PROJECT NO.: SM 301114-E

DECEMBER 17, 2021

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
2020 LAKESHORE ROAD
BURLINGTON, ONTARIO

PREPARED FOR:

BURLINGTON 2020 LAKESHORE INC.

Soil-Mat

BY

SOIL-MAT ENGINEERS & CONSULTANTS LTD.
130 LANCING DRIVE
HAMILTON, ONTARIO
L8W 3A1

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SOIL-MAT ENGINEERS & CONSULTANTS LTD.

www.soil-mat.ca info@soil-mat.ca TF: 800.243.1922

Hamilton: 130 Lancing Drive L8W 3A1 T: 905.318.7440 F: 905.318.7455
Milton: PO Box 40012 Derry Heights PO L9T 7W4 T: 800.243.1922

PROJECT NO.: SM 301114-E DECEMBER 17, 2021

BURLINGTON 2020 LAKESHORE INC.
366 King Street West
Hamilton, Ontario
L8P 1B3

Attention: Mr. Darko Vranich

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
2020 LAKESHORE ROAD
BURLINGTON, ONTARIO

Dear Mr. Vranich,

1.0 EXECUTIVE SUMMARY

SOIL-MAT ENGINEERS & CONSULTANTS LTD. [SOIL-MAT ENGINEERS] were retained by BURLINGTON 2020 LAKESHORE INC. to undertake Phase Two Environmental Site Assessment [ESA] activities on the above captioned property. It is noted that the Phase Two activities were completed in accordance with Ontario Regulation 153/04 [as amended] as this Phase Two ESA Report is intended as a supporting document for the eventual filing of a Record of Site Condition [RSC] for the property.

The Phase Two activities included the advancement of sixteen [16] boreholes and three [3] hand dug test pit to facilitate the collection and submission of select soil samples for laboratory analytical testing. In addition, a groundwater monitoring well was installed at nine [9] of our borehole locations to facilitate the collection and submission of groundwater samples for laboratory analytical testing.

Of note, our Phase Two activities were completed in conjunction with a geotechnical investigation and hydrogeological study of the subject lands by this Office. As such, only three [3] of the nine [9] monitoring wells were advanced for the purpose of our Phase Two activities.

Based on SOIL-MAT ENGINEERS' field observations and the results of the laboratory analytical testing, SOIL-MAT ENGINEERS is pleased to offer the following:

- The Phase Two activities carried out by SOIL-MAT ENGINEERS revealed exceedances for select metal parameters across the Phase Two Property, including the following:
  - Elevated levels of Lead were reported in two [2] isolated borehole locations, specifically 'BH3' at a depth of approximately 0.8 – 1.4 metres below ground surface [bgs] and 'BH6' at a depth of approximately 7.5 metres bgs;
  - An elevated level of Zinc was reported in an isolated borehole location, specifically 'BH2' at a depth of approximately 1.5 – 2.1 metres bgs;
  - An elevated level of Barium was reported in an isolated borehole location, specifically 'BH103' at a depth of approximately 1.5 – 2.1 metres bgs.

- An elevated level of Boron (Hot Water Soluble) was reported in an isolated borehole location, specifically 'BH109' at a depth of approximately 7.60 – 7.65 metres bgs.
- Elevated levels of Electrical Conductivity [EC] and Sodium Adsorption Ratio [SAR] were reported across majority of the Site. However, Section 49.1 of Regulation 153/04 [as amended], provides the following exemption: "If an applicable site condition standard is exceeded at a property solely because of one of the following reasons, the applicable site condition standard is deemed not to be exceeded for the purpose of Part XV.1 of the Act:

  1. The qualified person has determined, based on a phase one environmental site assessment or a phase two environmental site assessment, that a substance has been applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both."

  Given the historical use of de-icing salts on the Site as a commercial parking lot and use on the adjacent municipal roadways, it is the opinion of the QP that the elevated levels of the noted parameters are a direct result of a substance applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both. As such, EC, SAR are not considered contaminants on the Site. In addition, the soil samples with reported elevated levels of EC and/or SAR above the Table 3 RPI Standards are not considered to exceed the Standards.

- The laboratory analytical test result for the remaining soil samples all reportedly meet the applicable site condition standards for the select tested contaminants of potential concern [COPCs], and;
- The laboratory analytical test results for the submitted groundwater samples are all below the applicable Site Condition Standards for the select tested COPC groupings with the exception of our sample secured from 'MW109' which reportedly exceeds for select volatile organic compound [VOC] parameters, specifically Cis-1,2-Dichloroethylene and Tetrachloroethylene.

The samples secured for analytical testing are believed to be representative of the conditions at the sample locations only. If any significant changes are noted, i.e., odours, staining etc., SOIL-MAT ENGINEERS should be contacted to reassess the environmental characteristics of the Site.

As noted in the preamble above, isolated 'hotspots' of soil exhibiting elevated levels for various Metal parameters were reported in select borehole locations across the property. With respect to documented elevated levels of select Metal parameters, additional intrusive soil sampling is recommended to further delineate the lateral and vertical extent of the isolated 'hot spots' and/or demonstrate that the noted exceedances are anomalous in nature and not representative of the actual soil conditions at these locations.

In addition, our groundwater sample secured from 'MW109' exhibited elevated levels of select VOC parameters. As such, additional intrusive groundwater sampling is recommended to further delineate the lateral and vertical extent of the isolated 'hot spot' and/or demonstrate that the noted exceedance is anomalous in nature and not representative of the actual groundwater conditions at this location. The delineation activities should include the installation of a 'deeper' groundwater monitoring well that is screened at a greater depth than 'MW 109'.

It is noted that pending the results of supplemental assessment activities, some form of soil and/or groundwater remediation or potentially a combination of remediation and Risk Assessment [RA] activities may be required to support the filing of an RSC.

Risk Assessments, whether completed as a Modified Generic Risk Assessment [MGRA] or a Tier III Site-Specific Risk Assessment [SSRA] are a scientific approach that can be used for the assessment and management of adverse environmental conditions on a property while allowing [in many cases] a change in land use to a more sensitive use. Risk Assessments can be used to identify actual environmental concerns and provide rationale and control measures on a site-specific basis, whether through the development of Property Specific Standards or implementing mitigative control measures to manage soil/groundwater on-site, etc.

The estimated timeline to complete an MGRA is approximately 10-12 months. The estimated timeline to complete a SSRA is approximately two [2] years from the date of commencement of the RA activities. Of note, RAs typically facilitate the on-site management of soil, exhibiting elevated levels of select COPCs, although some level of soil remediation is often required as part of the RA activities.

Based on the information currently available to SOIL-MAT ENGINEERS, a RSC cannot be filed for the Phase Two Property without undertaking additional soil and groundwater delineation and a soil and groundwater remediation programme and/or some level of risk assessment [RA] activities; or a combination of both.

It is noted that subsurface soil conditions may be present on-site that are not typical of those presented in this Report. If future activities reveal such soils, SOIL-MAT ENGINEERS should be contacted to assess the soil conditions with respect to the proposed activity.

SOIL-MAT ENGINEERS & CONSULTANTS LTD. prepared this Report for the account of BURLINGTON 2020 LAKESHORE INC. The material in if reflects SOIL-MAT ENGINEERS' best judgement 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 or decisions to be made based on it, are the responsibility of such third parties. SOIL-MAT ENGINEERS accepts no responsibility for damages, if any suffered by any third party as a result of decisions made or actions based on this report.

2.0 INTRODUCTION

SOIL-MAT ENGINEERS were retained by BURLINGTON 2020 LAKESHORE INC. to undertake Phase Two activities on the above captioned property. It is noted that the Phase Two activities were completed in accordance with Ontario Regulation 153/04 [as amended] as this Phase Two ESA Report is intended as a supporting document for the eventual filing of a RSC for the property.

A Phase One ESA was previously prepared for the subject lands, by SOIL-MAT ENGINEERS, and was utilised in determining the rationale for these Phase Two activities [refer to SOIL-MAT ENGINEERS' Report No.: SM 301114-E dated September 2021, 2021].

Our fieldwork, laboratory testing and interpretation in connection with the assessment activities has been finalised and our comments and recommendations, based on our findings, are presented in the following paragraphs.

The subject property is herein referred to as the 'Phase Two Property' and/or the 'Site'.

2.0 (i) SITE DESCRIPTION

At the time of this Report, the Phase Two Property was comprised of an irregular shaped parcel of land that was occupied by the following structures:

- a 6-storey hotel [recognised as the Waterfront Hotel Burlington]. There is also a basement level in the structure;
- a restaurant occupies the eastern portion of the main floor of the hotel [recognised as B&B Taps and Grill].

The remainder of the Site was comprised of an asphaltic-concrete parking lot to the east of the hotel. A landscaped area with shrubs and trees was also present along the perimeter of the Phase Two Property.

The Site was bounded to the north by Lakeshore Road, to the east by Elizabeth Street, and to the south and west by Spencer Park.

For descriptive purposes, Lakeshore Road has been designated as having an east-west alignment.

The Site is recognised with the municipal address of 2020 Lakeshore Road, Ontario. The property identification number (PIN) is '07087-0290'.

The area of the Site is 0.76 hectares.

2.0 (ii) PROPERTY OWNERSHIP

At the time of this report, the Site was owned by BURLINGTON 2020 LAKESHORE INC. The contact information for our client is provided below:

1. Contact Name: Mr. Darko Vranich
2. Mailing Address: 366 King Street West, Hamilton, Ontario, L8P 1B3
3. Contact e-mail: darko@vrancor.com

4. Contact Phone: 289-296-6444

2.0 (iii) CURRENT AND PROPOSED FUTURE USE

Current Use: Commercial
Proposed Use: Residential

Based on the current use and the proposed use of the Site, the proposed development is subject to a mandatory RSC filing.

2.0 (iv) APPLICABLE SITE CONDITION STANDARDS

The following criteria was utilised to determine the appropriate site classification and applicable soil and groundwater standards.

- Current land use: Commercial;
- Intended land use: Residential;
- Drinking Water Supply: Non-Potable Ground Water;
- On-site Soil Texture: Medium to Fine Grained Soils;
- Depth to Bedrock: Approximately 2 to 8 metres;
- pH of soils on the Site: Within the Applicable Generic Site Condition Standards Range;
- Surface Water Body: Not observed on-Site or within 30 metres of the Site.

Based on the above, the applicable site condition standards [SCSs] are the Table 3 SCSs for a Residential/Parkland/Institutional Use [RPI] property use in a non-potable groundwater condition from the Ministry of the Environment document "Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environment Protection Act, (2011), hereinafter referred to as the 'Table 3 RPI Standards'.

3.0 BACKGROUND INFORMATION

3.0 (i) PHYSICAL SETTING

The Site is located in an area of mixed residential, commercial and parkland lands.

There are no water bodies in whole or in part on the Phase Two Property. In addition, no surface water bodies were observed within 30 metres of the Phase Two Property.

There are no areas of natural significance located in whole or in part on the Phase Two Property.

The topography is generally flat and level with surface water runoff directed to several on-site catch basins, with the exception of the southern portion of the Site which slopes gradually to the south towards Lake Ontario.

3.0 (ii) PAST INVESTIGATIONS

SOIL-MAT ENGINEERS had access to the following environmental reports, which were utilized as supporting documents during the completion of this Report.

- Phase One Environmental Site Assessment, 2020 Lakeshore Road, Burlington, Ontario, dated September 21, 2021: prepared for Burlington 2020 Lakeshore Inc. [Mr. Darko Vranich].

The September 21, 2021 Phase One ESA report revealed four [4] potentially contaminating activities [PCAs] on the Phase One Property, including the following:

- A Fire Insurance Plan from 1910 illustrates one underground fuel storage tank [UST] along Water Street East, now recognised as Lakeshore Road. The UST is identified adjacent the Phase One Property, to the north, and was likely associated with the Site;
- Fire Insurance Plans from 1910, 1924, and 1932, aerial photographs from 1954 and 1960, and topographic maps from 1909 and 1938 illustrate five [5] former buildings on the Site. Historically, it was a common practice to demolish buildings and utilise the remaining construction debris and/or various imported fill material(s) to backfill the basement level of structures, if present. In addition, an aerial photograph from 1978 illustrates numerous stockpiles of fill material across the Site;
- Fire Insurance Plans from 1910, 1924 and 1932 illustrate two [2] coal-fired boilers in a former canning factory on the Phase One Property. Historically, it was a common practise to store coal in close proximity to active boiler rooms, and;
- A Fire Insurance Plan from 1898 illustrates burnt ruins on the eastern portion of the former canning facility as a result of a historical fire on the Site.

The lands in the general vicinity of the Phase One Property are comprised of a mixture of retail commercial, parkland and residential lands. The Phase One ESA research revealed eight [8] historical PCAs on lands in the Phase One Study Area that are considered potential environmental liabilities to the Phase One Property, including the following items:

- A Fire Insurance Plan from 1924 and 1932 illustrates one UST at 375 Brant Street, which is located approximately 100 metres north [up-gradient] of the Phase One Property;
- A Fire Insurance Plan from 1971 illustrates a former retail fuel outlet [RFO], including one UST, at 391 Brant Street, which is located approximately 200 metres north [up-gradient] of the Phase One Property;
- A Fire Insurance Plan from 1971 illustrates a former RFO, and one UST, at 2031 Lakeshore Road, which is located approximately 30 metres to the north [up-gradient] of the Phase One Property;
- A Fire Insurance Plan from 1910, 1924, and 1932 illustrates a former coal shed at 10 Pine Street, which is located approximately 110 metres north-northeast [up-gradient] of the Phase One Property;
- The Vernon City Directories revealed a RFO [Texaco Service Station] was in operation approximately 30 metres to the north [up-gradient] of Phase One Property. The RFO was in operation from pre-1960 to 1978 at 2031 Lakeshore Road;
- The Vernon City Directories revealed a RFO [Wise, L. Service Station] was in operation on 391 Brant Street, which is located approximately 200 metres north [up-gradient] of the Phase One Property. The RFO was in operation from pre-1960 to 1973;
- The Vernon City Directories revealed an automotive repair facility [Burlington Motors] was in operation on 2023 lakeshore Road, which is located approximately 30 metres to the north [up-gradient] of the Phase One Property. The automotive repair facility was in operation from pre-1960 to 1967, and;
- The Vernon City Directories revealed an automotive repair facility [Oldfield Auto Service] was in operation on 2029 Lakeshore Road, which is located approximately 30 metres to the north [up-gradient] of Phase One Property. The automotive repair facility was in operation from pre-1960 to 1962.

Based on the above, the PCAs were limited to the following:

Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity	Locations of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC #1	Across the entirety of the Site [including within the former building footprints].	PCA 30. Importation of Fill Material of Unknown Quality [PCA A]	On-Site	Metals, PHCs, VOCs, and BTEX	Soil
APEC #2	The western portion of the property [within the vicinity of the former canning facility where coal was stored].	PCA 9. Coal Gasification [PCA B]	On-Site	PAHs	Soil & Groundwater

Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity	Locations of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC #3	The western portion of the property [within the vicinity of the "burnt ruins" identified on the Sept 1898 Fire Insurance Plan].	PCA Other. Incomplete Combustion [PCA C]	On-Site	PAHs	Soil
APEC #4	The northwest corner of the property	PCA No. 28: Gasoline and Associated Products Storage in Fixed Tanks [PCA D]	On-Site	PHCs, VOCs, and BTEX	Soil and Groundwater
		PCA No. 28: Gasoline and Associated Products Storage in Fixed Tanks [PCA E]	Off-Site	PHCs, VOCs, and BTEX	Soil and Groundwater
		PCA No. 28: Gasoline and Associated Products Storage in Fixed Tanks [PCA F]	Off-Site	PHCs, VOCs, and BTEX	Soil and Groundwater
		PCA No. 28: Gasoline and Associated Products Storage in Fixed Tanks [PCA F]	Off-Site	PHCs, VOCs, and BTEX	Soil and Groundwater

Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity	Locations of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC #5	The northeast corner of the property	PCA 9. Coal Gasification [PCA G]	Off-Site	PAHs	Soil & Groundwater
		PCA No. 28: Gasoline and Associated Products Storage in Fixed Tanks [PCA H]	Off-Site	PHCs, VOCs, and BTEX	Soil and Groundwater
		PCA No. 28: Gasoline and Associated Products Storage in Fixed Tanks [PCA I]	Off-Site	PHCs, VOCs, and BTEX	Soil and Groundwater
		PCA No. 10: Commercial Autobody Shops [PCA J]	Off-Site	Metals, As, Sb, Se, BHWS, CN-, EC, Cr (VI), Hg and SAR, PHCs, BTEX, VOCs, PCBs	Soil and Groundwater
		PCA No. 10: Commercial Autobody Shops [PCA K]	Off-Site	Metals, As, Sb, Se, BHWS, CN-, EC, Cr (VI), Hg and SAR, PHCs, BTEX, VOCs, PCBs	Soil and Groundwater

The above noted report was supervised by a Qualified Person [QP] of SOIL-MAT ENGINEERS.

In addition to the above, SOIL-MAT ENGINEERS contacted City of Burlington to request a copy of previous environmental reports for the Site that may be on file with the City. However, the results were not available during the completion of this Report.

In addition, a search of the MOE's *Brownfields Environmental Site Registry* did not reveal a previous Phase One ESA that may have been undertaken on the Site.

4.0 SCOPE OF THE INVESTIGATION

4.0 (i) OVERVIEW OF SITE INVESTIGATION

The Phase Two activities included the advancement of sixteen [16] boreholes and three [3] hand dug test pit to facilitate the collection and submission of select soil samples for laboratory analytical testing. In addition, a groundwater monitoring well was installed at nine [9] of our borehole locations to facilitate the collection and submission of groundwater samples for laboratory analytical testing.

Of note, our Phase Two was activities were completed in conjunction with a geotechnical investigation and hydrogeological study of the Site by this Office. As such, only three [3] of the nine [9] monitoring wells were advanced for the purpose of our Phase Two activities.

In addition, it is noted that our Phase One ESA findings revealed twelve [12] PCAs that were considered to create five [5] areas of potential environmental concern [APECs] on the Site.

Representative soil samples were secured following standard industry sampling protocols and were submitted to AGAT laboratories for laboratory analytical testing for the specific Phase Two ESA contaminants of potential concern [COPC], in this case being Petroleum Hydrocarbons [PHCs], Benzene, Toluene, Ethylbenzene and Xylenes [BTEX], Volatile Organic Compounds [VOCs], Polycyclic Aromatic Hydrocarbons [PAHs], Metals, Arsenic [As], Antimony [Sb], Selenium [Se], Boron [BHWS], Cyanide [CN], Electrical Conductivity [EC], Hexavalent Chromium [Cr (VI)], Mercury [Hg] and Sodium Adsorption Ration [SAR].

For reporting purposes, the COPCs listed above [with the exception of PHCs, BTEX, VOCs and PAHs] are hereinafter referred to as “Metals”.

4.0 (ii) MEDIA INVESTIGATED

The purpose of the Phase Two activities was to assess the soil and groundwater quality, on the Phase Two Property, in connection with the on-site and off-site PCAs and associated APECs.

4.0 (iii) PHASE ONE CONCEPTUAL SITE MODEL

A Phase One CSM was not prepared for the property as part of our September 21, 2021 Phase One ESA report as initially the report was written for due diligence purposes. In order to support the eventual filing of an RSC, our September 21, 2021 report will be updated to include the completion of a Phase One Conceptual Site Model.

4.0 (iv) DEVIATIONS FROM SAMPLING AND ANALYSIS PLAN

Professional care was exercised during the retrieval of each sample, the placement of each sample in the appropriate sample jar, the labeling of the field samples and associated chain of custody and in the delivery of the samples to the testing laboratory.

As our standard operating procedures dictate unusual field observations, such as visual or olfactory evidence of a suspected impact, a deviation from SOIL-MAT ENGINEERS’ field

sampling and handling protocols or incident on the testing laboratories' side was documented either on our field test pit logs or in-house copy of the sample certificate of analysis. There were no deviations recorded during this Phase Two ESA.

4.0 (v) IMPEDIMENTS

There were no impediments to SOIL-MAT ENGINEERS' field work and assessment activities during the Phase Two ESA.

5.0 INVESTIGATION METHODS

5.0 (i) GENERAL

There were no deviations in SOIL-MAT ENGINEERS' planned Phase Two ESA activities

5.0 (ii) DRILLING AND EXCAVATING

All of the boreholes, associated with our Phase Two activities, were advanced using solid stem continuous flight auger equipment on April 5th – April 7th and November 30th – December 1st, 2021. The physical advancement of the boreholes was performed by Davis Drilling Ltd., via a truck mounted drill rig under the supervision of a representative of SOIL-MAT ENGINEERS. In addition, one hand dug test pit was advanced beneath the concrete slab present in the basement level of the structure. The test pit was advanced on December 2nd, 2021 by a representative of SOIL-MAT ENGINEERS.

Soil samples were generally collected in 0.76m intervals from the ground surface to the termination of each borehole. After each sampling event, the split-spoon sampler was thoroughly washed with non-phosphate detergent then rinsed with water before the collection of each subsequent sample to minimise the potential for cross-contamination between samples.

5.0 (iii) SOIL SAMPLING

Soil samples were examined in the field for visual and olfactory evidence of potential impacts such as unusual staining and/or odours, etc., and were split into two [2] separate samples, including the following:

- One half of the sample was sealed in sampling jars for submission to AGAT for analytical testing, and;
- One half of the sample was sealed in a plastic sampling bag for further characterisation in SOIL-MAT ENGINEERS' in-house soils laboratory.

The soil samples that were delivered to AGAT were sealed in pre-cleaned wide mouth, amber glass sample jars, no head space, as provided by the laboratory. The samples were stored and transported in a cooler and kept under ice packs to minimise potential volatilisation of select parameters. New disposable sampling gloves were used for the collection of each soil sample with care given not to make contact with the samples and gloves. Dedicated sample retrieval equipment, including a stainless steel split-spoon, was used to retrieve each sample and before depositing it directly it into the AGAT Laboratories sample jar.

The samples were picked up at our office by AGAT in coolers equipped with ice packs to help maintain a temperature range between the applicable 0°C to 10°C. As reported on the chain of custody for the soil samples, the samples were picked up at our office by AGAT with an average temperature of 7.0°C, and arrived at AGAT's lab in Mississauga, Ontario with a final average temperature of 4.9°C.

5.0 (iv) FIELD SCREENING MEASUREMENTS

All of the Phase Two ESA soil samples were examined in the field for visual and olfactory evidence of potential PHC impact(s), such as unusual staining and/or odours, etc.

In addition, an RKI Eagle was utilised during the collection of the soil samples. All samples tested recorded a value of 0 ppm.

5.0 (v) GROUND WATER: MONITORING WELL INSTALLATION

A 50 millimetre groundwater monitoring well was installed at Borehole Nos.: 'BH1' through 'BH7', 'BH101' and 'BH109' upon the completion of drilling activities. In each case, the monitoring wells were installed to depths ranging between approximately 7.6m and 20.1m bgs and were constructed with a screened interval in the lower 3.05 metres. The groundwater monitoring wells were installed in accordance with *Ontario Regulation 903 [Water Wells]* under the Ontario Water Resources Act.

However, it is noted that only monitoring wells 'BH4', 'BH7' and 'BH109' were utilised for the purpose of this Phase Two ESA. The remaining monitoring wells were installed as part of the geotechnical investigation and hydrogeological study conducted by our Office.

A water well record was submitted to the Ministry of the Environment, Conservation and Parks [MOE] upon completion of drilling activities. It is the responsibility of the Site owner to ensure the groundwater monitoring well is maintained in an appropriate, safe and secure condition as per the Regulation and to arrange for the monitoring well to be abandoned in accordance with the Regulation when it is no longer in use.

The Phase Two ESA monitoring well installation details are summarized in the table below.

Monitoring Well	Bottom of Monitoring Well [m bgs]	Bottom of the Borehole Elevation [m]	Screen Length [m]	Screen Interval [m bgs]	Filter Pack [m bgs]	Bentonite Plug [m bgs]	Ground Surface Elevation [m ASL]
MW4	7.6	75.2	3.05	4.3 – 7.6	4.6 – 7.6	0.15 – 1.25	82.77
MW7	7.6	71.3	3.05	4.3 – 7.6	4.6 – 7.6	0.15 – 1.25	78.75
MW109	9.9	72.4	3.05	6.6 – 9.9	6.9 – 9.9	0.15 – 1.25	82.33

5.0 (vi) GROUND WATER: FIELD MEASUREMENT OF WATER QUALITY PARAMETERS

An Oil / Water interface probe was utilized during the collection of the groundwater samples. A light non-aqueous phase liquid [LNAPL] layer was not identified in any of the on-site monitoring wells.

The samples were delivered immediately to AGAT upon retrieval from the monitoring well and were subjected to AGAT's QA procedure which included a temperature reading upon their receipt.

The groundwater samples were delivered to the AGAT depot in Stoney Creek, Ontario immediately after sampling on ice to begin cooling the samples between the applicable 0°C to 10°C [average temperature of 8.8 °C].

5.0 (vii) GROUND WATER: SAMPLING

Three [3] well volumes were purged from each groundwater monitoring well prior to the collection of the groundwater samples. The monitoring wells were then allowed to recharge back to recorded static groundwater levels prior to the physical sample collection.

The monitoring wells installed on the Site during this Phase Two ESA were equipped with dedicated sampling equipment, including a 25 millimetre water bailer for sample collection for the PHC and BTEX parameters.

In addition, a low flow bladder pump was utilised for the collection of groundwater samples for the remaining COPC groupings as the samples were subjected to laboratory analytical testing for VOCs.

Professional care was exercised during the retrieval of each sample, the placement of each sample in the appropriate sample bottle/vial, the labeling of the field samples and associated chain of custody and in the delivery of the samples to the testing laboratory.

As our standard operating procedures dictate unusual field observations, such as visual or olfactory evidence of a suspected impact, a deviation from SOIL-MAT ENGINEERS' field sampling and handling protocols or incident on the testing laboratories' side was documented either on our field borehole logs or in-house copy of the sample certificate of analysis.

There were no deviations recorded during the Phase Two ESAs.

5.0 (viii) SEDIMENT SAMPLING

Sediment sampling was not conducted as part of the Phase Two ESA activities. The medium investigated was limited to the soil and groundwater medium.

5.0 (ix) ANALYTICAL TESTING

All laboratory analytical work was performed by AGAT Laboratories [AGAT] in Mississauga, Ontario.

AGAT is a member of the Canadian Association for Laboratory Accreditation [CALA] and meets the requirements of Section 47 of the Record of Site Condition Regulation.

