



Soil Engineers Ltd.

CONSULTING ENGINEERS

GEOTECHNICAL • ENVIRONMENTAL • HYDROGEOLOGICAL • BUILDING SCIENCE

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**A REPORT TO
SUSSMAN MORTGAGE FUNDING INC.**

C/O CB LAND MANAGEMENT INC.

ENVIRONMENTAL SUBSURFACE INVESTIGATION

EXISTING PROPERTY

2970 FESSERTON SIDEROAD

TOWNSHIP OF SEVERN

Reference No. 1808-E102

May 29, 2019

DISTRIBUTION

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2 Copies — CB Land Management Inc.



LIMITATIONS OF LIABILITY

This report was prepared by Soil Engineers Ltd. for the account of Sussman Mortgage Funding Inc., c/o CB Land Management Inc. 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 Hamid Rezaei, M.Sc., P.Geo. and Eleni Girma Beyene, P.Eng., QPESA, 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.

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

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



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1.0 EXECUTIVE SUMMARY

Soil Engineers Ltd. (SEL) was retained by Sussman Mortgage Funding Inc. c/o CB Land Management Inc. to carry out an Environmental Subsurface Investigation for the property located at 2970 Fesserton Sideroad, in the Township of Severn (hereinafter referred to as “the subject site”).

The purpose of the Environmental Subsurface Investigation was to determine the environmental condition of the fill material at the subject site.

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 30m of a Water Body in a Potable Groundwater Condition for Residential/Parkland/Institutional/Industrial/Commercial/Community property use and for coarse textured soils (Table 8 Standard) under 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 soil samples indicates that the tested parameters at the test locations meet the Table 8 Standards, except marginally elevated level of total xylenes in soil sample retrieved from BH 1 location at a depth of 0.8 to 1.5 mbgs at the subject site. The concentration of Xylenes in the soil sample was 0.074ug/g compared to the Table 8 Standards at concentration 0.05ug/g.

It is recommended additional soil sampling and testing be conducted around BH 1 location to confirm the concentration of Xylenes and it can be done at the time of the site development.

Please note the information supplied by our previous Environmental Research and this report, and their formats do not meet all the requirements as set out in the Ontario Regulation 153/04 (O. Reg. 153/04), as amended. Therefore, these reports cannot be used in support of filing a Record of Site Condition (RSC) with the Brownfields Environmental Site Registry (ESR) of the MECP.



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



2.0 INTRODUCTION

Soil Engineers Ltd. (SEL) was retained by Sussman Mortgage Funding Inc. c/o CB Land Management Inc. to carry out an Environmental Subsurface Investigation for the property located at 2970 Fesserton Sideroad, in the Township of Severn (hereinafter referred to as “the subject site”).

The purpose of the Environmental Subsurface Investigation is to assess the environmental quality of the fill material at the subject site.

2.1 Site Condition

The subject site, irregular in shape and approximately 10.22 ha (25.25 ac) in area, is located adjacent to Fesserton Sideroad to the northwest and approximately 200 m southwest of Country Road 16. The municipal address of the subject site is 2970 Fesserton Sideroad, in the Township of Severn. The Property Identification Number (PIN) is 58508-0292 (LT). The legal description of the subject site from the Parcel Register is BLOCK 18, PLAN 51M917, S/T EASEMENT IN GROSS OVER PT 4 51R36345 AS IN SC684453; SEVERN.

At the time of the site assessment, the subject site was a vacant land consisting of vegetated and wooded areas. A water body is located in the central portion of the subject site and a watercourse traverses the southern portion of the subject site.

The subject site is located in a rural residential area within the Township of Severn. A roadway (Fesserton Sideroad) is adjacent to the subject site to the southeast. Former railway tracks were located adjacent to the subject site, to the east. The neighboring properties consist mainly of rural residential properties in the remaining directions. Three (3) water bodies are located approximately 10 m, 30 m and 75 m to the southeast and northwest of the subject site, respectively.

The ground surface at the subject site appears uneven and the overall grade of the subject site generally descends towards the northeast. A water well is located at the southern portion of the subject site.



The Site Location Plan is shown on Drawing No. 1.

2.2 Background

SEL conducted an Environmental Research for the subject site, Reference No. 1808-E102, dated September 18, 2018, and fill material of unknown quality was identified as one of the potential environmental concerns at the subject site.

2.3 Objective

The objective of this investigation is to assess the environmental condition of the fill material at the subject site.

2.4 Scope of Work

This environmental subsurface investigation was conducted in general conformance with the CSA Standard Z769-00 and the scope of work for the investigation includes:

- Locate the underground and overhead utilities.
- Conduct five (5) boreholes to a depth of 4.6 m below ground surface (mbgs) and two (2) hand-dug test pits to a depth of 0.6 mbgs.
- Collect representative soil samples from the sampling locations.
- Undertake field examination of the retrieved soil samples for visual and olfactory evidence of potential contamination.
- Undertake soil vapour measurements for the retrieved soil samples using a combustible gas detector (RKI Eagle) in methane elimination mode.
- Carry out analytical testing program on selected soil samples including quality assurance/quality control (QA/QC) samples for one or more of the following parameters: petroleum hydrocarbons (PHCs), polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs) and/or Metal and Inorganics.



- Review analytical testing results of submitted soil samples using applicable Site Condition Standards.
- Prepare an Environmental Subsurface Investigation report containing the findings of the field investigation and analytical results.



3.0 APPLICABLE SITE CONDITION STANDARDS

SEL has selected the applicable assessment criteria from Ontario Regulation 153/04 (O. Reg. 153/04), as amended including Ontario Regulation 511/09, made under the Environmental Protection Act (EPA) to assess the analytical data from the submitted soil samples. The following information was used to select the appropriate criteria:

- The subject site is not considered to be sensitive based on the definition set forth in O. Reg. 153/04 as amended, as the subject site is not within/adjacent/part of an area of natural significance and the analytical testing indicated the pH of the tested surface soil samples is between 5 and 9 and tested subsurface soil sample is between 5 and 11.
- The property is not a shallow soil property, as the bedrock was not encountered within 2.0 m of the ground surface during the investigation.
- Based on the information obtained from site investigation, there is one (1) water well located at the subject site.
- Water bodies are located at the subject site.
- Generic Site Condition Standards criteria is to be used in this assessment.
- No grain size analysis has been performed and, therefore, coarse textured soils are applied.

Based on the above considerations, the Ministry of the Environment, Conservation and Parks (MECP) Table 8, Generic Site Condition Standards for Use within 30m of a Water Body in a Potable Groundwater Condition, for residential/parkland/institutional/industrial/commercial/community use and coarse textured soils (Table 8 Standards), as published in the “soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act”, dated April 15, 2011 has been selected for evaluating the environmental condition at the subject site.



4.0 **FIELDWORK**

The field work for the investigation was conducted on December 3, 2018 and consisted of drilling five (5) boreholes (designated as BH1 to BH5) to depths of 4.6 mbgs and hand-digging two (2) test pits (designated as TP1 and TP2) to depths of 0.6 mbgs. The Sampling Location Plan is shown on Drawing No. 2. The boreholes were placed in the area of potential fill material at the southern portion 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.

4.1 **Borehole Drilling and Soil Sampling**

The boreholes were advanced using a track-mounted drill rig, equipped with continuous flight augers and sampling rods, supplied by a specialist drilling contractor, DBW Drilling Limited. Soil samples from the boreholes were recovered at regular intervals, using split spoon soil sampler, for soil classification, and visual and olfactory observations.

The central portion of the subject site was flooded with water and was inaccessible. Therefore, surficial soil samples were collected from this area via hand-digging two (2) test pits using shovel.

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 and sampling equipment including drill rigs, augers, drill pipes, drilling rods, split-spoons and shovel were decontaminated prior to initial use, between sampling locations and at the completion of drilling activities. The drilling and sampling equipment were manually scrubbed with a brush using a phosphate-free solution and power washed to remove any adhered soils, foreign material and potential contaminants. In addition, the spilt-spoon



sampler and any sub-sampling equipment were decontaminated prior to each usage.

Soil samples from the boreholes were retrieved at regular intervals, using a stainless steel split spoon soil sampler. Each discrete sample was handled by the sampler with new disposable gloves in order to avoid the risk of cross-contamination between the samples. Each soil sample was split with part of the sample sealed in a laboratory-prepared glass jar and stored in a cooler with ice, and the remainder of the sample sealed in a double sealable bag for vapour measurement and soil classification. 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 analyses.

The headspace vapour concentrations were measured using a portable RKI Eagle gas detector, TYPE 101 (Serial Number: E091015) set to include flammable gases with the exception of methane (methane elimination mode), and having a minimum detection level of 2 parts per million by volume (ppm). Prior to taking the measurements, the instrument was calibrated to hexane standards for both ppm and lower explosive level (LEL) scales according to the instruction manual for the instrument. Our technician was trained by the supplier for the proper calibration procedure. The instrument is calibrated or tuned up by the supplier (Pine Environmental Service Inc.) seasonally.

4.2 Monitoring Well Installation and Groundwater Sampling

Groundwater was not assessed as part of this investigation.



5.0 **SUBSOIL AND GROUNDWATER CONDITION**

5.1 **Geology**

The subsoil conditions at the borehole locations indicate earth fill to depths of ranging from 1.5 of 3.5 mbgs followed by native subsoil of silty sand to sandy silt, silty clay and silty clay till. The boreholes were terminated at depths of 4.6 mbgs. No bedrock was encountered during the investigation.

Detailed descriptions of the encountered subsurface conditions are presented on the Borehole Logs provided in Appendix 'A'.

5.2 **Hydrogeology**

Upon completion of the drilling, water levels were recorded at depths ranging from 0.6 to 2.7 mbgs, in the boreholes.

Groundwater was not investigated as part of the fill assessment.

5.3 **Head Space Vapour Readings**

Head space vapour screening was conducted for all retrieved soil samples using a combustible gas detector (RKI Eagle) in methane elimination mode, calibrated with hexane and having a minimum detection level of 2 ppm.

Soil vapour measurements ranged from non-detect to 85 ppm were recorded for the soil samples.



