2023/03/06
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8545247	N/A	2023/03/10	Domnica Andronescu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8543906	2023/03/09	2023/03/10	Emir Danisman
Acid Extractable Metals by ICPMS	ICP/MS	8545799	2023/03/10	2023/03/10	Azita Fazaeli
Moisture	BAL	8544043	N/A	2023/03/09	Simrat Bhathal

Bureau Veritas ID: VFO841
Sample ID: TP2
Matrix: Soil

Collected: 2023/03/06
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8545247	N/A	2023/03/10	Domnica Andronescu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8543906	2023/03/09	2023/03/10	Emir Danisman
Acid Extractable Metals by ICPMS	ICP/MS	8545799	2023/03/10	2023/03/10	Azita Fazaeli
Moisture	BAL	8544043	N/A	2023/03/09	Simrat Bhathal

Bureau Veritas ID: VFO842
Sample ID: TP3
Matrix: Soil

Collected: 2023/03/06
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8540213	N/A	2023/03/10	Automated Statchk
1,3-Dichloropropene Sum	CALC	8540311	N/A	2023/03/13	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8543906	2023/03/09	2023/03/10	Emir Danisman
Acid Extractable Metals by ICPMS	ICP/MS	8545205	2023/03/10	2023/03/10	Indira HarryPaul
Moisture	BAL	8544043	N/A	2023/03/09	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8543936	2023/03/09	2023/03/10	Mitesh Raj

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TEST SUMMARY

Bureau Veritas ID: VFO842
Sample ID: TP3
Matrix: Soil

Collected: 2023/03/06
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8543322	N/A	2023/03/10	Jett Wu

Bureau Veritas ID: VFO843
Sample ID: TP4
Matrix: Soil

Collected: 2023/03/06
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8545247	N/A	2023/03/10	Domnica Andronescu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8543906	2023/03/09	2023/03/10	Emir Danisman
Acid Extractable Metals by ICPMS	ICP/MS	8545205	2023/03/10	2023/03/10	Indira HarryPaul
Moisture	BAL	8544043	N/A	2023/03/09	Simrat Bhathal

Bureau Veritas ID: VFO844
Sample ID: TP5
Matrix: Soil

Collected: 2023/03/06
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	8545201	2023/03/10	2023/03/10	Kruti Jitesh Patel
Hexavalent Chromium in Soil by IC	IC/SPEC	8545384	2023/03/10	2023/03/10	Surleen Kaur Romana
Acid Extractable Metals by ICPMS	ICP/MS	8545236	2023/03/10	2023/03/10	Azita Fazaeli
Moisture	BAL	8543296	N/A	2023/03/09	Simrat Bhathal
OC Pesticides (Selected) & PCB	GC/ECD	8549305	2023/03/13	2023/03/14	Li Peng
OC Pesticides Summed Parameters	CALC	8540721	N/A	2023/03/10	Automated Statchk
pH CaCl2 EXTRACT	AT	8545401	2023/03/10	2023/03/10	Taslima Aktar

Bureau Veritas ID: VFO845
Sample ID: TP6
Matrix: Soil

Collected: 2023/03/06
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	8545201	2023/03/10	2023/03/10	Kruti Jitesh Patel
Hexavalent Chromium in Soil by IC	IC/SPEC	8545390	2023/03/10	2023/03/13	Sousan Besharatlou
Acid Extractable Metals by ICPMS	ICP/MS	8545799	2023/03/10	2023/03/10	Azita Fazaeli
Moisture	BAL	8544043	N/A	2023/03/09	Simrat Bhathal
OC Pesticides (Selected) & PCB	GC/ECD	8549305	2023/03/13	2023/03/14	Li Peng
OC Pesticides Summed Parameters	CALC	8540721	N/A	2023/03/10	Automated Statchk
pH CaCl2 EXTRACT	AT	8545401	2023/03/10	2023/03/10	Taslima Aktar

Bureau Veritas ID: VFO845 Dup
Sample ID: TP6
Matrix: Soil

Collected: 2023/03/06
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hexavalent Chromium in Soil by IC	IC/SPEC	8545390	2023/03/10	2023/03/13	Sousan Besharatlou

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TEST SUMMARY

Bureau Veritas ID: VFO846
Sample ID: DUPS1
Matrix: Soil

Collected: 2023/03/03
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	8544600	N/A	2023/03/09	Rajkumar Patel
OC Pesticides (Selected) & PCB	GC/ECD	8551240	2023/03/14	2023/03/15	Li Peng
OC Pesticides Summed Parameters	CALC	8540721	N/A	2023/03/10	Automated Statchk

Bureau Veritas ID: VFO847
Sample ID: DUPS2
Matrix: Soil

Collected: 2023/03/03
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	8545201	2023/03/10	2023/03/10	Kruti Jitesh Patel
Hexavalent Chromium in Soil by IC	IC/SPEC	8545390	2023/03/10	2023/03/13	Sousan Besharatlou
Acid Extractable Metals by ICPMS	ICP/MS	8545799	2023/03/10	2023/03/10	Azita Fazaeli
Moisture	BAL	8544043	N/A	2023/03/09	Simrat Bhathal
pH CaCl2 EXTRACT	AT	8545492	2023/03/10	2023/03/10	Taslima Aktar

Bureau Veritas ID: VFO848
Sample ID: DUPS3
Matrix: Soil

Collected: 2023/03/06
Shipped:
Received: 2023/03/07

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8545247	N/A	2023/03/10	Domnica Andronescu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8543906	2023/03/09	2023/03/10	Emir Danisman
Moisture	BAL	8544043	N/A	2023/03/09	Simrat Bhathal

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GENERAL COMMENTS

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

Package 1	0.7°C

O.REG 153 OC PESTICIDES (SOIL)

OC Pesticides (Selected) & PCB: The recovery was above the upper control limit. This may represent a high bias in some results for flagged analytes. For results that were not detected (ND), this potential bias has no impact.

Results relate only to the items tested.

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Bureau Veritas Job #: C365033
Report Date: 2023/03/16

QUALITY ASSURANCE REPORT

Soil Engineers Ltd
Client Project #: 2302-E004-1
Sampler Initials: AB

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8543322	4-Bromofluorobenzene	2023/03/10	90	60 - 140	90	60 - 140	74	%		
8543322	D10-o-Xylene	2023/03/10	94	60 - 130	96	60 - 130	79	%		
8543322	D4-1,2-Dichloroethane	2023/03/10	101	60 - 140	107	60 - 140	107	%		
8543322	D8-Toluene	2023/03/10	110	60 - 140	108	60 - 140	101	%		
8543906	o-Terphenyl	2023/03/09	99	60 - 130	99	60 - 130	102	%		
8543936	D10-Anthracene	2023/03/10	94	50 - 130	112	50 - 130	110	%		
8543936	D14-Terphenyl (FS)	2023/03/10	91	50 - 130	101	50 - 130	95	%		
8543936	D8-Acenaphthylene	2023/03/10	97	50 - 130	107	50 - 130	100	%		
8545247	1,4-Difluorobenzene	2023/03/10	90	60 - 140	94	60 - 140	97	%		
8545247	4-Bromofluorobenzene	2023/03/10	118	60 - 140	109	60 - 140	103	%		
8545247	D10-o-Xylene	2023/03/10	103	60 - 140	94	60 - 140	90	%		
8545247	D4-1,2-Dichloroethane	2023/03/10	92	60 - 140	99	60 - 140	100	%		
8549305	2,4,5,6-Tetrachloro-m-xylene	2023/03/14	76	50 - 130	84	50 - 130	79	%		
8549305	Decachlorobiphenyl	2023/03/14	96	50 - 130	106	50 - 130	114	%		
8551240	2,4,5,6-Tetrachloro-m-xylene	2023/03/15	109	50 - 130	80	50 - 130	77	%		
8551240	Decachlorobiphenyl	2023/03/15	121	50 - 130	95	50 - 130	103	%		
8543296	Moisture	2023/03/09							2.0	20
8543322	1,1,1,2-Tetrachloroethane	2023/03/10	103	60 - 140	105	60 - 130	<0.040	ug/g		
8543322	1,1,1-Trichloroethane	2023/03/10	104	60 - 140	102	60 - 130	<0.040	ug/g		
8543322	1,1,2,2-Tetrachloroethane	2023/03/10	93	60 - 140	102	60 - 130	<0.040	ug/g		
8543322	1,1,2-Trichloroethane	2023/03/10	102	60 - 140	110	60 - 130	<0.040	ug/g		
8543322	1,1-Dichloroethane	2023/03/10	104	60 - 140	105	60 - 130	<0.040	ug/g		
8543322	1,1-Dichloroethylene	2023/03/10	102	60 - 140	99	60 - 130	<0.040	ug/g		
8543322	1,2-Dichlorobenzene	2023/03/10	98	60 - 140	99	60 - 130	<0.040	ug/g		
8543322	1,2-Dichloroethane	2023/03/10	89	60 - 140	95	60 - 130	<0.049	ug/g		
8543322	1,2-Dichloropropane	2023/03/10	101	60 - 140	104	60 - 130	<0.040	ug/g		
8543322	1,3-Dichlorobenzene	2023/03/10	101	60 - 140	100	60 - 130	<0.040	ug/g		
8543322	1,4-Dichlorobenzene	2023/03/10	108	60 - 140	107	60 - 130	<0.040	ug/g		
8543322	Acetone (2-Propanone)	2023/03/10	93	60 - 140	100	60 - 140	<0.49	ug/g		
8543322	Benzene	2023/03/10	95	60 - 140	96	60 - 130	<0.0060	ug/g	NC	50
8543322	Bromodichloromethane	2023/03/10	99	60 - 140	103	60 - 130	<0.040	ug/g		

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8543322	Bromoform	2023/03/10	90	60 - 140	97	60 - 130	<0.040	ug/g		
8543322	Bromomethane	2023/03/10	100	60 - 140	101	60 - 140	<0.040	ug/g		
8543322	Carbon Tetrachloride	2023/03/10	103	60 - 140	101	60 - 130	<0.040	ug/g		
8543322	Chlorobenzene	2023/03/10	97	60 - 140	97	60 - 130	<0.040	ug/g		
8543322	Chloroform	2023/03/10	96	60 - 140	98	60 - 130	<0.040	ug/g		
8543322	cis-1,2-Dichloroethylene	2023/03/10	95	60 - 140	97	60 - 130	<0.040	ug/g		
8543322	cis-1,3-Dichloropropene	2023/03/10	94	60 - 140	97	60 - 130	<0.030	ug/g		
8543322	Dibromochloromethane	2023/03/10	93	60 - 140	98	60 - 130	<0.040	ug/g		
8543322	Dichlorodifluoromethane (FREON 12)	2023/03/10	101	60 - 140	99	60 - 140	<0.040	ug/g		
8543322	Ethylbenzene	2023/03/10	87	60 - 140	86	60 - 130	<0.010	ug/g	NC	50
8543322	Ethylene Dibromide	2023/03/10	88	60 - 140	94	60 - 130	<0.040	ug/g		
8543322	F1 (C6-C10) - BTEX	2023/03/10					<10	ug/g	NC	30
8543322	F1 (C6-C10)	2023/03/10	94	60 - 140	87	80 - 120	<10	ug/g	NC	30
8543322	Hexane	2023/03/10	110	60 - 140	107	60 - 130	<0.040	ug/g		
8543322	Methyl Ethyl Ketone (2-Butanone)	2023/03/10	91	60 - 140	101	60 - 140	<0.40	ug/g		
8543322	Methyl Isobutyl Ketone	2023/03/10	86	60 - 140	98	60 - 130	<0.40	ug/g		
8543322	Methyl t-butyl ether (MTBE)	2023/03/10	79	60 - 140	83	60 - 130	<0.040	ug/g		
8543322	Methylene Chloride(Dichloromethane)	2023/03/10	103	60 - 140	107	60 - 130	<0.049	ug/g		
8543322	o-Xylene	2023/03/10	89	60 - 140	88	60 - 130	<0.020	ug/g	NC	50
8543322	p+m-Xylene	2023/03/10	89	60 - 140	87	60 - 130	<0.020	ug/g	NC	50
8543322	Styrene	2023/03/10	90	60 - 140	94	60 - 130	<0.040	ug/g		
8543322	Tetrachloroethylene	2023/03/10	95	60 - 140	93	60 - 130	<0.040	ug/g		
8543322	Toluene	2023/03/10	96	60 - 140	96	60 - 130	<0.020	ug/g	NC	50
8543322	Total Xylenes	2023/03/10					<0.020	ug/g	NC	50
8543322	trans-1,2-Dichloroethylene	2023/03/10	102	60 - 140	101	60 - 130	<0.040	ug/g		
8543322	trans-1,3-Dichloropropene	2023/03/10	105	60 - 140	108	60 - 130	<0.040	ug/g		
8543322	Trichloroethylene	2023/03/10	98	60 - 140	98	60 - 130	<0.010	ug/g		
8543322	Trichlorofluoromethane (FREON 11)	2023/03/10	99	60 - 140	96	60 - 130	<0.040	ug/g		
8543322	Vinyl Chloride	2023/03/10	96	60 - 140	94	60 - 130	<0.019	ug/g		
8543906	F2 (C10-C16 Hydrocarbons)	2023/03/10	110	60 - 130	107	80 - 120	<10	ug/g	NC	30
8543906	F3 (C16-C34 Hydrocarbons)	2023/03/10	109	60 - 130	107	80 - 120	<50	ug/g	14	30