5.0 (x) RESIDUAL MANAGEMENT PROCEDURES

Soil cuttings produced from the physical drilling activities were stored on-site in a designated lugger bin. One soil sample was submitted to AGAT Laboratories [AGAT], [an accredited Canadian Environmental Laboratory] for toxicity characteristic leaching procedure [TCLP] testing as per Ontario Regulation 347 [as amended by 558/00], specifically for TCLP metal and inorganics and VOCs. Results of this sampling concluded

the material to be a non-hazardous solid waste. As such, the material was disposed of at the Terrapure Landfill site in Stoney Creek, Ontario via Budget Bin Services.

Purged groundwater was stored on-site pending the results of the laboratory analytical testing. As elevated levels of select VOC parameters was reported in the groundwater the groundwater will be need to be disposed of as waste at a licensed waste receiver.

5.0 (xi) ELEVATION SURVEYING

All boreholes and groundwater monitoring wells were surveyed by a staff member of SOIL-MAT ENGINEERS to facilitate geodetic survey information. The brass plaque set in the most northerly wall of City Hall located at 426 Brant Street was used as a benchmark with a geodetic elevation of 85.61 meters above sea level.

5.0 (xii) QUALITY ASSURANCE AND QUALITY CONTROL MEASURES

QA/QC was maintained during the field program through equipment decontamination and sampling procedures, as outlined in the "*MOE Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario*" (May, 1996).

Standard QA/QC protocols were followed for bottle preparation, sample collection and transportation, as outlined by MOE guidance documents, including the MOE's 2011 "*Protocol for Analytical Methods Used in the Assessment of Properties Under Part XV.1 of the Environmental Protection Act*".

In addition to these field-based measures, extensive QA/QC procedures were carried out by the analytical laboratories, including:

- Lab blanks;
- Spikes;
- Matrix blanks; and
- Instrument blanks and assessments of instrument tuning and performance.

Based on the evaluation of the sampling and analytical procedures used, the following data quality statements can be made:

- The data are adequate for the RSC objectives and approach utilized; and,
- Soil analytical data were of an acceptable quality for comparison to 2011 MOE SCS as defined by *O.Reg.153/04, as amended,* for current investigations.

6.0 REVIEW AND EVALUATION

6.0 (i) GEOLOGY

SOIL-MAT ENGINEERS' Phase Two ESA revealed the following Site stratigraphy:

- TOPSOIL: A surficial veneer of topsoil approximately 100 to 275 millimetres in thickness was encountered at Borehole Nos.: 'BH6' and 'BH7'. It is noted that the depth of topsoil may vary across the site and from the depths encountered at the borehole locations.
- PAVEMENT STRUCTURE: Borehole Nos.: 'BH1' through 'BH5' and 'BH102' through 'BH109' were advanced through the existing pavement structure which was noted to consist of approximately 75 to 150 millimetres of asphaltic concrete, overlying approximately 75 to 1220 millimetres of compact granular base.
- CLAYEY SILT / SILTY CLAY FILL: Clayey silt/silty clay fill was encountered beneath the topsoil layer in Borehole Nos.: 'BH6' and 'BH7' and pavement structure in Borehole Nos.: 'BH1' through 'BH5' and 'BH102' through 'BH109'. The fill material encountered was brown in colour, contained trace to some sand and gravel, with occasional construction debris and organic staining. The material was generally noted to be firm to stiff in consistency. The fill material encountered was proven to depths of approximately 1.5 to 7 metres below the existing ground surface.
- CLAYEY SILT / SILTY CLAY: Native clayey silt/silty clay was encountered beneath the fill materials in Borehole Nos.: 'BH2', 'BH3', 'BH4', 'BH5', and 'BH7'. The native cohesive soil is brown to reddish brown in colour, contained trace sand and gravel, and was generally firm to hard in consistency. The clayey silt/silty clay soil was proven to depths of between approximately 2.3 to 7.9 metres below the existing ground surface.
- QUEENSTON SHALE: Queenston shale was encountered underneath the native clayey silt/silty clay and/or fill material in all borehole locations. The Queenston Shale was red, severely weathered in the upper levels, becoming sounder with depth, and containing occasional more resistant grey layers. The degree of weathering in the upper levels of the Queenston Shale is such that it tends to exhibit the properties of a hard cohesive soil, or weak rock, as evidenced by the ability to penetrate the bedrock with the solid stem augers of the drill. As such, the transition between hard soil and weak rock is somewhat indistinct. The Queenston Shale was proven to termination to depths of approximately 2.0 to 20 metres below the existing ground surface.
- GROUNDWATER: The depth to the groundwater table is anticipated to be approximately 3.7 and 8.9 metres based on groundwater readings from the nine [9] monitoring wells installed on the Site. Seasonal fluctuations to this level should be expected. Based on the ground water contours extrapolated from the recorded static ground water levels on the Site the ground water flow direction through the Site is to the southwest-west. In addition, the horizontal hydraulic gradient was estimated as 0.05566343.

6.0 (ii) GROUND WATER: ELEVATIONS AND FLOW DIRECTIONS

All boreholes were recorded as open and 'dry' upon completion with the exception of Borehole No.: 'BH109', which was noted to be wet at a depth of approximately 9.1 m bgs. It is noted that insufficient time would have passed for the static groundwater level to stabilise in the open boreholes, however, in cohesive soils such as the silty clay encountered, the static groundwater level generally coincides with the transition in colour from brown to grey.

Groundwater monitoring wells were installed in Borehole Nos.: 'BH8', 'BH7', and 'BH109' for future monitoring of the static groundwater level and environmental sampling of the on-site groundwater. The monitoring installation details are summarized in the table below.

TABLE A
SUMMARY OF GROUNDWATER LEVELS

Borehole No.	Surface Elevation (m)	December 2, 2021		December 6, 2021	
		Depth [m]	Elev. [m]	Depth [m]	Elev. [m]
BH-#4	82.77	6.32	76.45	2.77	76.19
BH-#7	78.75	3.75	75.00	1.85	75.1
BH-#109	82.33	7.19	75.14	7.24	75.09

Based on the groundwater readings, and based on our experience in the area and observations during drilling, the static groundwater level is estimated to fluctuate between approximately 3.7 and 8.9 metres below the existing pavement surface.

Based on the groundwater contours extrapolated from the recorded static groundwater levels on the Site the groundwater flow direction through the Site is to the southwest-west.

The monitoring well locations, groundwater contours, and inferred groundwater flow direction is illustrated on Drawing No. 2A in Appendix 'A'.

6.0 (iii) GROUND WATER: HYDRAULIC GRADIENTS

The horizontal hydraulic gradient was calculated based on the groundwater levels recorded during the Phase Two ESA. Based on these recordings, the distance between the monitoring wells and the depth of well installation the horizontal hydraulic gradient is estimated as 0.05566343.

6.0 (iv) FINE-MEDIUM SOIL TEXTURE

SOIL-MAT ENGINEERS' performed hydrometers on two [2] retrieved soil samples. The results of the hydrometers indicate that the predominant soil type consists of a silt with some clay and sand, with traces of gravel, increasing in clay content with depth before transitioning into a weathered Queenston Shale.

Given the above, the soil has more than 50% finer than the 75 µm sieve. As such, the soil is classified as medium to fine textured.

6.0 (v) SOIL: FIELD SCREENING

An RKI Eagle was utilised during the collection of the soil samples. It is noted that all soil sample tested with the RKI Eagle recorded values of 0ppm.

SOIL-MAT ENGINEERS did not observe any visual or olfactory evidence that suggested a new COPC grouping should be considered during the assessment activities.

6.0 (vi) SOIL QUALITY

In total, twenty-two [32] soil samples, including four [4] duplicate soil samples, were secured from the Site to assess potential adverse impact(s) on the Site as a result of PCAs identified in our Phase One ESA.

The secured soil samples were submitted to AGAT for laboratory analytical testing, including the following:

SUMMARY OF TESTED SOIL SAMPLES

Sample ID	Depth [m bgs]	Area of Potential Concern	Laboratory Analysis	Soil Description
BH1-SS3	1.5 – 2.1	APEC #1 APEC #4	Metals, PHCs, VOCs & BTEX	Clayey Silt / Silty Clay Fill
BH1-SS4	2.3 – 2.9	APEC #1 APEC #4	Metals, PHCs, VOCs & BTEX	Queenston Shale
BH2-SS3	1.5 – 2.1	APEC #1 APEC #4	Metals, PHCs & BTEX	Clayey Silt / Silty Clay
BH2-SS4	2.3 – 2.9	APEC #1 APEC #4	Metals, PHCs & BTEX	Queenston Shale
BH3-SS2	0.8 – 1.4	APEC #1 APEC #5	Metals, PHCs & BTEX	Clayey Silt / Silty Clay Fill
BH3-SS4	2.3 – 2.9	APEC #1 APEC #5	Metals, PHCs & BTEX	Clayey Silt / Silty Clay
BH4-SS2	0.8 – 1.4	APEC #1 APEC #5	Metals, PHCs, VOCs, PAHs & BTEX	Clayey Silt / Silty Clay Fill
BH4-SS4	2.3 – 2.9	APEC #1 APEC #5	Metals, PHCs, VOCs, PAHs & BTEX	Clayey Silt / Silty Clay
BH5-SS2	0.8 – 1.4	APEC #1	Metals, PHCs & BTEX	Clayey Silt / Silty Clay Fill
BH6-SS10	7.5 – 7.55	APEC #1	Metals, PHCs, VOCs & BTEX	Queenston Shale
BH7-SS4	2.3 – 2.9	APEC #1 APEC #3	Metals, PHCs, VOCs, PAHs & BTEX	Clayey Silt / Silty Clay Fill
BH101-SS1	6.0 – 6.05	APEC #1 APEC #5	Metals, PHCs, VOCs, PAHs & BTEX	Queenston Shale
BH102-SS2	0.8 – 1.4	APEC #1	Metals, PHCs, VOCs & BTEX	Clayey Silt / Silty Clay Fill
BH102-SS3	1.5 – 2.1	APEC #1	Metals, PHCs, VOCs & BTEX	Queenston Shale
BH103-SS1	0.8 – 1.4	APEC #1	Metals, PHCs, VOCs & BTEX	Clayey Silt / Silty Clay Fill
BH103-SS2	1.5 – 2.1	APEC #1	Metals, PHCs, VOCs & BTEX	Queenston Shale
BH104-SS1	0.8 – 1.4	APEC #1	Metals, PHCs, VOCs, & BTEX	Clayey Silt / Silty Clay Fill
BH104-SS7	5.3 – 5.9	APEC #1	Metals, PHCs, VOCs, & BTEX	Queenston Shale
BH105-SS5	3.8 – 4.4	APEC #1	Metals, PHCs, VOCs, & BTEX	Clayey Silt / Silty Clay Fill
BH105-SS7	5.3 – 5.9	APEC #1	Metals, PHCs, VOCs, & BTEX	Queenston Shale
BH106-SS1	0.8 – 1.4	APEC #1	Metals, PHCs, VOCs, & BTEX	Clayey Silt / Silty Clay Fill

Sample ID	Depth [m bgs]	Area of Potential Concern	Laboratory Analysis	Soil Description
BH106-SS3	2.3 – 2.9	APEC #1	Metals, PHCs, VOCs, & BTEX	Queenston Shale
BH107-SS2	1.5 – 2.1	APEC #1	Metals	Clayey Silt / Silty Clay Fill
BH108-SS1	0.8 – 1.4	APEC #1	Metals, PHCs, VOCs, & BTEX	Clayey Silt / Silty Clay Fill
BH108-SS3	2.3 – 2.9	APEC #1	Metals, PHCs, VOCs, & BTEX	Queenston Shale
BH109-SS1	7.6 – 7.65	APEC #1 APEC #4	Metals, PHCs, VOCs, PAHs & BTEX	Queenston Shale
TP1-Dec 1	0.3	APEC #2	PAHs	Clayey Silt / Silty Clay Fill
TP2-Dec 1	0.3	APEC #2	PAHs	Clayey Silt / Silty Clay Fill
TP1-Dec 2	0.1	APEC #3	PAHs	Clayey Silt / Silty Clay Fill
Dup1 [BH4-SS2]	0.8 – 1.4	APEC #1 APEC #5	PHCs & BTEX	Clayey Silt / Silty Clay Fill
Dup2 [BH5-SS2]	0.8 – 1.4	APEC #1	PHCs& BTEX	Clayey Silt / Silty Clay Fill
Dup1 Nov 30 [BH103-SS2]	1.5 – 2.1	APEC #1	Metals, PHCs, VOCs, & BTEX	Queenston Shale
Dup2 Nov 30 [BH109-SS1]	7.6 – 8.2	APEC #1 APEC #4	Metals, PHCs, VOCs, PAHs & BTEX	Queenston Shale

Notes: Metals = Metals, As, Sb, Se, BHWS, CN, Electrical Conductivity [EC], Cr (VI), Hg and SAR, PHCs = Petroleum Hydrocarbons, VOCs = Volatile Organic Compounds,
BTEX = Benzene, Toluene, Ethylbenzene, and Xylene Mixture,
PAHs = Polycyclic Aromatic Hydrocarbons

The laboratory analytical test results for the submitted soil samples are summarised below:

SUMMARY OF SOIL SAMPLE TEST RESULTS

Sample ID	Depth [m bgs]	Area of Potential Concern	Laboratory Analysis	Soil Description	Table 3 RPI Exceedances
BH1-SS3	1.5 – 2.1	APEC #1 APEC #4	Metals, PHCs, VOCs & BTEX	Clayey Silt / Silty Clay Fill	No exceedances reported
BH1-SS4	2.3 – 2.9	APEC #1 APEC #4	Metals, PHCs, VOCs & BTEX	Queenston Shale	Electrical Conductivity [reported value of 0.74 ppm vs SCS value of 0.7 ppm] Sodium Adsorption Ratio [reported value of 7.68 ppm vs SCS value of 5.0 ppm]
BH2-SS3	1.5 – 2.1	APEC #1 APEC #4	Metals, PHCs & BTEX	Clayey Silt / Silty Clay	Zinc [reported value of 522 ppm vs SCS value of 340 ppm] Electrical Conductivity [reported value of 1.4 ppm vs SCS value of 0.7 ppm] Sodium Adsorption Ratio [reported value of 21.0 ppm vs SCS value of 5.0 ppm]

Sample ID	Depth [m bgs]	Area of Potential Concern	Laboratory Analysis	Soil Description	Table 3 RPI Exceedances
BH2-SS4	2.3 – 2.9	APEC #1 APEC #4	Metals, PHCs & BTEX	Queenston Shale	Electrical Conductivity [reported value of 0.866 ppm vs SCS value of 0.7 ppm] Sodium Adsorption Ratio [reported value of 9.91 ppm vs SCS value of 5.0 ppm]
BH3-SS2	0.8 – 1.4	APEC #1 APEC #5	Metals, PHCs & BTEX	Clayey Silt / Silty Clay Fill	Lead [reported value of 171 ppm vs SCS value of 120 ppm]
BH3-SS4	2.3 – 2.9	APEC #1 APEC #5	Metals, PHCs & BTEX	Clayey Silt / Silty Clay	No exceedances reported
BH4-SS2	0.8 – 1.4	APEC #1 APEC #5	Metals, PHCs, VOCs, PAHs & BTEX	Clayey Silt / Silty Clay Fill	Electrical Conductivity [reported value of 0.81 ppm vs SCS value of 0.7 ppm] Sodium Adsorption Ratio [reported value of 7.29 ppm vs SCS value of 5.0 ppm]
BH4-SS4	2.3 – 2.9	APEC #1 APEC #5	Metals, PHCs, VOCs, PAHs & BTEX	Queenston Shale	Sodium Adsorption Ratio [reported value of 7.24 ppm vs SCS value of 5.0 ppm]
BH5-SS2	0.8 – 1.4	APEC #1	Metals, PHCs & BTEX	Clayey Silt / Silty Clay Fill	Electrical Conductivity [reported value of 0.897 ppm vs SCS value of 0.7 ppm] Sodium Adsorption Ratio [reported value of 13.8 ppm vs SCS value of 5.0 ppm]
BH6-SS10	7.5 – 7.55	APEC #1	Metals, PHCs, VOCs & BTEX	Queenston Shale	Lead [reported value of 129 ppm vs SCS value of 120 ppm]
BH7-SS4	2.3 – 2.9	APEC #1 APEC #3	Metals, PHCs, VOCs, PAHs & BTEX	Clayey Silt / Silty Clay Fill	No exceedances reported
BH101-SS1	6.0 – 6.05	APEC #1 APEC #5	Metals, PHCs, VOCs, PAHs & BTEX	Queenston Shale	No exceedances reported
BH102-SS2	0.8 – 1.4	APEC #1	Metals, PHCs, VOCs & BTEX	Clayey Silt / Silty Clay Fill	Electrical Conductivity [reported value of 0.947 ppm vs SCS value of 0.7 ppm] Sodium Adsorption Ratio [reported value of 20.3 ppm vs SCS value of 5.0 ppm]
BH102-SS3	1.5 – 2.1	APEC #1	Metals, PHCs, VOCs & BTEX	Queenston Shale	Sodium Adsorption Ratio [reported value of 11.1 ppm vs SCS value of 5.0 ppm]
BH103-SS1	0.8 – 1.4	APEC #1	Metals, PHCs, VOCs & BTEX	Clayey Silt / Silty Clay Fill	No exceedances reported
BH103-SS2	1.5 – 2.1	APEC #1	Metals, PHCs, VOCs & BTEX,	Queenston Shale	Sodium Adsorption Ratio [reported value of 8.36 ppm vs SCS value of 5.0 ppm] Barium [reported value of 414 ppm vs SCS value of 390 ppm]
BH104-SS1	0.8 – 1.4	APEC #1	Metals, PHCs, VOCs, & BTEX	Clayey Silt / Silty Clay Fill	Sodium Adsorption Ratio [reported value of 9.77 ppm vs SCS value of 5.0 ppm]
BH104-SS7	5.3 – 5.9	APEC #1	Metals, PHCs, VOCs & BTEX	Queenston Shale	Sodium Adsorption Ratio [reported value of 8.04 ppm vs SCS value of 5.0 ppm

Sample ID	Depth [m bgs]	Area of Potential Concern	Laboratory Analysis	Soil Description	Table 3 RPI Exceedances
BH105-SS5	3.8 – 4.4	APEC #1	Metals, PHCs, VOCs & BTEX	Clayey Silt / Silty Clay Fill	Electrical Conductivity [reported value of 1.07 ppm vs SCS value of 0.7 ppm] Sodium Adsorption Ratio [reported value of 12.0 ppm vs SCS value of 5.0 ppm]
BH105-SS7	5.3 – 5.9	APEC #1	Metals, PHCs, VOCs & BTEX	Queenston Shale	Electrical Conductivity [reported value of 0.712 ppm vs SCS value of 0.7 ppm]
BH106-SS1	0.8 – 1.4	APEC #1	Metals, PHCs, VOCs & BTEX	Clayey Silt / Silty Clay Fill	Electrical Conductivity [reported value of 1.12 ppm vs SCS value of 0.7 ppm] Sodium Adsorption Ratio [reported value of 14.7 ppm vs SCS value of 5.0 ppm]
BH106-SS3	2.3 – 2.9	APEC #1	Metals, PHCs, VOCs & BTEX	Queenston Shale	Electrical Conductivity [reported value of 1.09 ppm vs SCS value of 0.7 ppm] Sodium Adsorption Ratio [reported value of 16.8 ppm vs SCS value of 5.0 ppm]
BH107-SS2	1.5 – 2.1	APEC #1	Metals	Clayey Silt / Silty Clay Fill	No exceedances reported]
BH108-SS1	0.8 – 1.4	APEC #1	Metals, PHCs, VOCs & BTEX	Clayey Silt / Silty Clay Fill	Electrical Conductivity [reported value of 1.60 ppm vs SCS value of 0.7 ppm] Sodium Adsorption Ratio [reported value of 20.1 ppm vs SCS value of 5.0 ppm]
BH108-SS3	2.3 – 2.9	APEC #1	Metals, PHCs, VOCs & BTEX	Queenston Shale	Electrical Conductivity [reported value of 13.0 ppm vs SCS value of 0.7 ppm]
BH109-SS1	7.6 – 7.65	APEC #1 APEC #4	Metals, PHCs, VOCs, PAHs & BTEX	Queenston Shale	Boron (Hot Water Soluble) [reported value of 3.62 ppm vs SCS value of 1.5 ppm]
TP1-Dec 1	0.3	APEC #3	PAHs	Clayey Silt / Silty Clay Fill	No exceedances reported
TP2-Dec 1	0.3	APEC #3	PAHs	Clayey Silt / Silty Clay Fill	No exceedances reported
TP1-Dec 2	0.1	APEC#2	PAHs	Clayey Silt / Silty Clay Fill	No exceedances reported
Dup1 Apr 7 [BH4-SS2]	0.8 – 1.4	APEC #1 APEC #5	PHCs & BTEX	Clayey Silt / Silty Clay Fill	No exceedances reported
Dup2 April 7 [BH5-SS2]	0.8 – 1.4	APEC #1	PHCs& BTEX	Clayey Silt / Silty Clay Fill	No exceedances reported]
Dup1 Nov 30 [BH108-SS3]	1.5 – 2.1	APEC #1	Metals, PHCs, VOCs, & BTEX	Clayey Silt / Silty Clay	Electrical Conductivity [reported value of 1.48 ppm vs SCS value of 0.7 ppm] Sodium Adsorption Ratio [reported value of 18.7 ppm vs SCS value of 5.0 ppm]
Dup2 Nov 30 [BH109-SS1]	7.6 – 8.2	APEC #1 APEC #4	Metals, PHCs, VOCs, PAHs & BTEX	Queenston Shale	Boron (Hot Water Soluble) [reported value of 3.51 ppm vs SCS value of 1.5 ppm]

Note 1A: Metals = Metals, As, Sb, Se, BHWS, CN, Electrical Conductivity [EC], Cr (VI), Hg and SAR
PHCs = Petroleum Hydrocarbons, VOCs = Volatile Organic Compounds,
BTEX = Benzene, Toluene, Ethylbenzene, and Xylene Mixture
PAHs = Polycyclic Aromatic Hydrocarbons

The laboratory analytical test results for the submitted soil samples indicate the following Table 3 RPI exceedances:

- The Phase Two activities carried out by SOIL-MAT ENGINEERS revealed exceedances for select metal parameters across the Phase Two Property, including the following:
  - Elevated levels of Lead were reported in two [2] isolated borehole locations, specifically 'BH3' at a depth of approximately 0.8 – 1.4 m bgs and 'BH6' at a depth of approximately 7.5 m bgs;
  - An elevated level of Zinc was reported in an isolated borehole location, specifically 'BH2' at a depth of approximately 1.5 – 2.1 m bgs;
  - An elevated level of Barium was reported in an isolated borehole location, specifically 'BH103' at a depth of approximately 1.5 – 2.1 m bgs. It is noted that Barium is naturally occurring element commonly found in the upper levels of native Queenston Shale.
  - An elevated level of Boron (Hot Water Soluble) was reported in an isolated borehole location, specifically 'BH109' at a depth of approximately 7.60 – 7.65 metres bgs. However, it is noted that Boron (Hot Water Soluble) is a non-hazardous parameter that is aesthetic in nature, and does not present a hazard to human or animal life. It is also noted that within the Regulation the parameter is not listed [no value] under the more-stringent Table 1 Standards, while there is a listed value within the less stringent Table 2 and 3 Standards.
  - Elevated levels of Electrical Conductivity [EC] and Sodium Adsorption Ratio [SAR] were reported across majority of the Site. However, Section 49.1 of Regulation 153/04 [as amended], provides the following exemption: "If an applicable site condition standard is exceeded at a property solely because of one of the following reasons, the applicable site condition standard is deemed not to be exceeded for the purpose of Part XV.1 of the Act:

    1. The qualified person has determined, based on a phase one environmental site assessment or a phase two environmental site assessment, that a substance has been applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both."

    Given the historical use of de-icing salts on the Site as a commercial parking lot and use on the adjacent municipal roadways, it is the opinion of the QP that the elevated levels of the noted parameters are a direct result of a substance applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both. As such, EC, SAR are not considered contaminants on the Site. In addition, the soil samples with reported elevated levels of EC and/or SAR above the Table 3 RPI Standards are not considered to exceed the Standards.

The laboratory analytical test result for the remaining soil samples all reportedly meet the applicable site condition standards for the select tested contaminants of potential concern [COPCs].

The Phase Two Property, borehole locations and laboratory analytical test results are illustrated on Drawing Nos. 3A – 3F, and 4A – 4F in Appendix 'A'. SOIL-MAT ENGINEERS' borehole logs are also included in Appendix 'B' for reference.

The AGAT Certificate of Analysis is included in Appendix 'B' for reference.

6.0 (vii) GROUND WATER QUALITY

In total, four [4] groundwater samples, including one duplicate sample, were secured from the Site to assess potential adverse impact(s) on the Site as a result of PCAs identified in our Phase One ESA.

The secured water samples were submitted to AGAT for laboratory analytical testing as described in the summary table below:

Sample ID	Area of Potential Concern	Laboratory Analysis
MW4	APEC #1 APEC #5	Metals, PHCs, VOCs, PAHs & BTEX
MW7	APEC #1 APEC #4	Metals, PHCs, VOCs, PAHs & BTEX
MW109	APEC #1 APEC #2	Metals, PHCs, VOCs, PAHs & BTEX
DUP1 [MW4]	APEC #1 APEC #5	Metals, PHCs, VOCs, PAHs & BTEX
Notes: Metals = Metals, As, Sb, Se, BHWS, CN, Electrical Conductivity [EC], Cr (VI), Hg and SAR, PHCs = Petroleum Hydrocarbons, VOCs = Volatile Organic Compounds, BTEX = Benzene, Toluene, Ethylbenzene, and Xylene Mixture, PAHs = Polycyclic Aromatic Hydrocarbons		

The laboratory analytical test results for the submitted groundwater samples are summarised below:

SUMMARY OF ANALYTICAL TESTING – WATER [TABLE 2 PGW]

Sample ID	Laboratory Analysis	Laboratory Analysis	Table 2 PGW Exceedances
MW4	APEC #1 APEC #5	Metals, PHCs, VOCs, PAHs & BTEX	No exceedances reported
MW7	APEC #1 APEC #4	Metals, PHCs, VOCs, PAHs & BTEX	No exceedances reported
MW109	APEC #1 APEC #2	Metals, PHCs, VOCs, PAHs & BTEX	Cis-1,2-Dichloroethylene [reported value of 17.6 ppm vs SCS value of 17.0 ppm] Tetrachloroethylene [reported value of 27.1 ppm vs SCS value of 17.0 ppm]
DUP1 [MW4]	APEC #1 APEC #5	Metals, PHCs, VOCs, PAHs & BTEX	No exceedances reported
Notes: Metals = Metals, As, Sb, Se, BHWS, CN, Electrical Conductivity [EC], Cr (VI), Hg and SAR, PHCs = Petroleum Hydrocarbons, VOCs = Volatile Organic Compounds, BTEX = Benzene, Toluene, Ethylbenzene, and Xylene Mixtures PAHs = Polycyclic Aromatic Hydrocarbons			

The laboratory analytical test results for the submitted groundwater samples are all below the applicable Site Condition Standards for the select tested COPC groupings with the exception of our sample secured from 'MW109' which reportedly exceeds for select VOC parameters, specifically Cis-1,2-Dichloroethylene and Tetrachloroethylene.