6.0 ANALYTICAL TESTING PROGRAM

6.1 Soil Samples

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.

Representative “worst case” soil samples from the sampling locations were selected based on the samples vapour measurements and visual and olfactory observations. The selected soil samples were submitted to the laboratory for chemical analyses of PHCs, PAHs, VOCs, and Metal and Inorganics. Details of soil analyses (including QA/QC samples) are presented in the table below:

Sample ID	Sample Depth (m)	Type of Material	Parameters of Testing
TP1/2	0.3 – 0.6	Silty Sand Fill	Metal and Inorganics
TP2/2	0.3 – 0.6	Silty Sand Fill	PHCs (F1-F4/BTEX)
DUP 1 (TP1/2)	0.3 – 0.6	Silty Sand Fill	Metals
BH1/3	1.5 – 2.1	Silty Sand Fill	PHCs (F1-F4/BTEX)
BH2/1B	0.3 – 0.6	Silty Sand Fill	PAHs
BH3/2	0.8 – 1.4	Silty Sand Fill	VOCs
BH4/4	2.3 – 2.9	Sandy Silt	VOCs
BH5/2	0.8 – 1.4	Silty Sand to Sand Fill	PAHs
BH5/3	1.5 – 2.1	Silty Sand to Sand Fill	Metal and Inorganics

6.2 Groundwater Samples

Groundwater was not assessed as part of this investigation.



7.0 RESULTS OF CHEMICAL ANALYSES

The soil samples were analysed by Maxxam Analytics Inc (Maxxam) in Mississauga, Ontario. Maxxam is accredited by Canadian Association for Laboratory Accreditation (CALA) in accordance with ISO/IEC 17025:2005 – “General Requirements for the Competence of Testing and Calibration Laboratories” for all the parameters analysed during this investigation. A copy of the laboratory Certificate of Analysis is enclosed in Appendix ‘B’.

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, as amended.

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

7.1 Soil Results

A total of nine (9) soil samples (including QA/QC samples) were submitted for analyses of PHCs, PAHs, VOCs and Metal and Inorganics.

A review of the analytical test results of soil samples indicates that the tested parameters at the test locations meet the Table 8 Standards, except marginally elevated level of total xylenes in soil sample retrieved from BH 1 location at a depth of 0.8 to 1.5 mbgs at the subject site. The concentration of Xylenes in the soil sample was 0.074ug/g compared to the Table 8 Standards at concentration 0.05ug/g.



7.2 Quality Assurance/Quality Control Results

As part of the QA/QC program for the investigation, a QC sample in the form of field duplicate sample was analysed. The field duplicate sample was collected in the field for metals in soil. Details of the QC sample is presented in the table above in the section 6 of this report.

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



8.0 SUMMARY

The objective of this investigation is to assess the environmental quality of fill material at the southern portion of the subject site.

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

- The field investigation consisted of drilling five (5) boreholes (designated as BH1 to BH5) to depths of 4.6 mbgs and two (2) hand-dug test pits to depths of 0.6 mbgs.
- The subsoil conditions at the borehole locations indicate earth fill to depths of ranging from 1.5 to 3.5 mbgs followed by native subsoil of silty sand to sandy silt, silty clay and silty clay till. The boreholes were terminated at depths of 4.6 mbgs. No bedrock was encountered during the investigation.
- 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.
- Head space vapour screening was conducted for all retrieved soil samples using a combustible gas detector (RKI Eagle) in methane elimination mode, calibrated with hexane and having a minimum detection level of 2 ppm. Soil vapour measurements ranged from non-detect to 85 ppm were recorded for the soil samples.
- Based on the soil vapour measurements and visual and olfactory observations, representative “worst case” soil samples were selected from each borehole for chemical analyses. A total of nine (9) soil samples including QA/QC samples were submitted for analyses of PHCs, VOCs, PAHs, and Metal and/or Inorganics.
- Upon completion of the drilling, water levels were recorded at depths ranging from 0.6 to 2.7 mbgs, in the boreholes.
- The analytical test results were reviewed using the Table 8, Generic Site Condition Standards for Use within 30m of a Water Body in a Potable Groundwater Condition for Residential/Parkland/Institutional/Industrial/Commercial/Community property use and for coarse textured soils (Table 8 Standards) as published in the “Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the



Environmental Protection Act”, April 15, 2011.

- A review of the analytical test results of soil samples indicates that the tested parameters at the test locations meet the Table 8 Standards, except marginally elevated level of total xylenes in soil sample retrieved from BH 1 location at a depth of 0.8 to 1.5 mbgs at the subject site. The concentration of Xylenes in the soil sample was 0.074ug/g compared to the Table 8 Standards at concentration 0.05ug/g.



9.0 **CONCLUSION AND RECOMMENDATION**

A review of the analytical test results of soil samples indicates that the tested parameters at the test locations meet the Table 8 Standards, except marginally elevated level of total xylenes in soil sample retrieved from BH 1 location at a depth of 0.8 to 1.5 mbgs at the subject site. The concentration of Xylenes in the soil sample was 0.074ug/g compared to the Table 8 Standards at concentration 0.05ug/g.

It is recommended additional soil sampling and testing be conducted around BH 1 location to confirm the concentration of Xylenes and it can be done at the time of the site development.

Please note the information supplied by our previous Environmental Research and this report, and their formats do not meet all the requirements as set out in the Ontario Regulation 153/04 (O. Reg. 153/04), as amended. Therefore, these reports cannot be used in support of filing of a Record of Site Condition (RSC) with the Brownfields Environmental Site Registry (ESR) of the Ministry of the Environment, Conservation and Parks (MECP).

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



10.0 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 10 people who are trained to understand the Ministry of the 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. Hamid Rezaei. He has a Master Degree in Geology from the University of Shahid Beheshti, Tehran, and was licensed to practice in Ontario (APGO Licence No. 2355). He has been trained to conduct Phase I and Phase II ESAs in accordance with the CSA Standards and O. Reg. 153/04, as amended.

Ms. Eleni Girma Beyene is an Environmental Department manager of Soil Engineers Ltd. She has a Bachelor's Degree in Civil Engineering from Mangalore University (India) and a Master's Degree in Geotechnical Engineering & Infrastructures from University of Hannover (Germany), and is licensed to practice in Ontario (PEO Licence 100068382). She has more than 15 years of experience in conducting ESAs, site decommissioning and site remediation (soil and groundwater) in Ontario. She manages the environmental department, oversaw the project and is involved in the technical review of 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 an Environmental Subsurface Investigation 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 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.

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

This report was prepared by Soil Engineers Ltd. for the account of Sussman Mortgage Funding Inc., c/o CB Land Management Inc. and for review by their designated agents, financial institutions and government agencies, and can be used for development approval purposes by the Township of Severn and their peer reviewer who may rely on the results of the report. Use of the report is subject to the conditions and limitations of the contractual agreement. The material in it reflects the judgement of Hamid Rezaei, M.Sc., P.Geo., and Eleni Girma Beyene, P.Eng., QP_{ESA}, in light of the information available to it at the time of preparation. Any use which a Third Party makes of this report, or any reliance on decisions to be made based on it, are 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.

SOIL ENGINEERS LTD.

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Eleni Girma Beyene, P. Eng., QP_{ESA}

MM/EGB:hr





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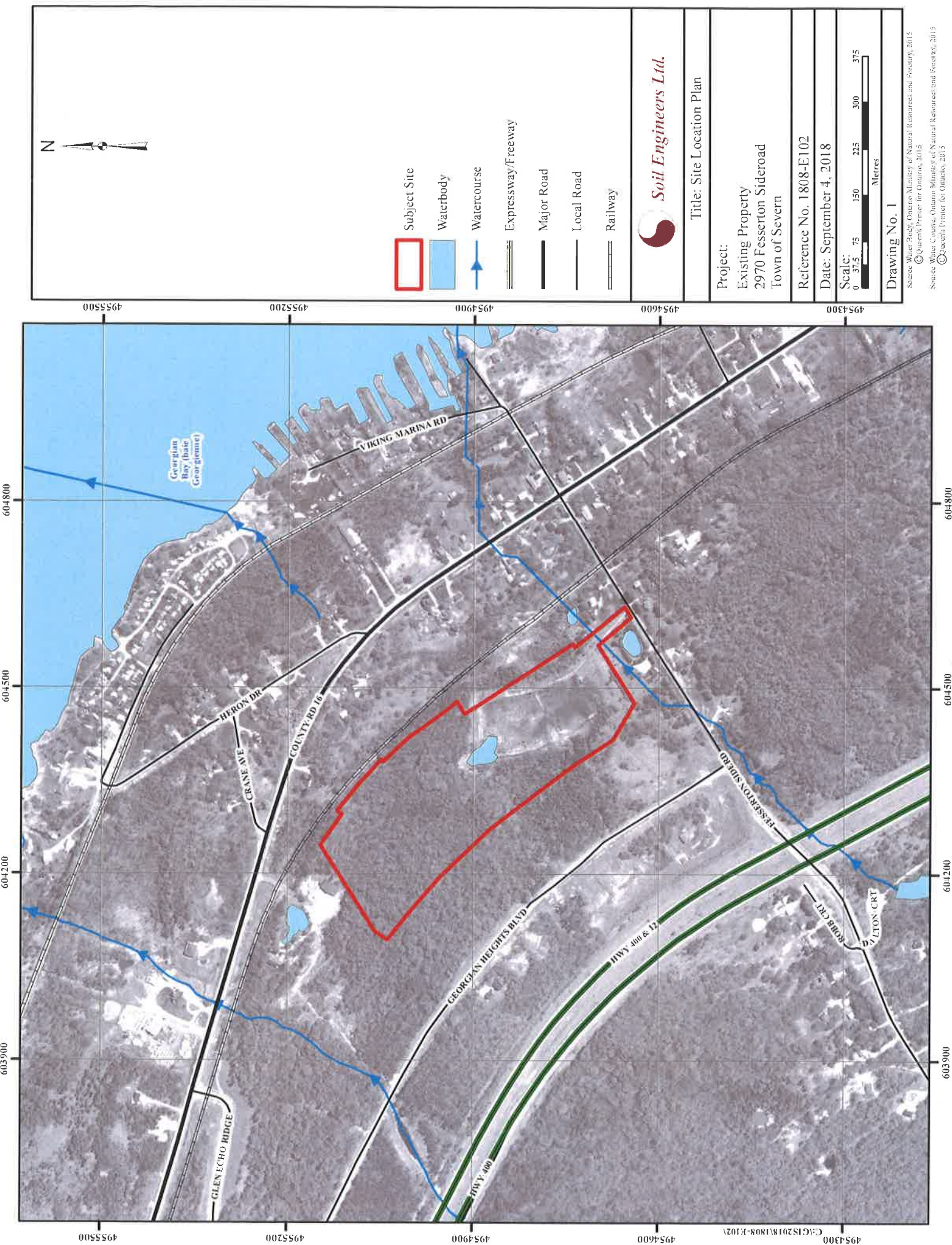
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DRAWINGS

REFERENCE NO. 1808-E102



- Subject Site
- Waterbody
- Watercourse
- Expressway/Freeeway
- Major Road
- Local Road
- Railway



Soil Engineers Ltd.