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8543906	F4 (C34-C50 Hydrocarbons)	2023/03/10	109	60 - 130	107	80 - 120	<50	ug/g	1.5	30
8543936	1-Methylnaphthalene	2023/03/10	93	50 - 130	87	50 - 130	<0.0050	ug/g	NC	40
8543936	2-Methylnaphthalene	2023/03/10	92	50 - 130	83	50 - 130	<0.0050	ug/g	21	40
8543936	Acenaphthene	2023/03/10	152 (1)	50 - 130	100	50 - 130	<0.0050	ug/g	88 (1)	40
8543936	Acenaphthylene	2023/03/10	113	50 - 130	115	50 - 130	<0.0050	ug/g	NC	40
8543936	Anthracene	2023/03/10	111	50 - 130	114	50 - 130	<0.0050	ug/g	61 (1)	40
8543936	Benzo(a)anthracene	2023/03/10	104	50 - 130	104	50 - 130	<0.0050	ug/g	NC	40
8543936	Benzo(a)pyrene	2023/03/10	94	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
8543936	Benzo(b/j)fluoranthene	2023/03/10	88	50 - 130	91	50 - 130	<0.0050	ug/g	NC	40
8543936	Benzo(g,h,i)perylene	2023/03/10	83	50 - 130	86	50 - 130	<0.0050	ug/g	NC	40
8543936	Benzo(k)fluoranthene	2023/03/10	93	50 - 130	91	50 - 130	<0.0050	ug/g	NC	40
8543936	Chrysene	2023/03/10	102	50 - 130	103	50 - 130	<0.0050	ug/g	NC	40
8543936	Dibenzo(a,h)anthracene	2023/03/10	83	50 - 130	80	50 - 130	<0.0050	ug/g	NC	40
8543936	Fluoranthene	2023/03/10	103	50 - 130	103	50 - 130	<0.0050	ug/g	NC	40
8543936	Fluorene	2023/03/10	118	50 - 130	108	50 - 130	<0.0050	ug/g	NC (2)	40
8543936	Indeno(1,2,3-cd)pyrene	2023/03/10	90	50 - 130	91	50 - 130	<0.0050	ug/g	NC	40
8543936	Naphthalene	2023/03/10	88	50 - 130	85	50 - 130	<0.0050	ug/g	NC	40
8543936	Phenanthrene	2023/03/10	107	50 - 130	99	50 - 130	<0.0050	ug/g	53 (1)	40
8543936	Pyrene	2023/03/10	103	50 - 130	107	50 - 130	<0.0050	ug/g	81 (1)	40
8544043	Moisture	2023/03/09							0	20
8544600	Moisture	2023/03/09							9.1	20
8545201	WAD Cyanide (Free)	2023/03/10	106	75 - 125	104	80 - 120	<0.01	ug/g	NC	35
8545205	Acid Extractable Antimony (Sb)	2023/03/10	92	75 - 125	100	80 - 120	<0.20	ug/g	NC	30
8545205	Acid Extractable Arsenic (As)	2023/03/10	93	75 - 125	100	80 - 120	<1.0	ug/g	NC	30
8545205	Acid Extractable Barium (Ba)	2023/03/10	84	75 - 125	97	80 - 120	<0.50	ug/g	11	30
8545205	Acid Extractable Beryllium (Be)	2023/03/10	89	75 - 125	95	80 - 120	<0.20	ug/g	NC	30
8545205	Acid Extractable Boron (B)	2023/03/10	88	75 - 125	100	80 - 120	<5.0	ug/g	NC	30
8545205	Acid Extractable Cadmium (Cd)	2023/03/10	89	75 - 125	95	80 - 120	<0.10	ug/g	NC	30
8545205	Acid Extractable Chromium (Cr)	2023/03/10	91	75 - 125	99	80 - 120	<1.0	ug/g	0.73	30
8545205	Acid Extractable Cobalt (Co)	2023/03/10	91	75 - 125	99	80 - 120	<0.10	ug/g	6.7	30
8545205	Acid Extractable Copper (Cu)	2023/03/10	90	75 - 125	100	80 - 120	<0.50	ug/g	0.10	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
8545205	Acid Extractable Lead (Pb)	2023/03/10	91	75 - 125	103	80 - 120	<1.0	ug/g	2.1	30
8545205	Acid Extractable Mercury (Hg)	2023/03/10	93	75 - 125	107	80 - 120	<0.050	ug/g	NC	30
8545205	Acid Extractable Molybdenum (Mo)	2023/03/10	92	75 - 125	98	80 - 120	<0.50	ug/g	NC	30
8545205	Acid Extractable Nickel (Ni)	2023/03/10	90	75 - 125	99	80 - 120	<0.50	ug/g	2.0	30
8545205	Acid Extractable Selenium (Se)	2023/03/10	94	75 - 125	103	80 - 120	<0.50	ug/g	NC	30
8545205	Acid Extractable Silver (Ag)	2023/03/10	91	75 - 125	100	80 - 120	<0.20	ug/g	NC	30
8545205	Acid Extractable Thallium (Tl)	2023/03/10	90	75 - 125	101	80 - 120	<0.050	ug/g	NC	30
8545205	Acid Extractable Uranium (U)	2023/03/10	92	75 - 125	103	80 - 120	<0.050	ug/g	17	30
8545205	Acid Extractable Vanadium (V)	2023/03/10	86	75 - 125	98	80 - 120	<5.0	ug/g	2.4	30
8545205	Acid Extractable Zinc (Zn)	2023/03/10	86	75 - 125	92	80 - 120	<5.0	ug/g	15	30
8545236	Acid Extractable Antimony (Sb)	2023/03/10	79	75 - 125	98	80 - 120	<0.20	ug/g	NC	30
8545236	Acid Extractable Arsenic (As)	2023/03/10	97	75 - 125	92	80 - 120	<1.0	ug/g	2.4	30
8545236	Acid Extractable Barium (Ba)	2023/03/10	NC	75 - 125	94	80 - 120	<0.50	ug/g	3.4	30
8545236	Acid Extractable Beryllium (Be)	2023/03/10	104	75 - 125	100	80 - 120	<0.20	ug/g	4.0	30
8545236	Acid Extractable Boron (B)	2023/03/10	102	75 - 125	102	80 - 120	<5.0	ug/g	3.4	30
8545236	Acid Extractable Cadmium (Cd)	2023/03/10	98	75 - 125	95	80 - 120	<0.10	ug/g	13	30
8545236	Acid Extractable Chromium (Cr)	2023/03/10	NC	75 - 125	101	80 - 120	<1.0	ug/g	1.5	30
8545236	Acid Extractable Cobalt (Co)	2023/03/10	99	75 - 125	98	80 - 120	<0.10	ug/g	4.3	30
8545236	Acid Extractable Copper (Cu)	2023/03/10	NC	75 - 125	99	80 - 120	<0.50	ug/g	3.4	30
8545236	Acid Extractable Lead (Pb)	2023/03/10	93	75 - 125	94	80 - 120	<1.0	ug/g	4.8	30
8545236	Acid Extractable Mercury (Hg)	2023/03/10	99	75 - 125	97	80 - 120	<0.050	ug/g	NC	30
8545236	Acid Extractable Molybdenum (Mo)	2023/03/10	100	75 - 125	99	80 - 120	<0.50	ug/g	3.2	30
8545236	Acid Extractable Nickel (Ni)	2023/03/10	NC	75 - 125	99	80 - 120	<0.50	ug/g	5.7	30
8545236	Acid Extractable Selenium (Se)	2023/03/10	101	75 - 125	102	80 - 120	<0.50	ug/g	NC	30
8545236	Acid Extractable Silver (Ag)	2023/03/10	101	75 - 125	97	80 - 120	<0.20	ug/g	NC	30
8545236	Acid Extractable Thallium (Tl)	2023/03/10	96	75 - 125	95	80 - 120	<0.050	ug/g	13	30
8545236	Acid Extractable Uranium (U)	2023/03/10	103	75 - 125	101	80 - 120	<0.050	ug/g	5.1	30
8545236	Acid Extractable Vanadium (V)	2023/03/10	NC	75 - 125	99	80 - 120	<5.0	ug/g	0.61	30
8545236	Acid Extractable Zinc (Zn)	2023/03/10	NC	75 - 125	100	80 - 120	<5.0	ug/g	4.4	30
8545247	Benzene	2023/03/10	81	50 - 140	76	50 - 140	<0.020	ug/g	NC	50
8545247	Ethylbenzene	2023/03/10	94	50 - 140	81	50 - 140	<0.020	ug/g	NC	50

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
8545247	F1 (C6-C10) - BTEX	2023/03/10					<10	ug/g	NC	30
8545247	F1 (C6-C10)	2023/03/10	98	60 - 140	84	80 - 120	<10	ug/g	NC	30
8545247	o-Xylene	2023/03/10	91	50 - 140	81	50 - 140	<0.020	ug/g	NC	50
8545247	p+m-Xylene	2023/03/10	95	50 - 140	88	50 - 140	<0.040	ug/g	NC	50
8545247	Toluene	2023/03/10	81	50 - 140	74	50 - 140	<0.020	ug/g	NC	50
8545247	Total Xylenes	2023/03/10					<0.040	ug/g	NC	50
8545384	Chromium (VI)	2023/03/10	32 (3)	70 - 130	94	80 - 120	<0.18	ug/g	NC	35
8545390	Chromium (VI)	2023/03/13	0 (4)	70 - 130	92	80 - 120	<0.18	ug/g	NC	35
8545401	Available (CaCl2) pH	2023/03/10			100	97 - 103			0.65	N/A
8545471	Available (CaCl2) pH	2023/03/10			100	97 - 103			0.68	N/A
8545492	Available (CaCl2) pH	2023/03/10			100	97 - 103			0.58	N/A
8545799	Acid Extractable Antimony (Sb)	2023/03/10	101	75 - 125	99	80 - 120	<0.20	ug/g	NC	30
8545799	Acid Extractable Arsenic (As)	2023/03/10	103	75 - 125	104	80 - 120	<1.0	ug/g	NC	30
8545799	Acid Extractable Barium (Ba)	2023/03/10	101	75 - 125	96	80 - 120	<0.50	ug/g	5.3	30
8545799	Acid Extractable Beryllium (Be)	2023/03/10	108	75 - 125	99	80 - 120	<0.20	ug/g	NC	30
8545799	Acid Extractable Boron (B)	2023/03/10	108	75 - 125	100	80 - 120	<5.0	ug/g	NC	30
8545799	Acid Extractable Cadmium (Cd)	2023/03/10	103	75 - 125	96	80 - 120	<0.10	ug/g	NC	30
8545799	Acid Extractable Chromium (Cr)	2023/03/10	108	75 - 125	100	80 - 120	<1.0	ug/g	20	30
8545799	Acid Extractable Cobalt (Co)	2023/03/10	103	75 - 125	97	80 - 120	<0.10	ug/g	15	30
8545799	Acid Extractable Copper (Cu)	2023/03/10	105	75 - 125	99	80 - 120	<0.50	ug/g	2.9	30
8545799	Acid Extractable Lead (Pb)	2023/03/10	101	75 - 125	95	80 - 120	<1.0	ug/g	1.7	30
8545799	Acid Extractable Mercury (Hg)	2023/03/10	105	75 - 125	95	80 - 120	<0.050	ug/g	NC	30
8545799	Acid Extractable Molybdenum (Mo)	2023/03/10	104	75 - 125	98	80 - 120	<0.50	ug/g	NC	30
8545799	Acid Extractable Nickel (Ni)	2023/03/10	105	75 - 125	99	80 - 120	<0.50	ug/g	8.7	30
8545799	Acid Extractable Selenium (Se)	2023/03/10	110	75 - 125	107	80 - 120	<0.50	ug/g	NC	30
8545799	Acid Extractable Silver (Ag)	2023/03/10	103	75 - 125	97	80 - 120	<0.20	ug/g	NC	30
8545799	Acid Extractable Thallium (Tl)	2023/03/10	99	75 - 125	94	80 - 120	<0.050	ug/g	NC	30
8545799	Acid Extractable Uranium (U)	2023/03/10	108	75 - 125	102	80 - 120	<0.050	ug/g	NC	30
8545799	Acid Extractable Vanadium (V)	2023/03/10	110	75 - 125	101	80 - 120	<5.0	ug/g	NC	30
8545799	Acid Extractable Zinc (Zn)	2023/03/10	113	75 - 125	103	80 - 120	<5.0	ug/g	0.32	30
8549305	a-Chlordane	2023/03/14	93	50 - 130	70	50 - 130	<0.0020	ug/g	NC	40