The AGAT certificate of analysis for the groundwater analytical data is contained in Appendix 'C' for reference.

6.0 (viii) SEDIMENT QUALITY

Sediment sampling was not conducted as part of the Phase Two activities.

6.0 (ix) QUALITY ASSURANCE AND QUALITY CONTROL RESULTS

QA/QC was maintained during the field program through equipment decontamination and sampling procedures, as outlined in the "*MOE Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario*" (May, 1996).

Standard QA/QC protocols were followed for bottle preparation, sample collection and transportation, as outlined by MOE guidance documents, including the MOE's 2011 "*Protocol for Analytical Methods Used in the Assessment of Properties Under Part XV.1 of the Environmental Protection Act*".

In addition to these field-based measures, extensive QA/QC procedures were carried out by the analytical laboratories, including:

- Lab blanks;
- Spikes;
- Matrix blanks; and
- Instrument blanks and assessments of instrument tuning and performance.

Based on the evaluation of the sampling and analytical procedures used, the following data quality statements can be made:

- The data is adequate for the RSC objectives and approach utilized; and,
- Soil analytical data were of an acceptable quality for comparison to Table 3 SCS as defined by *O.Reg.153/04, as amended,* for current investigations;

No deviations from the QA/QC protocols were noted during the completion of the Phase Two ESA fieldwork.

6.0 (x) PHASE TWO CONCEPTUAL SITE MODEL

SOIL-MAT ENGINEERS has not prepared a Phase Two CSM as part of this Phase Two ESA. However, a Phase Two CSM will be prepared to support the eventual filing of an RSC and once the supplemental Phase Two activities have been completed.

7.0 CONCLUSIONS

A description of the staff members associated with the completion of the Phase Two ESA activities is contained in Appendix 'D' of this Report. The ESA activities were supervised by Mr. Stephen R. Sears, B. Eng. Mgmt., P. Eng., QP_{ESA}, who is a Qualified Person for the undertaking of ESA activities.

The Phase Two activities included the advancement of sixteen [16] boreholes and three [3] hand dug test pit to facilitate the collection and submission of select soil samples for laboratory analytical testing. In addition, a groundwater monitoring well was installed at nine [9] of our borehole locations to facilitate the collection and submission of groundwater samples for laboratory analytical testing.

Of note, our Phase Two activities were completed in conjunction with a geotechnical investigation and hydrogeological study of the subject lands by this Office. As such, only three [3] of the nine [9] monitoring wells were advanced for the purpose of our Phase Two activities.

Based on SOIL-MAT ENGINEERS' field observations and the results of the laboratory analytical testing, SOIL-MAT ENGINEERS is pleased to offer the following:

- The Phase Two activities carried out by SOIL-MAT ENGINEERS revealed exceedances for select metal parameters across the Phase Two Property, including the following:
  - Elevated levels of Lead were reported in two [2] isolated borehole locations, specifically 'BH3' at a depth of approximately 0.8 – 1.4 metres below ground surface [bgs] and 'BH6' at a depth of approximately 7.5 metres bgs;
  - An elevated level of Zinc was reported in an isolated borehole location, specifically 'BH2' at a depth of approximately 1.5 – 2.1 metres bgs;
  - An elevated level of Barium was reported in an isolated borehole location, specifically 'BH103' at a depth of approximately 1.5 – 2.1 metres bgs.
  - An elevated level of Boron (Hot Water Soluble) was reported in an isolated borehole location, specifically 'BH109' at a depth of approximately 7.60 – 7.65 metres bgs.
  - Elevated levels of Electrical Conductivity [EC] and Sodium Adsorption Ratio [SAR] were reported across majority of the Site. However, Section 49.1 of Regulation 153/04 [as amended], provides the following exemption: "If an applicable site condition standard is exceeded at a property solely because of one of the following reasons, the applicable site condition standard is deemed not to be exceeded for the purpose of Part XV.1 of the Act:

    1. The qualified person has determined, based on a phase one environmental site assessment or a phase two environmental site assessment, that a substance has been applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both."

    Given the historical use of de-icing salts on the Site as a commercial parking lot and use on the adjacent municipal roadways, it is the opinion of the QP that the elevated levels of the noted parameters are a direct result of a substance applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both. As such, EC, SAR are not considered contaminants on the Site. In addition, the soil samples with reported elevated

levels of EC and/or SAR above the Table 3 RPI Standards are not considered to exceed the Standards.

- The laboratory analytical test result for the remaining soil samples all reportedly meet the applicable site condition standards for the select tested contaminants of potential concern [COPCs], and;
- The laboratory analytical test results for the submitted groundwater samples are all below the applicable Site Condition Standards for the select tested COPC groupings with the exception of our sample secured from 'MW109' which reportedly exceeds for select volatile organic compound [VOC] parameters, specifically Cis-1,2-Dichloroethylene and Tetrachloroethylene.

The samples secured for analytical testing are believed to be representative of the conditions at the sample locations only. If any significant changes are noted, i.e., odours, staining etc., SOIL-MAT ENGINEERS should be contacted to reassess the environmental characteristics of the Site.

As noted in the preamble above, isolated 'hotspots' of soil exhibiting elevated levels for various Metal parameters were reported in select borehole locations across the property. With respect to documented elevated levels of select Metal parameters, additional intrusive soil sampling is recommended to further delineate the lateral and vertical extent of the isolated 'hot spots' and/or demonstrate that the noted exceedances are anomalous in nature and not representative of the actual soil conditions at these locations.

In addition, our groundwater sample secured from 'MW109' exhibited elevated levels of select VOC parameters. As such, additional intrusive groundwater sampling is recommended to further delineate the lateral and vertical extent of the isolated 'hot spot' and/or demonstrate that the noted exceedance is anomalous in nature and not representative of the actual groundwater conditions at this location. The delineation activities should include the installation of a 'deeper' groundwater monitoring well that is screened at a greater depth than 'MW 109'.

It is noted that pending the results of supplemental assessment activities, some form of soil and/or groundwater remediation or potentially a combination of remediation and Risk Assessment [RA] activities may be required to support the filing of an RSC.

Risk Assessments, whether completed as a Modified Generic Risk Assessment [MGRA] or a Tier III Site-Specific Risk Assessment [SSRA] are a scientific approach that can be used for the assessment and management of adverse environmental conditions on a property while allowing [in many cases] a change in land use to a more sensitive use. Risk Assessments can be used to identify actual environmental concerns and provide rationale and control measures on a site-specific basis, whether through the development of Property Specific Standards or implementing mitigative control measures to manage soil/groundwater on-site, etc.

The estimated timeline to complete an MGRA is approximately 10-12 months. The estimated timeline to complete a SSRA is approximately two [2] years from the date of commencement of the RA activities. Of note, RAs typically facilitate the on-site management of soil, exhibiting elevated levels of select COPCs, although some level of soil remediation is often required as part of the RA activities.

Based on the information currently available to SOIL-MAT ENGINEERS, a RSC cannot be filed for the Phase Two Property without undertaking additional soil and groundwater delineation and a soil and groundwater remediation programme and/or some level of risk assessment [RA] activities; or a combination of both.

It is noted that subsurface soil conditions may be present on-site that are not typical of those presented in this Report. If future activities reveal such soils, SOIL-MAT ENGINEERS should be contacted to assess the soil conditions with respect to the proposed activity.

SOIL-MAT ENGINEERS & CONSULTANTS LTD. prepared this Report for the account of BURLINGTON 2020 LAKESHORE INC. The material in if reflects SOIL-MAT ENGINEERS' best judgement 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 or decisions to be made based on it, are the responsibility of such third parties. SOIL-MAT ENGINEERS accepts no responsibility for damages, if any suffered by any third party as a result of decisions made or actions based on this report.

We trust this Report is satisfactory for your purposes. Please feel free to contact our Office if you have any questions, or we may be of further service to you.

Yours very truly,
SOIL-MAT ENGINEERS & CONSULTANTS LTD.

Billy Olds, B.Sc.
Environmental Technician

Keith Gleadall, B.A., EA Dipl.
Environmental Manager

Stephen R. Sears, B. Eng. Mgmt., P. Eng., QP_{ESA}
Review Engineer

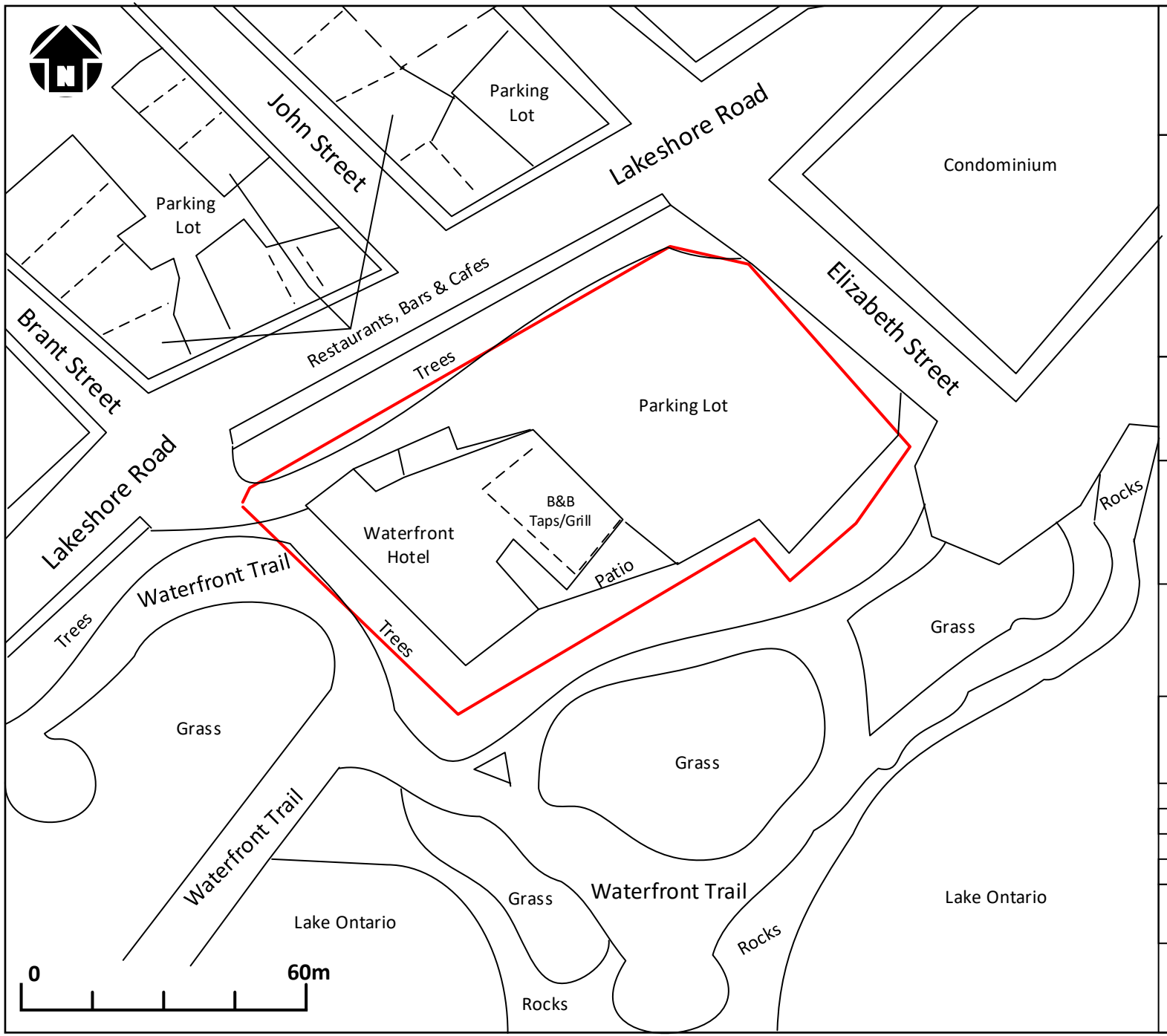
LICENSED PROFESSIONAL ENGINEER
DEC 17/21
S. R. SEARS
PROVINCE OF ONTARIO

Distribution: BURLINGTON 2020 LAKESHORE INC. [2]

Enclosures:
Appendix 'A' Site Plan Drawings and Borehole Logs;
Appendix 'B' AGAT Soil Analytical Data;
Appendix 'C' AGAT Ground Water Analytical Data
Appendix 'D' Qualifications of Assessors;
Appendix 'E' Statement of Limitations

Appendix 'A'

1. Drawing No.: 1: Site Plan;
2. Drawing No.: 1A: APECs;
3. Drawing No.: 2: Borehole Location Plan;
4. Drawing No.: 3A: Analytical Data Summary [Soil] Metals;
5. Drawing No.: 3B: Analytical Data Summary [Soil] EC & SAR;
6. Drawing No.: 3C: Analytical Data Summary [Soil] PHCs;
7. Drawing No.: 3D: Analytical Data Summary [Soil] BTEX;
8. Drawing No.: 3E: Analytical Data Summary [Soil] VOCs;
9. Drawing No.: 3F: Analytical Data Summary [Soil] PAHs;
10. Drawing No.: 4A: Analytical Data Summary [Groundwater] Metals;
11. Drawing No.: 4B: Analytical Data Summary [Groundwater] EC & SAR;
12. Drawing No.: 4C: Analytical Data Summary [Groundwater] PHCs;
13. Drawing No.: 4D: Analytical Data Summary [Groundwater] BTEX;
14. Drawing No.: 4E: Analytical Data Summary [Groundwater] VOCs;
15. Drawing No.: 4E: Analytical Data Summary [Groundwater] PAHs;
16. Borehole Logs;
17. Grain Size Analysis



LEGEND

= Site Boundary

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301114-E

Soil-Mat
Engineers & Consultants Ltd.

CLIENT

BURLINGTON 2020 LAKESHORE INC.

PROJECT TITLE

Phase Two Environmental Site Assessment
2020 Lakeshore Road,
Burlington, Ontario

DRAWING TITLE

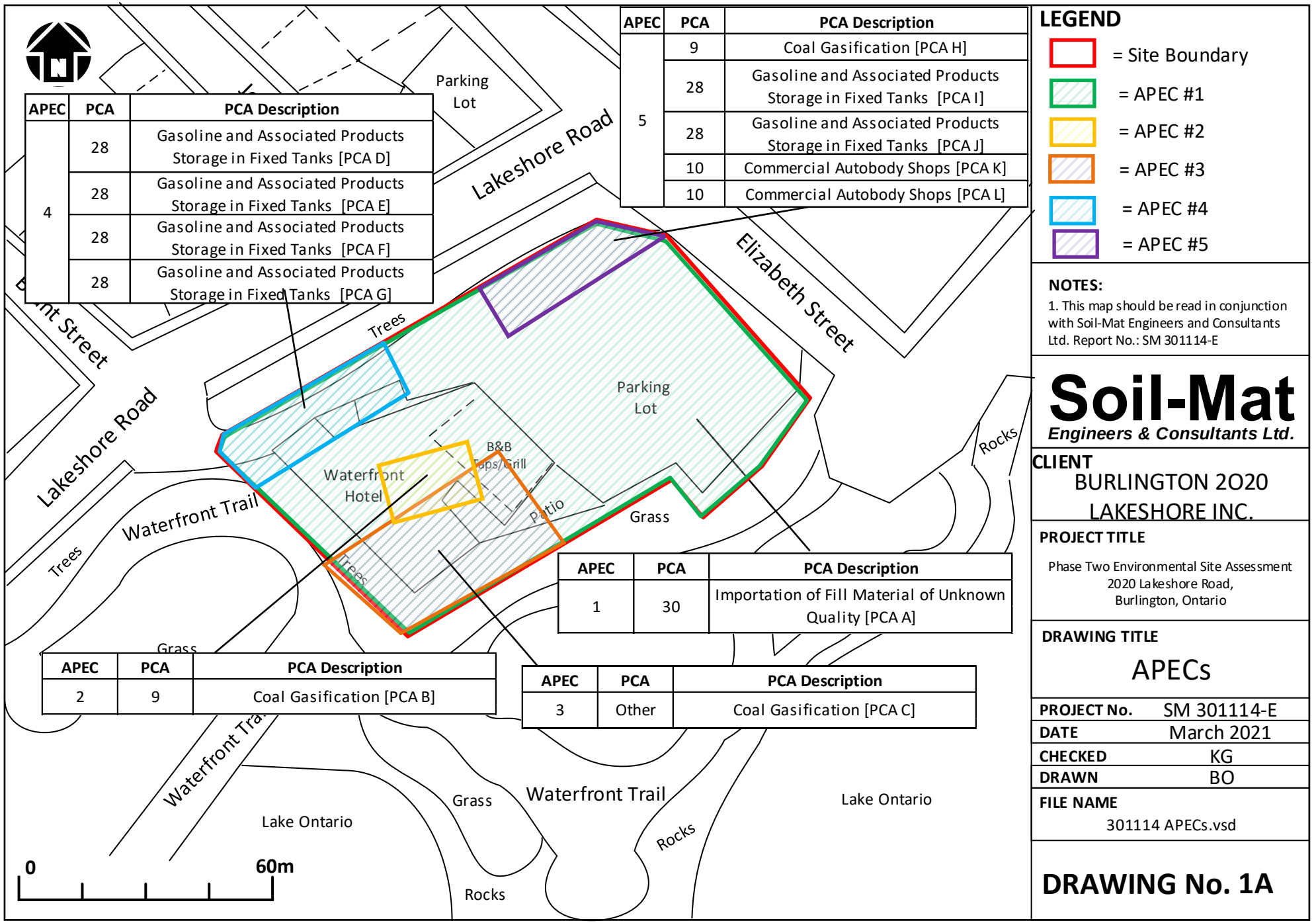
Site Plan

PROJECT No.	SM 301114-E
DATE	March 2021
CHECKED	KG
DRAWN	BO

FILE NAME

301114 Site Plan 2.vsd

DRAWING No. 1



APEC	PCA	PCA Description
4	28	Gasoline and Associated Products Storage in Fixed Tanks [PCA D]
	28	Gasoline and Associated Products Storage in Fixed Tanks [PCA E]
	28	Gasoline and Associated Products Storage in Fixed Tanks [PCA F]
	28	Gasoline and Associated Products Storage in Fixed Tanks [PCA G]

APEC	PCA	PCA Description
5	9	Coal Gasification [PCA H]
	28	Gasoline and Associated Products Storage in Fixed Tanks [PCA I]
	28	Gasoline and Associated Products Storage in Fixed Tanks [PCA J]
	10	Commercial Autobody Shops [PCA K]
	10	Commercial Autobody Shops [PCA L]

APEC	PCA	PCA Description
1	30	Importation of Fill Material of Unknown Quality [PCA A]

APEC	PCA	PCA Description
2	9	Coal Gasification [PCA B]

APEC	PCA	PCA Description
3	Other	Coal Gasification [PCA C]

LEGEND

- = Site Boundary
- = APEC #1
- = APEC #2
- = APEC #3
- = APEC #4
- = APEC #5

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301114-E

Soil-Mat
Engineers & Consultants Ltd.

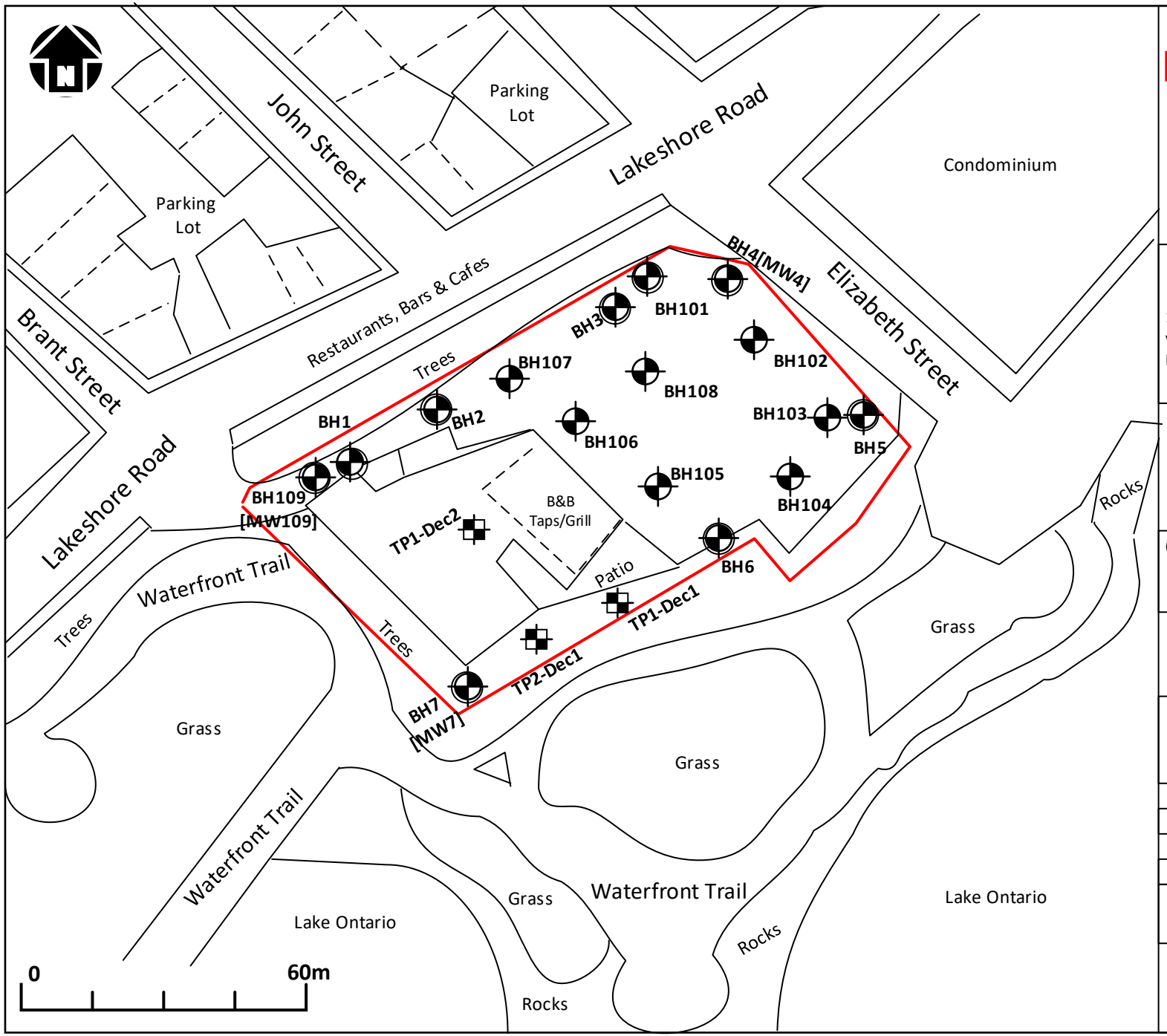
CLIENT
BURLINGTON 2020 LAKESHORE INC.

PROJECT TITLE
Phase Two Environmental Site Assessment
2020 Lakeshore Road,
Burlington, Ontario

DRAWING TITLE
APECs

PROJECT No.	SM 301114-E
DATE	March 2021
CHECKED	KG
DRAWN	BO
FILE NAME	301114 APECs.vsd

DRAWING No. 1A



LEGEND

- = Site Boundary
- = Borehole Location (BH#)
- = Monitoring Well Location (MW#)
- = Testpit Location (TP#)

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301114-E

Soil-Mat
Engineers & Consultants Ltd.

CLIENT
BURLINGTON 2020 LAKESHORE INC.

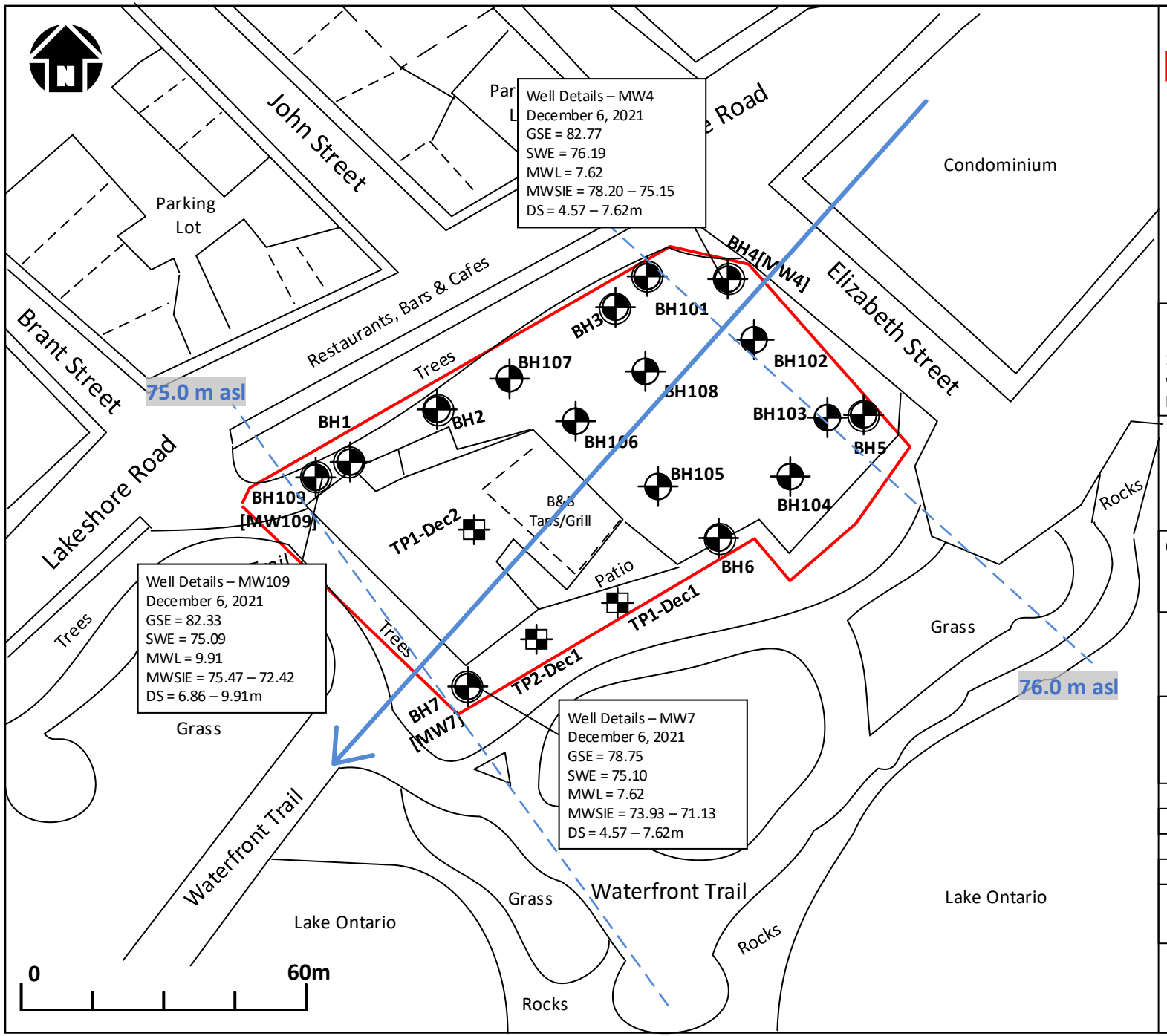
PROJECT TITLE
Phase Two Environmental Site Assessment
2020 Lakeshore Road,
Burlington, Ontario

DRAWING TITLE
Borehole/Monitoring Well Location Plan

PROJECT No.	SM 301114-E
DATE	December 2021
CHECKED	SRS
DRAWN	BO

FILE NAME
301114 Phase Two Drawings.vsd

DRAWING No. 2



LEGEND

- = Site Boundary
- = Borehole Location (BH#)
- = Monitoring Well Location (MW#)
- = Testpit Location (TP#)

GSE = Monitoring Well Ground Surface Elevation
SWE = Static Water Elevation [taken on Dec 6, 2021]
MWL = Monitoring Well Length
MWSIE = Monitoring Well Screen Interval Elevation
DS = Depth of Screen

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301114-E

Soil-Mat
Engineers & Consultants Ltd.