Title: Site Location Plan

Project:
Existing Property
2970 Fesserton Sideroad
Town of Severn

Reference No. 1808-E102

Date: September 4, 2018



Drawing No. 1

Source: Water Policy, Ontario Ministry of Natural Resources and Forestry, 2015
 © Queen's Printer for Ontario, 2015
 Source: Water Course, Ontario Ministry of Natural Resources and Forestry, 2015
 © Queen's Printer for Ontario, 2015

4954300 4954600 4954900 4955200 4955500

604800

604500

604200

603900

604800

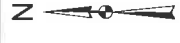
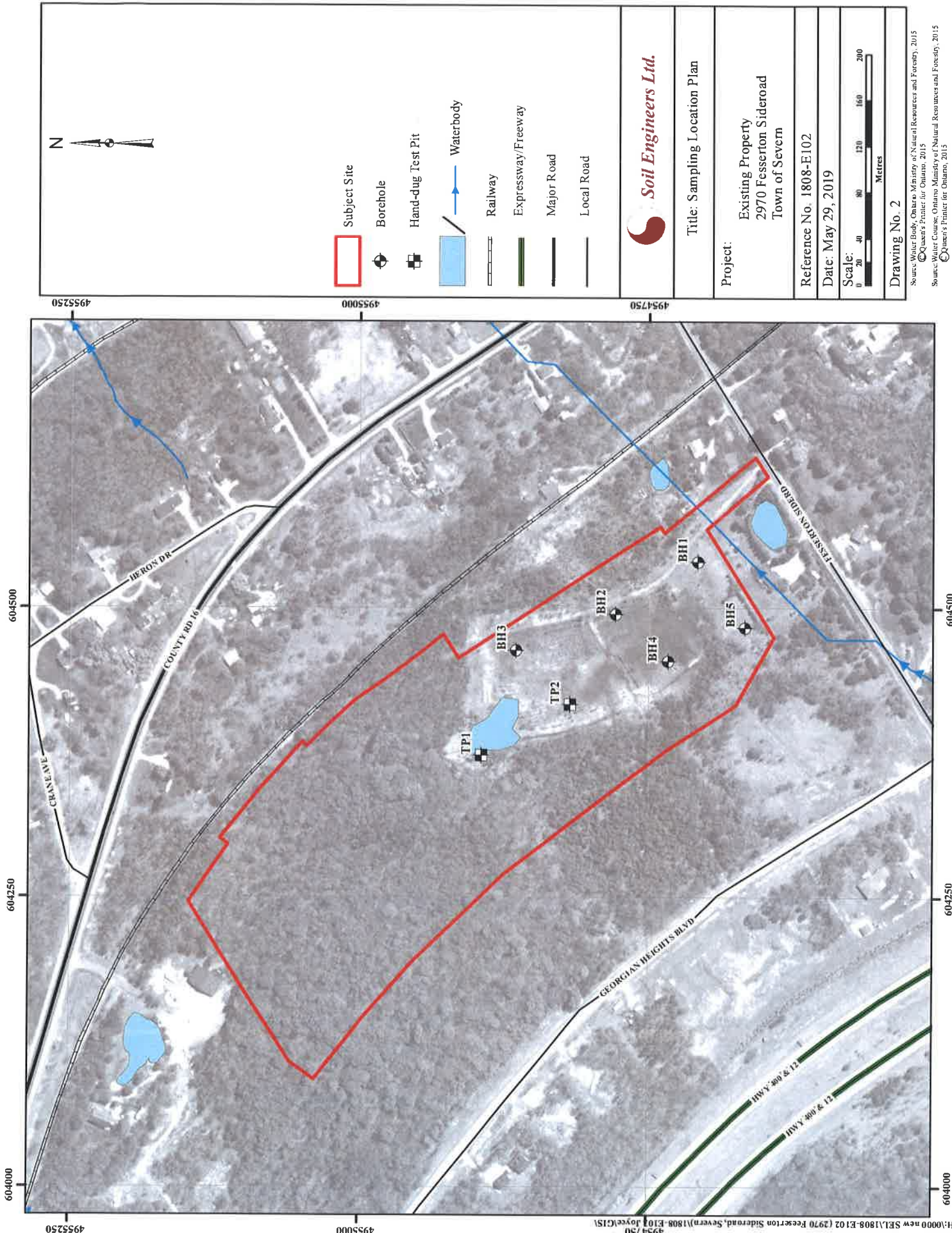
604500

604200

603900

4954300 4954600 4954900 4955200 4955500

C:\GIS\2018\1808-E102\



- Subject Site
- Borehole
- Hand-dug Test Pit
- Waterbody
- Railway
- Expressway/Freeway
- Major Road
- Local Road



Title: Sampling Location Plan

Project: Existing Property
2970 Fesserton Sideroad
Town of Severn

Reference No.: 1808-E102

Date: May 29, 2019

Scale: 0 20 40 80 120 160 200
Metres

Drawing No. 2

Source: Water Body, Ontario Ministry of Natural Resources and Forestry, 2015
 Source: Queen's Printer for Ontario, 2015
 Source: Water Course, Ontario Ministry of Natural Resources and Forestry, 2015
 Source: Queen's Printer for Ontario, 2015





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APPENDIX 'A'

BOREHOLE LOGS

REFERENCE NO. 1808-E102

JOB NO.: 1808-E102

LOG OF BOREHOLE NO.: 1

FIGURE NO.: 1

PROJECT DESCRIPTION: Existing Property

METHOD OF BORING: Flight Auger

PROJECT LOCATION: 2970 Fesserton Sideroad
Township of Severn

DRILLING DATE: December 3, 2018

El. (masl) Depth (mbgs)	SOIL DESCRIPTION	SAMPLES			Depth Scale (mbgs)	Combustible Headspace (ppm)	REMARKS	WATER LEVEL
		Number	Type	Gas Reading				
202.00	Ground Surface							
0.00	20 cm TOPSOIL							
201.80	Brown, moist to wet <u>some organics</u> SILTY SAND, Fill some gravel	1A	DO	5	0	5	BH1/3: PHCs	
0.20		1B	DO	5	0	5		
		2	DO	10	1	10		
	<u>some gravel</u>							
	<u>moist</u> <u>wet</u>							
		3	DO	10	2	10		
199.71	Brown, wet SILTY SAND	4A	DO	10	2	10		
2.29		4B	DO	5	2	5		
		5	DO	30	3	30		
		6	DO	20	4	20		
197.42	a trace of gravel END OF BOREHOLE				5			
4.57					6			



Soil Engineers Ltd.

JOB NO.: 1808-E102

LOG OF BOREHOLE NO.: 2

FIGURE NO.: 2

PROJECT DESCRIPTION: Existing Property

METHOD OF BORING: Flight Auger

PROJECT LOCATION: 2970 Fesserton Sideroad
Township of Severn

DRILLING DATE: December 3, 2018

El. (masl) Depth (mbgs)	SOIL DESCRIPTION	SAMPLES			Depth Scale (mbgs)	Combustible Headspace (ppm)	REMARKS	WATER LEVEL
		Number	Type	Gas Reading				
199.57 0.00	Ground Surface 20 cm TOPSOIL	1A	DO	0	0			
0.20	Brown to dark brown, moist to wet <u>some organics</u> SILTY SAND, Fill a trace of gravel	1B	DO	5	5		BH2/1B: PAHs ▼ W.L @ 0.61 mbgs Upon Completion	
		2	DO	5	1	5		
198.05 1.52	Grey, wet SILTY SAND a trace of gravel	3	DO	85	2	85		
197.28 2.29	Brown, moist SILTY CLAY some gravel	4	DO	10	2.5	10		
		5	DO	15	3.5	15		
195.76 3.81	Brownish-grey, moist SILTY SAND some gravel	6	DO	30	4.5	30		
195.00 4.57	END OF BOREHOLE				5			



Soil Engineers Ltd.

JOB NO.: 1808-E102

LOG OF BOREHOLE NO.: 3

FIGURE NO.: 3

PROJECT DESCRIPTION: Existing Property

METHOD OF BORING: Flight Auger

PROJECT LOCATION: 2970 Fesserton Sideroad
Township of Severn

DRILLING DATE: December 3, 2018

El. (masl) Depth (mbgs)	SOIL DESCRIPTION	SAMPLES			Depth Scale (mbgs)	COMBUSTIBLE HEADSPACE (ppm)	REMARKS	WATER LEVEL
		Number	Type	Gas Reading				
199.14	Ground Surface							
0.00	Brown, moist to wet SILTY SAND, Fill a trace of organics	1	DO	5	0	5	BH3/2: VOCs W.L @ 0.61 mbgs Upon Completion	
		2	DO	45	1	45		
197.61	Brown, moist to wet SANDY SILT a trace of clay	3	DO	15	2	15		
196.85	Brown, moist SILTY CLAY a trace of sand	4	DO	5	3	5		
	--- brown grey	5	DO	5	4	5		
195.33	Brown, moist to wet	6A	DO	50	5	50		
195.02	SILTY SAND, Till a trace of gravel Brown, dry	6B	DO	35	6	35		
194.56	SILTY CLAY, Till some gravel							
194.57	END OF BOREHOLE							



Soil Engineers Ltd.