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8549305	Aldrin	2023/03/14	81	50 - 130	86	50 - 130	<0.0020	ug/g	NC	40
8549305	Dieldrin	2023/03/14	100	50 - 130	74	50 - 130	<0.0020	ug/g	NC	40
8549305	Endosulfan I (alpha)	2023/03/14	100	50 - 130	77	50 - 130	<0.0020	ug/g	NC	40
8549305	Endosulfan II (beta)	2023/03/14	91	50 - 130	71	50 - 130	<0.0020	ug/g	NC	40
8549305	Endrin	2023/03/14	103	50 - 130	77	50 - 130	<0.0020	ug/g	NC	40
8549305	g-Chlordane	2023/03/14	99	50 - 130	68	50 - 130	<0.0020	ug/g	NC	40
8549305	Heptachlor epoxide	2023/03/14	94	50 - 130	66	50 - 130	<0.0020	ug/g	NC	40
8549305	Heptachlor	2023/03/14	88	50 - 130	91	50 - 130	<0.0020	ug/g	NC	40
8549305	Hexachlorobenzene	2023/03/14	91	50 - 130	92	50 - 130	<0.0020	ug/g	NC	40
8549305	Hexachlorobutadiene	2023/03/14	75	50 - 130	109	50 - 130	<0.0020	ug/g	NC	40
8549305	Hexachloroethane	2023/03/14	53	50 - 130	82	50 - 130	<0.0020	ug/g	NC	40
8549305	Lindane	2023/03/14	86	50 - 130	65	50 - 130	<0.0020	ug/g	NC	40
8549305	Methoxychlor	2023/03/14	77	50 - 130	76	50 - 130	<0.0050	ug/g	NC	40
8549305	o,p-DDD	2023/03/14	102	50 - 130	77	50 - 130	<0.0020	ug/g	NC	40
8549305	o,p-DDE	2023/03/14	96	50 - 130	97	50 - 130	<0.0020	ug/g	NC	40
8549305	o,p-DDT	2023/03/14	94	50 - 130	94	50 - 130	<0.0020	ug/g	NC	40
8549305	p,p-DDD	2023/03/14	101	50 - 130	77	50 - 130	<0.0020	ug/g	NC	40
8549305	p,p-DDE	2023/03/14	99	50 - 130	105	50 - 130	<0.0020	ug/g	NC	40
8549305	p,p-DDT	2023/03/14	97	50 - 130	85	50 - 130	<0.0020	ug/g	NC	40
8551240	a-Chlordane	2023/03/15	150 (1)	50 - 130	98	50 - 130	<0.0020	ug/g	NC	40
8551240	Aldrin	2023/03/15	120	50 - 130	81	50 - 130	<0.0020	ug/g	NC	40
8551240	Dieldrin	2023/03/15	182 (1)	50 - 130	108	50 - 130	<0.0020	ug/g	NC	40
8551240	Endosulfan I (alpha)	2023/03/15	150 (1)	50 - 130	93	50 - 130	<0.0020	ug/g	NC	40
8551240	Endosulfan II (beta)	2023/03/15	153 (1)	50 - 130	97	50 - 130	<0.0020	ug/g	NC	40
8551240	Endrin	2023/03/15	151 (1)	50 - 130	111	50 - 130	<0.0020	ug/g	NC	40
8551240	g-Chlordane	2023/03/15	148 (1)	50 - 130	101	50 - 130	<0.0020	ug/g	NC	40
8551240	Heptachlor epoxide	2023/03/15	148 (1)	50 - 130	101	50 - 130	<0.0020	ug/g	NC	40
8551240	Heptachlor	2023/03/15	127	50 - 130	83	50 - 130	<0.0020	ug/g	NC	40
8551240	Hexachlorobenzene	2023/03/15	122	50 - 130	90	50 - 130	<0.0020	ug/g	NC	40
8551240	Hexachlorobutadiene	2023/03/15	106	50 - 130	104	50 - 130	<0.0020	ug/g	NC	40
8551240	Hexachloroethane	2023/03/15	77	50 - 130	86	50 - 130	<0.0020	ug/g	NC	40

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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
8551240	Lindane	2023/03/15	123	50 - 130	94	50 - 130	<0.0020	ug/g	NC	40
8551240	Methoxychlor	2023/03/15	154 (1)	50 - 130	93	50 - 130	<0.0050	ug/g	NC	40
8551240	o,p-DDD	2023/03/15	164 (1)	50 - 130	107	50 - 130	<0.0020	ug/g	NC	40
8551240	o,p-DDE	2023/03/15	138 (1)	50 - 130	92	50 - 130	<0.0020	ug/g	NC	40
8551240	o,p-DDT	2023/03/15	138 (1)	50 - 130	87	50 - 130	<0.0020	ug/g	NC	40
8551240	p,p-DDD	2023/03/15	171 (1)	50 - 130	108	50 - 130	<0.0020	ug/g	NC	40
8551240	p,p-DDE	2023/03/15	104	50 - 130	83	50 - 130	<0.0020	ug/g	NC	40
8551240	p,p-DDT	2023/03/15	134 (1)	50 - 130	96	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) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

(2) Detection Limit was raised due to matrix interferences.

(3) 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.

(4) 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 re-analyzed with the same results

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VALIDATION SIGNATURE PAGE

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

Cristina Carriere, Senior Scientific Specialist

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

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CAM FCD-01191/2

CHAIN OF CUSTODY RECORD

Invoice Information		Report Information (if differs from invoice)		Project Information (where applicable)		Turnaround Time (TAT) Required
Company Name:	Soil Engineers Ltd.	Company Name:		Quotation #:		[X] Regular TAT (5-7 days) Most analyses
Contact Name:	Ram Sah	Contact Name:	SAME	P.O. #/ AFE#:		PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address:	90 West Beaver Creek Road Richmond Hill, ON L4B 1E7	Address:		Project #:	2302-E004-1	Rush TAT (Surcharges will be applied) [ ] 1 Day [ ] 2 Days [ ] 3-4 Days
Phone:	(416) 754-8515 Ext. 1313 Fax: (905) 881-8335	Phone:	Fax:	Site Location:		
Email:	ram.sah@soilengineersltd.com	Email:		Site #:		
				Sampled By:	Ashish	Date Required:

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY

Rush Confirmation #:

Regulation 153	Other Regulations
[X] Table 1 [ ] Res/Park [ ] Med/ Fine [ ] Table 2 [ ] Ind/Comm [X] Coarse [ ] Table 3 [X] Agri/ Other [ ] Table ____ FOR RSC (PLEASE CIRCLE) Y / N	[ ] CCME [ ] Sanitary Sewer Bylaw [ ] MISA [ ] Storm Sewer Bylaw [ ] PWQO Region ____ [ ] Other (Specify) ____ [ ] REG 558 (MIN. 3 DAY TAT REQUIRED)

Include Criteria on Certificate of Analysis: Y / N

SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

	SAMPLE IDENTIFICATION	DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	MATRIX	# OF CONTAINERS SUBMITTED	FIELD FILTERED (CIRCLE) Metals / Hg / CrVI	PHC/BTEX	VOCs	PAHs	Metal Scan	Cr (VI) - Hg	Cyanide	pH	Ocs							HOLD- DO NOT ANALYZE
										REFER TO BACK OF COC											
1	BH/MW5/4	2023-03-06	9:15	S	2				X	X			X								
2	BH/MW5/5	2023-03-06	9:30	S	3		X	X													
3	BH6/1	2023-03-03	8:45	S	1									X							
4	BH6/2	2023-03-03	8:55	S	1					X	X	X	X								
5	BH/MW7/1	2023-03-03	10:05	S	1									X							
6	BH/MW7/2	2023-03-03	10:15	S	1					X	X	X									
7	BH/MW7/4	2023-03-03	10:30	S	1								X								
8	BH/MW8/1	2023-03-03	11:30	S	1									X							
9	BH/MW8/2	2023-03-03	11:40	S	1					X	X	X									
10	BH/MW8/3	2023-03-03	11:55	S	1								X								

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)
Ashish	2023/03/07	13:15	Ameri ANERI	2023/03/07	17:36

LABORATORY USE ONLY

CUSTODY SEAL Y / N		COOLER TEMPERATURES
Present	Intact	
N	N	1/1/0

COOLING MEDIA PRESENT: (Y) / N

COMMENTS

07-Mar-23 17:36
Antonella Brasil
C365033
AIH ENV-2098

Maxxam
A Bureau Veritas Group Company
6740 Campobello Road, Mississauga, Ontario L5N 2L8
Phone: 905 817-5700 Fax: 905 817-5779 Toll Free: 800-563-6266
CAM ECD-01191/2

CHAIN OF CUSTODY RECORD

Invoice Information	Report Information (if differs from invoice)	Project Information (where applicable)	Turnaround Time (TAT) Required
Company Name: Soil Engineers Ltd.	Company Name:	Quotation #:	[X] Regular TAT (5-7 days) Most analyses
Contact Name: Ram Sah	Contact Name: SAME	P.O. #/ AFE#:	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address: 90 West Beaver Creek Road, Richmond Hill, ON L4B 1E7	Address:	Project #: 2302-E004-1	Rush TAT (Surcharges will be applied) [ ] 1 Day [ ] 2 Days [ ] 3-4 Days
Phone: (416) 754-8515 Ext. 1313 Fax: (905) 881-8335	Phone: Fax:	Site Location:	
Email: ram.sah@soilengineersltd.com	Email:	Site #:	Date Required:
		Sampled By: Ashish	Rush Confirmation #:

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY

Regulation 153	Other Regulations	Analysis Requested	LABORATORY USE ONLY
[X] Table 1 [ ] Res/Park [ ] Med/ Fine [ ] ~~Table 2~~ [ ] ~~Ind/Comm~~ [X] ~~Coarse~~ [ ] Table 3 [X] Agri/ Other [ ] Table ____ FOR RSC (PLEASE CIRCLE) Y / N	[ ] CCME [ ] Sanitary Sewer Bylaw [ ] ~~MISA~~ [ ] ~~Storm Sewer Bylaw~~ [ ] PWQO region ____ [ ] Other (Specify) ____ [ ] REG 558 (MIN. 3 DAY TAT REQUIRED)		CUSTODY SEAL Y / N (Present / Intact); COOLER TEMPERATURES

Include Criteria on Certificate of Analysis: Y / N

SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

	SAMPLE IDENTIFICATION	DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	MATRIX	# OF CONTAINERS SUBMITTED	FIELD FILTERED (CIRCLE)	Metals / Hg / CrVI	PHCs/BTEX	VOCs	PAHs	Metal Scan	Cr (VI) Hg	Cyanide	pH	OCs	HOLD- DO NOT ANALYZE
											REFER TO BACK OF COC					
1	BH9/1	2023-03-03	12:40	S	1										X	
2	BH9/2	2023-03-03	12:55	S	1						X	X	X	X		
3	BH10/1	2023-03-03	13:45	S	2						X	X	X	X	X	
4	BH11/1	2023-03-03	15:10	S	1										X	
5	BH11/2	2023-03-03	15:25	S	1						X	X	X	X		
6	TP1	2023-03-06	11:30	S	4			X			X					
7	TP2	2023-03-06	11:50	S	4			X			X					
8	TP3	2023-03-06	12:10	S	5			X	X	X	X					
9	TP4	2023-03-06	13:05	S	4			X			X					
10	TP5	2023-03-06	13:30	S	2						X	X	X	X	X	

COOLING MEDIA PRESENT: Y / N

COMMENTS

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	MAXXAM JOB #
Ashish	2023/03/07	13:20	See Page 1			

Maxxam
A Bureau Veritas Group Company

6740 Campobello Road, Mississauga, Ontario L5N 2L8
Phone: 905-817-5700 Fax: 905-817-5779 Toll Free: 800-563-6266
CAM FCD-01191/7