CLIENT
BURLINGTON 2020 LAKESHORE INC.

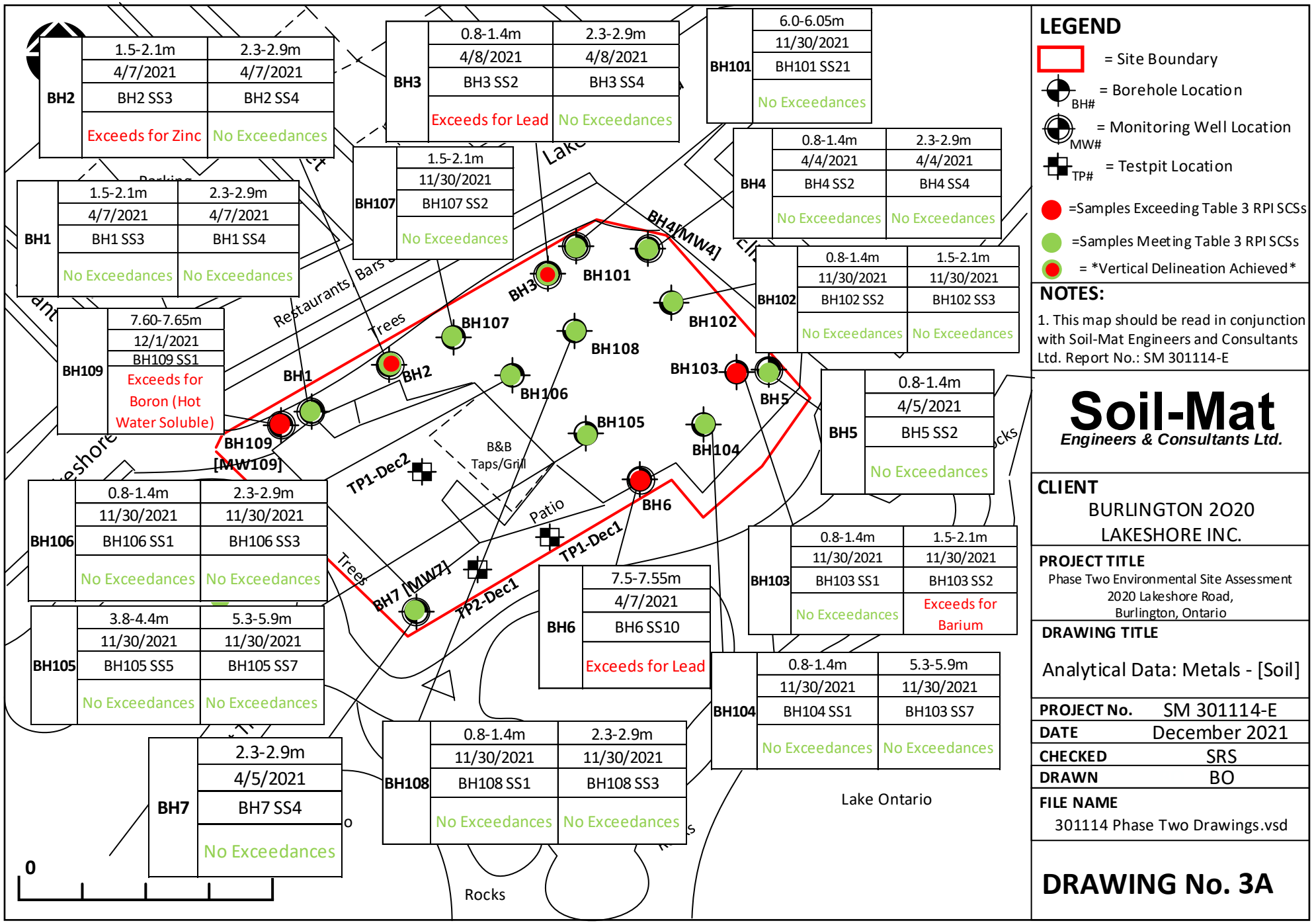
PROJECT TITLE
Phase Two Environmental Site Assessment
2020 Lakeshore Road,
Burlington, Ontario

DRAWING TITLE
Groudwater Flow Direction

PROJECT No.	SM 301114-E
DATE	December 2021
CHECKED	SRS
DRAWN	BO

FILE NAME
301114 Phase Two Drawings.vsd

DRAWING No. 2A



LEGEND

- = Site Boundary
- = Borehole Location (BH#)
- = Monitoring Well Location (MW#)
- = Testpit Location (TP#)
- =Samples Exceeding Table 3 RPI SCSs
- =Samples Meeting Table 3 RPI SCSs
- = *Vertical Delineation Achieved*

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301114-E

Soil-Mat
Engineers & Consultants Ltd.

CLIENT
BURLINGTON 2020 LAKESHORE INC.

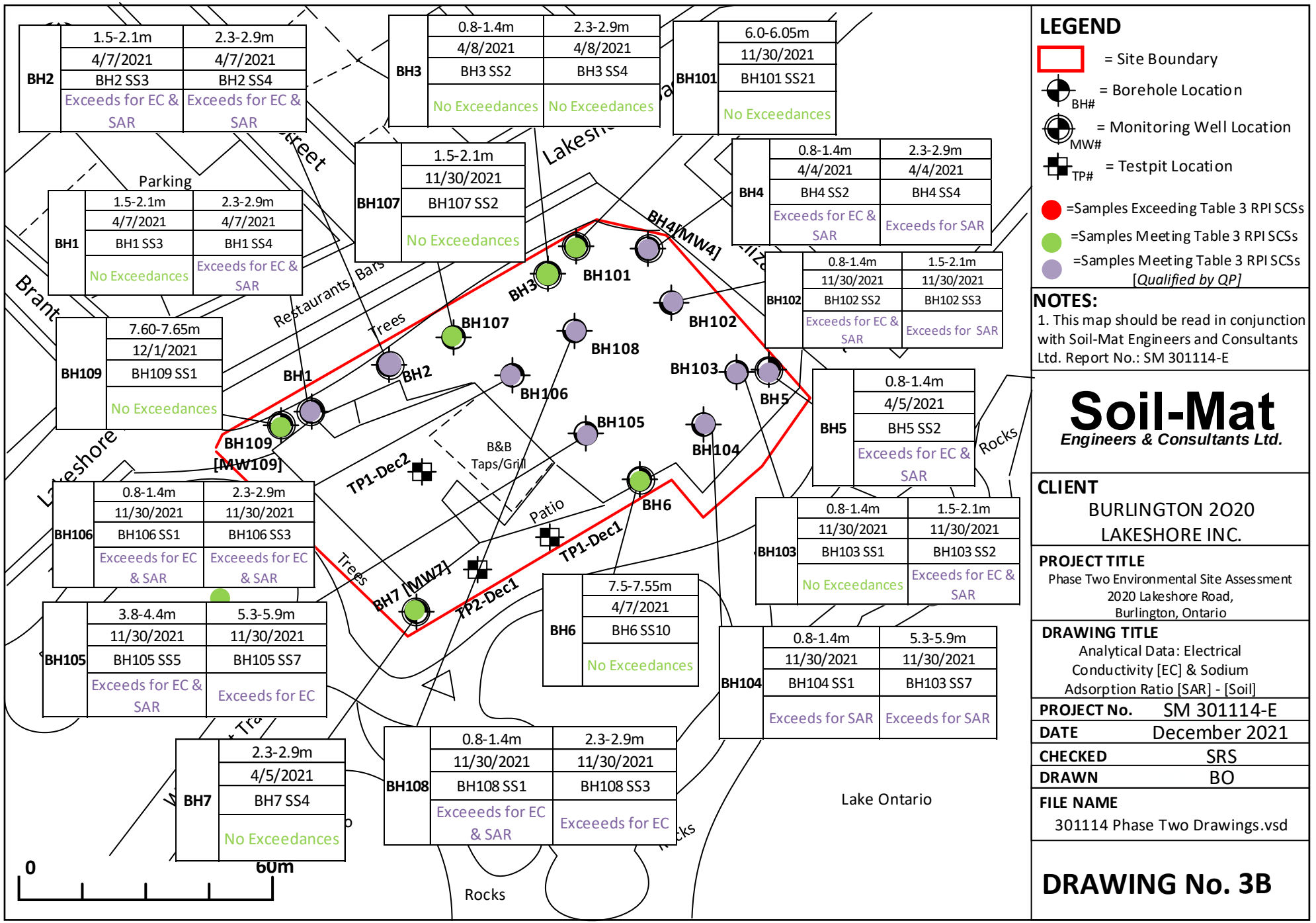
PROJECT TITLE
Phase Two Environmental Site Assessment
2020 Lakeshore Road,
Burlington, Ontario

DRAWING TITLE
Analytical Data: Metals - [Soil]

PROJECT No.	SM 301114-E
DATE	December 2021
CHECKED	SRS
DRAWN	BO

FILE NAME
301114 Phase Two Drawings.vsd

DRAWING No. 3A



LEGEND

- = Site Boundary
- = Borehole Location (BH#)
- = Monitoring Well Location (MW#)
- = Testpit Location (TP#)
- =Samples Exceeding Table 3 RPI SCSs
- =Samples Meeting Table 3 RPI SCSs
- =Samples Meeting Table 3 RPI SCSs *[Qualified by QP]*

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301114-E

Soil-Mat
Engineers & Consultants Ltd.

CLIENT
BURLINGTON 2020 LAKESHORE INC.

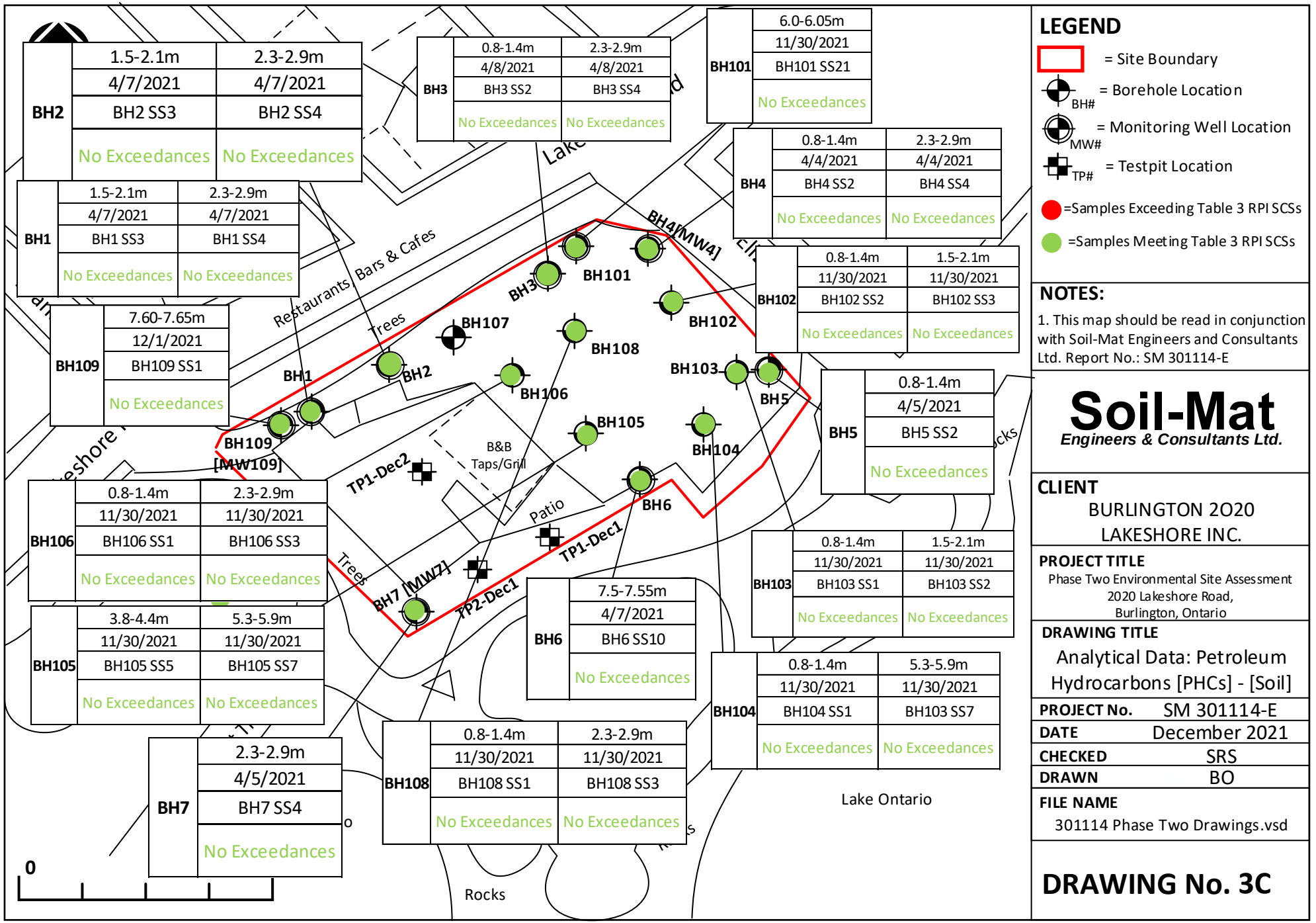
PROJECT TITLE
Phase Two Environmental Site Assessment
2020 Lakeshore Road,
Burlington, Ontario

DRAWING TITLE
Analytical Data: Electrical Conductivity [EC] & Sodium Adsorption Ratio [SAR] - [Soil]

PROJECT No.	SM 301114-E
DATE	December 2021
CHECKED	SRS
DRAWN	BO

FILE NAME
301114 Phase Two Drawings.vsd

DRAWING No. 3B



LEGEND

- = Site Boundary
- = Borehole Location (BH#)
- = Monitoring Well Location (MW#)
- = Testpit Location (TP#)
- =Samples Exceeding Table 3 RPI SCSs
- =Samples Meeting Table 3 RPI SCSs

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301114-E

Soil-Mat
Engineers & Consultants Ltd.

CLIENT
BURLINGTON 2020 LAKESHORE INC.

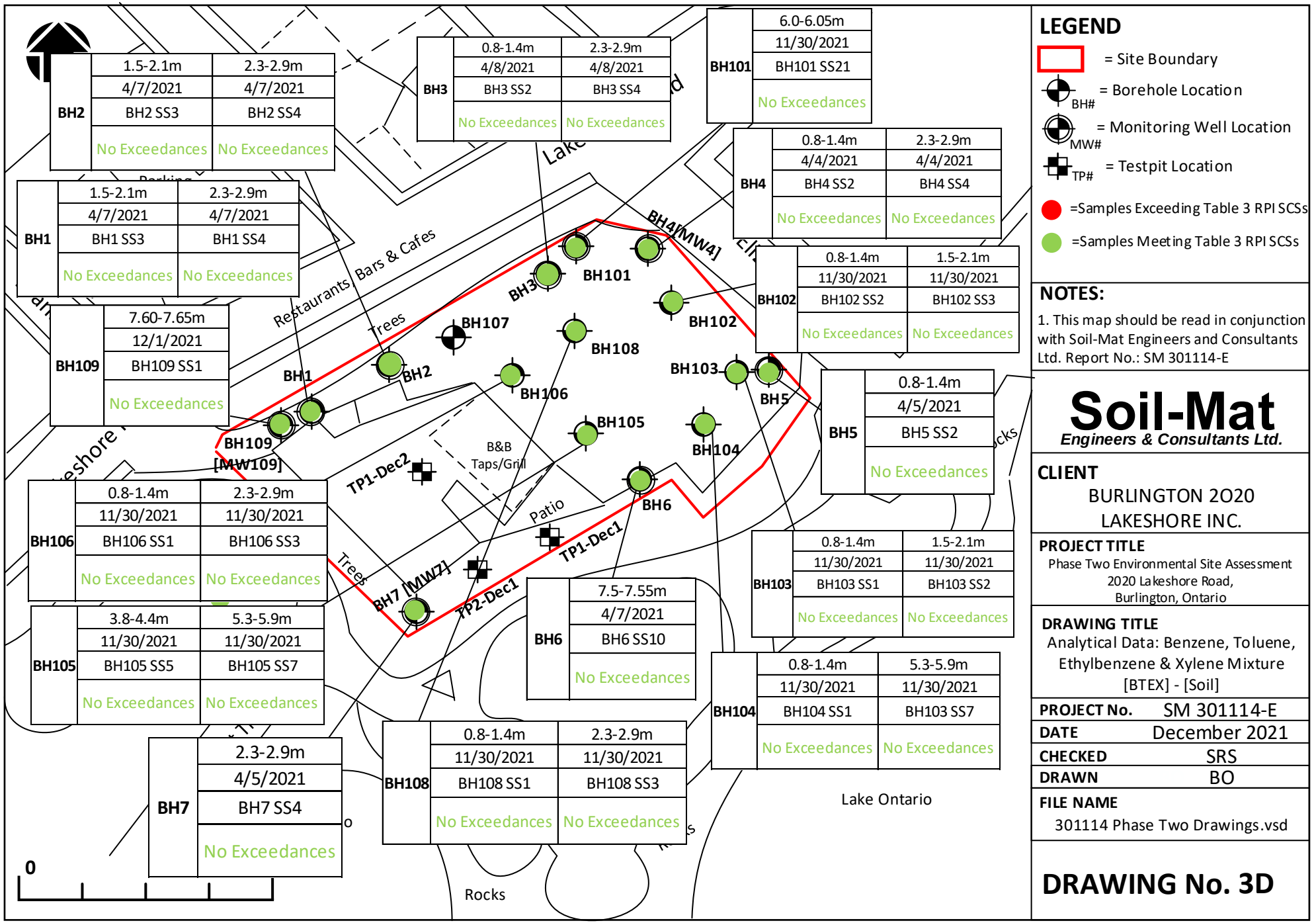
PROJECT TITLE
Phase Two Environmental Site Assessment
2020 Lakeshore Road,
Burlington, Ontario

DRAWING TITLE
Analytical Data: Petroleum Hydrocarbons [PHCs] - [Soil]

PROJECT No.	SM 301114-E
DATE	December 2021
CHECKED	SRS
DRAWN	BO

FILE NAME
301114 Phase Two Drawings.vsd

DRAWING No. 3C



LEGEND

- = Site Boundary
- = Borehole Location (BH#)
- = Monitoring Well Location (MW#)
- = Testpit Location (TP#)
- =Samples Exceeding Table 3 RPI SCSs
- =Samples Meeting Table 3 RPI SCSs

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301114-E

Soil-Mat
Engineers & Consultants Ltd.

CLIENT
BURLINGTON 2020 LAKESHORE INC.

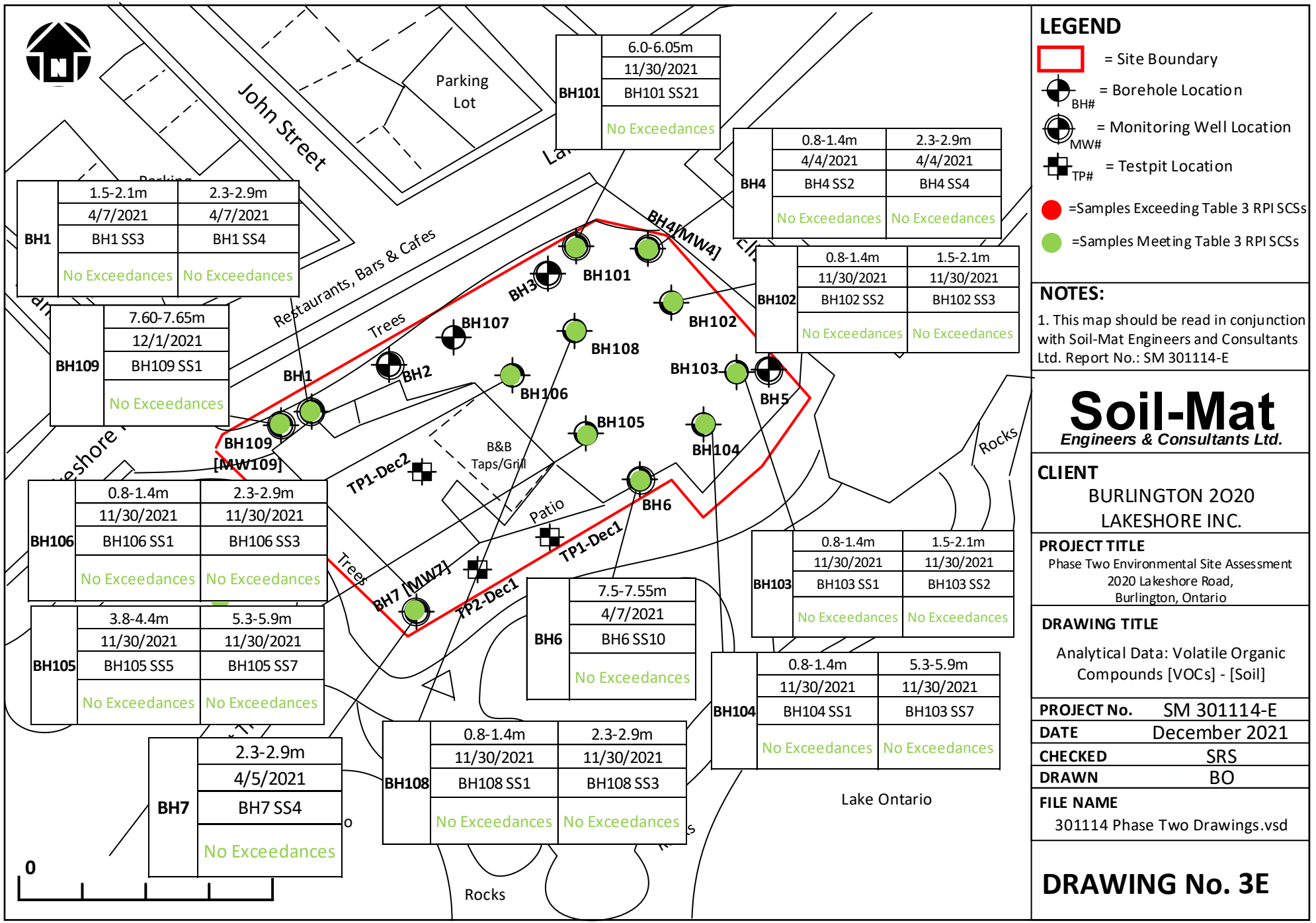
PROJECT TITLE
Phase Two Environmental Site Assessment
2020 Lakeshore Road,
Burlington, Ontario

DRAWING TITLE
Analytical Data: Benzene, Toluene, Ethylbenzene & Xylene Mixture [BTEX] - [Soil]

PROJECT No.	SM 301114-E
DATE	December 2021
CHECKED	SRS
DRAWN	BO

FILE NAME
301114 Phase Two Drawings.vsd

DRAWING No. 3D



LEGEND

- = Site Boundary
- = Borehole Location (BH#)
- = Monitoring Well Location (MW#)
- = Testpit Location (TP#)
- =Samples Exceeding Table 3 RPI SCSs
- =Samples Meeting Table 3 RPI SCSs

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301114-E

Soil-Mat
Engineers & Consultants Ltd.

CLIENT
BURLINGTON 2020 LAKESHORE INC.