JOB NO.: 1808-E102

LOG OF BOREHOLE NO.: 4

FIGURE NO.: 4

PROJECT DESCRIPTION: Existing Property

METHOD OF BORING: Flight Auger

PROJECT LOCATION: 2970 Fesserton Sideroad
Township of Severn

DRILLING DATE: December 3, 2018

El. (masl) Depth (mbgs)	SOIL DESCRIPTION	SAMPLES			Depth Scale (mbgs)	COMBUSTIBLE HEADSPACE (ppm)	REMARKS	WATER LEVEL
		Number	Type	Gas Reading				
201.68 0.00	Ground Surface							
	Brown, moist to wet SILTY CLAY, Fill some sand and gravel — some organics — brown, moist grey, wet	1	DO	35	0	● 35	BH4/4: VOCs	▼ W.L. @ 1.22 mbgs Upon Completion
		2	DO	5	1	● 5		
200.16 1.52	Brown, moist to wet SILTY SAND, Fill a trace of clay	3	DO	5	2	● 5		
199.39 2.29	Grey, moist SANDY SILT	4	DO	45		● 45		
198.63 3.05	Grey, moist SILT	5	DO	40	3	● 40		
198.02 3.66	Brown, moist SILTY SAND	6	DO	80	4	● 80		
4.57	END OF BOREHOLE				5			
					6			



Soil Engineers Ltd.

JOB NO.: 1808-E102

LOG OF BOREHOLE NO.: 5

FIGURE NO.: 5

PROJECT DESCRIPTION: Existing Property

METHOD OF BORING: Flight Auger

PROJECT LOCATION: 2970 Fesserton Sideroad
Township of Severn

DRILLING DATE: December 3, 2018

El. (masl) Depth (mbgs)	SOIL DESCRIPTION	SAMPLES			Depth Scale (mbgs)	Combustible Headspace (ppm)	REMARKS	WATER LEVEL
		Number	Type	Gas Reading				
203.87	Ground Surface							
0.00	20 cm TOPSOIL	1A	DO	0	0	0		
203.67	Dark brown, moist <u>some organics</u>	1B	DO	5	0.05	5		
0.20	SILTY SAND TO SAND, Fill some gravel							
	----- <u>clay granules</u>	2	DO	5	1.05	5	BH5/2: PAHs	
	----- <u>reddish</u>	3	DO	0	2.00	0	BH5/3: Metal and Inorganics	
		4A	DO	75	2.75	75		
		4B	DO	15	2.15	15		
200.87	Brown, wet				3.00			
3.00	SILTY CLAY, Till some sand and gravel	5	DO	35	3.35	35		
200.06	Grey, wet				4.00			
3.81	SAND silt seams and layers	6	DO	30	4.30	30		
199.29	END OF BOREHOLE				4.57			
4.57								

W.L. @ 2.74 mbgs Upon Completion ▼



Soil Engineers Ltd.



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CONSULTING ENGINEERS

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APPENDIX 'B'

CERTIFICATE OF ANALYSIS

REFERENCE NO. 1808-E102

Attention: Reza Moslemi

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

Report Date: 2018/12/11
Report #: R5520682
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8W3684

Received: 2018/12/04, 14:51

Sample Matrix: Soil
Samples Received: 9

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Methylnaphthalene Sum	2	N/A	2018/12/10	CAM SOP-00301	EPA 8270D m
Hot Water Extractable Boron	2	2018/12/08	2018/12/10	CAM SOP-00408	R153 Ana. Prot. 2011
1,3-Dichloropropene Sum	2	N/A	2018/12/11		EPA 8260C m
Free (WAD) Cyanide	2	2018/12/06	2018/12/07	CAM SOP-00457	OMOE E3015 m
Conductivity	2	2018/12/10	2018/12/10	CAM SOP-00414	OMOE E3530 v1 m
Hexavalent Chromium in Soil by IC (1)	2	2018/12/06	2018/12/10	CAM SOP-00436	EPA 3060/7199 m
Petroleum Hydro. CCME F1 & BTEX in Soil (2)	2	N/A	2018/12/08	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Soil (3)	1	2018/12/06	2018/12/08	CAM SOP-00316	CCME CWS m
Petroleum Hydrocarbons F2-F4 in Soil (3)	1	2018/12/08	2018/12/09	CAM SOP-00316	CCME CWS m
Strong Acid Leachable Metals by ICPMS	1	2018/12/07	2018/12/10	CAM SOP-00447	EPA 6020B m
Strong Acid Leachable Metals by ICPMS	2	2018/12/08	2018/12/10	CAM SOP-00447	EPA 6020B m
Moisture	4	N/A	2018/12/06	CAM SOP-00445	Carter 2nd ed 51.2 m
Moisture	4	N/A	2018/12/07	CAM SOP-00445	Carter 2nd ed 51.2 m
PAH Compounds in Soil by GC/MS (SIM)	2	2018/12/07	2018/12/08	CAM SOP-00318	EPA 8270D m
pH CaCl2 EXTRACT	2	2018/12/10	2018/12/10	CAM SOP-00413	EPA 9045 D m
Sodium Adsorption Ratio (SAR)	2	N/A	2018/12/10	CAM SOP-00102	EPA 6010C
Volatile Organic Compounds in Soil	2	N/A	2018/12/06	CAM SOP-00228	EPA 8260C m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam 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.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam 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 Maxxam, unless otherwise agreed in writing. Maxxam is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Your Project #: 1808-E102
Your C.O.C. #: 695059-01-01

Attention: Reza Moslemi

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

Report Date: 2018/12/11
Report #: R5520682
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8W3684

Received: 2018/12/04, 14:51

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 Maxxam, results relate to the supplied samples tested.

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

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

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

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

(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 Maxxam conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Encryption Key



Maxxam
11 Dec 2018 14:17:09

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====
This report has been generated and distributed using a secure automated process.

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

O.REG 153 ICPMS METALS (SOIL)

Maxxam ID			ILP618	ILP618		
Sampling Date			2018/12/03	2018/12/03		
COC Number			695059-01-01	695059-01-01		
	UNITS	Criteria	DUP S1	DUP S1 Lab-Dup	RDL	QC Batch
Metals						
Acid Extractable Antimony (Sb)	ug/g	1.3	<0.20	<0.20	0.20	5876588
Acid Extractable Arsenic (As)	ug/g	18	<1.0	<1.0	1.0	5876588
Acid Extractable Barium (Ba)	ug/g	220	32	33	0.50	5876588
Acid Extractable Beryllium (Be)	ug/g	2.5	<0.20	<0.20	0.20	5876588
Acid Extractable Boron (B)	ug/g	36	<5.0	<5.0	5.0	5876588
Acid Extractable Cadmium (Cd)	ug/g	1.2	<0.10	<0.10	0.10	5876588
Acid Extractable Chromium (Cr)	ug/g	70	8.9	8.2	1.0	5876588
Acid Extractable Cobalt (Co)	ug/g	21	2.5	2.4	0.10	5876588
Acid Extractable Copper (Cu)	ug/g	92	3.6	3.5	0.50	5876588
Acid Extractable Lead (Pb)	ug/g	120	1.4	1.7	1.0	5876588
Acid Extractable Molybdenum (Mo)	ug/g	2	<0.50	<0.50	0.50	5876588
Acid Extractable Nickel (Ni)	ug/g	82	4.0	4.0	0.50	5876588
Acid Extractable Selenium (Se)	ug/g	1.5	<0.50	<0.50	0.50	5876588
Acid Extractable Silver (Ag)	ug/g	0.5	<0.20	<0.20	0.20	5876588
Acid Extractable Thallium (Tl)	ug/g	1	<0.050	<0.050	0.050	5876588
Acid Extractable Uranium (U)	ug/g	2.5	0.36	0.31	0.050	5876588
Acid Extractable Vanadium (V)	ug/g	86	25	24	5.0	5876588
Acid Extractable Zinc (Zn)	ug/g	290	10	10	5.0	5876588
Acid Extractable Mercury (Hg)	ug/g	0.27	<0.050	<0.050	0.050	5876588
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						
Lab-Dup = Laboratory Initiated Duplicate						
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)						
Table 1: Full Depth Background Site Condition Standards						
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use						

O.REG 153 METALS & INORGANICS PKG (SOIL)

Maxxam ID			ILP613			ILP613			ILP617		
Sampling Date			2018/12/03 03:00			2018/12/03 03:00			2018/12/03 09:40		
COC Number			695059-01-01			695059-01-01			695059-01-01		
	UNITS	Criteria	TP1/2	RDL	QC Batch	TP1/2 Lab-Dup	RDL	QC Batch	BH5/3	RDL	QC Batch

Calculated Parameters											
Sodium Adsorption Ratio	N/A	2.4	0.41		5870695				0.38		5870695

Inorganics											
Conductivity	mS/cm	0.57	0.068	0.002	5879293				0.080	0.002	5879293
Moisture	%	-	18	1.0	5876651	18	1.0	5876651	17	1.0	5876651
WAD Cyanide (Free)	ug/g	0.051	<0.01	0.01	5874888				<0.01	0.01	5874888
Chromium (VI)	ug/g	0.66	<0.2	0.2	5875180				<0.2	0.2	5875180