CHAIN OF CUSTODY RECORD

Invoice Information		Report Information (if differs from invoice)		Project Information (where applicable)		Turnaround Time (TAT) Required
Company Name:	Soil Engineers Ltd.	Company Name:		Quotation #:		[X] Regular TAT (5-7 days) Most analyses
Contact Name:	Ram Sah	Contact Name:		P.O. #/ AFE#:		PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address:	90 West Beaver Creek Road	Address:	SAME	Project #:	2302-E004-1	Rush TAT (Surcharges will be applied)
	Richmond Hill, ON L4B 1E7			Site Location:		[ ] 1 Day [ ] 2 Days [ ] 3-4 Days
Phone:	(416) 754-8515 Ext. 1313 Fax: (905) 881-8335	Phone:	Fax:	Site #:		
Email:	ram.sah@soilengineersltd.com	Email:		Sampled By:	Ashish	Date Required:

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY

Rush Confirmation #:

Regulation 153	Other Regulations
[X] Table 1 [ ] Res/Park [ ] Med/ Fine	[ ] CCME [ ] Sanitary Sewer Bylaw
[ ] Table 2 [ ] Ind/Comm [X] Coarse	[ ] MISA [ ] Storm Sewer Bylaw
[ ] Table 3 [X] Agri/ Other	[ ] PWQO Region
[ ] Table ____	[ ] Other (Specify)
FOR RSC (PLEASE CIRCLE) Y / N	[ ] REG 558 (MIN. 3 DAY TAT REQUIRED)

Include Criteria on Certificate of Analysis: Y / N

SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

	SAMPLE IDENTIFICATION	DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	MATRIX	# OF CONTAINERS SUBMITTED	FIELD FILTERED (CIRCLE) Metals / Hg / CrVI	PHCs/BTEX	VOCs	PAHs	Metal Scan	Cr (VI), Hg	Cyanide	pH	OCs	HOLD- DO NOT ANALYZE	COMMENTS
										REFER TO BACK OF COC						
1	TP6	2023-03-06	14:15	S	2					X	X	X	X	X		
2	DUPS1	2023-03-03		S	1									X		
3	DUPS2	2023-03-03		S	1					X	X	X	X			
4	DUPS3	2023-03-06		S	3		X									
5																
6																
7																
8																
9																
10																

LABORATORY USE ONLY

CUSTODY SEAL Y / N		COOLER TEMPERATURES
Present	Intact	

COOLING MEDIA PRESENT Y / N

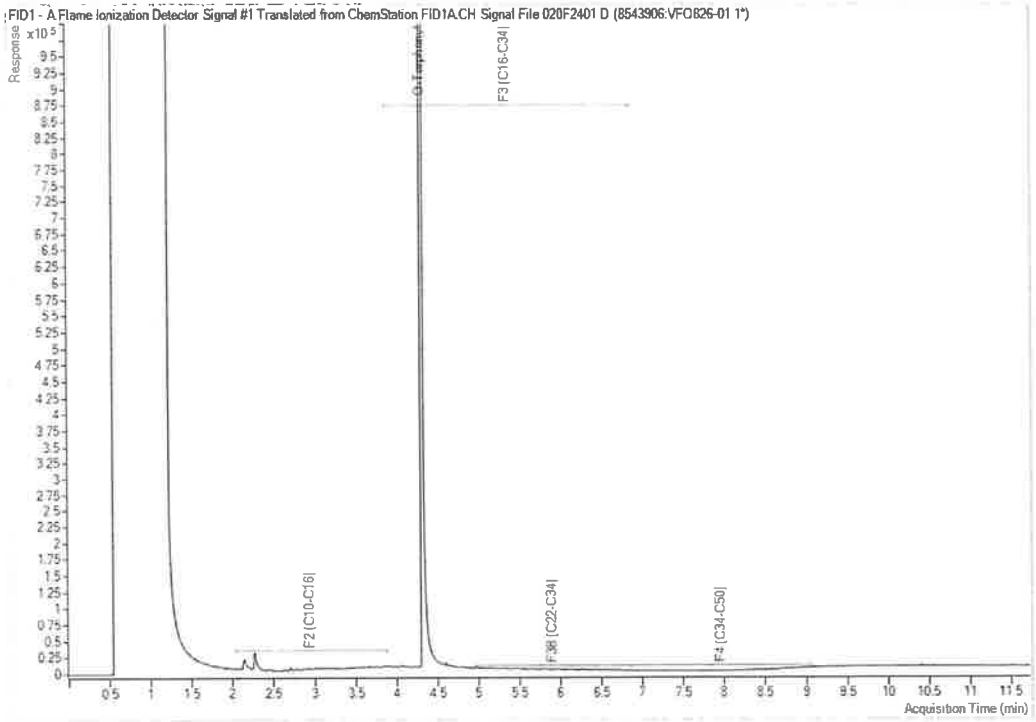
RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)
Ashish	2023/03/07	13:25	See Page 1		

MAXXAM JOB #

Bureau Veritas Job #: C365033
Report Date: 2023/03/16
Bureau Veritas Sample: VFO826

Soil Engineers Ltd
Client Project #: 2302-E004-1
Client ID: BH/MW 5/5

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

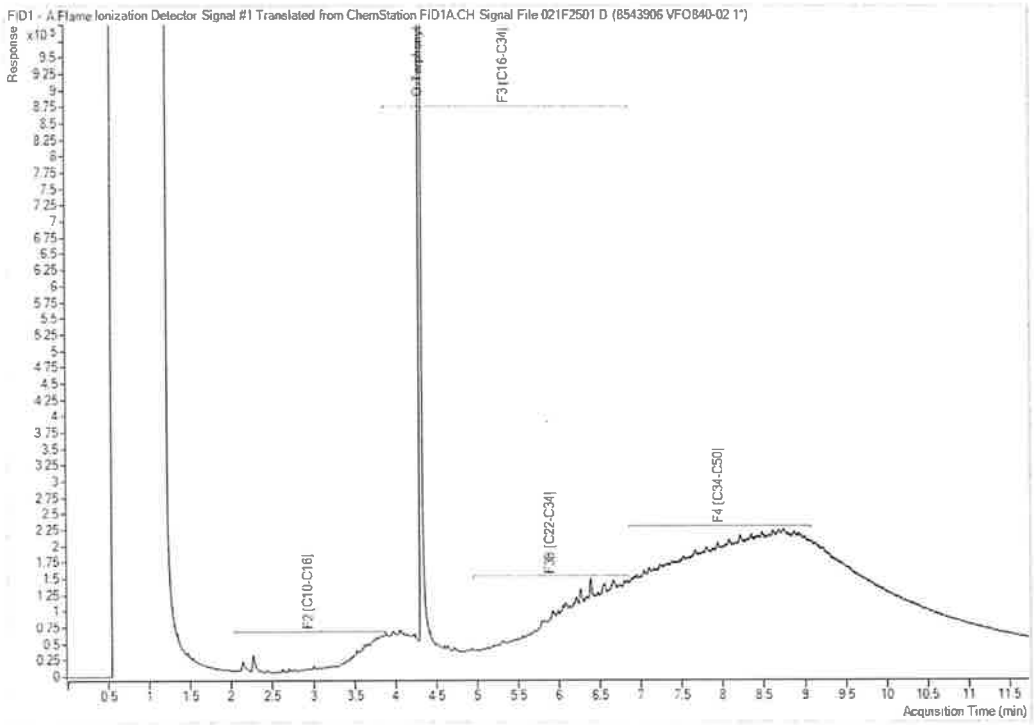


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C365033
Report Date: 2023/03/16
Bureau Veritas Sample: VFO840

Soil Engineers Ltd
Client Project #: 2302-E004-1
Client ID: TP1

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

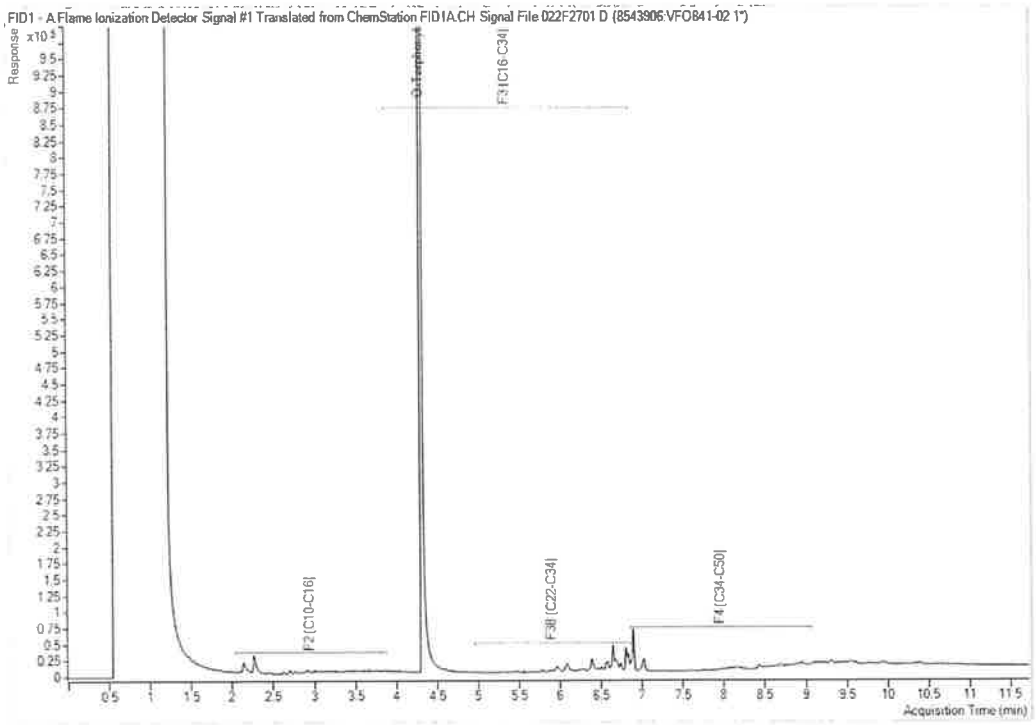


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C365033
Report Date: 2023/03/16
Bureau Veritas Sample: VFO841

Soil Engineers Ltd
Client Project #: 2302-E004-1
Client ID: TP2

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

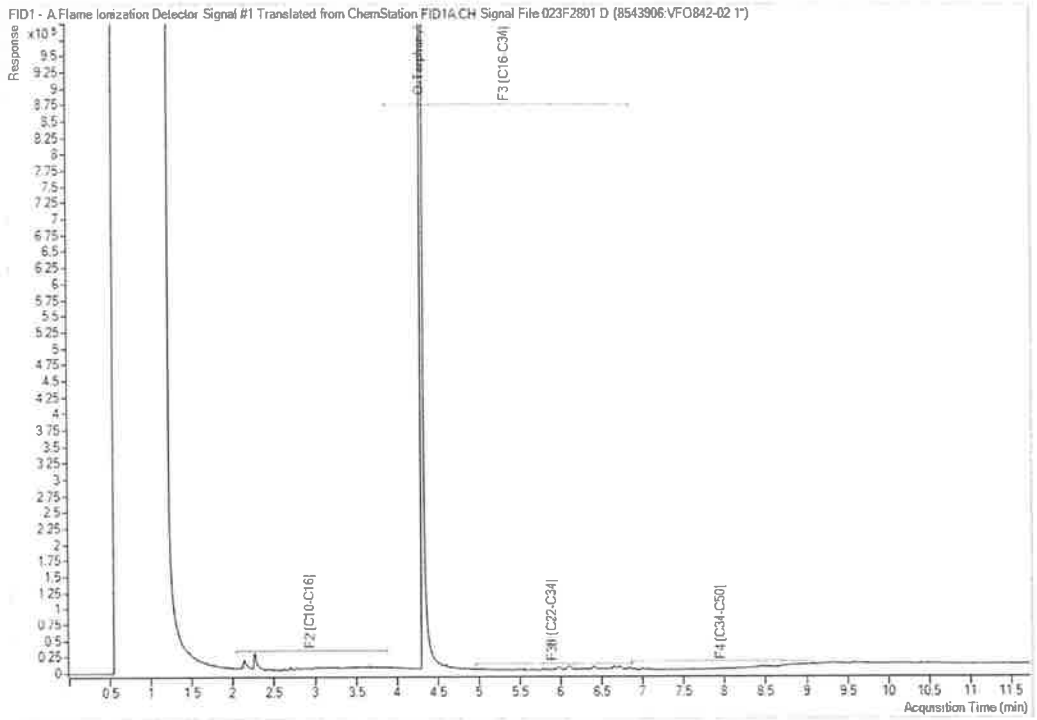


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C365033
Report Date: 2023/03/16
Bureau Veritas Sample: VFO842