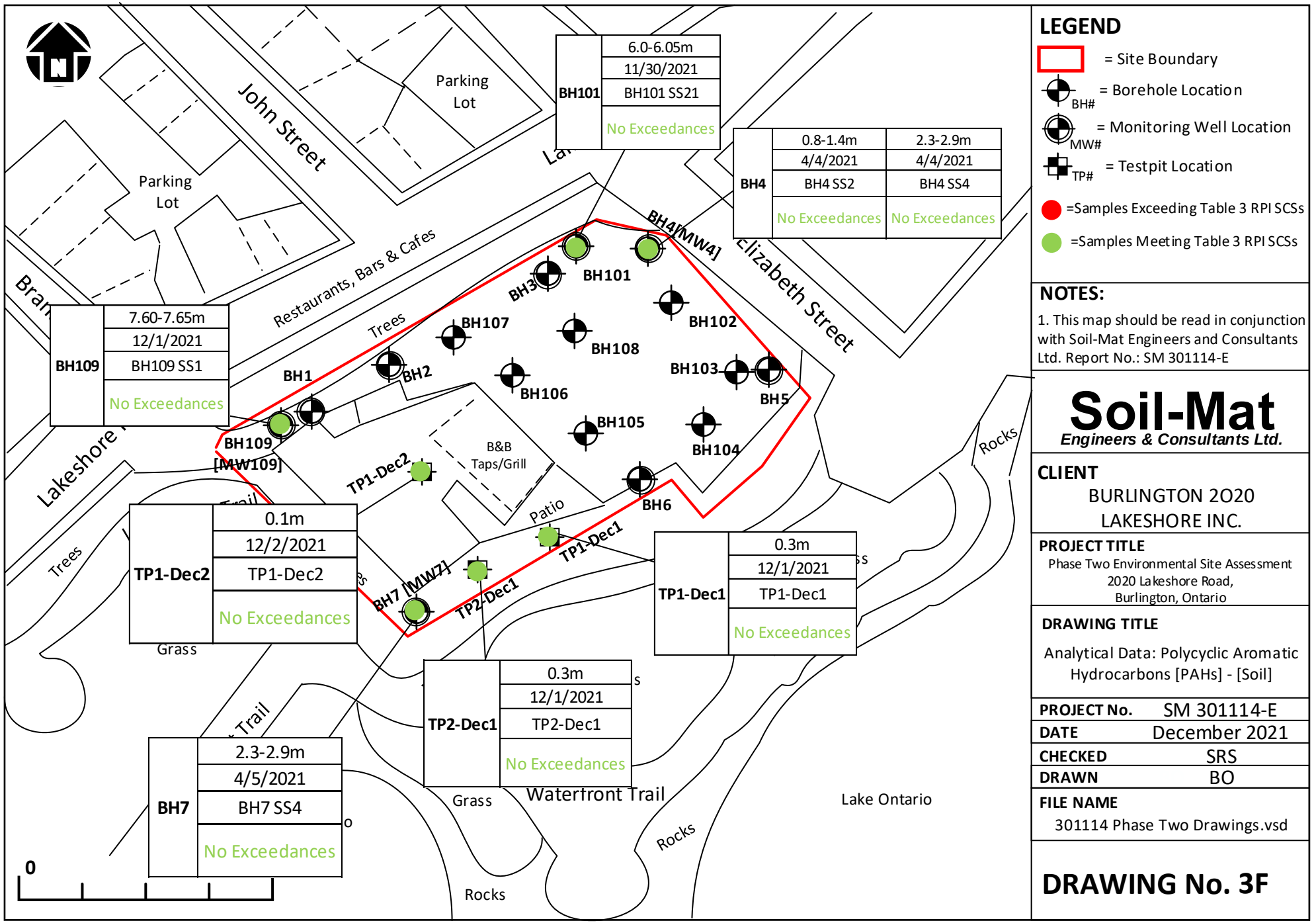
PROJECT TITLE
Phase Two Environmental Site Assessment
2020 Lakeshore Road,
Burlington, Ontario

DRAWING TITLE
Analytical Data: Volatile Organic Compounds [VOCs] - [Soil]

PROJECT No.	SM 301114-E
DATE	December 2021
CHECKED	SRS
DRAWN	BO

FILE NAME
301114 Phase Two Drawings.vsd

DRAWING No. 3E



LEGEND

- = Site Boundary
- = Borehole Location (BH#)
- = Monitoring Well Location (MW#)
- = Testpit Location (TP#)
- =Samples Exceeding Table 3 RPI SCSs
- =Samples Meeting Table 3 RPI SCSs

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301114-E

Soil-Mat
Engineers & Consultants Ltd.

CLIENT
BURLINGTON 2020 LAKESHORE INC.

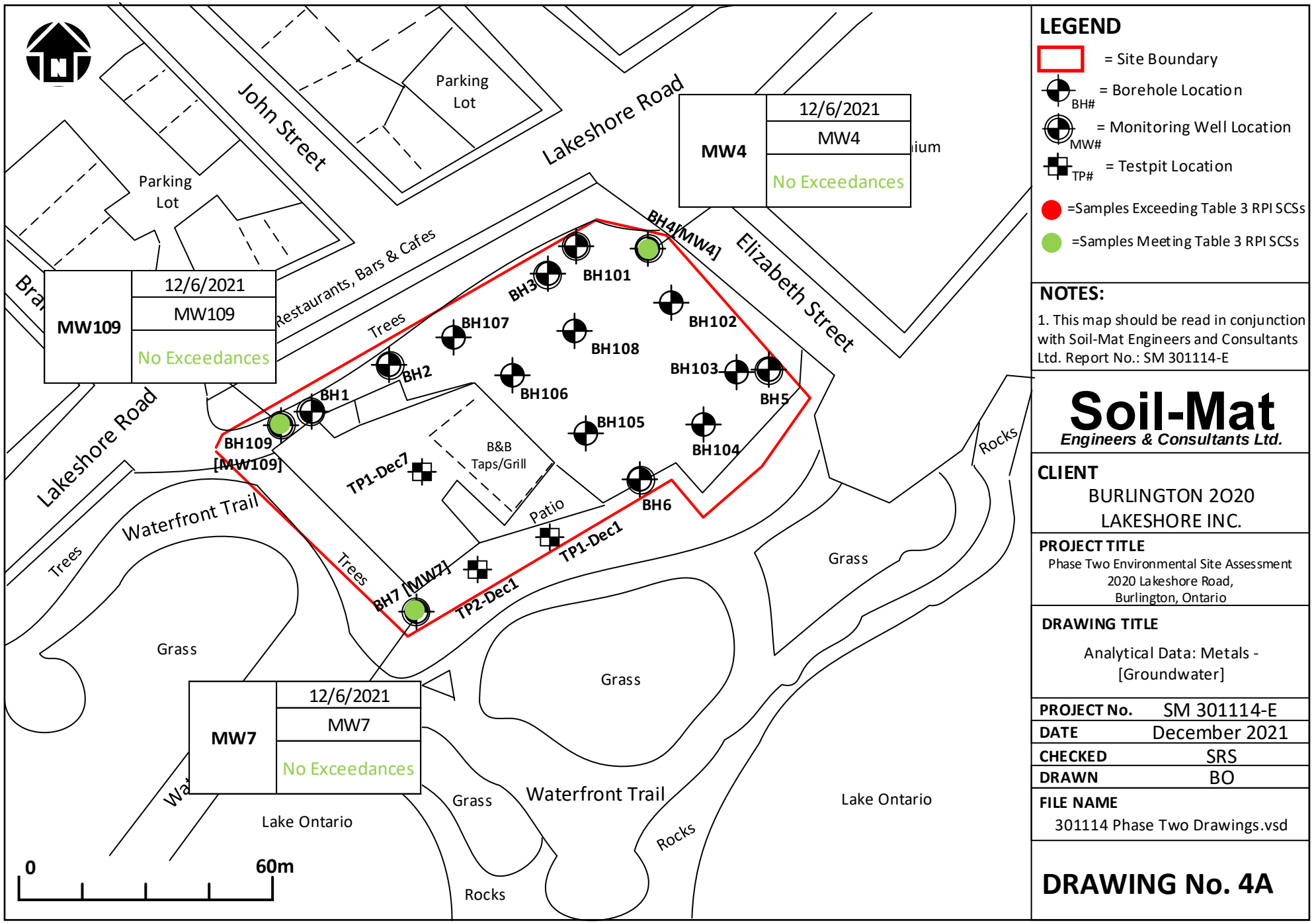
PROJECT TITLE
Phase Two Environmental Site Assessment
2020 Lakeshore Road,
Burlington, Ontario

DRAWING TITLE
Analytical Data: Polycyclic Aromatic Hydrocarbons [PAHs] - [Soil]

PROJECT No.	SM 301114-E
DATE	December 2021
CHECKED	SRS
DRAWN	BO

FILE NAME
301114 Phase Two Drawings.vsd

DRAWING No. 3F



LEGEND

- = Site Boundary
- = Borehole Location (BH#)
- = Monitoring Well Location (MW#)
- = Testpit Location (TP#)
- =Samples Exceeding Table 3 RPI SCSs
- =Samples Meeting Table 3 RPI SCSs

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301114-E

Soil-Mat
Engineers & Consultants Ltd.

CLIENT
BURLINGTON 2020 LAKESHORE INC.

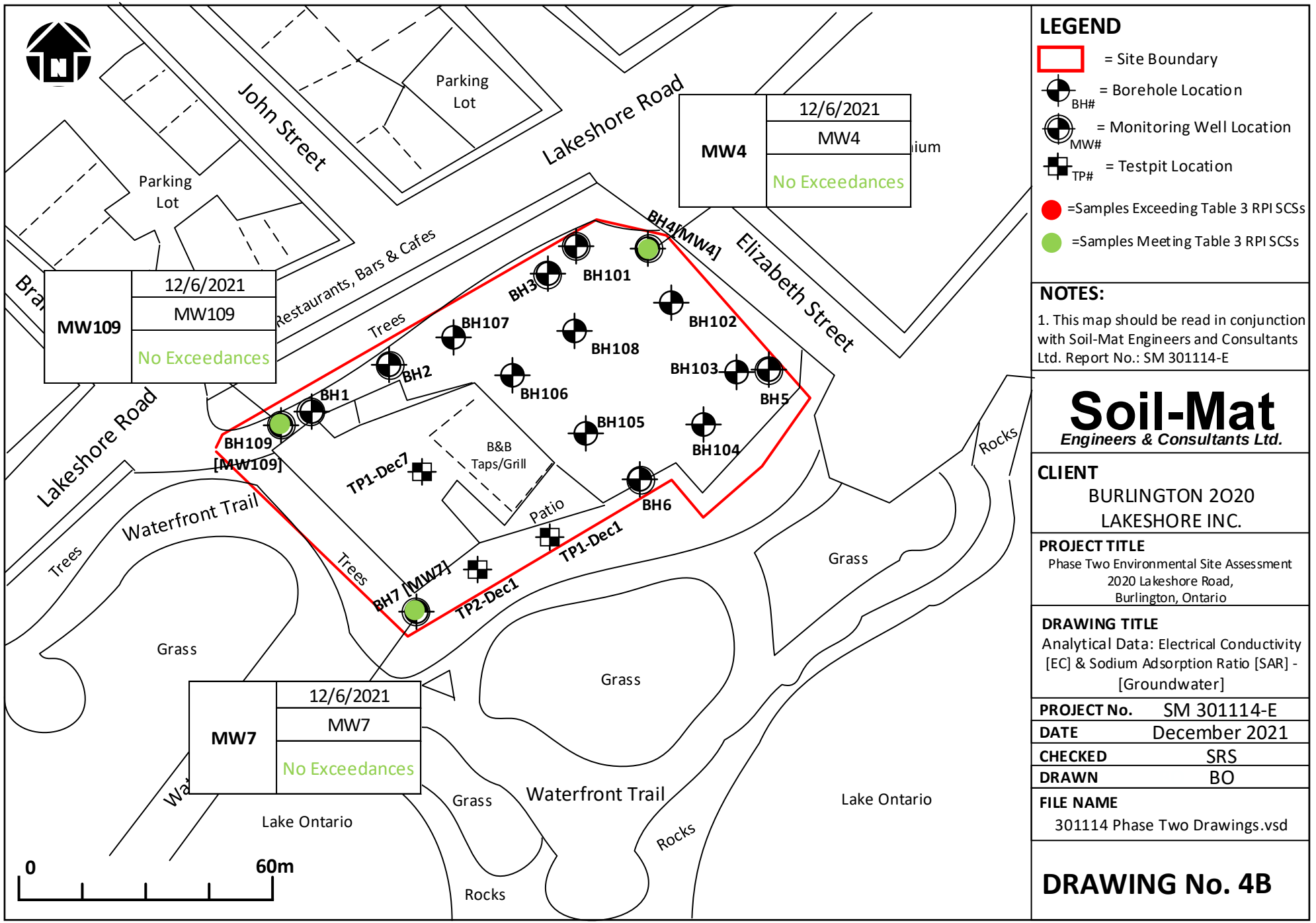
PROJECT TITLE
Phase Two Environmental Site Assessment
2020 Lakeshore Road,
Burlington, Ontario

DRAWING TITLE
Analytical Data: Metals - [Groundwater]

PROJECT No.	SM 301114-E
DATE	December 2021
CHECKED	SRS
DRAWN	BO

FILE NAME
301114 Phase Two Drawings.vsd

DRAWING No. 4A



LEGEND

- = Site Boundary
- = Borehole Location (BH#)
- = Monitoring Well Location (MW#)
- = Testpit Location (TP#)
- =Samples Exceeding Table 3 RPI SCSs
- =Samples Meeting Table 3 RPI SCSs

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301114-E

Soil-Mat
Engineers & Consultants Ltd.

CLIENT
BURLINGTON 2020 LAKESHORE INC.

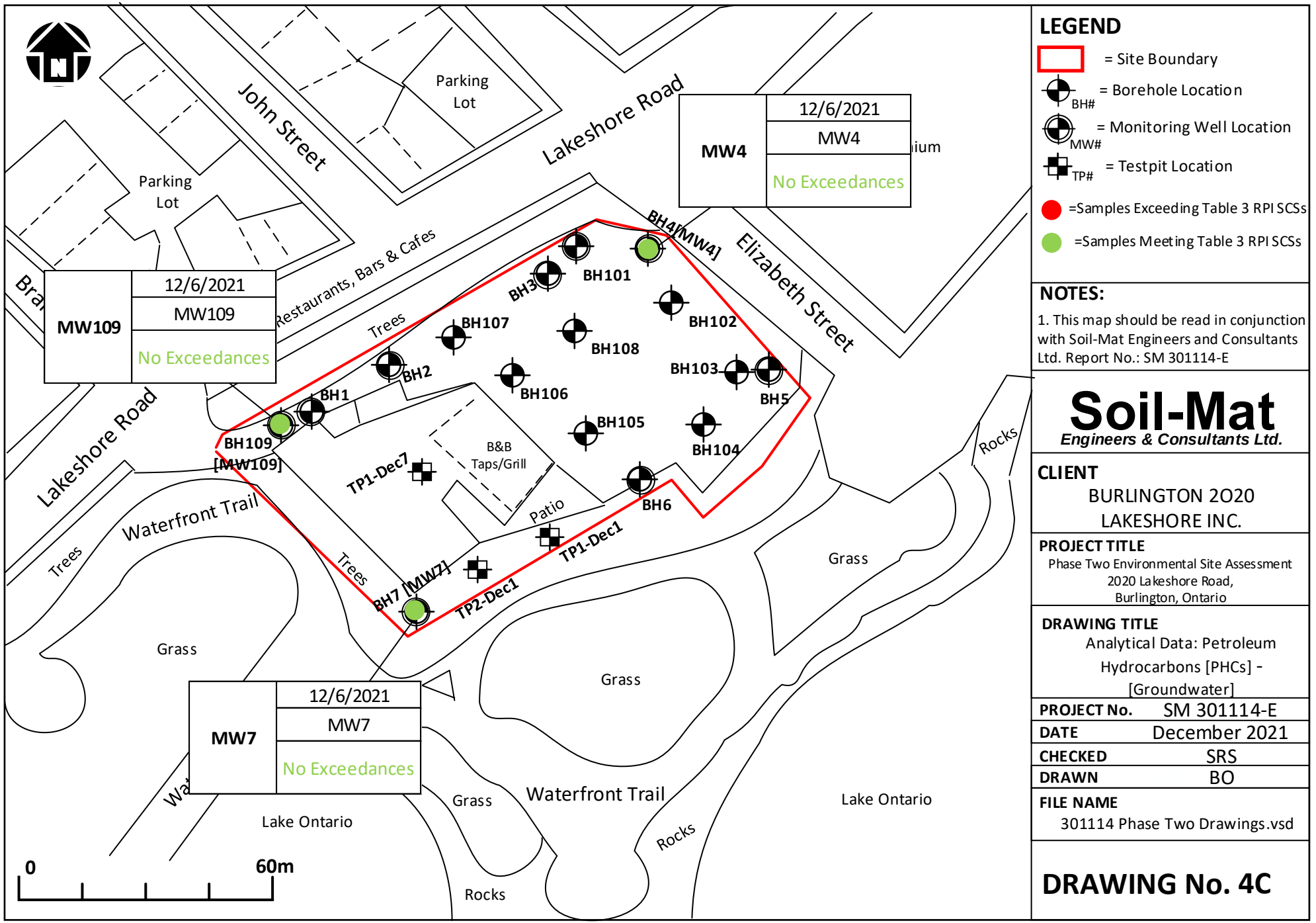
PROJECT TITLE
Phase Two Environmental Site Assessment
2020 Lakeshore Road,
Burlington, Ontario

DRAWING TITLE
Analytical Data: Electrical Conductivity [EC] & Sodium Adsorption Ratio [SAR] - [Groundwater]

PROJECT No.	SM 301114-E
DATE	December 2021
CHECKED	SRS
DRAWN	BO

FILE NAME
301114 Phase Two Drawings.vsd

DRAWING No. 4B



LEGEND

- = Site Boundary
- = Borehole Location (BH#)
- = Monitoring Well Location (MW#)
- = Testpit Location (TP#)
- =Samples Exceeding Table 3 RPI SCSs
- =Samples Meeting Table 3 RPI SCSs

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301114-E

Soil-Mat
Engineers & Consultants Ltd.

CLIENT
BURLINGTON 2020 LAKESHORE INC.

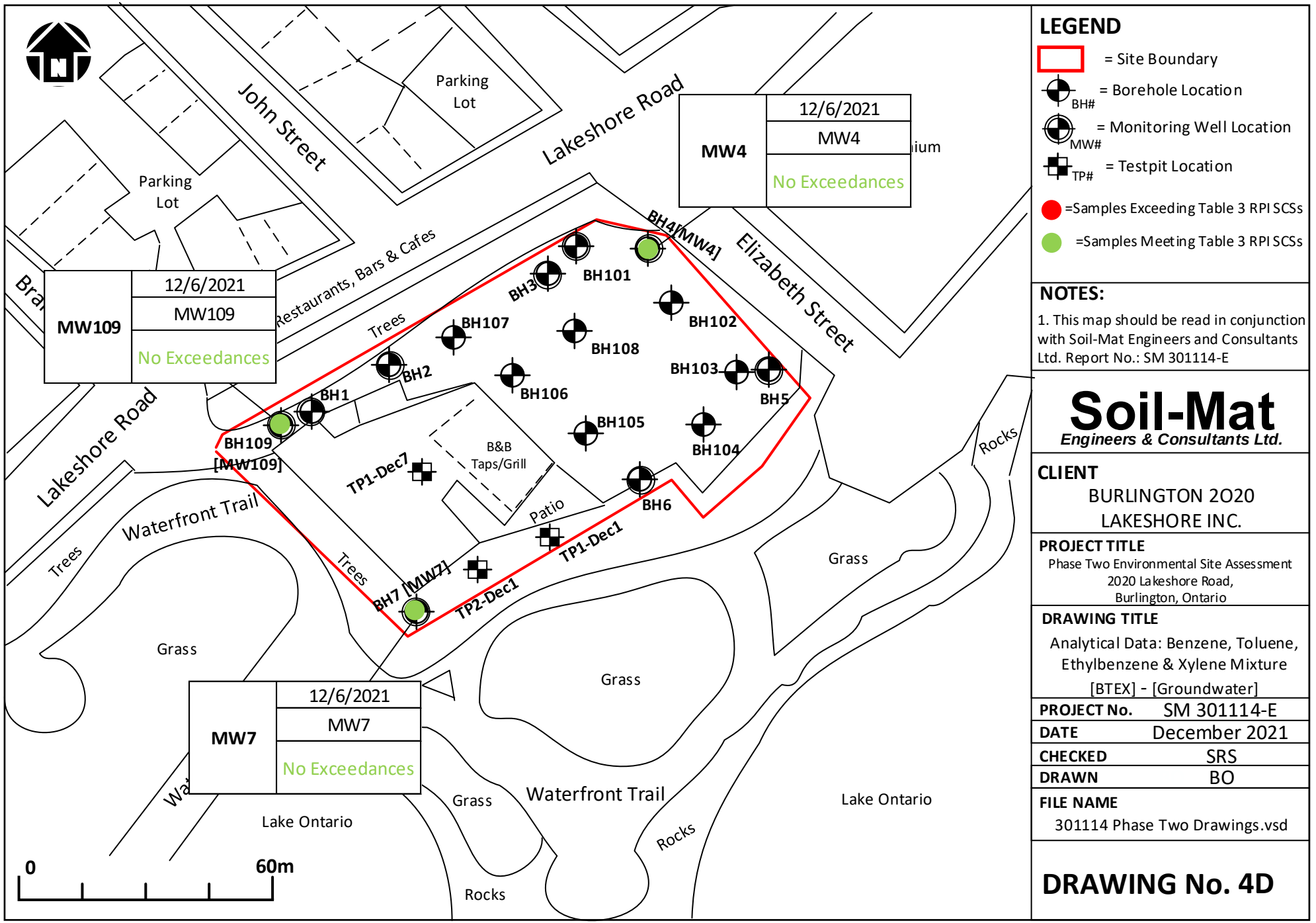
PROJECT TITLE
Phase Two Environmental Site Assessment
2020 Lakeshore Road,
Burlington, Ontario

DRAWING TITLE
Analytical Data: Petroleum Hydrocarbons [PHCs] - [Groundwater]

PROJECT No.	SM 301114-E
DATE	December 2021
CHECKED	SRS
DRAWN	BO

FILE NAME
301114 Phase Two Drawings.vsd

DRAWING No. 4C



LEGEND

- = Site Boundary
- = Borehole Location (BH#)
- = Monitoring Well Location (MW#)
- = Testpit Location (TP#)
- =Samples Exceeding Table 3 RPI SCSs
- =Samples Meeting Table 3 RPI SCSs

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301114-E

Soil-Mat
Engineers & Consultants Ltd.

CLIENT
BURLINGTON 2020 LAKESHORE INC.

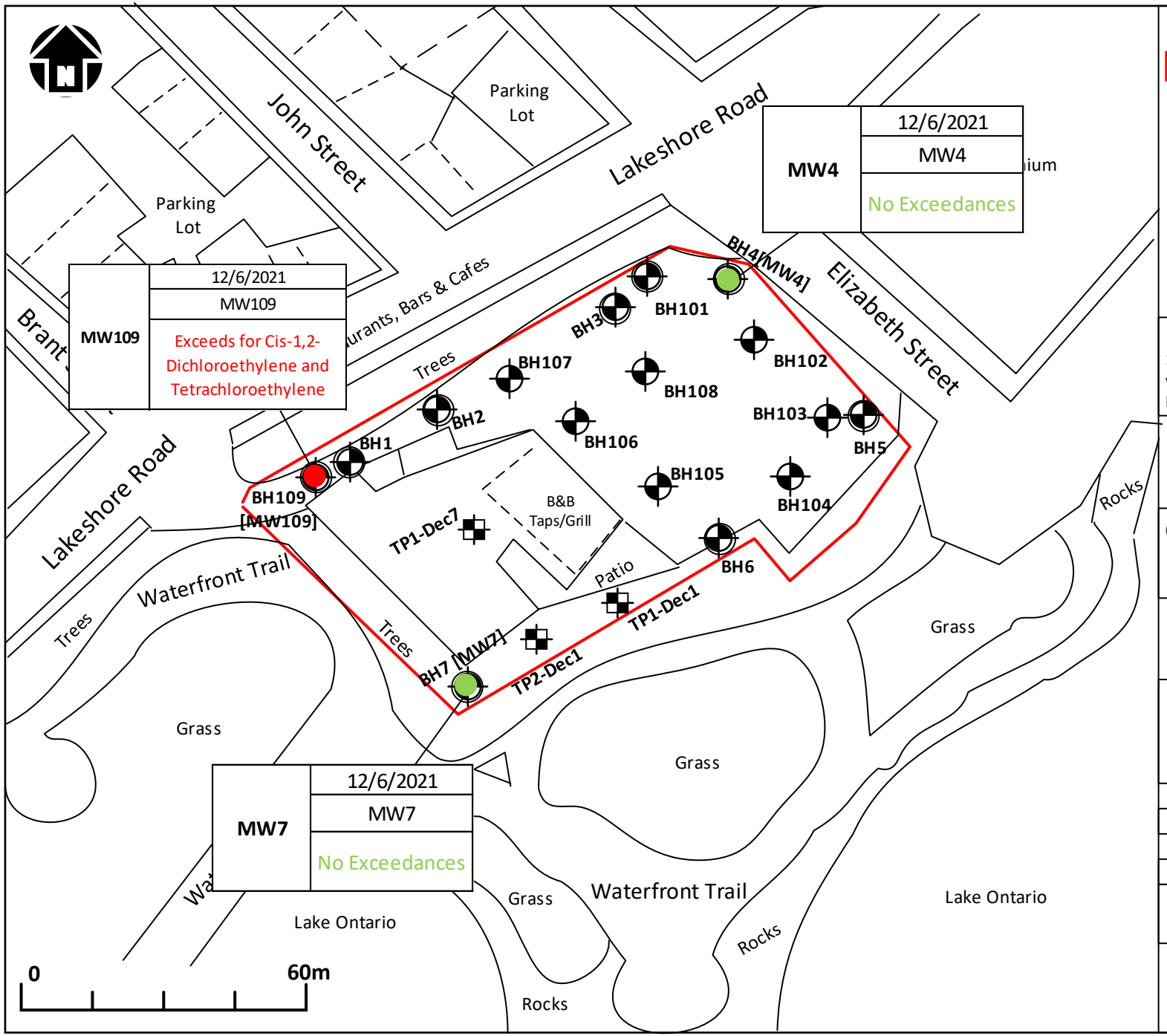
PROJECT TITLE
Phase Two Environmental Site Assessment
2020 Lakeshore Road,
Burlington, Ontario

DRAWING TITLE
Analytical Data: Benzene, Toluene, Ethylbenzene & Xylene Mixture
[BTEX] - [Groundwater]

PROJECT No.	SM 301114-E
DATE	December 2021
CHECKED	SRS
DRAWN	BO

FILE NAME
301114 Phase Two Drawings.vsd

DRAWING No. 4D



LEGEND

- = Site Boundary
- = Borehole Location (BH#)
- = Monitoring Well Location (MW#)
- = Testpit Location (TP#)
- =Samples Exceeding Table 3 RPI SCSs
- =Samples Meeting Table 3 RPI SCSs

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301114-E

Soil-Mat
Engineers & Consultants Ltd.

CLIENT
BURLINGTON 2020 LAKESHORE INC.