Metals											
Hot Water Ext. Boron (B)	ug/g	-	<0.050	0.050	5878565				<0.050	0.050	5878565
Acid Extractable Antimony (Sb)	ug/g	1.3	<0.20	0.20	5878589				<0.20	0.20	5878589
Acid Extractable Arsenic (As)	ug/g	18	<1.0	1.0	5878589				<1.0	1.0	5878589
Acid Extractable Barium (Ba)	ug/g	220	28	0.50	5878589				18	0.50	5878589
Acid Extractable Beryllium (Be)	ug/g	2.5	<0.20	0.20	5878589				<0.20	0.20	5878589
Acid Extractable Boron (B)	ug/g	36	<5.0	5.0	5878589				<5.0	5.0	5878589
Acid Extractable Cadmium (Cd)	ug/g	1.2	<0.10	0.10	5878589				<0.10	0.10	5878589
Acid Extractable Chromium (Cr)	ug/g	70	8.3	1.0	5878589				7.0	1.0	5878589
Acid Extractable Cobalt (Co)	ug/g	21	2.2	0.10	5878589				2.0	0.10	5878589
Acid Extractable Copper (Cu)	ug/g	92	2.9	0.50	5878589				2.9	0.50	5878589
Acid Extractable Lead (Pb)	ug/g	120	1.1	1.0	5878589				<1.0	1.0	5878589
Acid Extractable Molybdenum (Mo)	ug/g	2	<0.50	0.50	5878589				<0.50	0.50	5878589
Acid Extractable Nickel (Ni)	ug/g	82	3.6	0.50	5878589				3.4	0.50	5878589
Acid Extractable Selenium (Se)	ug/g	1.5	<0.50	0.50	5878589				<0.50	0.50	5878589
Acid Extractable Silver (Ag)	ug/g	0.5	<0.20	0.20	5878589				<0.20	0.20	5878589
Acid Extractable Thallium (Tl)	ug/g	1	<0.050	0.050	5878589				<0.050	0.050	5878589
Acid Extractable Uranium (U)	ug/g	2.5	0.33	0.050	5878589				0.25	0.050	5878589
Acid Extractable Vanadium (V)	ug/g	86	27	5.0	5878589				20	5.0	5878589
Acid Extractable Zinc (Zn)	ug/g	290	9.2	5.0	5878589				7.1	5.0	5878589
Acid Extractable Mercury (Hg)	ug/g	0.27	<0.050	0.050	5878589				<0.050	0.050	5878589

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Lab-Dup = Laboratory Initiated Duplicate
 Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
 Table 1: Full Depth Background Site Condition Standards
 Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

O.REG 153 METALS & INORGANICS PKG (SOIL)

Maxxam ID			ILP617		
Sampling Date			2018/12/03 09:40		
COC Number			695059-01-01		
	UNITS	Criteria	BH5/3 Lab-Dup	RDL	QC Batch
Inorganics					
WAD Cyanide (Free)	ug/g	0.051	<0.01	0.01	5874888
Metals					
Acid Extractable Antimony (Sb)	ug/g	1.3	<0.20	0.20	5878589
Acid Extractable Arsenic (As)	ug/g	18	<1.0	1.0	5878589
Acid Extractable Barium (Ba)	ug/g	220	18	0.50	5878589
Acid Extractable Beryllium (Be)	ug/g	2.5	<0.20	0.20	5878589
Acid Extractable Boron (B)	ug/g	36	<5.0	5.0	5878589
Acid Extractable Cadmium (Cd)	ug/g	1.2	<0.10	0.10	5878589
Acid Extractable Chromium (Cr)	ug/g	70	6.7	1.0	5878589
Acid Extractable Cobalt (Co)	ug/g	21	1.8	0.10	5878589
Acid Extractable Copper (Cu)	ug/g	92	2.9	0.50	5878589
Acid Extractable Lead (Pb)	ug/g	120	<1.0	1.0	5878589
Acid Extractable Molybdenum (Mo)	ug/g	2	<0.50	0.50	5878589
Acid Extractable Nickel (Ni)	ug/g	82	3.3	0.50	5878589
Acid Extractable Selenium (Se)	ug/g	1.5	<0.50	0.50	5878589
Acid Extractable Silver (Ag)	ug/g	0.5	<0.20	0.20	5878589
Acid Extractable Thallium (Tl)	ug/g	1	<0.050	0.050	5878589
Acid Extractable Uranium (U)	ug/g	2.5	0.21	0.050	5878589
Acid Extractable Vanadium (V)	ug/g	86	18	5.0	5878589
Acid Extractable Zinc (Zn)	ug/g	290	7.1	5.0	5878589
Acid Extractable Mercury (Hg)	ug/g	0.27	<0.050	0.050	5878589
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate Criteria: Ontario Reg. 153/04 (Amended April 15, 2011) Table 1: Full Depth Background Site Condition Standards Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use					

O.REG 153 PAHS (SOIL)

Maxxam ID			ILP611		ILP616		
Sampling Date			2018/12/03 11:20		2018/12/03 09:30		
COC Number			695059-01-01		695059-01-01		
	UNITS	Criteria	BH2/1B	QC Batch	BH5/2	RDL	QC Batch
Inorganics							
Moisture	%	-	17	5876438	8.5	1.0	5875773
Calculated Parameters							
Methylnaphthalene, 2-(1-)	ug/g	0.59	<0.0071	5870500	<0.0071	0.0071	5870500
Polyaromatic Hydrocarbons							
Acenaphthene	ug/g	0.072	<0.0050	5876813	<0.0050	0.0050	5876813
Acenaphthylene	ug/g	0.093	<0.0050	5876813	<0.0050	0.0050	5876813
Anthracene	ug/g	0.16	<0.0050	5876813	<0.0050	0.0050	5876813
Benzo(a)anthracene	ug/g	0.36	<0.0050	5876813	<0.0050	0.0050	5876813
Benzo(a)pyrene	ug/g	0.3	<0.0050	5876813	<0.0050	0.0050	5876813
Benzo(b/j)fluoranthene	ug/g	0.47	<0.0050	5876813	<0.0050	0.0050	5876813
Benzo(g,h,i)perylene	ug/g	0.68	<0.0050	5876813	<0.0050	0.0050	5876813
Benzo(k)fluoranthene	ug/g	0.48	<0.0050	5876813	<0.0050	0.0050	5876813
Chrysene	ug/g	2.8	<0.0050	5876813	<0.0050	0.0050	5876813
Dibenz(a,h)anthracene	ug/g	0.1	<0.0050	5876813	<0.0050	0.0050	5876813
Fluoranthene	ug/g	0.56	<0.0050	5876813	<0.0050	0.0050	5876813
Fluorene	ug/g	0.12	<0.0050	5876813	<0.0050	0.0050	5876813
Indeno(1,2,3-cd)pyrene	ug/g	0.23	<0.0050	5876813	<0.0050	0.0050	5876813
1-Methylnaphthalene	ug/g	0.59	<0.0050	5876813	<0.0050	0.0050	5876813
2-Methylnaphthalene	ug/g	0.59	<0.0050	5876813	<0.0050	0.0050	5876813
Naphthalene	ug/g	0.09	<0.0050	5876813	<0.0050	0.0050	5876813
Phenanthrene	ug/g	0.69	<0.0050	5876813	<0.0050	0.0050	5876813
Pyrene	ug/g	1	<0.0050	5876813	<0.0050	0.0050	5876813
Surrogate Recovery (%)							
D10-Anthracene	%	-	99	5876813	99		5876813
D14-Terphenyl (FS)	%	-	94	5876813	88		5876813
D8-Acenaphthylene	%	-	100	5876813	104		5876813
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)							
Table 1: Full Depth Background Site Condition Standards							
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use							

O.REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam iD			ILP610		ILP614		
Sampling Date			2018/12/03 10:30		2018/12/03 03:30		
COC Number			695059-01-01		695059-01-01		
	UNITS	Criteria	BH1/3	QC Batch	TP2/2	RDL	QC Batch
Inorganics							
Moisture	%	-	15	5875773	16	1.0	5876438
BTEX & F1 Hydrocarbons							
Benzene	ug/g	0.02	<0.020	5877667	<0.020	0.020	5877667
Toluene	ug/g	0.2	<0.020	5877667	<0.020	0.020	5877667
Ethylbenzene	ug/g	0.05	<0.020	5877667	<0.020	0.020	5877667
o-Xylene	ug/g	-	0.022	5877667	<0.020	0.020	5877667
p+m-Xylene	ug/g	-	0.052	5877667	<0.040	0.040	5877667
Total Xylenes	ug/g	0.05	0.074	5877667	<0.040	0.040	5877667
F1 (C6-C10)	ug/g	25	<10	5877667	<10	10	5877667
F1 (C6-C10) - BTEX	ug/g	25	<10	5877667	<10	10	5877667
F2-F4 Hydrocarbons							
F2 (C10-C16 Hydrocarbons)	ug/g	10	<10	5875274	<10	10	5878625
F3 (C16-C34 Hydrocarbons)	ug/g	240	<50	5875274	<50	50	5878625
F4 (C34-C50 Hydrocarbons)	ug/g	120	<50	5875274	<50	50	5878625
Reached Baseline at C50	ug/g	-	Yes	5875274	Yes		5878625
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	-	106	5877667	106		5877667
4-Bromofluorobenzene	%	-	99	5877667	99		5877667
D10-Ethylbenzene	%	-	85	5877667	84		5877667
D4-1,2-Dichloroethane	%	-	102	5877667	102		5877667
o-Terphenyl	%	-	99	5875274	105		5878625
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)							
Table 1: Full Depth Background Site Condition Standards							
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use							

O.REG 153 VOCS BY HS (SOIL)