Soil Engineers Ltd
Client Project #: 2302-E004-1
Client ID: TP3

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

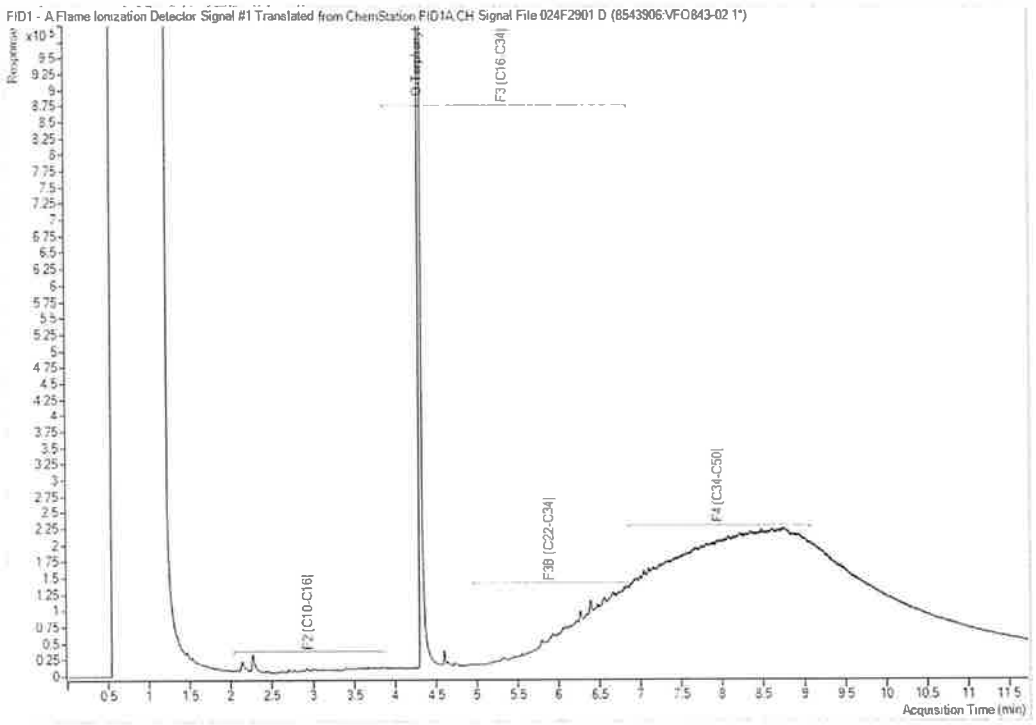


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C365033
Report Date: 2023/03/16
Bureau Veritas Sample: VFO843

Soil Engineers Ltd
Client Project #: 2302-E004-1
Client ID: TP4

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

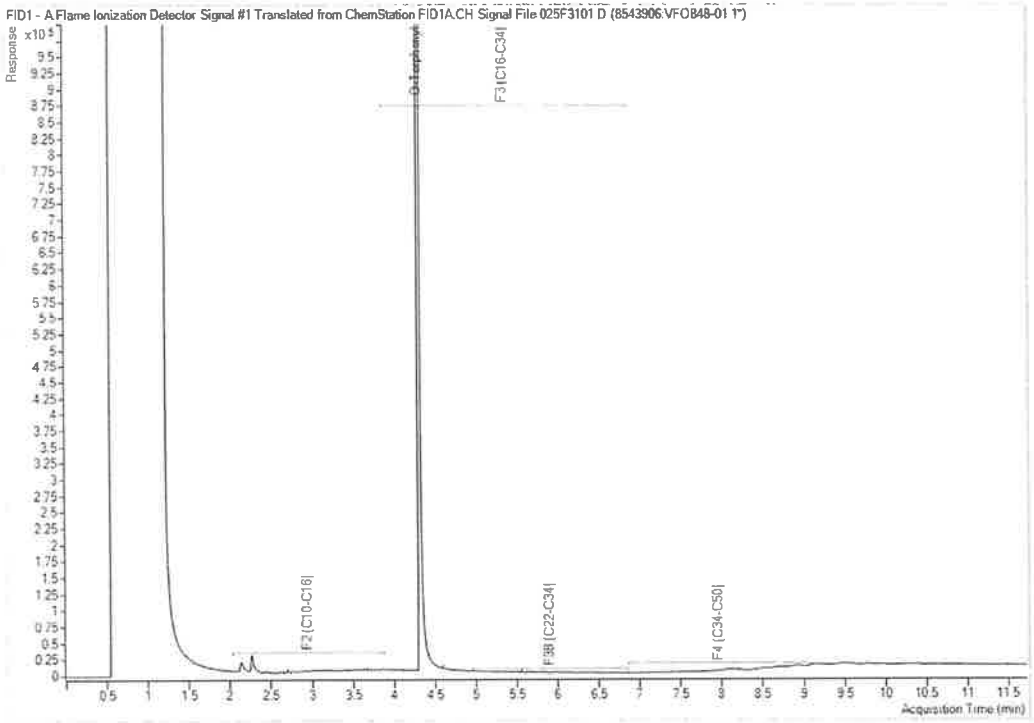


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C365033
Report Date: 2023/03/16
Bureau Veritas Sample: VFO848

Soil Engineers Ltd
Client Project #: 2302-E004-1
Client ID: DUPS3

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Soil Engineers Ltd.
CONSULTING ENGINEERS
GEOTECHNICAL • ENVIRONMENTAL • HYDROGEOLOGICAL • BUILDING SCIENCE
90 WEST BEAVER CREEK ROAD, SUITE 100, RICHMOND HILL, ONTARIO L4B 1E7 · TEL: (416) 754-8515 · FAX: (905) 881-8335

BARRIE	MISSISSAUGA	OSHAWA	NEWMARKET	GRAVENHURST	HAMILTON
TEL: (705) 721-7863	TEL: (905) 542-7605	TEL: (905) 440-2040	TEL: (905) 853-0647	TEL: (705) 684-4242	TEL: (905) 777-7956
FAX: (705) 721-7864	FAX: (905) 542-2769	FAX: (905) 725-1315	FAX: (905) 881-8335	FAX: (705) 684-8522	FAX: (905) 542-2769

APPENDIX 'C'

CERTIFICATES OF ANALYSIS (GROUNDWATER SAMPLES)

REFERENCE NO. 2302-E004-1

Your Project #: 2302-E004-1
Your C.O.C. #: n/a

Attention: Ram Sah

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

Report Date: 2023/03/16
Report #: R7548903
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C370495
Received: 2023/03/13, 15:25

Sample Matrix: Water
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum	1	N/A	2023/03/15	CAM SOP-00301	EPA 8270D m
1,3-Dichloropropene Sum	3	N/A	2023/03/16		EPA 8260C m
Petroleum Hydrocarbons F2-F4 in Water (1)	1	2023/03/14	2023/03/15	CAM SOP-00316	CCME PHC-CWS m
Dissolved Metals by ICPMS	1	N/A	2023/03/14	CAM SOP-00447	EPA 6020B m
PAH Compounds in Water by GC/MS (SIM)	1	2023/03/14	2023/03/15	CAM SOP-00318	EPA 8270E
Volatile Organic Compounds and F1 PHCs	1	N/A	2023/03/16	CAM SOP-00230	EPA 8260C m
Volatile Organic Compounds in Water	2	N/A	2023/03/16	CAM SOP-00228	EPA 8260D

Remarks:

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

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

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

Your Project #: 2302-E004-1
Your C.O.C. #: n/a

Attention: Ram Sah

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

Report Date: 2023/03/16
Report #: R7548903
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C370495

Received: 2023/03/13, 15:25

Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Encryption Key

Bureau Veritas
16 Mar 2023 15:37:41

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

==========

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

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O.REG 153 DISSOLVED ICPMS METALS (WATER)

Bureau Veritas ID		VGT132			
Sampling Date		2023/03/10			
COC Number		n/a			
	UNITS	BH/MW5	RDL	MDL	QC Batch
Metals					
Dissolved Antimony (Sb)	ug/L	2.5	0.50	0.50	8550468
Dissolved Arsenic (As)	ug/L	2.1	1.0	1.0	8550468
Dissolved Barium (Ba)	ug/L	56	2.0	2.0	8550468
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	0.40	8550468
Dissolved Boron (B)	ug/L	250	10	10	8550468
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	0.090	8550468
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	5.0	8550468
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	0.50	8550468
Dissolved Copper (Cu)	ug/L	2.0	0.90	0.90	8550468
Dissolved Lead (Pb)	ug/L	<0.50	0.50	0.50	8550468
Dissolved Molybdenum (Mo	ug/L	18	0.50	0.50	8550468
Dissolved Nickel (Ni)	ug/L	<1.0	1.0	1.0	8550468
Dissolved Selenium (Se)	ug/L	<2.0	2.0	2.0	8550468
Dissolved Silver (Ag)	ug/L	<0.090	0.090	0.090	8550468
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	0.050	8550468
Dissolved Uranium (U)	ug/L	3.8	0.10	0.10	8550468
Dissolved Vanadium (V)	ug/L	0.95	0.50	0.50	8550468
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	5.0	8550468

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O.REG 153 PAHS (WATER)

Bureau Veritas ID		VGT132			
Sampling Date		2023/03/10			
COC Number		n/a			
	UNITS	BH/MW5	RDL	MDL	QC Batch
Calculated Parameters					
Methylnaphthalene, 2-(1-)	ug/L	<0.071	0.071	N/A	8548895
Polyaromatic Hydrocarbons					
Acenaphthene	ug/L	<0.050	0.050	0.0030	8551257
Acenaphthylene	ug/L	<0.050	0.050	0.0030	8551257
Anthracene	ug/L	<0.050	0.050	0.0030	8551257
Benzo(a)anthracene	ug/L	<0.050	0.050	0.0030	8551257
Benzo(a)pyrene	ug/L	<0.0090	0.0090	0.0030	8551257
Benzo(b/j)fluoranthene	ug/L	<0.050	0.050	0.0030	8551257
Benzo(g,h,i)perylene	ug/L	<0.050	0.050	0.0030	8551257
Benzo(k)fluoranthene	ug/L	<0.050	0.050	0.0030	8551257
Chrysene	ug/L	<0.050	0.050	0.0030	8551257
Dibenzo(a,h)anthracene	ug/L	<0.050	0.050	0.0030	8551257
Fluoranthene	ug/L	<0.050	0.050	0.0030	8551257
Fluorene	ug/L	<0.050	0.050	0.0030	8551257
Indeno(1,2,3-cd)pyrene	ug/L	<0.050	0.050	0.0030	8551257
1-Methylnaphthalene	ug/L	<0.050	0.050	0.0030	8551257
2-Methylnaphthalene	ug/L	<0.050	0.050	0.0030	8551257
Naphthalene	ug/L	<0.050	0.050	0.0030	8551257
Phenanthrene	ug/L	<0.030	0.030	0.0030	8551257
Pyrene	ug/L	<0.050	0.050	0.0030	8551257
Surrogate Recovery (%)					
D10-Anthracene	%	106			8551257
D14-Terphenyl (FS)	%	108			8551257
D8-Acenaphthylene	%	93			8551257

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

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

Bureau Veritas ID		VGT132			
Sampling Date		2023/03/10			
COC Number		n/a			
	UNITS	BH/MW5	RDL	MDL	QC Batch
Calculated Parameters					
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	0.50	0.50	8548896
Volatile Organics					
Acetone (2-Propanone)	ug/L	22	10	1.0	8550925
Benzene	ug/L	<0.17	0.17	0.020	8550925
Bromodichloromethane	ug/L	<0.50	0.50	0.050	8550925
Bromoform	ug/L	<1.0	1.0	0.10	8550925
Bromomethane	ug/L	<0.50	0.50	0.10	8550925
Carbon Tetrachloride	ug/L	<0.20	0.20	0.050	8550925
Chlorobenzene	ug/L	<0.20	0.20	0.010	8550925
Chloroform	ug/L	<0.20	0.20	0.050	8550925
Dibromochloromethane	ug/L	<0.50	0.50	0.050	8550925
1,2-Dichlorobenzene	ug/L	<0.50	0.50	0.050	8550925
1,3-Dichlorobenzene	ug/L	<0.50	0.50	0.050	8550925
1,4-Dichlorobenzene	ug/L	<0.50	0.50	0.050	8550925
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	1.0	0.050	8550925
1,1-Dichloroethane	ug/L	<0.20	0.20	0.050	8550925
1,2-Dichloroethane	ug/L	<0.50	0.50	0.020	8550925
1,1-Dichloroethylene	ug/L	<0.20	0.20	0.050	8550925
cis-1,2-Dichloroethylene	ug/L	<0.50	0.50	0.050	8550925
trans-1,2-Dichloroethylene	ug/L	<0.50	0.50	0.050	8550925
1,2-Dichloropropane	ug/L	<0.20	0.20	0.050	8550925
cis-1,3-Dichloropropene	ug/L	<0.30	0.30	0.050	8550925
trans-1,3-Dichloropropene	ug/L	<0.40	0.40	0.050	8550925
Ethylbenzene	ug/L	<0.20	0.20	0.010	8550925
Ethylene Dibromide	ug/L	<0.20	0.20	0.050	8550925
Hexane	ug/L	<1.0	1.0	0.10	8550925
Methylene Chloride(Dichloromethane	ug/L	<2.0	2.0	0.10	8550925
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	10	0.50	8550925
Methyl Isobutyl Ketone	ug/L	<5.0	5.0	0.10	8550925
Methyl t-butyl ether (MTBE)	ug/L	<0.50	0.50	0.050	8550925
Styrene	ug/L	<0.50	0.50	0.050	8550925
1,1,1,2-Tetrachloroethane	ug/L	<0.50	0.50	0.050	8550925
1,1,2,2-Tetrachloroethane	ug/L	<0.50	0.50	0.050	8550925
Tetrachloroethylene	ug/L	<0.20	0.20	0.050	8550925
Toluene	ug/L	0.27	0.20	0.010	8550925
1,1,1-Trichloroethane	ug/L	<0.20	0.20	0.050	8550925