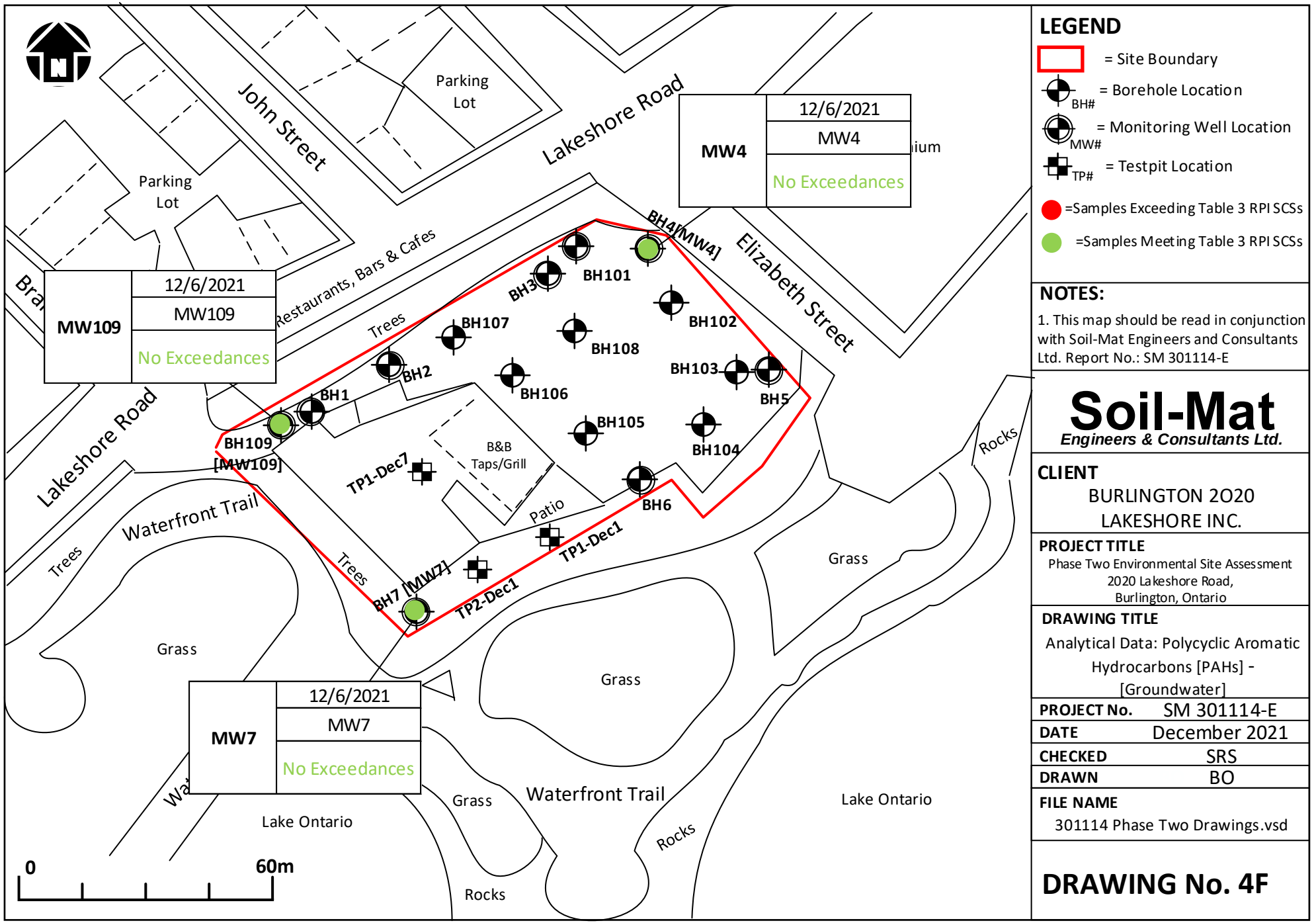
PROJECT TITLE
Phase Two Environmental Site Assessment
2020 Lakeshore Road,
Burlington, Ontario

DRAWING TITLE
Analytical Data: Volatile Organic Compounds [VOCs] - [Groundwater]

PROJECT No.	SM 301114-E
DATE	December 2021
CHECKED	SRS
DRAWN	BO

FILE NAME
301114 Phase Two Drawings.vsd

DRAWING No. 4E



LEGEND

- = Site Boundary
- = Borehole Location (BH#)
- = Monitoring Well Location (MW#)
- = Testpit Location (TP#)
- =Samples Exceeding Table 3 RPI SCSs
- =Samples Meeting Table 3 RPI SCSs

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301114-E

Soil-Mat
Engineers & Consultants Ltd.

CLIENT
BURLINGTON 2020 LAKESHORE INC.

PROJECT TITLE
Phase Two Environmental Site Assessment
2020 Lakeshore Road,
Burlington, Ontario

DRAWING TITLE
Analytical Data: Polycyclic Aromatic Hydrocarbons [PAHs] - [Groundwater]

PROJECT No.	SM 301114-E
DATE	December 2021
CHECKED	SRS
DRAWN	BO

FILE NAME
301114 Phase Two Drawings.vsd

DRAWING No. 4F

Log of Borehole No. 01

Project No: SM 301114-G
Project: Proposed Condominium Development
Location: 2020 Lakeshore Road
Client: Burlington 2020 Lakeshore Inc.

Project Manager: Yaroslav Mormil, P.Eng.
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4797540
E: 597648

Depth (ft / m)	Elevation (m)	Description	Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
0 / 0	82.38	Ground Surface							
0–4 / 0–1		**Pavement Structure** Approximately 100 millimetres of asphaltic concrete over 1220 millimetres of compact granular base.	SS	1	11 9 8 6	17			
			SS	2	4 8 7 4	15			
4–7 / 1–2	81.06	**Silty Clay / Clayey Silt Fill** Brown, some sand and gravel, occasional hydrocarbons staining, firm.	SS	3	1 2 5 4	7			
7 / 2	80.25	**Queenston Shale** Red, with more resistant grey layers, highly weathered in upper levels, becoming more sound with depth, hard.	SS	4	9 36 50/4"	100			
10–25 / 3–8			SS	5	36 50/1"	100			
			SS	6	50/2"	100			
			SS	7	50/2"	100			
			SS	8	50/2"	100			
25 / 8	74.56	End of Borehole							

NOTES:

1. Borehole was advanced using solid stem auger equipment on April 7, 2021 to termination at a depth of 7.8 metres.

2. Borehole was recorded as open and 'dry' upon completion and backfilled as per Ontario Regulation 903.

3. Soil samples will be discarded after 3 months unless otherwise directed by our client.

4. A monitoring well was installed. The following free groundwater level readings have been measured:
May 26, 2021 - 7.42 meters (dry)

Moisture Content w% (10 20 30 40)
Standard Penetration Test blows/300mm (20 40 60 80)

Drill Method: Solid Stem Auger
Drill Date: 7/04/21
Hole Size: 150 millimeters
Drilling Contractor: Davis Drilling Ltd.

Soil-Mat Engineers & Consultants Ltd.
130 Lancing Drive, Hamilton, ON L8W 3A1
T: 905.318.7440 F: 905.318.7455
E: info@soil-mat.ca

Datum: Geodetic
Field Logged by: MA
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Sheet: 1 of 1

Log of Borehole No. 02

Project No: SM 301114-G
Project: Proposed Condominium Development
Location: 2020 Lakeshore Road
Client: Burlington 2020 Lakeshore Inc.

Project Manager: Yaroslav Mormil, P.Eng.
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4797567
E: 597669

Depth (ft / m)	Elevation (m)	Description	Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
0 / 0	82.73	Ground Surface							
0 – 3 / 0 – 1		**Pavement Structure** Approximately 75 millimetres of asphaltic concrete, overlying 75 millimetres of compact granular base.							
3 – 8 / 1 – 2	81.21	**Silty Clay / Clayey Silt Fill** Brown, some sand and gravel, occasional staining, very stiff.	SS	1	5 5 4 5	9			
			SS	2	3 11 7 8	18			
8 – 9 / 2	80.29	**Silty Clay / Clayey Silt** Reddish brown, trace to some sand and gravel, very stiff.	SS	3	3 8 10 11	18			
9 – 11 / 3		**Queenston Shale** Red, with more resistant grey layers, highly weathered in upper levels, becoming more sound with depth, hard.	SS	4	21 40 43 50/3"	83			
			SS	5	50/3"	100			
			HQ	6	RQD=90%				
11 – 16 / 3 – 5			HQ	7	RQD=86%				
16 – 20 / 5 – 6			HQ	8	RQD=96%				
20 – 24 / 6 – 7			HQ	9	RQD=94%				
24 – 29 / 7 – 9			HQ	10	RQD=74%				

Moisture Content w% (10 20 30 40)

Standard Penetration Test blows/300mm (20 40 60 80)

Compressive Strength 23.6 MPa at 4.6 metres

Drill Method: Solid Stem Augers
Drill Date: 07/04/21
Hole Size: 150 millimeters
Drilling Contractor: Davis Drilling Ltd.

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130 Lancing Drive, Hamilton, ON L8W 3A1
T: 905.318.7440 F: 905.318.7455
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Log of Borehole No. 02

Project No: SM 301114-G
Project: Proposed Condominium Development
Location: 2020 Lakeshore Road
Client: Burlington 2020 Lakeshore Inc.

Project Manager: Yaroslav Mormil, P.Eng.
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4797567
E: 597669

Depth	Elevation (m)	Description	Well Data	SAMPLE Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)	Moisture Content w% (10 20 30 40) / Standard Penetration Test blows/300mm (20 40 60 80)
34–36				HQ	N/A	RQD=90%					
36–39				HQ	N/A	RQD=96%					
39–43		NOTES: 1. Borehole was advanced using solid stem auger equipment on April 7, 2021 to termination at a depth of 17.1 metres. 2. Borehole was recorded as open upon completion and backfilled as per Ontario Regulation 903. 3. Soil samples will be discarded after 3 months unless otherwise directed by our client. 4. A monitoring well was installed. The following free groundwater level readings have been measured: May 26, 2021 - 8.17 meters		HQ	N/A	RQD=97%					
43–49				HQ	11	RQD=88%					Compressive Strength 33.8 MPa at 14.5 metres
49–53				HQ	12	RQD=98%					Compressive Strength 31.5 MPa at 15.8 metres
56	65.63	End of Borehole									
56–65											

Drill Method: Solid Stem Augers
Drill Date: 07/04/21
Hole Size: 150 millimeters
Drilling Contractor: Davis Drilling Ltd.

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130 Lancing Drive, Hamilton, ON L8W 3A1
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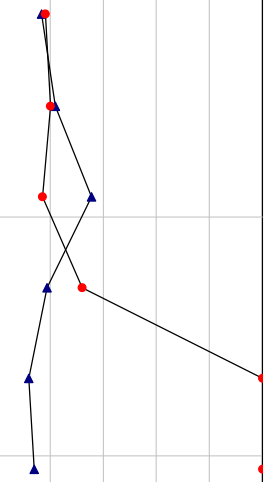
Log of Borehole No. 03

Project No: SM 301114-G
Project: Proposed Condominium Development
Location: 2020 Lakeshore Road
Client: Burlington 2020 Lakeshore Inc.

Project Manager: Yaroslav Mormil, P.Eng.
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4797595
E: 597727

Depth (ft / m)	Elevation (m)	Description	Well Data	SAMPLE Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
	82.97	Ground Surface								
0 / 0	82.74	**Pavement Structure** Approximately 90 millimetres of asphaltic concrete over 140 millimetres of compact granular base.		SS	1	9 9 9 8	18			
3 / 1	81.47	**Silty Clay / Clayey Silt Fill** Reddish brown, some sand and gravel, occasional staining, very stiff.		SS	2	9 10 10 11	20			
6 / 2		**Silty Clay/Clayey Silt** Brown, trace sand and gravel, very stiff.		SS	3	3 6 11 17	17			
9 / 3	80.21	**Queenston Shale** Red, with more resistant grey layers, highly weathered in upper levels, becoming more sound with depth, hard.		SS	4	8 16 16 22	32			
10				SS	5	50/3"	100			
13 / 4				SS	6	50/3"	100			
16 / 5				HQ	N/A	RQD=60%				
19 / 6				HQ	N/A	RQD=96%				
23 / 7				HQ	N/A	RQD=99%				
26 / 8										
29 / 9				HQ	N/A	RQD=73%				
33										

Moisture Content w% (10 20 30 40)
Standard Penetration Test blows/300mm (20 40 60 80)



Drill Method: Solid Stem Augers
Drill Date: 08/04/21
Hole Size: 150 millimeters
Drilling Contractor: Davis Drilling Ltd.

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130 Lancing Drive, Hamilton, ON L8W 3A1
T: 905.318.7440 F: 905.318.7455
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Log of Borehole No. 03

Project No: SM 301114-G
Project: Proposed Condominium Development
Location: 2020 Lakeshore Road
Client: Burlington 2020 Lakeshore Inc.

Project Manager: Yaroslav Mormil, P.Eng.
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4797595
E: 597727

Depth	Elevation (m)	Symbol	Description	Well Data	SAMPLE Type	SAMPLE Number	SAMPLE Blow Counts	SAMPLE Blows/300mm	SAMPLE Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)	Moisture Content w% (10 20 30 40) / Standard Penetration Test blows/300mm (20 40 60 80)
34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65	11 12 13 14 15 16 17 18 19		NOTES: 1. Borehole was advanced using solid stem auger equipment on April 8, 2021 to termination at a depth of 15.1 metres. 2. Borehole was recorded as open upon completion and backfilled as per Ontario Regulation 903. 3. Soil samples will be discarded after 3 months unless otherwise directed by our client. 4. A monitoring well was installed. The following free groundwater level readings have been measured: May 26, 2021 - 8.81 meters		HQ	7	RQD=91%					Compressive Strength 20.6 MPa at 10.5 metres
					HQ	8	RQD=85%					
					HQ	9	RQD=55%					
					HQ	10	RQD=86%					Compressive Strength 20.8 MPa at 14.7 metres
	67.86		End of Borehole									

Drill Method: Solid Stem Augers
Drill Date: 08/04/21
Hole Size: 150 millimeters
Drilling Contractor: Davis Drilling Ltd.

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Log of Borehole No. 04

Project No: SM 301114-G
Project: Proposed Condominium Development
Location: 2020 Lakeshore Road
Client: Burlington 2020 Lakeshore Inc.

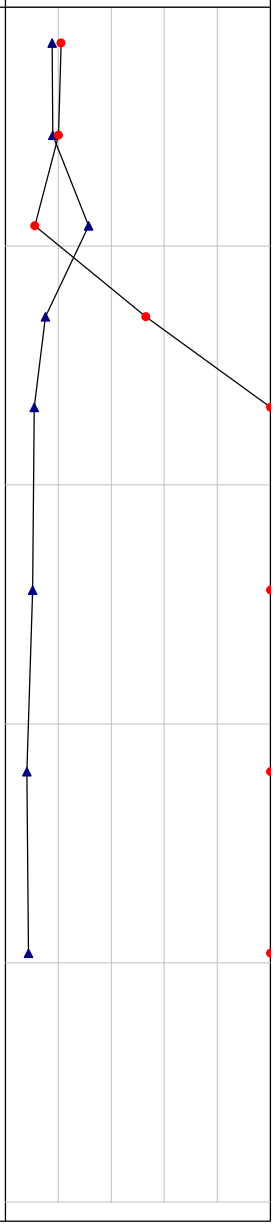
Project Manager: Yaroslav Mormil, P.Eng.
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4797596
E: 597738

Depth (ft / m)	Elevation (m)	Description	Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
0 / 0	82.77	Ground Surface							
0 / 0	82.31	**Pavement Structure** Approximately 100 millimetres of asphaltic concrete over 360 millimetres of compact granular base.							
3 / 1	81.17	**Silty Clay / Clayey Silt Fill** Brown, occasional organics in the upper levels, some sand and gravel, very stiff.	SS	1	13 13 8 10	21			
3 / 1			SS	2	9 9 11 10	20			
7 / 2	80.38	**Silty Clay/Clayey Silt** Brown, trace sand and gravel, stiff.	SS	3	2 3 8 15	11			
7 / 2		**Queenston Shale** Red, with more resistant grey layers, highly weathered in upper levels, becoming more sound with depth, hard.	SS	4	4 21 32 50	53			
10 / 3			SS	5	45 50/2"	100			
13 / 4		1. Borehole was advanced using solid stem auger equipment on April 6, 2021 to termination at a depth of 7.6 metres.							
16 / 5		2. Borehole was recorded as open and 'dry' upon completion and backfilled as per Ontario Regulation 903.	SS	6	50/2"	100			
16 / 5		3. Soil samples will be discarded after 3 months unless otherwise directed by our client.							
20 / 6		4. A monitoring well was installed. The following free groundwater level readings have been measured: May 26, 2021 - 6.43 meters	SS	7	50/2"	100			
25 / 7	75.15	End of Borehole	AS	8	50/0"	100			

Auger sample taken at 7.62 meters

Moisture Content w% (10 20 30 40)

Standard Penetration Test blows/300mm (20 40 60 80)



Drill Method: Solid Stem Auger
Drill Date: 6/04/21
Hole Size: 150 millimeters
Drilling Contractor: Davis Drilling Ltd.

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130 Lancing Drive, Hamilton, ON L8W 3A1
T: 905.318.7440 F: 905.318.7455
E: info@soil-mat.ca

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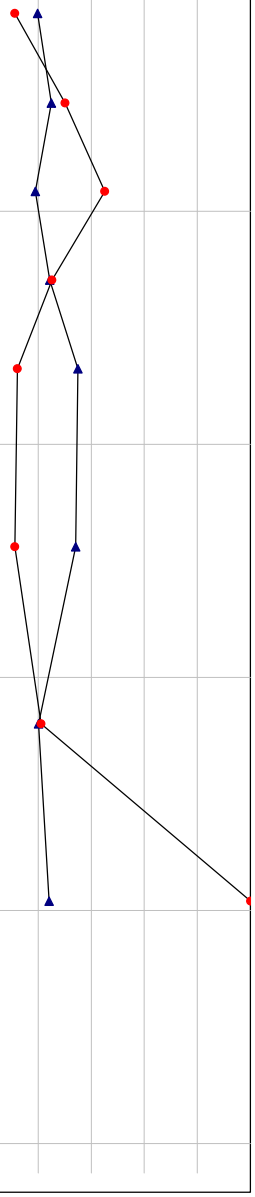
Log of Borehole No. 05

Project No: SM 301114-G
Project: Proposed Condominium Development
Location: 2020 Lakeshore Road
Client: Burlington 2020 Lakeshore Inc.

Project Manager: Yaroslav Mormil, P.Eng.
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4797571
E: 597768

Depth (ft / m)	Elevation (m)	Description	Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
0 / 0	81.29	Ground Surface							
0 / 0		**Pavement Structure** Approximately 100 millimetres of asphaltic concrete over 75 millimetres of compact granular base.	SS	1	10 5 6 7	11			
		Silty Clay / Clayey Silt Fill Reddish brown, some sand and gravel, occasional organics, stiff to very stiff.	SS	2	5 16 14 12	30			
1 / 2			SS	3	17 23 22 18	45			
			SS	4	14 16 9 8	25			
3 / 4			SS	5	4 6 6 7	12			
			SS	6	7 6 5 16	11			
5 / 6	75.29	**Silty Clay / Clayey Silt** Greyish brown, trace sand and gravel, gravel seam, stiff to very stiff.	SS	7	13 13 8 12	21			
7 / 8	73.37	**Queenston Shale** Red, with more resistant grey layers, highly weathered in upper levels, becoming more sound with depth, hard.	SS	8	50/1"	100			
			HQ	9	RQD=88%				
9 / 10			HQ	10	RQD=77%				

Moisture Content w% (10 20 30 40)
Standard Penetration Test blows/300mm (20 40 60 80)



Drill Method: Solid Stem Augers
Drill Date: 05/04/21
Hole Size: 150 millimeters
Drilling Contractor: Davis Drilling Ltd.

Soil-Mat Engineers & Consultants Ltd.
130 Lancing Drive, Hamilton, ON L8W 3A1
T: 905.318.7440 F: 905.318.7455
E: info@soil-mat.ca

Datum: Geodetic
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Sheet: 1 of 2

Log of Borehole No. 05

Project No: SM 301114-G
Project: Proposed Condominium Development
Location: 2020 Lakeshore Road
Client: Burlington 2020 Lakeshore Inc.

Project Manager: Yaroslav Mormil, P.Eng.
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4797571
E: 597768

Depth	Elevation (m)	Symbol	Description	Well Data	SAMPLE Type	SAMPLE Number	SAMPLE Blow Counts	SAMPLE Blows/300mm	SAMPLE Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)	Moisture Content w% (10 20 30 40) / Standard Penetration Test blows/300mm (20 40 60 80)
34						10						
35												
36	11					11	Clean Up					
37												
38					HQ	12	RQD=89%					
39	12											
40												
41												
42					HQ	13	RQD=83%					
43	13											
44												
45												
46	14				HQ	14	RQD=97%					Compressive Strength 29.6 MPa at 14.1
47												
48												
49	15											
50												
51												
52	16				HQ	15	RQD=91%					
53												
54			NOTES:									
55			1. Borehole was advanced using solid stem auger equipment on April 5, 2021 to termination at a depth of 20.1 metres.									
56	17											
57			2. Borehole was recorded as open upon completion and backfilled as per Ontario Regulation 903.		HQ	16	RQD=101%					
58												
59	18		3. Soil samples will be discarded after 3 months unless otherwise directed by our client.									
60												
61			4. A monitoring well was installed. The following free groundwater level readings have been measured: May 26, 2021 - 6.25 meters									
62	19				HQ	17	RQD=97%					
63												
64												
65												
66	20 61.15		End of Borehole									
67												

Drill Method: Solid Stem Augers
Drill Date: 05/04/21
Hole Size: 150 millimeters
Drilling Contractor: Davis Drilling Ltd.

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130 Lancing Drive, Hamilton, ON L8W 3A1
T: 905.318.7440 F: 905.318.7455
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Log of Borehole No. 06

Project No: SM 301114-G
Project: Proposed Condominium Development
Location: 2020 Lakeshore Road
Client: Burlington 2020 Lakeshore Inc.

Project Manager: Yaroslav Mormil, P.Eng.
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4797533
E: 597735

Depth (ft)	Depth (m)	Elevation (m)	Description	Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
		81.11	Ground Surface							
0	0		**Topsoil** Approximately 100 millimetres of topsoil.							
1–6	0–2		**Silty Clay / Clayey Silt Fill** Reddish brown, occasional construction debris and organics, some sand and gravel, firm to very stiff.	SS	1	8 7 5 5	12			
				SS	2	3 13 3 1	16			
				SS	3	5 12 8 3	20			
				SS	4	3 3 4 4	7			
10–16	3–5			SS	5	4 4 3 3	7			
				SS	6	3 6 3 1	9			
				SS	7	3 3 1 7	4			
20–22	6–7			SS	8	3 7 12 10	19			
		74.11								
23–25	7–8		**Queenston Shale** Red, with more resistant grey layers, highly weathered in upper levels, becoming more sound with depth, hard.	SS	9	13 18 16 50/5"	32			
				SS	10	50/2"	100			
26	8			HQ	11					
27–32	8–9			HQ	12	RQD=90%				
33										

Well Data

Moisture Content w% (10 20 30 40)

Standard Penetration Test blows/300mm (20 40 60 80)

Compressive Strength 28.1 MPa at 8.3 metres

Drill Method: Solid Stem Augers
Drill Date: 07/04/21
Hole Size: 150 millimeters
Drilling Contractor: Davis Drilling Ltd.

Soil-Mat Engineers & Consultants Ltd.
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T: 905.318.7440 F: 905.318.7455
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Log of Borehole No. 06

Project No: SM 301114-G
Project: Proposed Condominium Development
Location: 2020 Lakeshore Road
Client: Burlington 2020 Lakeshore Inc.

Project Manager: Yaroslav Mormil, P.Eng.
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4797533
E: 597735

Depth	Elevation (m)	Symbol	Description	Well Data	SAMPLE Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)	Moisture Content w% (10 20 30 40) / Standard Penetration Test blows/300mm (20 40 60 80)
34–65					HQ	13	RQD=91%					
					HQ	14	RQD=91%					
					HQ	15	RQD=93%					
					HQ	16	RQD=94%					
51	65.46		End of Borehole									

NOTES:

1. Borehole was advanced using solid stem auger equipment on April 7, 2021 to termination at a depth of 15.6 metres.

2. Borehole was recorded as open upon completion and backfilled as per Ontario Regulation 903.

3. Soil samples will be discarded after 3 months unless otherwise directed by our client.

4. A monitoring well was installed. The following free groundwater level readings have been measured:
May 26, 2021 - 6.49 meters

Drill Method: Solid Stem Augers
Drill Date: 07/04/21
Hole Size: 150 millimeters
Drilling Contractor: Davis Drilling Ltd.

Soil-Mat Engineers & Consultants Ltd.
130 Lancing Drive, Hamilton, ON L8W 3A1
T: 905.318.7440 F: 905.318.7455
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Log of Borehole No. 07

Project No: SM 301114-G
Project: Proposed Condominium Development
Location: 2020 Lakeshore Road
Client: Burlington 2020 Lakeshore Inc.

Project Manager: Yaroslav Mormil, P.Eng.
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4797495
E: 597682

Depth (ft / m)	Elevation (m)	Description	Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
0 / 0	78.75	Ground Surface							
0 / 0	78.47	**Topsoil** Approximately 275 millimetres of topsoil.							
1 / 0		**Silty Clay / Clayey Silt Fill** Brown, some sand and gravel, stiff to hard.	SS	1	4 3 3 12	6			
3 / 1			SS	2	6 11 23 12	34			
6 / 2			SS	3	6 12 15 16	27			
9 / 3			SS	4	2 3 8 10	11			
10 / 3	75.40		SS	5	3 8 10 8	18			
11 / 4		**Silty Clay / Clayey Silt** Redish brown, trace to some sand and gravel, very stiff.							
16 / 5	73.57		SS	6	4 4 15 18	19			
17 / 5		**Queenston Shale** Red, with more resistant grey layers, highly weathered in upper levels, becoming more sound with depth, hard.							
20 / 6			SS	7	50/3"	100			
25 / 7	70.93		SS	8	50/2"	100			
26 / 8		End of Borehole							

Moisture Content w% (10 20 30 40)

Standard Penetration Test blows/300mm (20 40 60 80)

NOTES:
1. Borehole was advanced using solid stem auger equipment on April 5, 2021 to termination at a depth of 7.8 metres.
2. Borehole was recorded as open and 'dry' upon completion and backfilled as per Ontario Regulation 903.
3. Soil samples will be discarded after 3 months unless otherwise directed by our client.
4. A monitoring well was installed. The following free groundwater level readings have been measured:
May 26, 2021 - 3.87 meters

Drill Method: Solid Stem Auger
Drill Date: 5/04/21
Hole Size: 150 millimeters
Drilling Contractor: Davis Drilling Ltd.

Soil-Mat Engineers & Consultants Ltd.
130 Lancing Drive, Hamilton, ON L8W 3A1
T: 905.318.7440 F: 905.318.7455
E: info@soil-mat.ca

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Sheet: 1 of 1

Log of Borehole No. 101

Project No: SM 301114-G
Project: Proposed Condominium Development
Location: 2020 Lakeshore Road
Client: Burlington 2020 Lakeshore Inc.