Maxxam ID			ILP612	ILP615		
Sampling Date			2018/12/03 12:00	2018/12/03 01:15		
COC Number			695059-01-01	695059-01-01		
	UNITS	Criteria	BH3/2	BH4/4	RDL	QC Batch
Inorganics						
Moisture	%	-	16	13	1.0	5875773
Calculated Parameters						
1,3-Dichloropropene (cis+trans)	ug/g	0.05	<0.050	<0.050	0.050	5869492
Volatile Organics						
Acetone (2-Propanone)	ug/g	0.5	<0.50	<0.50	0.50	5873828
Benzene	ug/g	0.02	<0.020	<0.020	0.020	5873828
Bromodichloromethane	ug/g	0.05	<0.050	<0.050	0.050	5873828
Bromoform	ug/g	0.05	<0.050	<0.050	0.050	5873828
Bromomethane	ug/g	0.05	<0.050	<0.050	0.050	5873828
Carbon Tetrachloride	ug/g	0.05	<0.050	<0.050	0.050	5873828
Chlorobenzene	ug/g	0.05	<0.050	<0.050	0.050	5873828
Chloroform	ug/g	0.05	<0.050	<0.050	0.050	5873828
Dibromochloromethane	ug/g	0.05	<0.050	<0.050	0.050	5873828
1,2-Dichlorobenzene	ug/g	0.05	<0.050	<0.050	0.050	5873828
1,3-Dichlorobenzene	ug/g	0.05	<0.050	<0.050	0.050	5873828
1,4-Dichlorobenzene	ug/g	0.05	<0.050	<0.050	0.050	5873828
Dichlorodifluoromethane (FREON 12)	ug/g	0.05	<0.050	<0.050	0.050	5873828
1,1-Dichloroethane	ug/g	0.05	<0.050	<0.050	0.050	5873828
1,2-Dichloroethane	ug/g	0.05	<0.050	<0.050	0.050	5873828
1,1-Dichloroethylene	ug/g	0.05	<0.050	<0.050	0.050	5873828
cis-1,2-Dichloroethylene	ug/g	0.05	<0.050	<0.050	0.050	5873828
trans-1,2-Dichloroethylene	ug/g	0.05	<0.050	<0.050	0.050	5873828
1,2-Dichloropropane	ug/g	0.05	<0.050	<0.050	0.050	5873828
cis-1,3-Dichloropropene	ug/g	0.05	<0.030	<0.030	0.030	5873828
trans-1,3-Dichloropropene	ug/g	0.05	<0.040	<0.040	0.040	5873828
Ethylbenzene	ug/g	0.05	<0.020	<0.020	0.020	5873828
Ethylene Dibromide	ug/g	0.05	<0.050	<0.050	0.050	5873828
Hexane	ug/g	0.05	<0.050	<0.050	0.050	5873828
Methylene Chloride(Dichloromethane)	ug/g	0.05	<0.050	<0.050	0.050	5873828
Methyl Ethyl Ketone (2-Butanone)	ug/g	0.5	<0.50	<0.50	0.50	5873828
Methyl Isobutyl Ketone	ug/g	0.5	<0.50	<0.50	0.50	5873828
Methyl t-butyl ether (MTBE)	ug/g	0.05	<0.050	<0.050	0.050	5873828
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)						
Table 1: Full Depth Background Site Condition Standards						
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use						

O.REG 153 VOCS BY HS (SOIL)

Maxxam ID			ILP612	ILP615		
Sampling Date			2018/12/03 12:00	2018/12/03 01:15		
COC Number			695059-01-01	695059-01-01		
	UNITS	Criteria	BH3/2	BH4/4	RDL	QC Batch
Styrene	ug/g	0.05	<0.050	<0.050	0.050	5873828
1,1,1,2-Tetrachloroethane	ug/g	0.05	<0.050	<0.050	0.050	5873828
1,1,2,2-Tetrachloroethane	ug/g	0.05	<0.050	<0.050	0.050	5873828
Tetrachloroethylene	ug/g	0.05	<0.050	<0.050	0.050	5873828
Toluene	ug/g	0.2	<0.020	<0.020	0.020	5873828
1,1,1-Trichloroethane	ug/g	0.05	<0.050	<0.050	0.050	5873828
1,1,2-Trichloroethane	ug/g	0.05	<0.050	<0.050	0.050	5873828
Trichloroethylene	ug/g	0.05	<0.050	<0.050	0.050	5873828
Trichlorofluoromethane (FREON 11)	ug/g	0.25	<0.050	<0.050	0.050	5873828
Vinyl Chloride	ug/g	0.02	<0.020	<0.020	0.020	5873828
p+m-Xylene	ug/g	-	<0.020	<0.020	0.020	5873828
o-Xylene	ug/g	-	<0.020	<0.020	0.020	5873828
Total Xylenes	ug/g	0.05	<0.020	<0.020	0.020	5873828
Surrogate Recovery (%)						
4-Bromofluorobenzene	%	-	94	95		5873828
D10-o-Xylene	%	-	91	90		5873828
D4-1,2-Dichloroethane	%	-	101	102		5873828
D8-Toluene	%	-	114	114		5873828
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)						
Table 1: Full Depth Background Site Condition Standards						
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use						

RESULTS OF ANALYSES OF SOIL

Maxxam ID		ILP613	ILP617	
Sampling Date		2018/12/03 03:00	2018/12/03 09:40	
COC Number		695059-01-01	695059-01-01	
	UNITS	TP1/2	BH5/3	QC Batch
Inorganics				
Available (CaCl2) pH	pH	7.57	7.56	5876930
QC Batch = Quality Control Batch				

TEST SUMMARY

Maxxam ID: ILP610
Sample ID: BH1/3
Matrix: Soil

Collected: 2018/12/03
Shipped:
Received: 2018/12/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	5877667	N/A	2018/12/08	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	5875274	2018/12/06	2018/12/08	Dorina Popa
Moisture	BAL	5875773	N/A	2018/12/06	Min Yang

Maxxam ID: ILP611
Sample ID: BH2/1B
Matrix: Soil

Collected: 2018/12/03
Shipped:
Received: 2018/12/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	5870500	N/A	2018/12/10	Automated Statchk
Moisture	BAL	5876438	N/A	2018/12/07	Chun Yan
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	5876813	2018/12/07	2018/12/08	Mitesh Raj

Maxxam ID: ILP612
Sample ID: BH3/2
Matrix: Soil

Collected: 2018/12/03
Shipped:
Received: 2018/12/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	5869492	N/A	2018/12/11	Automated Statchk
Moisture	BAL	5875773	N/A	2018/12/06	Min Yang
Volatile Organic Compounds in Soil	GC/MS	5873828	N/A	2018/12/06	Rebecca McClean

Maxxam ID: ILP613
Sample ID: TP1/2
Matrix: Soil

Collected: 2018/12/03
Shipped:
Received: 2018/12/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	5878565	2018/12/08	2018/12/10	Jolly John
Free (WAD) Cyanide	TECH	5874888	2018/12/06	2018/12/07	Louise Harding
Conductivity	AT	5879293	2018/12/10	2018/12/10	Kazzandra Adeva
Hexavalent Chromium in Soil by IC	IC/SPEC	5875180	2018/12/06	2018/12/10	Sally Norouz
Strong Acid Leachable Metals by ICPMS	ICP/MS	5878589	2018/12/08	2018/12/10	Thao Nguyen
Moisture	BAL	5876651	N/A	2018/12/07	Navjot Kaur Gill
pH CaCl2 EXTRACT	AT	5876930	2018/12/10	2018/12/10	Gnana Thomas
Sodium Adsorption Ratio (SAR)	CALC/MET	5870695	N/A	2018/12/10	Automated Statchk

Maxxam ID: ILP613 Dup
Sample ID: TP1/2
Matrix: Soil

Collected: 2018/12/03
Shipped:
Received: 2018/12/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5876651	N/A	2018/12/07	Navjot Kaur Gill

TEST SUMMARY

Maxxam ID: ILP614
Sample ID: TP2/2
Matrix: Soil

Collected: 2018/12/03
Shipped:
Received: 2018/12/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	5877667	N/A	2018/12/08	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	5878625	2018/12/08	2018/12/09	Jeevaraj Jeevaratnam
Moisture	BAL	5876438	N/A	2018/12/07	Chun Yan

Maxxam ID: ILP615
Sample ID: BH4/4
Matrix: Soil

Collected: 2018/12/03
Shipped:
Received: 2018/12/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	5869492	N/A	2018/12/11	Automated Statchk
Moisture	BAL	5875773	N/A	2018/12/06	Min Yang
Volatile Organic Compounds in Soil	GC/MS	5873828	N/A	2018/12/06	Rebecca McClean

Maxxam ID: ILP616
Sample ID: BH5/2
Matrix: Soil

Collected: 2018/12/03
Shipped:
Received: 2018/12/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	5870500	N/A	2018/12/10	Automated Statchk
Moisture	BAL	5875773	N/A	2018/12/06	Min Yang
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	5876813	2018/12/07	2018/12/08	Mitesh Raj

Maxxam ID: ILP617
Sample ID: BH5/3
Matrix: Soil

Collected: 2018/12/03
Shipped:
Received: 2018/12/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	5878565	2018/12/08	2018/12/10	Jolly John
Free (WAD) Cyanide	TECH	5874888	2018/12/06	2018/12/07	Louise Harding
Conductivity	AT	5879293	2018/12/10	2018/12/10	Kazzandra Adeva
Hexavalent Chromium in Soil by IC	IC/SPEC	5875180	2018/12/06	2018/12/10	Sally Norouz
Strong Acid Leachable Metals by ICPMS	ICP/MS	5878589	2018/12/08	2018/12/10	Thao Nguyen
Moisture	BAL	5876651	N/A	2018/12/07	Navjot Kaur Gill
pH CaCl2 EXTRACT	AT	5876930	2018/12/10	2018/12/10	Gnana Thomas
Sodium Adsorption Ratio (SAR)	CALC/MET	5870695	N/A	2018/12/10	Automated Statchk

Maxxam ID: ILP617 Dup
Sample ID: BH5/3
Matrix: Soil

Collected: 2018/12/03
Shipped:
Received: 2018/12/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	5874888	2018/12/06	2018/12/07	Louise Harding
Strong Acid Leachable Metals by ICPMS	ICP/MS	5878589	2018/12/08	2018/12/10	Thao Nguyen



Maxxam Job #: B8W3684
Report Date: 2018/12/11

Soil Engineers Ltd
Client Project #: 1808-E102
Sampler Initials: OG

TEST SUMMARY

Maxxam ID: ILP618
Sample ID: DUP S1
Matrix: Soil

Collected: 2018/12/03
Shipped:
Received: 2018/12/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Strong Acid Leachable Metals by ICPMS	ICP/MS	5876588	2018/12/07	2018/12/10	Thao Nguyen

Maxxam ID: ILP618 Dup
Sample ID: DUP S1
Matrix: Soil

Collected: 2018/12/03
Shipped:
Received: 2018/12/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Strong Acid Leachable Metals by ICPMS	ICP/MS	5876588	2018/12/07	2018/12/10	Thao Nguyen

GENERAL COMMENTS

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

Package 1	0.3°C
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Sample ILP613 [TP1/2] : SAR Analysis: Sodium was not detected. To report SAR the sodium detection limit was used in the calculation. This value represents a maximum ratio.

Sample ILP617 [BH5/3] : SAR Analysis: Sodium was not detected. To report SAR the sodium detection limit was used in the calculation. This value represents a maximum ratio.