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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

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

Bureau Veritas ID		VGT132			
Sampling Date		2023/03/10			
COC Number		n/a			
	UNITS	BH/MW5	RDL	MDL	QC Batch
1,1,2-Trichloroethane	ug/L	<0.50	0.50	0.050	8550925
Trichloroethylene	ug/L	<0.20	0.20	0.050	8550925
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	0.50	0.10	8550925
Vinyl Chloride	ug/L	<0.20	0.20	0.050	8550925
p+m-Xylene	ug/L	<0.20	0.20	0.010	8550925
o-Xylene	ug/L	<0.20	0.20	0.010	8550925
Total Xylenes	ug/L	<0.20	0.20	0.010	8550925
F1 (C6-C10)	ug/L	<25	25	20	8550925
F1 (C6-C10) - BTEX	ug/L	<25	25	20	8550925
F2-F4 Hydrocarbons					
F2 (C10-C16 Hydrocarbons)	ug/L	<100	100	50	8551262
F3 (C16-C34 Hydrocarbons)	ug/L	<200	200	70	8551262
F4 (C34-C50 Hydrocarbons)	ug/L	<200	200	50	8551262
Reached Baseline at C50	ug/L	Yes			8551262
Surrogate Recovery (%)					
o-Terphenyl	%	99			8551262
4-Bromofluorobenzene	%	95			8550925
D4-1,2-Dichloroethane	%	102			8550925
D8-Toluene	%	98			8550925

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O.REG 153 VOCS BY HS (WATER)

Bureau Veritas ID		VGT133	VGT134			
Sampling Date		2023/03/10	2023/03/10			
COC Number		n/a	n/a			
	UNITS	DUPW1	TRIP BLANK	RDL	MDL	QC Batch
Calculated Parameters						
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	<0.50	0.50	0.50	8548896
Volatile Organics						
Acetone (2-Propanone)	ug/L	16	<10	10	1.0	8551060
Benzene	ug/L	<0.20	<0.20	0.20	0.020	8551060
Bromodichloromethane	ug/L	<0.50	<0.50	0.50	0.050	8551060
Bromoform	ug/L	<1.0	<1.0	1.0	0.10	8551060
Bromomethane	ug/L	<0.50	<0.50	0.50	0.10	8551060
Carbon Tetrachloride	ug/L	<0.19	<0.19	0.19	0.050	8551060
Chlorobenzene	ug/L	<0.20	<0.20	0.20	0.010	8551060
Chloroform	ug/L	<0.20	<0.20	0.20	0.050	8551060
Dibromochloromethane	ug/L	<0.50	<0.50	0.50	0.050	8551060
1,2-Dichlorobenzene	ug/L	<0.40	<0.40	0.40	0.050	8551060
1,3-Dichlorobenzene	ug/L	<0.40	<0.40	0.40	0.050	8551060
1,4-Dichlorobenzene	ug/L	<0.40	<0.40	0.40	0.050	8551060
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	<1.0	1.0	0.050	8551060
1,1-Dichloroethane	ug/L	<0.20	<0.20	0.20	0.050	8551060
1,2-Dichloroethane	ug/L	<0.49	<0.49	0.49	0.020	8551060
1,1-Dichloroethylene	ug/L	<0.20	<0.20	0.20	0.050	8551060
cis-1,2-Dichloroethylene	ug/L	<0.50	<0.50	0.50	0.050	8551060
trans-1,2-Dichloroethylene	ug/L	<0.50	<0.50	0.50	0.050	8551060
1,2-Dichloropropane	ug/L	<0.20	<0.20	0.20	0.050	8551060
cis-1,3-Dichloropropene	ug/L	<0.30	<0.30	0.30	0.050	8551060
trans-1,3-Dichloropropene	ug/L	<0.40	<0.40	0.40	0.050	8551060
Ethylbenzene	ug/L	<0.20	<0.20	0.20	0.010	8551060
Ethylene Dibromide	ug/L	<0.19	<0.19	0.19	0.050	8551060
Hexane	ug/L	<1.0	<1.0	1.0	0.10	8551060
Methylene Chloride(Dichloromethane	ug/L	<2.0	<2.0	2.0	0.10	8551060
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	<10	10	0.50	8551060
Methyl Isobutyl Ketone	ug/L	<5.0	<5.0	5.0	0.10	8551060
Methyl t-butyl ether (MTBE)	ug/L	<0.50	<0.50	0.50	0.050	8551060
Styrene	ug/L	<0.40	<0.40	0.40	0.050	8551060
1,1,1,2-Tetrachloroethane	ug/L	<0.50	<0.50	0.50	0.050	8551060
1,1,2,2-Tetrachloroethane	ug/L	<0.40	<0.40	0.40	0.050	8551060
Tetrachloroethylene	ug/L	<0.20	<0.20	0.20	0.050	8551060
Toluene	ug/L	<0.20	<0.20	0.20	0.010	8551060
1,1,1-Trichloroethane	ug/L	<0.20	<0.20	0.20	0.050	8551060

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O.REG 153 VOCS BY HS (WATER)

Bureau Veritas ID		VGT133	VGT134			
Sampling Date		2023/03/10	2023/03/10			
COC Number		n/a	n/a			
	UNITS	DUPW1	TRIP BLANK	RDL	MDL	QC Batch
1,1,2-Trichloroethane	ug/L	<0.40	<0.40	0.40	0.050	8551060
Trichloroethylene	ug/L	<0.20	<0.20	0.20	0.050	8551060
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	<0.50	0.50	0.10	8551060
Vinyl Chloride	ug/L	<0.20	<0.20	0.20	0.050	8551060
p+m-Xylene	ug/L	<0.20	<0.20	0.20	0.010	8551060
o-Xylene	ug/L	<0.20	<0.20	0.20	0.010	8551060
Total Xylenes	ug/L	<0.20	<0.20	0.20	0.010	8551060
Surrogate Recovery (%)						
4-Bromofluorobenzene	%	85	85			8551060
D4-1,2-Dichloroethane	%	112	114			8551060
D8-Toluene	%	89	90			8551060

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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TEST SUMMARY

Bureau Veritas ID: VGT132
Sample ID: BH/MW5
Matrix: Water

Collected: 2023/03/10
Shipped:
Received: 2023/03/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8548895	N/A	2023/03/15	Automated Statchk
1,3-Dichloropropene Sum	CALC	8548896	N/A	2023/03/16	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8551262	2023/03/14	2023/03/15	Emir Danisman
Dissolved Metals by ICPMS	ICP/MS	8550468	N/A	2023/03/14	Prempal Bhatti
PAH Compounds in Water by GC/MS (SIM)	GC/MS	8551257	2023/03/14	2023/03/15	Jonghan Yoon
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8550925	N/A	2023/03/16	Anna Gabrielyan

Bureau Veritas ID: VGT133
Sample ID: DUPW1
Matrix: Water

Collected: 2023/03/10
Shipped:
Received: 2023/03/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	8548896	N/A	2023/03/16	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	8551060	N/A	2023/03/16	Narayan Ghimire

Bureau Veritas ID: VGT134
Sample ID: TRIP BLANK
Matrix: Water

Collected: 2023/03/10
Shipped:
Received: 2023/03/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	8548896	N/A	2023/03/16	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	8551060	N/A	2023/03/16	Narayan Ghimire

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GENERAL COMMENTS

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

Package 1	0.3°C

Sample VGT132 [BH/MW5] : Cooler custody seal was present and intact.

Results relate only to the items tested.

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Bureau Veritas Job #: C370495
Report Date: 2023/03/16