Project Manager: Peter Markesic. B.Sc
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4797591
E: 597727

Depth (ft / m)	Elevation (m)	Description	Well Data	SAMPLE Type	SAMPLE Number	SAMPLE Blow Counts	SAMPLE Blows/300mm	SAMPLE Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)	Moisture Content w% (10 20 30 40) / Standard Penetration Test blows/300mm (20 40 60 80)
0 ft / 0 m	83.01	Ground Surface									
0 – 1 m		**Pavement Structure** Approximately 100 millimetres of asphaltic concrete over 150 millimetres of compact granular base.									
1 – 2 m	80.90	**Silty Clay / Clayey Silt Fill** Brown, some sand and gravel, occasional hydrocarbons staining, some construction debris, firm.									
2 – 9 m		**Queenston Shale** Red, with more resistant grey layers, highly weathered in upper levels, becoming more sound with depth, hard.		AS	1	50/1"	100				
9 m	73.90	End of Borehole									

NOTES:

1. Borehole was advanced using solid stem auger equipment on November 30, 2021 to termination at a depth of 9.1 metres.

2. Borehole was recorded as open and 'dry' upon completion and backfilled as per Ontario Regulation 903.

3. Soil samples will be discarded after 3 months unless otherwise directed by our client.

4. A monitoring well was installed. The following free groundwater level readings have been measured:

Drill Method: Solid Stem Augers
Drill Date: November 30, 2021
Hole Size: 150 Millimetres
Drilling Contractor: Davis Drilling Ltd.

Soil-Mat Engineers & Consultants Ltd.
130 Lancing Drive, Hamilton, ON L8W 3A1
T: 905.318.7440 F: 905.318.7455
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Field Logged by: NS
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Sheet: 1 of 1

Log of Borehole No. 102

Project No: SM 301114-G
Project: Proposed Condominium Development
Location: 2020 Lakeshore Road
Client: Burlington 2020 Lakeshore Inc.

Project Manager: Peter Markesic. B.Sc
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4797575
E: 597741

Depth (ft / m)	Elevation (m)	Description	Well Data	SAMPLE Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
0 / 0	82.52	Ground Surface								
0–3 / 0–1		**Pavement Structure** Approximately 100 millimetres of asphaltic concrete over 150 millimetres of compact granular base.		SS	1	9,10,7,9	17			
3–6 / 1–2	81.30	**Silty Clay/Clayey Silt Fill** Brown, some sand and gravel, occasional hydrocarbons staining, some construction debris, very stiff to stiff.		SS	2	3,4,6,4	10			
6–16 / 2–5	80.50	**Queenston Shale** Red, with more resistant grey layers, highly weathered in upper levels, becoming more sound with depth, hard.		SS	3	9,15,22,25	37			
16 / 5		End of Borehole								

Moisture Content w% (10 20 30 40)

Standard Penetration Test blows/300mm (20 40 60 80)

NOTES:

1. Borehole was advanced using solid stem auger equipment on November 30, 2021 to termination at a depth of 2.0 metres.

2. Borehole was recorded as open and 'dry' upon completion and backfilled as per Ontario Regulation 903.

3. Soil samples will be discarded after 3 months unless otherwise directed by our client.

Drill Method: Solid Stem Augers
Drill Date: November 30, 2021
Hole Size: 150 Millimetres
Drilling Contractor: Davis Drilling Ltd.

Soil-Mat Engineers & Consultants Ltd.
130 Lancing Drive, Hamilton, ON L8W 3A1
T: 905.318.7440 F: 905.318.7455
E: info@soil-mat.ca

Datum: Geodetic
Field Logged by: NS
Checked by: PM/SRS
Sheet: 1 of 1

Log of Borehole No. 103

Project No: SM 301114-G
Project: Proposed Condominium Development
Location: 2020 Lakeshore Road
Client: Burlington 2020 Lakeshore Inc.

Project Manager: Peter Markesic. B.Sc
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4797560
E: 597755

Depth (ft / m)	Elevation (m)	Description	Well Data	SAMPLE Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)	Moisture Content w% (10 20 30 40) / Standard Penetration Test blows/300mm (20 40 60 80)
0 / 0	81.73	Ground Surface									
0 / 0	81.38	**Pavement Structure** Approximately 150 millimetres of asphaltic concrete over 200 millimetres of compact granular base.									
3 / 1	80.50			SS	1	4,7,16,20	23				
6 / 2	79.70	**Silty Clay / Clayey Silt Fill** Brown, some sand and gravel, occasional hydrocarbons staining, some construction debris, very stiff.		SS	2	23,25,50/3"	100				
		Queenston Shale Red, with more resistant grey layers, highly weathered in upper levels, becoming more sound with depth, hard.									
16 / 5		End of Borehole									

NOTES:

1. Borehole was advanced using solid stem auger equipment on November 30, 2021 to termination at a depth of 2.0 metres.

2. Borehole was recorded as open and 'dry' upon completion and backfilled as per Ontario Regulation 903.

3. Soil samples will be discarded after 3 months unless otherwise directed by our client.

Drill Method: Solid Stem Augers
Drill Date: November 30, 2021
Hole Size: 150 Millimetres
Drilling Contractor: Davis Drilling Ltd.

Soil-Mat Engineers & Consultants Ltd.
130 Lancing Drive, Hamilton, ON L8W 3A1
T: 905.318.7440 F: 905.318.7455
E: info@soil-mat.ca

Datum: Geodetic
Field Logged by: NS
Checked by: PM/SRS
Sheet: 1 of 1

Log of Borehole No. 104

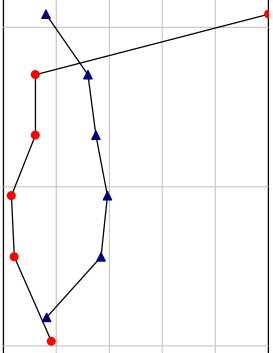
Project No: SM 301114-G
Project: Proposed Condominium Development
Location: 2020 Lakeshore Road
Client: Burlington 2020 Lakeshore Inc.

Project Manager: Peter Markesic. B.Sc
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4797555
E: 597750

Depth (ft)	Depth (m)	Elevation (m)	Description	Well Data	SAMPLE Type	SAMPLE Number	SAMPLE Blow Counts	SAMPLE Blows/300mm	SAMPLE Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
		81.05	Ground Surface								
0	0	80.70	**Pavement Structure** Approximately 150 millimetres of asphaltic concrete over 200 millimetres of compact granular base.								
1			**Silty Clay/Clayey Silt Fill** Brown, some sand and gravel, occasional hydrocarbons staining, some construction debris, stiff to soft.		SS	1					
2					SS	2	50/3"	100			
3	1				SS	3	5,9,3,3	12			
4					SS	4	2,5,7,3	12			
5					SS	5	1,1,2,2	3			
6	2				SS	6	3,1,3,5	4			
7		75.70									
8		75.10	**Queenston Shale** Red, with more resistant grey layers, highly weathered in upper levels, becoming more sound with depth, hard.		SS	7	5,8,10,13	18			
9	3		End of Borehole								
10											
11											
12	4										
13											
14											
15	5										
16											
17											
18	6										
19											
20											
21	7										
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27	9										
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36	12										
37											
38											
39	13										
40											
41											
42	14										
43											
44											
45											
46											
47											
48											
49											

Moisture Content w%
10 20 30 40

Standard Penetration Test blows/300mm
20 40 60 80



NOTES:

1. Borehole was advanced using solid stem auger equipment on November 30, 2021 to termination at a depth of 5.9 metres.

2. Borehole was recorded as open and 'dry' upon completion and backfilled as per Ontario Regulation 903.

3. Soil samples will be discarded after 3 months unless otherwise directed by our client.

Drill Method: Solid Stem Augers
Drill Date: November 30, 2021
Hole Size: 150 Millimetres
Drilling Contractor: Davis Drilling Ltd.

Soil-Mat Engineers & Consultants Ltd.
130 Lancing Drive, Hamilton, ON L8W 3A1
T: 905.318.7440 F: 905.318.7455
E: info@soil-mat.ca

Datum: Geodetic
Field Logged by: NS
Checked by: PM/SRS
Sheet: 1 of 1

Log of Borehole No. 105

Project No: SM 301114-G
Project: Proposed Condominium Development
Location: 2020 Lakeshore Road
Client: Burlington 2020 Lakeshore Inc.

Project Manager: Peter Markesic. B.Sc
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4797537
E: 597728

Depth (ft / m)	Elevation (m)	Description	Well Data	SAMPLE Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
0 / 0	81.55	Ground Surface								
0 / 0	81.20	**Pavement Structure** Approximately 150 millimetres of asphaltic concrete over 200 millimetres of compact granular base.								
		Silty Clay/Clayey Silt Fill Brown, some sand and gravel, occasional hydrocarbons staining, trace construction debris, firm to stiff.		SS	1	3,1,2,3	3			
				SS	2	3,2,3,8	5			
				SS	3	4,2,2,4	4			
				SS	4	5,4,7,8	12			
				SS	5	2,3,35	6			
				SS	6	2,3,4,10	7			
5 / 1.5	76.20	**Queenston Shale** Red, with more resistant grey layers, highly weathered in upper levels, becoming more sound with depth, hard.		SS	7	4,6,15,15	21			
6 / 2	75.60	End of Borehole								

Moisture Content w% (10 20 30 40)
Standard Penetration Test blows/300mm (20 40 60 80)

NOTES:

1. Borehole was advanced using solid stem auger equipment on November 30, 2021 to termination at a depth of 5.9 metres.

2. Borehole was recorded as open and 'dry' upon completion and backfilled as per Ontario Regulation 903.

3. Soil samples will be discarded after 3 months unless otherwise directed by our client.

Drill Method: Solid Stem Augers
Drill Date: November 30, 2021
Hole Size: 150 Millimetres
Drilling Contractor: Davis Drilling Ltd.

Soil-Mat Engineers & Consultants Ltd.
130 Lancing Drive, Hamilton, ON L8W 3A1
T: 905.318.7440 F: 905.318.7455
E: info@soil-mat.ca

Datum: Geodetic
Field Logged by: NS
Checked by: PM/SRS
Sheet: 1 of 1

Log of Borehole No. 106

Project No: SM 301114-G
Project: Proposed Condominium Development
Location: 2020 Lakeshore Road
Client: Burlington 2020 Lakeshore Inc.

Project Manager: Peter Markesic. B.Sc
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4797561
E: 597701

Depth (ft / m)	Elevation (m)	Description	Well Data	SAMPLE Type	SAMPLE Number	SAMPLE Blow Counts	SAMPLE Blows/300mm	SAMPLE Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)	Moisture Content w% (10 20 30 40) / Standard Penetration Test blows/300mm (20 40 60 80)
ft / m	82.51	Ground Surface									
0 / 0	82.16	**Pavement Structure** Approximately 150 millimetres of asphaltic concrete over 200 millimetres of compact granular base.									
1 / 0				SS	1	7,6,5,3	11				
2 / 1	80.50	**Silty Clay/Clayey Silt Fill** Brown, some sand and gravel, occasional hydrocarbons staining, some construction debris, firm to stiff.		SS	2	2,3,4,5	7				
3 / 1				SS	3	6,12,18,50/3'	30				
4 / 2	79.50	**Queenston Shale** Red, with more resistant grey layers, highly weathered in upper levels, becoming more sound with depth, hard.									
5 / 2		End of Borehole									
6 / 3											
7 / 3											
8 / 4											
9 / 4											
10 / 5											
11 / 5											
12 / 6											
13 / 6											
14 / 7											
15 / 7											
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43 / 21											
44 / 22											
45 / 22											
46 / 23											
47 / 23											
48 / 24											
49 / 24											

NOTES:

1. Borehole was advanced using solid stem auger equipment on November 30, 2021 to termination at a depth of 3.0 metres.

2. Borehole was recorded as open and 'dry' upon completion and backfilled as per Ontario Regulation 903.

3. Soil samples will be discarded after 3 months unless otherwise directed by our client.

Drill Method: Solid Stem Augers
Drill Date: November 30, 2021
Hole Size: 150 Millimetres
Drilling Contractor: Davis Drilling Ltd.

Soil-Mat Engineers & Consultants Ltd.
130 Lancing Drive, Hamilton, ON L8W 3A1
T: 905.318.7440 F: 905.318.7455
E: info@soil-mat.ca

Datum: Geodetic
Field Logged by: NS
Checked by: PM/SRS
Sheet: 1 of 1

Log of Borehole No. 107

Project No: SM 301114-G
Project: Proposed Condominium Development
Location: 2020 Lakeshore Road
Client: Burlington 2020 Lakeshore Inc.

Project Manager: Peter Markesic. B.Sc
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4797569
E: 597694

Depth (ft / m)	Elevation (m)	Description	Well Data	SAMPLE Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
	82.65	Ground Surface								
0 / 0	82.30	**Pavement Structure** Approximately 150 millimetres of asphaltic concrete over 200 millimetres of compact granular base.								
3 / 1				SS	1	9,9,8,5	17			
6 / 2	80.60	**Silty Clay / Clayey Silt Fill** Brown, some sand and gravel, occasional hydrocarbons staining, trace construction debris, firm to stiff.		SS	2	9,4,18,27	22			
9 / 3	79.60	**Queenston Shale** Red, with more resistant grey layers, highly weathered in upper levels, becoming more sound with depth, hard.		SS	3	9,18,22,27	40			
		End of Borehole								

Moisture Content w%: 10 20 30 40

Standard Penetration Test blows/300mm: 20 40 60 80

NOTES:

1. Borehole was advanced using solid stem auger equipment on November 30, 2021 to termination at a depth of 3.0 metres.

2. Borehole was recorded as open and 'dry' upon completion and backfilled as per Ontario Regulation 903.

3. Soil samples will be discarded after 3 months unless otherwise directed by our client.

Drill Method: Solid Stem Augers
Drill Date: November 30, 2021
Hole Size: 150 Millimetres
Drilling Contractor: Davis Drilling Ltd.

Soil-Mat Engineers & Consultants Ltd.
130 Lancing Drive, Hamilton, ON L8W 3A1
T: 905.318.7440 F: 905.318.7455
E: info@soil-mat.ca

Datum: Geodetic
Field Logged by: NS
Checked by: PM/SRS
Sheet: 1 of 1

Log of Borehole No. 108

Project No: SM 301114-G
Project: Proposed Condominium Development
Location: 2020 Lakeshore Road
Client: Burlington 2020 Lakeshore Inc.

Project Manager: Peter Markesic. B.Sc
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4797568
E: 597721

Depth (ft / m)	Elevation (m)	Description	Well Data	SAMPLE Type	SAMPLE Number	SAMPLE Blow Counts	SAMPLE Blows/300mm	SAMPLE Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
ft / m	82.83	Ground Surface								
0 / 0	82.48	**Pavement Structure** Approximately 150 millimetres of asphaltic concrete over 200 millimetres of compact granular base.								
3 / 1				SS	1	4,3,4,5	7			
6 / 2	80.80	**Silty Clay/Clayey Silt Fill** Brown, some sand and gravel, occasional hydrocarbons staining, some construction debris, firm to stiff.		SS	2	1,1,1,9	2			
9 / 3	79.80	**Queenston Shale** Red, with more resistant grey layers, highly weathered in upper levels, becoming more sound with depth, hard.		AS	3	9,15,39,50/3'	54			
		End of Borehole								

Moisture Content w% (10 20 30 40)

Standard Penetration Test blows/300mm (20 40 60 80)

NOTES:

1. Borehole was advanced using solid stem auger equipment on November 30, 2021 to termination at a depth of 3.0 metres.

2. Borehole was recorded as open and 'dry' upon completion and backfilled as per Ontario Regulation 903.

3. Soil samples will be discarded after 3 months unless otherwise directed by our client.

Drill Method: Solid Stem Augers
Drill Date: November 30, 2021
Hole Size: 150 Millimetres
Drilling Contractor: Davis Drilling Ltd.

Soil-Mat Engineers & Consultants Ltd.
130 Lancing Drive, Hamilton, ON L8W 3A1
T: 905.318.7440 F: 905.318.7455
E: info@soil-mat.ca

Datum: Geodetic
Field Logged by: NS
Checked by: PM/SRS
Sheet: 1 of 1

Log of Borehole No. 109

Project No: SM 301114-G
Project: Proposed Condominium Development
Location: 2020 Lakeshore Road
Client: Burlington 2020 Lakeshore Inc.

Project Manager: Peter Markesic, B.Sc
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4797538
E: 597645

Depth (ft / m)	Elevation (m)	Symbol	Description	Well Data	SAMPLE: Type	SAMPLE: Number	SAMPLE: Blow Counts	SAMPLE: Blows/300mm	SAMPLE: Recovery	SAMPLE: PP (kgf/cm2)	SAMPLE: U.Wt.(kN/m3)	Moisture Content w% (10 20 30 40) / Standard Penetration Test blows/300mm (20 40 60 80)
0 / 0	82.33		Ground Surface									
0–4 / 0–1			**Pavement Structure** Approximately 100 millimetres of asphaltic concrete over 1220 millimetres of compact granular base.									
4–7 / 1–2	81.01		**Silty Clay/Clayey Silt Fill** Brown, some sand and gravel, firm.									
7–32 / 2–10	80.20		**Queenston Shale** Red, with more resistant grey layers, highly weathered in upper levels, becoming more sound with depth, hard.									
32 / 10	72.40		End of Borehole									

NOTES:

1. Borehole was advanced using solid stem auger equipment on December 1, 2021 to termination at a depth of 9.8 metres.

2. Borehole was recorded as open and 'wet' at a depth of 9.1 metres upon completion and backfilled as per Ontario Regulation 903.

3. Soil samples will be discarded after 3 months unless otherwise directed by our client.

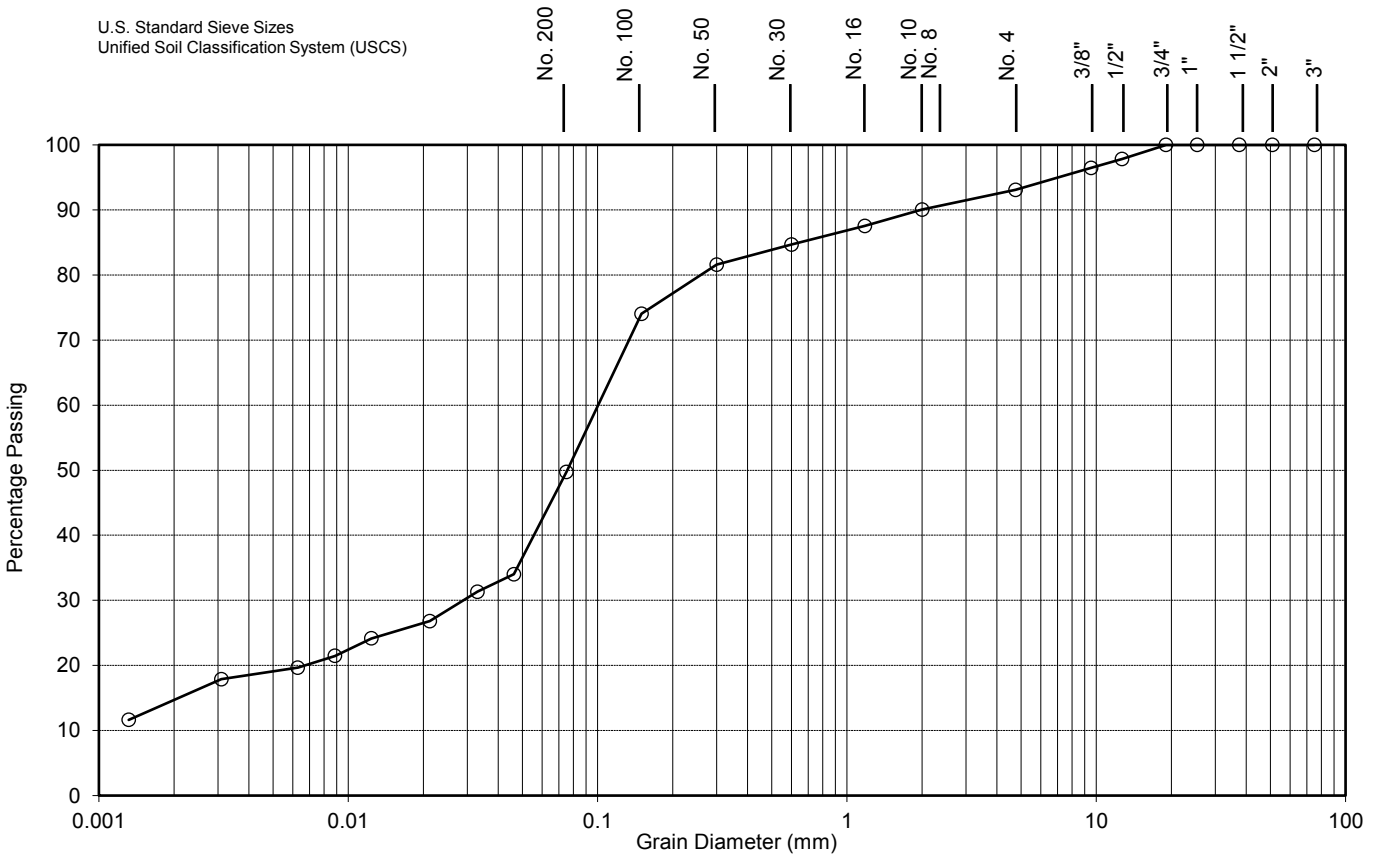
4. A monitoring well was installed. The following free groundwater level readings have been measured:
Decemeber 6, 2021: 7.24m bgs

Drill Method: Solid Stem Auger
Drill Date: December 1, 2021
Hole Size: 150 Millimeters
Drilling Contractor: Davis Drilling Ltd.

Soil-Mat Engineers & Consultants Ltd.
130 Lancing Drive, Hamilton, ON L8W 3A1
T: 905.318.7440 F: 905.318.7455
E: info@soil-mat.ca

Datum: Geodetic
Field Logged by: NS
Checked by: PM/SRS
Sheet: 1 of 1

Mechanical & Hydrometer Analyses



CLAY	SILT	FINE	MEDIUM	COARSE	FINE	COARSE
		SAND			GRAVEL	

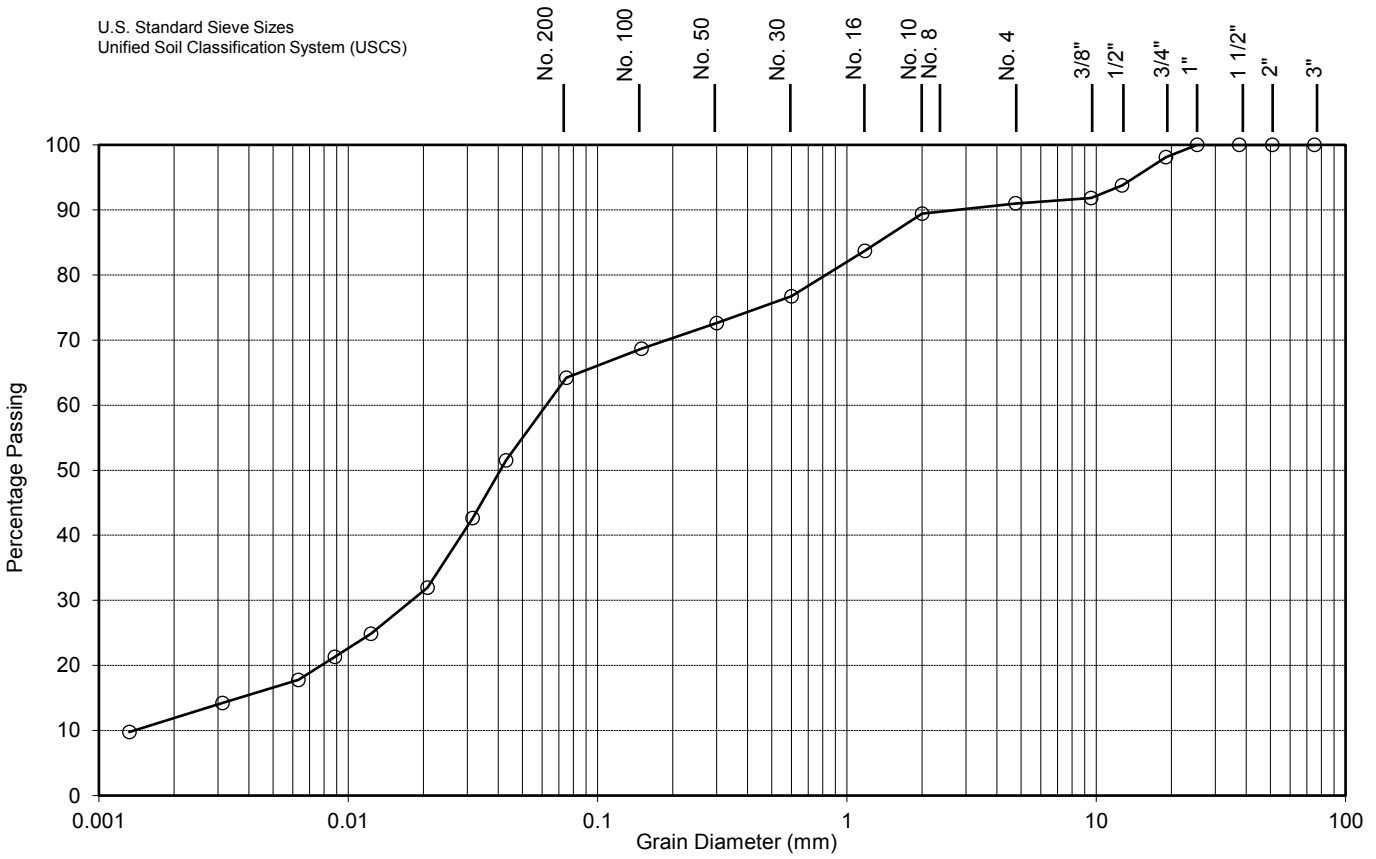
Lab No.:	**21- 457**	Notes: Depth 12.5'			
Borehole No.:	**104**				
Sample No:	**5**				
CLAY [%]:	**15**	Soil Description:	**Brown Sand and Silt w/ some Clay and a trace of Gravel**		
SILT [%]:	**35**		**S.M. - Silty Sands, sand-silt mixtures to S.C. - Sand-clay mixtures to**		
SAND [%]:	**43**		**M.L. - Silty or clayey fine sands**		
GRAVEL [%]:	**7**	Estimated Infiltration Rate [mm/hr] :	**10 to 15**	Estimated Permeability, k [cm/s]	**10^{-6}**
D_{10} (Effective Diam. in mm):	**0.0011**	Coefficient of Uniformity C_U:	**90.9**	Coefficient of Curvature C_C:	**7.6**

SOIL-MAT ENGINEERS & CONSULTANTS LTD.

Proposed Condos 30 & 40 Storeys, 2020 Lakeshore Rd., Burlington ON

December 2021	**Grain Size Analysis No. 1**	**Project No.: SM 301114-T**

Mechanical & Hydrometer Analyses



CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE

Lab No.:	**21- 458**	Notes: Depth 7.5'			
Borehole No.:	**107**				
Sample No:	**3**				
CLAY [%]:	**12**	Soil Description:	**Reddish Brown Sandy Silt w/ some Clay and a trace of Gravel**		
SILT [%]:	**52**		**M.L. - Inorganic silts and very fine sands**		
SAND [%]:	**27**				
GRAVEL [%]:	**9**	Estimated Infiltration Rate [mm/hr] :	**10 to 15**	Estimated Permeability, k [cm/s]	**10^{-6}**
D_{10} (Effective Diam. in mm):	**0.0013**	Coefficient of Uniformity C_U:	**46.9**	Coefficient of Curvature C_C:	**4.1**

SOIL-MAT ENGINEERS & CONSULTANTS LTD.