Results relate only to the items tested.

QUALITY ASSURANCE REPORT

Soil Engineers Ltd
Client Project #: 1808-E102
Sampler Initials: OG

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
5873828	4-Bromofluorobenzene	2018/12/06	97	60 - 140	102	60 - 140	95	%		
5873828	D10-o-Xylene	2018/12/06	114	60 - 130	107	60 - 130	98	%		
5873828	D4-1,2-Dichloroethane	2018/12/06	96	60 - 140	100	60 - 140	107	%		
5873828	D8-Toluene	2018/12/06	109	60 - 140	104	60 - 140	94	%		
5875274	o-Terphenyl	2018/12/07	101	60 - 130	101	60 - 130	100	%		
5876813	D10-Anthracene	2018/12/07	93	50 - 130	93	50 - 130	89	%		
5876813	D14-Terphenyl (FS)	2018/12/07	94	50 - 130	94	50 - 130	89	%		
5876813	D8-Acenaphthylene	2018/12/07	98	50 - 130	96	50 - 130	94	%		
5877667	1,4-Difluorobenzene	2018/12/07	105	60 - 140	102	60 - 140	103	%		
5877667	4-Bromofluorobenzene	2018/12/07	100	60 - 140	95	60 - 140	95	%		
5877667	D10-Ethylbenzene	2018/12/07	90	60 - 140	93	60 - 140	85	%		
5877667	D4-1,2-Dichloroethane	2018/12/07	102	60 - 140	102	60 - 140	100	%		
5878625	o-Terphenyl	2018/12/08	114	60 - 130	106	60 - 130	100	%		
5873828	1,1,1,2-Tetrachloroethane	2018/12/06	100	60 - 140	97	60 - 130	<0.050	ug/g	NC	50
5873828	1,1,1-Trichloroethane	2018/12/06	100	60 - 140	94	60 - 130	<0.050	ug/g	NC	50
5873828	1,1,2,2-Tetrachloroethane	2018/12/06	94	60 - 140	98	60 - 130	<0.050	ug/g	NC	50
5873828	1,1,2-Trichloroethane	2018/12/06	97	60 - 140	96	60 - 130	<0.050	ug/g	NC	50
5873828	1,1-Dichloroethane	2018/12/06	97	60 - 140	92	60 - 130	<0.050	ug/g	NC	50
5873828	1,1-Dichloroethylene	2018/12/06	98	60 - 140	91	60 - 130	<0.050	ug/g	NC	50
5873828	1,2-Dichlorobenzene	2018/12/06	96	60 - 140	93	60 - 130	<0.050	ug/g	NC	50
5873828	1,2-Dichloroethane	2018/12/06	91	60 - 140	93	60 - 130	<0.050	ug/g	NC	50
5873828	1,2-Dichloropropane	2018/12/06	95	60 - 140	94	60 - 130	<0.050	ug/g	NC	50
5873828	1,3-Dichlorobenzene	2018/12/06	96	60 - 140	94	60 - 130	<0.050	ug/g	NC	50
5873828	1,4-Dichlorobenzene	2018/12/06	95	60 - 140	95	60 - 130	<0.050	ug/g	NC	50
5873828	Acetone (2-Propanone)	2018/12/06	91	60 - 140	92	60 - 140	<0.50	ug/g	NC	50
5873828	Benzene	2018/12/06	94	60 - 140	91	60 - 130	<0.020	ug/g	NC	50
5873828	Bromodichloromethane	2018/12/06	92	60 - 140	94	60 - 130	<0.050	ug/g	NC	50
5873828	Bromoform	2018/12/06	92	60 - 140	96	60 - 130	<0.050	ug/g	NC	50
5873828	Bromomethane	2018/12/06	91	60 - 140	91	60 - 140	<0.050	ug/g	NC	50
5873828	Carbon Tetrachloride	2018/12/06	98	60 - 140	93	60 - 130	<0.050	ug/g	NC	50
5873828	Chlorobenzene	2018/12/06	96	60 - 140	93	60 - 130	<0.050	ug/g	NC	50
5873828	Chloroform	2018/12/06	95	60 - 140	94	60 - 130	<0.050	ug/g	NC	50

QUALITY ASSURANCE REPORT(CONT'D)

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
5873828	cis-1,2-Dichloroethylene	2018/12/06	95	60 - 140	95	60 - 130	<0.050	ug/g	NC	50
5873828	cis-1,3-Dichloropropene	2018/12/06	74	60 - 140	90	60 - 130	<0.030	ug/g	NC	50
5873828	Dibromochloromethane	2018/12/06	95	60 - 140	95	60 - 130	<0.050	ug/g	NC	50
5873828	Dichlorodifluoromethane (FREON 12)	2018/12/06	100	60 - 140	87	60 - 140	<0.050	ug/g	NC	50
5873828	Ethylbenzene	2018/12/06	99	60 - 140	92	60 - 130	<0.020	ug/g	NC	50
5873828	Ethylene Dibromide	2018/12/06	95	60 - 140	95	60 - 130	<0.050	ug/g	NC	50
5873828	Hexane	2018/12/06	103	60 - 140	93	60 - 130	<0.050	ug/g	NC	50
5873828	Methyl Ethyl Ketone (2-Butanone)	2018/12/06	89	60 - 140	95	60 - 140	<0.50	ug/g	NC	50
5873828	Methyl Isobutyl Ketone	2018/12/06	92	60 - 140	101	60 - 130	<0.50	ug/g	NC	50
5873828	Methyl t-butyl ether (MTBE)	2018/12/06	94	60 - 140	90	60 - 130	<0.050	ug/g	NC	50
5873828	Methylene Chloride(Dichloromethane)	2018/12/06	100	60 - 140	98	60 - 130	<0.050	ug/g	NC	50
5873828	o-Xylene	2018/12/06	99	60 - 140	94	60 - 130	<0.020	ug/g	NC	50
5873828	p-m-Xylene	2018/12/06	99	60 - 140	94	60 - 130	<0.020	ug/g	NC	50
5873828	Styrene	2018/12/06	100	60 - 140	99	60 - 130	<0.050	ug/g	NC	50
5873828	Tetrachloroethylene	2018/12/06	98	60 - 140	95	60 - 130	<0.050	ug/g	NC	50
5873828	Toluene	2018/12/06	99	60 - 140	92	60 - 130	<0.020	ug/g	NC	50
5873828	Total Xylenes	2018/12/06					<0.020	ug/g	NC	50
5873828	trans-1,2-Dichloroethylene	2018/12/06	91	60 - 140	92	60 - 130	<0.050	ug/g	NC	50
5873828	trans-1,3-Dichloropropene	2018/12/06	77	60 - 140	93	60 - 130	<0.040	ug/g	NC	50
5873828	Trichloroethylene	2018/12/06	94	60 - 140	94	60 - 130	<0.050	ug/g	NC	50
5873828	Trichlorofluoromethane (FREON 11)	2018/12/06	102	60 - 140	94	60 - 130	<0.050	ug/g	NC	50
5873828	Vinyl Chloride	2018/12/06	97	60 - 140	89	60 - 130	<0.020	ug/g	NC	50
5874888	WAD Cyanide (Free)	2018/12/07	93	75 - 125	97	80 - 120	<0.01	ug/g	NC	35
5875180	Chromium (VI)	2018/12/10	92	70 - 130	90	80 - 120	<0.2	ug/g	NC	35
5875274	F2 (C10-C16 Hydrocarbons)	2018/12/08	101	50 - 130	100	80 - 120	<10	ug/g	NC	30
5875274	F3 (C16-C34 Hydrocarbons)	2018/12/08	102	50 - 130	101	80 - 120	<50	ug/g	NC	30
5875274	F4 (C34-C50 Hydrocarbons)	2018/12/08	97	50 - 130	98	80 - 120	<50	ug/g	NC	30
5875773	Moisture	2018/12/06							1.9	20
5876438	Moisture	2018/12/07							3.4	20
5876588	Acid Extractable Antimony (Sb)	2018/12/10	92	75 - 125	103	80 - 120	<0.20	ug/g	NC	30
5876588	Acid Extractable Arsenic (As)	2018/12/10	97	75 - 125	103	80 - 120	<1.0	ug/g	NC	30
5876588	Acid Extractable Barium (Ba)	2018/12/10	NC	75 - 125	98	80 - 120	<0.50	ug/g	2.1	30

QUALITY ASSURANCE REPORT(CONT'D)