QUALITY ASSURANCE REPORT

Soil Engineers Ltd
Client Project #: 2302-E004-1
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
8550925	4-Bromofluorobenzene	2023/03/15	100	70 - 130	100	70 - 130	97	%		
8550925	D4-1,2-Dichloroethane	2023/03/15	102	70 - 130	100	70 - 130	99	%		
8550925	D8-Toluene	2023/03/15	102	70 - 130	102	70 - 130	100	%		
8551060	4-Bromofluorobenzene	2023/03/15	100	70 - 130	99	70 - 130	92	%		
8551060	D4-1,2-Dichloroethane	2023/03/15	98	70 - 130	94	70 - 130	99	%		
8551060	D8-Toluene	2023/03/15	105	70 - 130	107	70 - 130	96	%		
8551257	D10-Anthracene	2023/03/15	108	50 - 130	107	50 - 130	108	%		
8551257	D14-Terphenyl (FS)	2023/03/15	108	50 - 130	108	50 - 130	110	%		
8551257	D8-Acenaphthylene	2023/03/15	94	50 - 130	93	50 - 130	92	%		
8551262	o-Terphenyl	2023/03/15	104	60 - 130	101	60 - 130	102	%		
8550468	Dissolved Antimony (Sb)	2023/03/14	111	80 - 120	101	80 - 120	<0.50	ug/L	NC	20
8550468	Dissolved Arsenic (As)	2023/03/14	107	80 - 120	100	80 - 120	<1.0	ug/L	NC	20
8550468	Dissolved Barium (Ba)	2023/03/14	107	80 - 120	100	80 - 120	<2.0	ug/L	3.7	20
8550468	Dissolved Beryllium (Be)	2023/03/14	105	80 - 120	98	80 - 120	<0.40	ug/L	NC	20
8550468	Dissolved Boron (B)	2023/03/14	104	80 - 120	97	80 - 120	<10	ug/L	2.3	20
8550468	Dissolved Cadmium (Cd)	2023/03/14	109	80 - 120	99	80 - 120	<0.090	ug/L	NC	20
8550468	Dissolved Chromium (Cr)	2023/03/14	105	80 - 120	98	80 - 120	<5.0	ug/L	NC	20
8550468	Dissolved Cobalt (Co)	2023/03/14	104	80 - 120	97	80 - 120	<0.50	ug/L	NC	20
8550468	Dissolved Copper (Cu)	2023/03/14	109	80 - 120	101	80 - 120	<0.90	ug/L	3.2	20
8550468	Dissolved Lead (Pb)	2023/03/14	103	80 - 120	95	80 - 120	<0.50	ug/L	0.60	20
8550468	Dissolved Molybdenum (Mo)	2023/03/14	112	80 - 120	102	80 - 120	<0.50	ug/L	5.2	20
8550468	Dissolved Nickel (Ni)	2023/03/14	105	80 - 120	97	80 - 120	<1.0	ug/L	NC	20
8550468	Dissolved Selenium (Se)	2023/03/14	109	80 - 120	100	80 - 120	<2.0	ug/L	NC	20
8550468	Dissolved Silver (Ag)	2023/03/14	107	80 - 120	99	80 - 120	<0.090	ug/L	NC	20
8550468	Dissolved Thallium (Tl)	2023/03/14	106	80 - 120	96	80 - 120	<0.050	ug/L	NC	20
8550468	Dissolved Uranium (U)	2023/03/14	104	80 - 120	96	80 - 120	<0.10	ug/L	3.0	20
8550468	Dissolved Vanadium (V)	2023/03/14	106	80 - 120	99	80 - 120	<0.50	ug/L	NC	20
8550468	Dissolved Zinc (Zn)	2023/03/14	106	80 - 120	98	80 - 120	<5.0	ug/L	NC	20
8550925	1,1,1,2-Tetrachloroethane	2023/03/15	98	70 - 130	99	70 - 130	<0.50	ug/L	NC	30
8550925	1,1,1-Trichloroethane	2023/03/15	100	70 - 130	100	70 - 130	<0.20	ug/L	NC	30
8550925	1,1,2,2-Tetrachloroethane	2023/03/15	97	70 - 130	97	70 - 130	<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
8550925	1,1,2-Trichloroethane	2023/03/15	101	70 - 130	101	70 - 130	<0.50	ug/L	NC	30
8550925	1,1-Dichloroethane	2023/03/15	93	70 - 130	94	70 - 130	<0.20	ug/L	NC	30
8550925	1,1-Dichloroethylene	2023/03/15	100	70 - 130	102	70 - 130	<0.20	ug/L	NC	30
8550925	1,2-Dichlorobenzene	2023/03/15	97	70 - 130	97	70 - 130	<0.50	ug/L	NC	30
8550925	1,2-Dichloroethane	2023/03/15	94	70 - 130	93	70 - 130	<0.50	ug/L	NC	30
8550925	1,2-Dichloropropane	2023/03/15	95	70 - 130	96	70 - 130	<0.20	ug/L	NC	30
8550925	1,3-Dichlorobenzene	2023/03/15	101	70 - 130	102	70 - 130	<0.50	ug/L	NC	30
8550925	1,4-Dichlorobenzene	2023/03/15	116	70 - 130	117	70 - 130	<0.50	ug/L	NC	30
8550925	Acetone (2-Propanone)	2023/03/15	102	60 - 140	102	60 - 140	<10	ug/L	NC	30
8550925	Benzene	2023/03/15	91	70 - 130	91	70 - 130	<0.17	ug/L	NC	30
8550925	Bromodichloromethane	2023/03/15	99	70 - 130	99	70 - 130	<0.50	ug/L	NC	30
8550925	Bromoform	2023/03/15	97	70 - 130	97	70 - 130	<1.0	ug/L	NC	30
8550925	Bromomethane	2023/03/15	94	60 - 140	93	60 - 140	<0.50	ug/L	NC	30
8550925	Carbon Tetrachloride	2023/03/15	98	70 - 130	98	70 - 130	<0.20	ug/L	NC	30
8550925	Chlorobenzene	2023/03/15	97	70 - 130	97	70 - 130	<0.20	ug/L	NC	30
8550925	Chloroform	2023/03/15	96	70 - 130	96	70 - 130	<0.20	ug/L	NC	30
8550925	cis-1,2-Dichloroethylene	2023/03/15	98	70 - 130	98	70 - 130	<0.50	ug/L	NC	30
8550925	cis-1,3-Dichloropropene	2023/03/15	92	70 - 130	90	70 - 130	<0.30	ug/L	NC	30
8550925	Dibromochloromethane	2023/03/15	97	70 - 130	97	70 - 130	<0.50	ug/L	NC	30
8550925	Dichlorodifluoromethane (FREON 12)	2023/03/15	108	60 - 140	111	60 - 140	<1.0	ug/L	NC	30
8550925	Ethylbenzene	2023/03/15	90	70 - 130	92	70 - 130	<0.20	ug/L	NC	30
8550925	Ethylene Dibromide	2023/03/15	96	70 - 130	95	70 - 130	<0.20	ug/L	NC	30
8550925	F1 (C6-C10) - BTEX	2023/03/15					<25	ug/L	NC	30
8550925	F1 (C6-C10)	2023/03/15	96	60 - 140	92	60 - 140	<25	ug/L	NC	30
8550925	Hexane	2023/03/15	99	70 - 130	100	70 - 130	<1.0	ug/L	NC	30
8550925	Methyl Ethyl Ketone (2-Butanone)	2023/03/15	100	60 - 140	100	60 - 140	<10	ug/L	NC	30
8550925	Methyl Isobutyl Ketone	2023/03/15	102	70 - 130	104	70 - 130	<5.0	ug/L	NC	30
8550925	Methyl t-butyl ether (MTBE)	2023/03/15	93	70 - 130	93	70 - 130	<0.50	ug/L	NC	30
8550925	Methylene Chloride(Dichloromethane)	2023/03/15	97	70 - 130	96	70 - 130	<2.0	ug/L	NC	30
8550925	o-Xylene	2023/03/15	93	70 - 130	94	70 - 130	<0.20	ug/L	NC	30
8550925	p+m-Xylene	2023/03/15	93	70 - 130	94	70 - 130	<0.20	ug/L	NC	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
8550925	Styrene	2023/03/15	100	70 - 130	102	70 - 130	<0.50	ug/L	NC	30
8550925	Tetrachloroethylene	2023/03/15	92	70 - 130	93	70 - 130	<0.20	ug/L	NC	30
8550925	Toluene	2023/03/15	93	70 - 130	94	70 - 130	<0.20	ug/L	NC	30
8550925	Total Xylenes	2023/03/15					<0.20	ug/L	NC	30
8550925	trans-1,2-Dichloroethylene	2023/03/15	98	70 - 130	98	70 - 130	<0.50	ug/L	NC	30
8550925	trans-1,3-Dichloropropene	2023/03/15	101	70 - 130	99	70 - 130	<0.40	ug/L	NC	30
8550925	Trichloroethylene	2023/03/15	102	70 - 130	102	70 - 130	<0.20	ug/L	NC	30
8550925	Trichlorofluoromethane (FREON 11)	2023/03/15	100	70 - 130	100	70 - 130	<0.50	ug/L	NC	30
8550925	Vinyl Chloride	2023/03/15	90	70 - 130	92	70 - 130	<0.20	ug/L	NC	30
8551060	1,1,1,2-Tetrachloroethane	2023/03/15	93	70 - 130	90	70 - 130	<0.50	ug/L	NC	30
8551060	1,1,1-Trichloroethane	2023/03/15	97	70 - 130	92	70 - 130	<0.20	ug/L	NC	30
8551060	1,1,2,2-Tetrachloroethane	2023/03/15	96	70 - 130	90	70 - 130	<0.40	ug/L	NC	30
8551060	1,1,2-Trichloroethane	2023/03/15	101	70 - 130	96	70 - 130	<0.40	ug/L	NC	30
8551060	1,1-Dichloroethane	2023/03/15	97	70 - 130	91	70 - 130	<0.20	ug/L	NC	30
8551060	1,1-Dichloroethylene	2023/03/15	102	70 - 130	98	70 - 130	<0.20	ug/L	NC	30
8551060	1,2-Dichlorobenzene	2023/03/15	97	70 - 130	96	70 - 130	<0.40	ug/L	NC	30
8551060	1,2-Dichloroethane	2023/03/15	94	70 - 130	87	70 - 130	<0.49	ug/L	NC	30
8551060	1,2-Dichloropropane	2023/03/15	99	70 - 130	93	70 - 130	<0.20	ug/L	NC	30
8551060	1,3-Dichlorobenzene	2023/03/15	98	70 - 130	99	70 - 130	<0.40	ug/L	NC	30
8551060	1,4-Dichlorobenzene	2023/03/15	118	70 - 130	117	70 - 130	<0.40	ug/L	NC	30
8551060	Acetone (2-Propanone)	2023/03/15	120	60 - 140	107	60 - 140	<10	ug/L	NC	30
8551060	Benzene	2023/03/15	95	70 - 130	90	70 - 130	<0.20	ug/L	NC	30
8551060	Bromodichloromethane	2023/03/15	100	70 - 130	93	70 - 130	<0.50	ug/L	NC	30
8551060	Bromoform	2023/03/15	92	70 - 130	87	70 - 130	<1.0	ug/L	NC	30
8551060	Bromomethane	2023/03/15	88	60 - 140	84	60 - 140	<0.50	ug/L	NC	30
8551060	Carbon Tetrachloride	2023/03/15	92	70 - 130	87	70 - 130	<0.19	ug/L	NC	30
8551060	Chlorobenzene	2023/03/15	99	70 - 130	97	70 - 130	<0.20	ug/L	NC	30
8551060	Chloroform	2023/03/15	96	70 - 130	90	70 - 130	<0.20	ug/L	NC	30
8551060	cis-1,2-Dichloroethylene	2023/03/15	100	70 - 130	94	70 - 130	<0.50	ug/L	NC	30
8551060	cis-1,3-Dichloropropene	2023/03/15	90	70 - 130	87	70 - 130	<0.30	ug/L	NC	30
8551060	Dibromochloromethane	2023/03/15	92	70 - 130	88	70 - 130	<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
8551060	Dichlorodifluoromethane (FREON 12)	2023/03/15	105	60 - 140	98	60 - 140	<1.0	ug/L	NC	30
8551060	Ethylbenzene	2023/03/15	97	70 - 130	97	70 - 130	<0.20	ug/L	NC	30
8551060	Ethylene Dibromide	2023/03/15	96	70 - 130	91	70 - 130	<0.19	ug/L	NC	30
8551060	Hexane	2023/03/15	111	70 - 130	107	70 - 130	<1.0	ug/L	NC	30
8551060	Methyl Ethyl Ketone (2-Butanone)	2023/03/15	135	60 - 140	123	60 - 140	<10	ug/L	NC	30
8551060	Methyl Isobutyl Ketone	2023/03/15	98	70 - 130	90	70 - 130	<5.0	ug/L	NC	30
8551060	Methyl t-butyl ether (MTBE)	2023/03/15	103	70 - 130	97	70 - 130	<0.50	ug/L	NC	30
8551060	Methylene Chloride(Dichloromethane)	2023/03/15	113	70 - 130	105	70 - 130	<2.0	ug/L	NC	30
8551060	o-Xylene	2023/03/15	95	70 - 130	99	70 - 130	<0.20	ug/L	NC	30
8551060	p+m-Xylene	2023/03/15	81	70 - 130	81	70 - 130	<0.20	ug/L	NC	30
8551060	Styrene	2023/03/15	89	70 - 130	91	70 - 130	<0.40	ug/L	NC	30
8551060	Tetrachloroethylene	2023/03/15	84	70 - 130	83	70 - 130	<0.20	ug/L	NC	30
8551060	Toluene	2023/03/15	102	70 - 130	100	70 - 130	<0.20	ug/L	NC	30
8551060	Total Xylenes	2023/03/15					<0.20	ug/L	NC	30
8551060	trans-1,2-Dichloroethylene	2023/03/15	96	70 - 130	91	70 - 130	<0.50	ug/L	NC	30
8551060	trans-1,3-Dichloropropene	2023/03/15	97	70 - 130	97	70 - 130	<0.40	ug/L	NC	30
8551060	Trichloroethylene	2023/03/15	97	70 - 130	92	70 - 130	<0.20	ug/L	NC	30
8551060	Trichlorofluoromethane (FREON 11)	2023/03/15	91	70 - 130	86	70 - 130	<0.50	ug/L	NC	30
8551060	Vinyl Chloride	2023/03/15	93	70 - 130	88	70 - 130	<0.20	ug/L	NC	30
8551257	1-Methylnaphthalene	2023/03/15	102	50 - 130	100	50 - 130	<0.050	ug/L	NC	30
8551257	2-Methylnaphthalene	2023/03/15	89	50 - 130	88	50 - 130	<0.050	ug/L	NC	30
8551257	Acenaphthene	2023/03/15	100	50 - 130	98	50 - 130	<0.050	ug/L	NC	30
8551257	Acenaphthylene	2023/03/15	98	50 - 130	96	50 - 130	<0.050	ug/L	NC	30
8551257	Anthracene	2023/03/15	106	50 - 130	105	50 - 130	<0.050	ug/L	NC	30
8551257	Benzo(a)anthracene	2023/03/15	93	50 - 130	94	50 - 130	<0.050	ug/L	NC	30
8551257	Benzo(a)pyrene	2023/03/15	83	50 - 130	86	50 - 130	<0.0090	ug/L	17	30
8551257	Benzo(b/j)fluoranthene	2023/03/15	92	50 - 130	94	50 - 130	<0.050	ug/L	NC	30
8551257	Benzo(g,h,i)perylene	2023/03/15	97	50 - 130	100	50 - 130	<0.050	ug/L	NC	30
8551257	Benzo(k)fluoranthene	2023/03/15	82	50 - 130	89	50 - 130	<0.050	ug/L	NC	30
8551257	Chrysene	2023/03/15	91	50 - 130	95	50 - 130	<0.050	ug/L	NC	30
8551257	Dibenzo(a,h)anthracene	2023/03/15	81	50 - 130	83	50 - 130	<0.050	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
8551257	Fluoranthene	2023/03/15	112	50 - 130	111	50 - 130	<0.050	ug/L	6.9	30
8551257	Fluorene	2023/03/15	96	50 - 130	95	50 - 130	<0.050	ug/L	NC	30
8551257	Indeno(1,2,3-cd)pyrene	2023/03/15	92	50 - 130	95	50 - 130	<0.050	ug/L	NC	30
8551257	Naphthalene	2023/03/15	97	50 - 130	96	50 - 130	<0.050	ug/L	NC	30
8551257	Phenanthrene	2023/03/15	99	50 - 130	97	50 - 130	<0.030	ug/L	8.2	30
8551257	Pyrene	2023/03/15	111	50 - 130	110	50 - 130	<0.050	ug/L	6.1	30
8551262	F2 (C10-C16 Hydrocarbons)	2023/03/15	103	60 - 130	95	60 - 130	<100	ug/L	NC	30
8551262	F3 (C16-C34 Hydrocarbons)	2023/03/15	104	60 - 130	99	60 - 130	<200	ug/L	24	30
8551262	F4 (C34-C50 Hydrocarbons)	2023/03/15	104	60 - 130	98	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 #: C370495
Report Date: 2023/03/16

Soil Engineers Ltd
Client Project #: 2302-E004-1
Sampler Initials: ANK

VALIDATION SIGNATURE PAGE

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

Cristina Carriere

Cristina Carriere, Senior Scientific Specialist

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Phone: 905-817-5700 Fax: 905-817-5779 Toll Free: 800-563-6266
CAM FCD-01191/2

CHAIN OF CUSTODY RECORD

Invoice Information	Report Information (if differs from invoice)	Project Information (where applicable)	Turnaround Time (TAT) Required
Company Name: Soil Engineers Ltd.	Company Name:	Quotation #:	[X] Regular TAT (5-7 days) Most analyses
Contact Name: Ram Sah	Contact Name: SAME	P.O. #/ AFE#:	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address: 100- 90 West Beaver Creek Road, Richmond Hill, Ontario L4B 1E7	Address:	Project #: 2302-E004-1	Rush TAT (Surcharges will be applied) [ ] 1 Day [ ] 2 Days [ ] 3-4 Days
Phone: 416 754 8515 Fax: 905-8818335	Phone: Fax:	Site Location:	
Email: ram.sah@soilengineers ltd.com	Email:	Site #:	Date Required:
		Sampled By: Ankita	Rush Confirmation #:

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY

Regulation 153	Other Regulations
[X] Table 1 [ ] Res/Park [ ] Med/Fine	[ ] CCME [ ] Sanitary Sewer Bylaw
[ ] Table 2 [ ] Ind/Comm [X] Coarse	[ ] MISA [ ] Storm Sewer Bylaw
[ ] Table 3 [X] Agri/ Other	[ ] PWQO Region
[ ] Table ____	[ ] Other (Specify)
FOR RSC (PLEASE CIRCLE) Y / N	[ ] REG 558 (MIN. 3 DAY TAT REQUIRED)

Include Criteria on Certificate of Analysis: Y / N

SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

	SAMPLE IDENTIFICATION	DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	MATRIX	# OF CONTAINERS SUBMITTED	FIELD FILTERED (CIRCLE) Metals / Hg / CrVI	BTEX/ PHC F1-F4	VOCs	PAHs	Metal Scan									HOLD- DO NOT ANALYZE
1	BH/MW5	2023-03-10		Ground water	9		X	X	X	X									
2	DUPW1	2023-03-10		Ground water	3			X											
3	Trip Blank	2023-03-10		Water	2			X											
4																			
5																			
6																			
7																			
8																			
9																			
10																			

LABORATORY USE ONLY

CUSTODY SEAL (Y / N) Present	Intact	COOLER TEMPERATURES
		1 | 0 | 0

COOLING MEDIA PRESENT: (Y) / N

COMMENTS

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)
Ankita	2023/03/13	10:40	Ravan RAMANDEEP KAUR	2023/03/13	15:25

13-Mar-23 15:25
Antonella Brasil
C370495

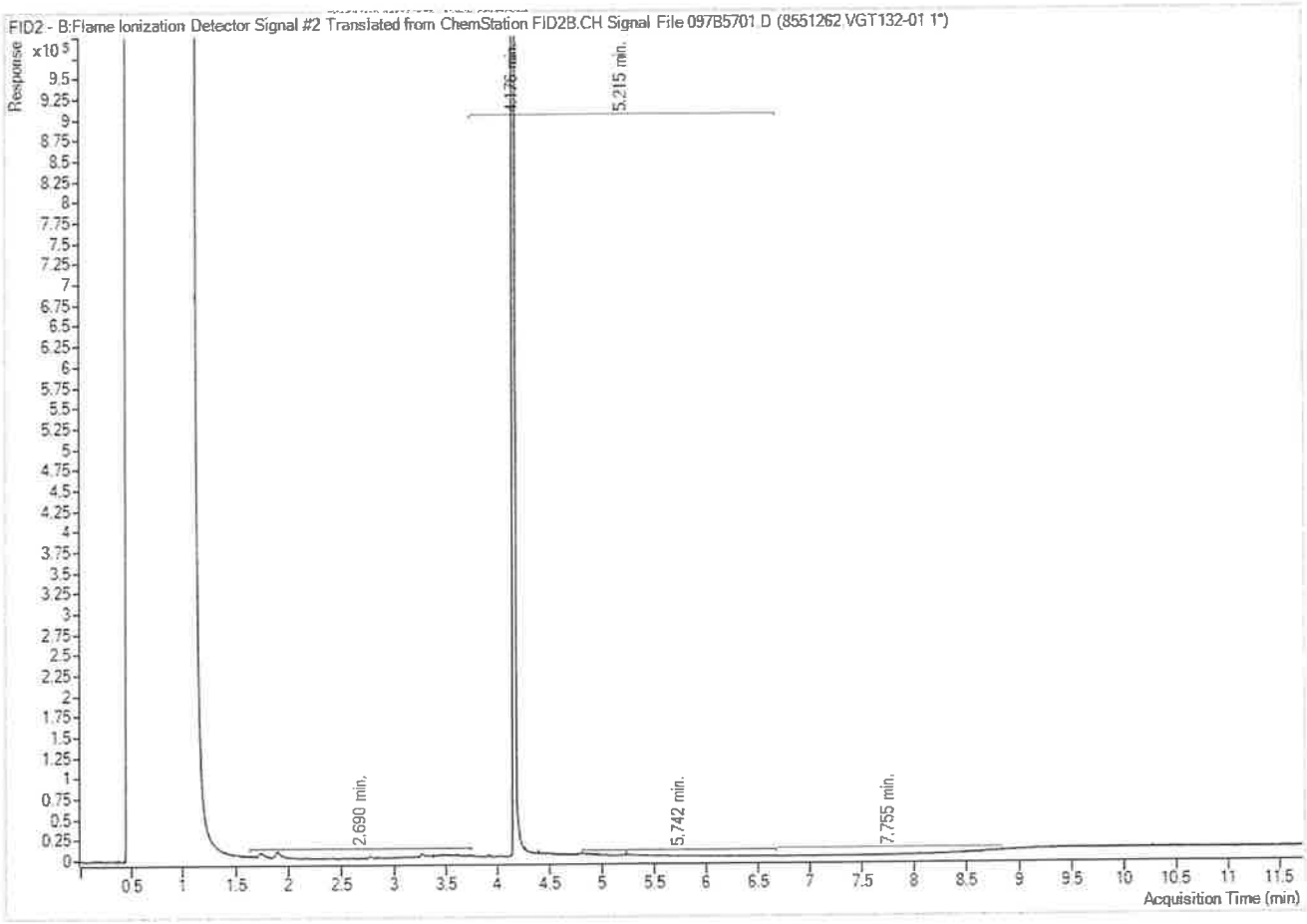
SWP ENV-796

66 3050

Bureau Veritas Job #: C370495
Report Date: 2023/03/16
Bureau Veritas Sample: VGT132

Soil Engineers Ltd
Client Project #: 2302-E004-1
Client ID: BH/MW5

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Your Project #: 2302-E004-1
Site Location: AIRPORT ROAD EAST
Your C.O.C. #: n/a

Attention: Ram Sah

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

Report Date: 2023/03/15
Report #: R7547507
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C370486
Received: 2023/03/13, 15:25

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
pH	1	2023/03/14	2023/03/14	CAM SOP-00413	SM 4500H+ B 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.

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Your Project #: 2302-E004-1
Site Location: AIRPORT ROAD EAST
Your C.O.C. #: n/a

Attention: Ram Sah

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

Report Date: 2023/03/15
Report #: R7547507
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C370486
Received: 2023/03/13, 15:25

Encryption Key

Antonella Brasil
Senior Project Manager
15 Mar 2023 17:56:37

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

==========

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

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Bureau Veritas Job #: C370486
Report Date: 2023/03/15

Soil Engineers Ltd
Client Project #: 2302-E004-1
Site Location: AIRPORT ROAD EAST
Sampler Initials: ANK

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		VGT071		
Sampling Date		2023/03/10		
COC Number		n/a		
	UNITS	BH/MW5	MDL	QC Batch
Inorganics				
pH	pH	8.01		8551420
QC Batch = Quality Control Batch				

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Bureau Veritas Job #: C370486
Report Date: 2023/03/15

Soil Engineers Ltd
Client Project #: 2302-E004-1
Site Location: AIRPORT ROAD EAST
Sampler Initials: ANK

TEST SUMMARY

Bureau Veritas ID: VGT071
Sample ID: BH/MW5
Matrix: Water

Collected: 2023/03/10
Shipped:
Received: 2023/03/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH	AT	8551420	2023/03/14	2023/03/14	Taslima Aktar

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Bureau Veritas Job #: C370486
Report Date: 2023/03/15

Soil Engineers Ltd
Client Project #: 2302-E004-1
Site Location: AIRPORT ROAD EAST
Sampler Initials: ANK

GENERAL COMMENTS

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

Package 1	0.3°C

Cooler custody seal was present and intact.

Revised Report (2023/03/15) : Project # 2302-E004-1 included as per client request.

Results relate only to the items tested.

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Bureau Veritas Job #: C370486
Report Date: 2023/03/15

QUALITY ASSURANCE REPORT

Soil Engineers Ltd
Client Project #: 2302-E004-1
Site Location: AIRPORT ROAD EAST
Sampler Initials: ANK

			SPIKED BLANK		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	Value (%)	QC Limits
8551420	pH	2023/03/14	102	98 - 103	0.13	N/A

N/A = Not Applicable

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

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.

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Bureau Veritas Job #: C370486
Report Date: 2023/03/15

Soil Engineers Ltd
Client Project #: 2302-E004-1
Site Location: AIRPORT ROAD EAST
Sampler Initials: ANK

VALIDATION SIGNATURE PAGE

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

Cristina Carriere

Cristina Carriere, Senior Scientific Specialist

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CAM FCD-01191/2

CHAIN OF CUSTODY RECORD

Invoice Information		Report Information (if differs from invoice)		Project Information (where applicable)		Turnaround Time (TAT) Required
Company Name:	Soil Engineers Ltd.	Company Name:		Quotation #:		[X] Regular TAT (5-7 days) Most analyses
Contact Name:	Ram Sah	Contact Name:	SAME	P.O. #/ AFE#:		PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address:	100- 90 West Beaver Creek Road, Richmond Hill, Ontario L4B 1E7	Address:		Project #:	Airport Road East	Rush TAT (Surcharges will be applied) [ ] 1 Day [ ] 2 Days [ ] 3-4 Days
Phone:	416 754 8515 Fax: 905-8818335	Phone:	Fax:	Site Location:		
Email:	ram.sah@soilengineers ltd.com	Email:		Site #:		
				Sampled By:	Ankita	Date Required:

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY

Rush Confirmation #:

Regulation 153

[X] Table 1 [ ] Res/Park [ ] Med/ Fine
[ ] Table 2 [ ] Ind/Comm [X] Coarse
[ ] Table 3 [X] Agri/ Other
[ ] Table ____
FOR RSC (PLEASE CIRCLE) Y / N

Other Regulations

[ ] CCME [ ] Sanitary Sewer Bylaw
[ ] MISA [ ] Storm Sewer Bylaw
[ ] PWQO Region
[ ] Other (Specify)
[ ] REG 558 (MIN. 3 DAY TAT REQUIRED)

Include Criteria on Certificate of Analysis: Y / N

SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

Analysis Requested

	SAMPLE IDENTIFICATION	DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	MATRIX	# OF CONTAINERS SUBMITTED	FIELD FILTERED (CIRCLE) Metals / Hg / CrVI	pH	HOLD- DO NOT ANALYZE
1	BH/MW5	2023-03-10		Ground water	1		X	
2								
3								
4								
5								
6								
7								
8								
9								
10								

LABORATORY USE ONLY

CUSTODY SEAL (Y) / N

Present	Intact	COOLER TEMPERATURES
		1 | 0 | 0

COOLING MEDIA PRESENT: (Y) / N

COMMENTS

RELINQUISHED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)
Ankita	2023/03/13	10:30	Raman RAMANDEEP	2023/03/13	15:25
			&AMP		

13-Mar-23 15:25
Antonella Brasil
C370486
SWP ENV-796

L2705 17