Soil Engineers Ltd
Client Project #: 1808-E102
Sampler Initials: OG

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
5876588	Acid Extractable Beryllium (Be)	2018/12/10	90	75 - 125	98	80 - 120	<0.20	ug/g	NC	30
5876588	Acid Extractable Boron (B)	2018/12/10	87	75 - 125	92	80 - 120	<5.0	ug/g	NC	30
5876588	Acid Extractable Cadmium (Cd)	2018/12/10	89	75 - 125	96	80 - 120	<0.10	ug/g	NC	30
5876588	Acid Extractable Chromium (Cr)	2018/12/10	88	75 - 125	99	80 - 120	<1.0	ug/g	8.2	30
5876588	Acid Extractable Cobalt (Co)	2018/12/10	87	75 - 125	96	80 - 120	<0.10	ug/g	5.0	30
5876588	Acid Extractable Copper (Cu)	2018/12/10	86	75 - 125	97	80 - 120	<0.50	ug/g	2.5	30
5876588	Acid Extractable Lead (Pb)	2018/12/10	87	75 - 125	96	80 - 120	<1.0	ug/g	18	30
5876588	Acid Extractable Mercury (Hg)	2018/12/10	80	75 - 125	86	80 - 120	<0.050	ug/g	NC	30
5876588	Acid Extractable Molybdenum (Mo)	2018/12/10	92	75 - 125	97	80 - 120	<0.50	ug/g	NC	30
5876588	Acid Extractable Nickel (Ni)	2018/12/10	87	75 - 125	96	80 - 120	<0.50	ug/g	1.3	30
5876588	Acid Extractable Selenium (Se)	2018/12/10	94	75 - 125	99	80 - 120	<0.50	ug/g	NC	30
5876588	Acid Extractable Silver (Ag)	2018/12/10	91	75 - 125	97	80 - 120	<0.20	ug/g	NC	30
5876588	Acid Extractable Thallium (Tl)	2018/12/10	88	75 - 125	97	80 - 120	<0.050	ug/g	NC	30
5876588	Acid Extractable Uranium (U)	2018/12/10	83	75 - 125	91	80 - 120	<0.050	ug/g	14	30
5876588	Acid Extractable Vanadium (V)	2018/12/10	86	75 - 125	99	80 - 120	<5.0	ug/g	4.8	30
5876588	Acid Extractable Zinc (Zn)	2018/12/10	92	75 - 125	96	80 - 120	<5.0	ug/g	1.9	30
5876651	Moisture	2018/12/07							0.55	20
5876813	1-Methylnaphthalene	2018/12/07	102	50 - 130	103	50 - 130	<0.0050	ug/g	NC	40
5876813	2-Methylnaphthalene	2018/12/07	92	50 - 130	92	50 - 130	<0.0050	ug/g	NC	40
5876813	Acenaphthene	2018/12/07	94	50 - 130	93	50 - 130	<0.0050	ug/g	NC	40
5876813	Acenaphthylene	2018/12/07	99	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
5876813	Anthracene	2018/12/07	96	50 - 130	92	50 - 130	<0.0050	ug/g	NC	40
5876813	Benzo(a)anthracene	2018/12/07	111	50 - 130	107	50 - 130	<0.0050	ug/g	NC	40
5876813	Benzo(a)pyrene	2018/12/07	98	50 - 130	97	50 - 130	<0.0050	ug/g	NC	40
5876813	Benzo(b,j)fluoranthene	2018/12/07	97	50 - 130	102	50 - 130	<0.0050	ug/g	NC	40
5876813	Benzo(g,h,i)perylene	2018/12/07	86	50 - 130	88	50 - 130	<0.0050	ug/g	NC	40
5876813	Benzo(k)fluoranthene	2018/12/07	89	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
5876813	Chrysene	2018/12/07	99	50 - 130	98	50 - 130	<0.0050	ug/g	NC	40
5876813	Dibenz(a,h)anthracene	2018/12/07	90	50 - 130	79	50 - 130	<0.0050	ug/g	NC	40
5876813	Fluoranthene	2018/12/07	111	50 - 130	108	50 - 130	<0.0050	ug/g	NC	40
5876813	Fluorene	2018/12/07	89	50 - 130	92	50 - 130	<0.0050	ug/g	NC	40
5876813	Indeno(1,2,3-cd)pyrene	2018/12/07	92	50 - 130	86	50 - 130	<0.0050	ug/g	NC	40

QUALITY ASSURANCE REPORT(CONT'D)

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
5876813	Naphthalene	2018/12/07	83	50 - 130	83	50 - 130	<0.0050	ug/g	NC	40
5876813	Phenanthrene	2018/12/07	98	50 - 130	96	50 - 130	<0.0050	ug/g	NC	40
5876813	Pyrene	2018/12/07	107	50 - 130	104	50 - 130	<0.0050	ug/g	NC	40
5876930	Available (CaCl2) pH	2018/12/10			100	97 - 103			0.13	N/A
5877667	Benzene	2018/12/07	79	60 - 140	95	60 - 140	<0.020	ug/g	NC	50
5877667	Ethylbenzene	2018/12/07	82	60 - 140	90	60 - 140	<0.020	ug/g	NC	50
5877667	F1 (C6-C10) - BTEX	2018/12/07					<10	ug/g	5.5	30
5877667	F1 (C6-C10)	2018/12/07	63	60 - 140	96	80 - 120	<10	ug/g	5.4	30
5877667	o-Xylene	2018/12/07	82	60 - 140	87	60 - 140	<0.020	ug/g	NC	50
5877667	p+m-Xylene	2018/12/07	83	60 - 140	88	60 - 140	<0.040	ug/g	NC	50
5877667	Toluene	2018/12/07	79	60 - 140	90	60 - 140	<0.020	ug/g	3.1	50
5877667	Total Xylenes	2018/12/07					<0.040	ug/g	NC	50
5878565	Hot Water Ext. Boron (B)	2018/12/10	98	75 - 125	98	75 - 125	<0.050	ug/g	NC	40
5878589	Acid Extractable Antimony (Sb)	2018/12/10	96	75 - 125	105	80 - 120	<0.20	ug/g	NC	30
5878589	Acid Extractable Arsenic (As)	2018/12/10	98	75 - 125	109	80 - 120	<1.0	ug/g	NC	30
5878589	Acid Extractable Barium (Ba)	2018/12/10	92	75 - 125	101	80 - 120	<0.50	ug/g	0.90	30
5878589	Acid Extractable Beryllium (Be)	2018/12/10	93	75 - 125	100	80 - 120	<0.20	ug/g	NC	30
5878589	Acid Extractable Boron (B)	2018/12/10	91	75 - 125	97	80 - 120	<5.0	ug/g	NC	30
5878589	Acid Extractable Cadmium (Cd)	2018/12/10	94	75 - 125	101	80 - 120	<0.10	ug/g	NC	30
5878589	Acid Extractable Chromium (Cr)	2018/12/10	95	75 - 125	101	80 - 120	<1.0	ug/g	3.9	30
5878589	Acid Extractable Cobalt (Co)	2018/12/10	92	75 - 125	101	80 - 120	<0.10	ug/g	13	30
5878589	Acid Extractable Copper (Cu)	2018/12/10	93	75 - 125	99	80 - 120	<0.50	ug/g	1.5	30
5878589	Acid Extractable Lead (Pb)	2018/12/10	91	75 - 125	98	80 - 120	<1.0	ug/g	NC	30
5878589	Acid Extractable Mercury (Hg)	2018/12/10	83	75 - 125	92	80 - 120	<0.050	ug/g	NC	30
5878589	Acid Extractable Molybdenum (Mo)	2018/12/10	96	75 - 125	102	80 - 120	<0.50	ug/g	NC	30
5878589	Acid Extractable Nickel (Ni)	2018/12/10	91	75 - 125	99	80 - 120	<0.50	ug/g	4.9	30
5878589	Acid Extractable Selenium (Se)	2018/12/10	96	75 - 125	103	80 - 120	<0.50	ug/g	NC	30
5878589	Acid Extractable Silver (Ag)	2018/12/10	92	75 - 125	100	80 - 120	<0.20	ug/g	NC	30
5878589	Acid Extractable Thallium (Tl)	2018/12/10	92	75 - 125	99	80 - 120	<0.050	ug/g	NC	30
5878589	Acid Extractable Uranium (U)	2018/12/10	85	75 - 125	91	80 - 120	<0.050	ug/g	21	30
5878589	Acid Extractable Vanadium (V)	2018/12/10	88	75 - 125	100	80 - 120	<5.0	ug/g	9.3	30
5878589	Acid Extractable Zinc (Zn)	2018/12/10	100	75 - 125	95	80 - 120	<5.0	ug/g	0.084	30

QUALITY ASSURANCE REPORT(CONT'D)

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
5878625	F2 (C10-C16 Hydrocarbons)	2018/12/09	NC	50 - 130	106	80 - 120	<10	ug/g	6.6	30
5878625	F3 (C16-C34 Hydrocarbons)	2018/12/09	95	50 - 130	105	80 - 120	<50	ug/g	6.2	30
5878625	F4 (C34-C50 Hydrocarbons)	2018/12/09	NC	50 - 130	104	80 - 120	<50	ug/g	5.2	30
5879293	Conductivity	2018/12/10			105	90 - 110	<0.002	mS/cm	0.28	10

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).

VALIDATION SIGNATURE PAGE

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



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

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

**Exceedence Summary Table – Reg153/04 T1-Soil/Res
Result Exceedences**

Sample ID	Maxxam ID	Parameter	Criteria	Result	DL	Units
BH1/3	ILP610-02	Total Xylenes	0.05	0.074	0.040	ug/g
The exceedence summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.						

IMMEDIATE

REPORT TO: **SAFETY**

Company Name: #00497 Soil Engineers Ltd
 Attention: Reza Mostafaei
 Address: 90 West Beaver Creek Road Unit 100
 Richmond Hill ON L4B 1E7
 Tel: (416) 754-3515 Fax: (416) 754-3516
 Email: reza.mostafaei@soilengineersltd.com

Company Name: _____
 Address: _____
 City: _____
 State: _____
 Zip: _____
 Tel: _____ Fax: _____
 Email: _____

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

Regulation 153 (2311):
 Table 1 Table 2 Table 3 Table 4
 Table 5 Table 6 Table 7 Table 8

Other Regulations:
 CODE Drinking Water System
 MISA Storm Sewer Bylaw
 P1000 Municipality
 Other _____

Include Criteria on Certificate of Analysis (Y/N)? Y

Sample Identifier	Sample Location/Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle)	Metals (Hg / Cr VI)	Vehicle by HS / RTA	Vehicle by HS / RTA	ICMS Events	Time	Date (YYMMDD)	Signature/Print	RECEIVED BY: (Signature/Print)	Date	Time	# Parcels used and not submitted	Temp. (°C) on Receipt	Temp. (°C) on Incent
1	BH1/3	Dec 3	10:30	S			X											
2	BH2/1B		11:20						X									
3	BH3/2		12:00						X									
4	BH4/2		3:00				X											
5	BH5/2		3:30				X											
6	BH6/4		1:15						X									
7	BH7/2		9:30						X									
8	BH7/3		9:40						X									
9	Dup 51																	

Signature: Clekashin Carbowisky
 Date: 18/12/04
 Time: 10:00

Signature: MARGIE VICK
 Date: 20/12/04
 Time: 14:51

UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO MAXXAM'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY CONSTITUTES ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.MAXXAM.CA/TERMS.
 IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL, TAT DELAYS.
 * SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT HTTP://MAXXAM.CA/WP-CONTENT/UPLOADS/ONTARIO-COC.PDF.

04-Dec-18 14:51
 Antonella Brasil
 B8W3684
 GID ENVY-1075

White: Maxxam Yellow: Client

SAFETY MUST BE KEPT COOL (5-10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

94838

Maxxam Analytics International Corporation aka Maxxam Analytics