Proposed Condos 30 & 40 Storeys, 2020 Lakeshore Rd., Burlington ON

December 2021	**Grain Size Analysis No. 2**	**Project No.: SM 301114-T**

Appendix 'B'

1. AGAT Certificate of Analysis – Soil

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
130 LANCING DRIVE
HAMILTON, ON L8W3A1
(905) 318-7440

ATTENTION TO: Peter Markesic

PROJECT: 301114

AGAT WORK ORDER: 21T732038

SOIL ANALYSIS REVIEWED BY: Nivine Basily, Inorganics Report Writer

TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist

DATE REPORTED: Apr 16, 2021

PAGES (INCLUDING COVER): 22

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days following analysis, unless expressly agreed otherwise in writing. Please contact your Client Project Manager if you require additional sample storage time.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This report shall not be reproduced or distributed, in whole or in part, without the prior written consent of AGAT Laboratories.
- The test results reported herewith relate only to the samples as received by the laboratory.
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Environmental Services Association of Alberta (ESAA)

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AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 21T732038

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - Metals & Inorganics (Soil)

DATE RECEIVED: 2021-04-09 **DATE REPORTED: 2021-04-16**

		SAMPLE DESCRIPTION:		BH1 SS4	BH2 SS3	BH2 SS4	BH3 SS2	BH3 SS4	BH4 SS2	BH4 SS4	BH5 SS2
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2021-04-07	2021-04-07	2021-04-07	2021-04-08	2021-04-08	2021-04-06	2021-04-06	2021-04-05
Parameter	Unit	G / S	RDL	2328609	2328610	2328611	2328612	2328613	2328614	2328615	2328616
Antimony	µg/g	1.3	0.8	<0.8	<0.8	<0.8	**1.7**	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	1	5	7	5	6	6	4	6	5
Barium	µg/g	220	2.0	214	108	171	74.9	98.6	67.2	207	111
Beryllium	µg/g	2.5	0.4	0.9	0.8	0.7	0.5	0.7	0.5	0.8	0.9
Boron	µg/g	36	5	36	17	21	8	22	7	22	16
Boron (Hot Water Soluble)	µg/g	NA	0.10	0.56	0.43	0.38	0.72	0.22	0.29	0.15	1.02
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	70	5	27	23	21	16	22	16	22	18
Cobalt	µg/g	21	0.5	14.7	13.5	11.4	5.4	12.1	6.0	12.1	7.5
Copper	µg/g	92	1.0	8.5	51.3	10.0	20.4	25.6	12.7	39.1	24.3
Lead	µg/g	120	1	14	24	9	**171**	11	15	10	9
Molybdenum	µg/g	2	0.5	1.6	0.8	1.0	<0.5	0.8	0.8	0.8	0.6
Nickel	µg/g	82	1	31	28	24	11	25	11	25	16
Selenium	µg/g	1.5	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	0.9
Silver	µg/g	0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Thallium	µg/g	1	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Uranium	µg/g	2.5	0.50	0.65	0.75	0.52	0.54	0.61	<0.50	0.56	0.76
Vanadium	µg/g	86	0.4	37.2	33.0	27.8	24.7	31.7	30.1	32.3	27.7
Zinc	µg/g	290	5	75	**522**	55	226	65	40	58	44
Chromium, Hexavalent	µg/g	0.66	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Cyanide, Free	µg/g	0.051	0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Mercury	µg/g	0.27	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	0.57	0.005	**0.740**	**1.40**	**0.866**	0.450	0.327	**0.810**	0.460	**0.897**
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	N/A	**7.68**	**21.0**	**9.91**	1.79	**3.17**	**7.29**	**7.24**	**13.8**
pH, 2:1 CaCl2 Extraction	pH Units		NA	8.02	7.91	7.97	7.57	7.80	7.79	7.83	8.63

Certified By:

Results relate only to the items tested. Results apply to samples as received.

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5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
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Certificate of Analysis

AGAT WORK ORDER: 21T732038

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - Metals & Inorganics (Soil)

DATE RECEIVED: 2021-04-09

DATE REPORTED: 2021-04-16

		SAMPLE DESCRIPTION:		BH6 SS10	BH7 SS4
		SAMPLE TYPE:		Soil	Soil
		DATE SAMPLED:		2021-04-06	2021-04-05
Parameter	Unit	G / S	RDL	2328617	2328618
Antimony	µg/g	1.3	0.8	<0.8	<0.8
Arsenic	µg/g	18	1	7	5
Barium	µg/g	220	2.0	90.0	100
Beryllium	µg/g	2.5	0.4	0.7	0.7
Boron	µg/g	36	5	20	13
Boron (Hot Water Soluble)	µg/g	NA	0.10	0.44	0.76
Cadmium	µg/g	1.2	0.5	<0.5	<0.5
Chromium	µg/g	70	5	22	25
Cobalt	µg/g	21	0.5	10.2	11.6
Copper	µg/g	92	1.0	27.3	32.4
Lead	µg/g	120	1	**129**	18
Molybdenum	µg/g	2	0.5	1.3	0.6
Nickel	µg/g	82	1	21	26
Selenium	µg/g	1.5	0.8	1.2	<0.8
Silver	µg/g	0.5	0.5	<0.5	<0.5
Thallium	µg/g	1	0.5	<0.5	<0.5
Uranium	µg/g	2.5	0.50	0.77	0.75
Vanadium	µg/g	86	0.4	27.7	36.6
Zinc	µg/g	290	5	69	75
Chromium, Hexavalent	µg/g	0.66	0.2	<0.2	0.2
Cyanide, Free	µg/g	0.051	0.040	<0.040	<0.040
Mercury	µg/g	0.27	0.10	<0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	0.57	0.005	**0.640**	0.336
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	N/A	**4.54**	1.50
pH, 2:1 CaCl2 Extraction	pH Units		NA	8.98	8.07

Certified By:

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5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 21T732038

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - Metals & Inorganics (Soil)

DATE RECEIVED: 2021-04-09 **DATE REPORTED: 2021-04-16**

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to O. Reg. 406/19 TABLE 1: Full Depth Background Site Condition - RPIC
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

2328609-2328618 EC was determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil). pH was determined on the 0.01M CaCl2 extract prepared at 2:1 ratio. SAR is a calculated parameter.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



Results relate only to the items tested. Results apply to samples as received.

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MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

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AGAT WORK ORDER: 21T732038

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - PAHs (Soil)

DATE RECEIVED: 2021-04-09

DATE REPORTED: 2021-04-16

		SAMPLE DESCRIPTION:		BH4 SS2	BH4 SS4	BH7 SS4
		SAMPLE TYPE:		Soil	Soil	Soil
		DATE SAMPLED:		2021-04-06	2021-04-06	2021-04-05
Parameter	**Unit**	**G / S**	**RDL**	**2328614**	**2328615**	**2328618**
Naphthalene	µg/g	0.09	0.05	<0.05	<0.05	<0.05
Acenaphthylene	µg/g	0.093	0.05	<0.05	<0.05	<0.05
Acenaphthene	µg/g	0.072	0.05	<0.05	<0.05	0.06
Fluorene	µg/g	0.12	0.05	<0.05	<0.05	0.06
Phenanthrene	µg/g	0.69	0.05	<0.05	<0.05	0.29
Anthracene	µg/g	0.16	0.05	<0.05	<0.05	<0.05
Fluoranthene	µg/g	0.56	0.05	<0.05	<0.05	0.11
Pyrene	µg/g	1	0.05	<0.05	<0.05	0.11
Benz(a)anthracene	µg/g	0.36	0.05	<0.05	<0.05	<0.05
Chrysene	µg/g	2.8	0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.47	0.05	<0.05	<0.05	0.06
Benzo(k)fluoranthene	µg/g	0.48	0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g	0.3	0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.23	0.05	<0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g	0.1	0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	0.68	0.05	<0.05	<0.05	<0.05
1 and 2 Methlynaphthalene	µg/g	0.59	0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	13.1	10.3	13.2
Surrogate	**Unit**	**Acceptable Limits**				
Naphthalene-d8	%	50-140		101	94	102
Acenaphthene-d10	%	50-140		94	88	98
Chrysene-d12	%	50-140		72	67	75

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to O. Reg. 406/19 TABLE 1: Full Depth Background Site Condition - RPIC
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

2328614-2328618 Results are based on the dry weight of the soil.
Note: The result for Benzo(b)Fluoranthene is the total of the Benzo(b)&j)Fluoranthene isomers because the isomers co-elute on the GC column.
2- and 1-Methyl Naphthalene is a calculated parameter. The calculated value is the sum of 2-Methyl Naphthalene and 1-Methyl Naphthalene.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: NPopowkolof

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5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
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AGAT WORK ORDER: 21T732038

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - PHCs F1 - F4 (-BTEX) (Soil)

DATE RECEIVED: 2021-04-09

DATE REPORTED: 2021-04-16

		SAMPLE DESCRIPTION:		BH1 SS3	BH1 SS4	BH6 SS10
		SAMPLE TYPE:		Soil	Soil	Soil
		DATE SAMPLED:		2021-04-07	2021-04-07	2021-04-06
Parameter	**Unit**	**G / S**	**RDL**	**2328608**	**2328609**	**2328617**
F1 (C6 - C10)	µg/g		5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	25	5	<5	<5	<5
F2 (C10 to C16)	µg/g	10	10	<10	<10	<10
F3 (C16 to C34)	µg/g	240	50	<50	<50	<50
F4 (C34 to C50)	µg/g	120	50	95	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g		50	NA	NA	NA
Moisture Content	%		0.1	7.4	8.2	14.6
Surrogate	**Unit**	**Acceptable Limits**				
Toluene-d8	% Recovery	50-140		108	88	100
Terphenyl	%	60-140		75	105	76

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to O. Reg. 406/19 TABLE 1: Full Depth Background Site Condition - RPIC
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

2328608-2328617 Results are based on sample dry weight.
The C6-C10 fraction is calculated using toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX contribution.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.
Fractions 1-4 are quantified without the contribution of PAHs. Under Ontario Regulation 153, results are considered valid without determining the PAH contribution if not requested by the client.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popowkolof

Results relate only to the items tested. Results apply to samples as received.

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
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AGAT WORK ORDER: 21T732038

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - PHCs F1 - F4 (Soil)

DATE RECEIVED: 2021-04-09 **DATE REPORTED: 2021-04-16**

		SAMPLE DESCRIPTION:		BH2 SS3	BH2 SS4	BH3 SS2	BH3 SS4	BH5 SS2	DUP 1	DUP 2
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2021-04-07	2021-04-07	2021-04-08	2021-04-08	2021-04-05		
Parameter	**Unit**	**G / S**	**RDL**	**2328610**	**2328611**	**2328612**	**2328613**	**2328616**	**2328619**	**2328620**
Benzene	µg/g	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	µg/g	0.2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
m & p-Xylene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
o-Xylene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
F1 (C6 - C10)	µg/g		5	<5	<5	<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	25	5	<5	<5	<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g	10	10	<10	<10	<10	<10	<10	<10	<10
F3 (C16 to C34)	µg/g	240	50	<50	<50	<50	<50	<50	<50	<50
F4 (C34 to C50)	µg/g	120	50	<50	<50	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g		50	NA	NA	NA	NA	NA	NA	NA
Moisture Content	%		0.1	12.6	5.2	11.2	10.1	13.5	14.2	13.5
Surrogate	**Unit**	**Acceptable Limits**								
Toluene-d8	% Recovery	60-140		91	79	94	112	99	110	88
Terphenyl	%	60-140		83	82	62	96	94	62	98

Certified By: NPopowkolof

Results relate only to the items tested. Results apply to samples as received.

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
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Certificate of Analysis

AGAT WORK ORDER: 21T732038

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - PHCs F1 - F4 (Soil)

DATE RECEIVED: 2021-04-09 **DATE REPORTED: 2021-04-16**

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to O. Reg. 406/19 TABLE 1: Full Depth Background Site Condition - RPIC
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

2328610-2328620 Results are based on sample dry weight.
The C6-C10 fraction is calculated using Toluene response factor.
Xylenes is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX contribution.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.
Fractions 1-4 are quantified with the contribution of PAHs. Under Ontario Regulation 153, results are considered valid without determining the PAH contribution if not requested by the client.
Quality Control Data is available upon request.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: 

Results relate only to the items tested. Results apply to samples as received.

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
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AGAT WORK ORDER: 21T732038

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)

DATE RECEIVED: 2021-04-09

DATE REPORTED: 2021-04-16

		SAMPLE DESCRIPTION:		BH4 SS2	BH4 SS4	BH7 SS4
		SAMPLE TYPE:		Soil	Soil	Soil
		DATE SAMPLED:		2021-04-06	2021-04-06	2021-04-05
Parameter	**Unit**	**G / S**	**RDL**	**2328614**	**2328615**	**2328618**
F1 (C6 - C10)	µg/g		5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	25	5	<5	<5	<5
F2 (C10 to C16)	µg/g	10	10	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10	<10	<10
F3 (C16 to C34)	µg/g	240	50	<50	<50	<50
F3 (C16 to C34) minus PAHs	µg/g	240	50	<50	<50	<50
F4 (C34 to C50)	µg/g	120	50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g		50	NA	NA	NA
Moisture Content	%		0.1	13.1	10.3	13.2
Surrogate	**Unit**	**Acceptable Limits**				
Toluene-d8	% Recovery	50-140		78	92	74
Terphenyl	%	60-140		104	103	69

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to O. Reg. 406/19 TABLE 1: Full Depth Background Site Condition - RPIC
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

2328614-2328618 Results are based on sample dry weight.
The C6-C10 fraction is calculated using toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX and PAH contributions.
C>10 – C16 (F2- Naphthalene) is a calculated parameter. The calculated value is F2 - Naphthalene.
C>16 - C34 (F3-PAH) is a calculated parameter. The calculated value is F3-PAH (PAH: sum of Phenanthrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Fluoranthene, Dibenzo(a,h)anthracene, Indeno(1,2,3-c,d)pyrene and Pyrene).
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: NPopowkolof

Results relate only to the items tested. Results apply to samples as received.

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5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
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AGAT WORK ORDER: 21T732038

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - VOCs (Soil)

DATE RECEIVED: 2021-04-09

DATE REPORTED: 2021-04-16

		SAMPLE DESCRIPTION:		BH1 SS3	BH1 SS4	BH4 SS2	BH4 SS4	BH6 SS10	BH7 SS4
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2021-04-07	2021-04-07	2021-04-06	2021-04-06	2021-04-06	2021-04-05
Parameter	Unit	G / S	RDL	2328608	2328609	2328614	2328615	2328617	2328618
Dichlorodifluoromethane	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	ug/g	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Bromomethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	ug/g	0.25	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acetone	ug/g	0.5	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trans- 1,2-Dichloroethylene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl tert-butyl Ether	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1-Dichloroethane	ug/g	0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Methyl Ethyl Ketone	ug/g	0.5	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cis- 1,2-Dichloroethylene	ug/g	0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,2-Dichloroethane	ug/g	0.05	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
1,1,1-Trichloroethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzene	ug/g	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-Dichloropropane	ug/g	0.05	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Trichloroethylene	ug/g	0.05	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Bromodichloromethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl Isobutyl Ketone	ug/g	0.5	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Toluene	ug/g	0.2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromochloromethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylene Dibromide	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Tetrachloroethylene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,1,2-Tetrachloroethane	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Chlorobenzene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
m & p-Xylene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Certified By: NPopowkolof

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AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 21T732038

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - VOCs (Soil)

DATE RECEIVED: 2021-04-09 **DATE REPORTED: 2021-04-16**

		SAMPLE DESCRIPTION:		BH1 SS3	BH1 SS4	BH4 SS2	BH4 SS4	BH6 SS10	BH7 SS4
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2021-04-07	2021-04-07	2021-04-06	2021-04-06	2021-04-06	2021-04-05
Parameter	**Unit**	**G / S**	**RDL**	**2328608**	**2328609**	**2328614**	**2328615**	**2328617**	**2328618**
Bromoform	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Styrene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
o-Xylene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,3-Dichlorobenzene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,4-Dichlorobenzene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,2-Dichlorobenzene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,3-Dichloropropene (Cis + Trans)	µg/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
n-Hexane	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	7.4	8.2	13.1	10.3	14.6	13.2
Surrogate	**Unit**	**Acceptable Limits**							
Toluene-d8	% Recovery	50-140		95	102	100	102	102	100
4-Bromofluorobenzene	% Recovery	50-140		83	90	89	87	88	86

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to O. Reg. 406/19 TABLE 1: Full Depth Background Site Condition - RPIC
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

2328608-2328618 The sample was analyzed using the high level technique. The sample was extracted using methanol, a small amount of the methanol extract was diluted in water and the purge & trap GC/MS analysis was performed. Results are based on the dry weight of the soil.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene + o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popowkolof

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5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Guideline Violation

AGAT WORK ORDER: 21T732038

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
2328609	BH1 SS4	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	0.740
2328609	BH1 SS4	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	7.68
2328610	BH2 SS3	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	1.40
2328610	BH2 SS3	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	21.0
2328610	BH2 SS3	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Zinc	µg/g	290	522
2328611	BH2 SS4	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	0.866
2328611	BH2 SS4	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	9.91
2328612	BH3 SS2	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Antimony	µg/g	1.3	1.7
2328612	BH3 SS2	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Lead	µg/g	120	171
2328613	BH3 SS4	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	3.17
2328614	BH4 SS2	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	0.810
2328614	BH4 SS2	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	7.29
2328615	BH4 SS4	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	7.24
2328616	BH5 SS2	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	0.897
2328616	BH5 SS2	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	13.8
2328617	BH6 SS10	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	0.640
2328617	BH6 SS10	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Lead	µg/g	120	129
2328617	BH6 SS10	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	4.54

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5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21T732038

PROJECT: 301114

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

Soil Analysis

RPT Date: Apr 16, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals & Inorganics (Soil)															
Antimony	2328262		4	4	0.0%	< 0.8	124%	70%	130%	100%	80%	120%	89%	70%	130%
Arsenic	2328262		4	4	NA	< 1	118%	70%	130%	107%	80%	120%	114%	70%	130%
Barium	2328262		121	102	17.0%	< 2.0	91%	70%	130%	100%	80%	120%	83%	70%	130%
Beryllium	2328262		<0.4	<0.4	NA	< 0.4	91%	70%	130%	99%	80%	120%	91%	70%	130%
Boron	2328262		7	7	NA	< 5	86%	70%	130%	102%	80%	120%	94%	70%	130%
Boron (Hot Water Soluble)	2328609	2328609	0.56	0.56	0.0%	< 0.10	95%	60%	140%	94%	70%	130%	106%	60%	140%
Cadmium	2328262		<0.5	<0.5	NA	< 0.5	103%	70%	130%	99%	80%	120%	92%	70%	130%
Chromium	2328262		131	118	10.4%	< 5	101%	70%	130%	97%	80%	120%	111%	70%	130%
Cobalt	2328262		5.8	5.8	0.0%	< 0.5	103%	70%	130%	94%	80%	120%	101%	70%	130%
Copper	2328262		89.7	72.4	21.3%	< 1.0	93%	70%	130%	100%	80%	120%	106%	70%	130%
Lead	2328262		21	29	32.0%	< 1	97%	70%	130%	96%	80%	120%	88%	70%	130%
Molybdenum	2328262		9.1	9.6	5.3%	< 0.5	113%	70%	130%	102%	80%	120%	117%	70%	130%
Nickel	2328262		21	18	15.4%	< 1	102%	70%	130%	97%	80%	120%	100%	70%	130%
Selenium	2328262		<0.8	<0.8	NA	< 0.8	97%	70%	130%	101%	80%	120%	105%	70%	130%
Silver	2328262		<0.5	<0.5	NA	< 0.5	97%	70%	130%	98%	80%	120%	90%	70%	130%
Thallium	2328262		<0.5	<0.5	NA	< 0.5	99%	70%	130%	98%	80%	120%	90%	70%	130%
Uranium	2328262		<0.50	<0.50	NA	< 0.50	106%	70%	130%	99%	80%	120%	95%	70%	130%
Vanadium	2328262		26.7	26.0	2.7%	< 0.4	114%	70%	130%	97%	80%	120%	108%	70%	130%
Zinc	2328262		374	340	9.5%	< 5	103%	70%	130%	102%	80%	120%	127%	70%	130%
Chromium, Hexavalent	2328618	2328618	0.2	<0.2	NA	< 0.2	105%	70%	130%	84%	80%	120%	90%	70%	130%
Cyanide, Free	2336283		<0.040	<0.040	NA	< 0.040	104%	70%	130%	102%	80%	120%	95%	70%	130%
Mercury	2328262		0.25	0.22	NA	< 0.10	100%	70%	130%	100%	80%	120%	96%	70%	130%
Electrical Conductivity (2:1)	2328609	2328609	0.740	0.760	2.7%	< 0.005	98%	80%	120%						
Sodium Adsorption Ratio (2:1) (Calc.)	2328609	2328609	7.68	8.30	7.8%	NA									
pH, 2:1 CaCl2 Extraction	2326707		7.33	7.43	1.4%	NA	100%	80%	120%						

Comments: NA signifies Not Applicable.
pH duplicates QA acceptance criteria was met relative as stated in Table 5-15 of Analytical Protocol document.
Duplicate NA: results are under 5X the RDL and will not be calculated.

O. Reg. 153(511) - Metals & Inorganics (Soil)															
Cyanide, Free	2325915		<0.040	<0.040	NA	< 0.040	99%	70%	130%	104%	80%	120%	104%	70%	130%

Comments: NA signifies Not Applicable.
pH duplicates QA acceptance criteria was met relative as stated in Table 5-15 of Analytical Protocol document.
Duplicate NA: results are under 5X the RDL and will not be calculated.

Certified By:

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5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
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Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21T732038

PROJECT: 301114

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

Trace Organics Analysis

RPT Date: Apr 16, 2021			DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (-BTEX) (Soil)															
F1 (C6 - C10)	2328620	2328620	<5	<5	NA	< 5	102%	60%	140%	111%	60%	140%	114%	60%	140%
O. Reg. 153(511) - PHCs F1 - F4 (Soil)															
Benzene	2328620	2328620	<0.02	<0.02	NA	< 0.02	95%	60%	140%	108%	60%	140%	104%	60%	140%
Toluene	2328620	2328620	<0.05	<0.05	NA	< 0.05	96%	60%	140%	117%	60%	140%	112%	60%	140%
Ethylbenzene	2328620	2328620	<0.05	<0.05	NA	< 0.05	83%	60%	140%	99%	60%	140%	90%	60%	140%
m & p-Xylene	2328620	2328620	<0.05	<0.05	NA	< 0.05	112%	60%	140%	100%	60%	140%	107%	60%	140%
o-Xylene	2328620	2328620	<0.05	<0.05	NA	< 0.05	106%	60%	140%	108%	60%	140%	119%	60%	140%
F1 (C6 - C10)	2328620	2328620	<5	<5	NA	< 5	102%	60%	140%	111%	60%	140%	114%	60%	140%
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)															
F1 (C6 - C10)	2328620	2328620	<5	<5	NA	< 5	102%	60%	140%	111%	60%	140%	114%	60%	140%
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	2324942		< 0.05	< 0.05	NA	< 0.05	118%	50%	140%	110%	50%	140%	113%	50%	140%
Acenaphthylene	2324942		< 0.05	< 0.05	NA	< 0.05	121%	50%	140%	121%	50%	140%	103%	50%	140%
Acenaphthene	2324942		< 0.05	< 0.05	NA	< 0.05	114%	50%	140%	117%	50%	140%	104%	50%	140%
Fluorene	2324942		< 0.05	< 0.05	NA	< 0.05	114%	50%	140%	123%	50%	140%	109%	50%	140%
Phenanthrene	2324942		< 0.05	< 0.05	NA	< 0.05	112%	50%	140%	101%	50%	140%	101%	50%	140%
Anthracene	2324942		< 0.05	< 0.05	NA	< 0.05	120%	50%	140%	107%	50%	140%	111%	50%	140%
Fluoranthene	2324942		< 0.05	< 0.05	NA	< 0.05	102%	50%	140%	86%	50%	140%	85%	50%	140%
Pyrene	2324942		< 0.05	< 0.05	NA	< 0.05	92%	50%	140%	83%	50%	140%	81%	50%	140%
Benz(a)anthracene	2324942		< 0.05	< 0.05	NA	< 0.05	71%	50%	140%	105%	50%	140%	100%	50%	140%
Chrysene	2324942		< 0.05	< 0.05	NA	< 0.05	75%	50%	140%	102%	50%	140%	98%	50%	140%
Benzo(b)fluoranthene	2324942		< 0.05	< 0.05	NA	< 0.05	115%	50%	140%	94%	50%	140%	103%	50%	140%
Benzo(k)fluoranthene	2324942		< 0.05	< 0.05	NA	< 0.05	110%	50%	140%	110%	50%	140%	109%	50%	140%
Benzo(a)pyrene	2324942		< 0.05	< 0.05	NA	< 0.05	99%	50%	140%	90%	50%	140%	90%	50%	140%
Indeno(1,2,3-cd)pyrene	2324942		< 0.05	< 0.05	NA	< 0.05	72%	50%	140%	70%	50%	140%	82%	50%	140%
Dibenz(a,h)anthracene	2324942		< 0.05	< 0.05	NA	< 0.05	71%	50%	140%	74%	50%	140%	81%	50%	140%
Benzo(g,h,i)perylene	2324942		< 0.05	< 0.05	NA	< 0.05	83%	50%	140%	78%	50%	140%	81%	50%	140%

Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

O. Reg. 153(511) - VOCs (Soil)															
Dichlorodifluoromethane	2325916		<0.05	<0.05	NA	< 0.05	93%	50%	140%	106%	50%	140%	82%	50%	140%
Vinyl Chloride	2325916		<0.02	<0.02	NA	< 0.02	93%	50%	140%	71%	50%	140%	82%	50%	140%
Bromomethane	2325916		<0.05	<0.05	NA	< 0.05	80%	50%	140%	72%	50%	140%	82%	50%	140%
Trichlorofluoromethane	2325916		<0.05	<0.05	NA	< 0.05	94%	50%	140%	72%	50%	140%	76%	50%	140%
Acetone	2325916		<0.50	<0.50	NA	< 0.50	81%	50%	140%	97%	50%	140%	84%	50%	140%
1,1-Dichloroethylene	2325916		<0.05	<0.05	NA	< 0.05	90%	50%	140%	84%	60%	130%	79%	50%	140%
Methylene Chloride	2325916		<0.05	<0.05	NA	< 0.05	95%	50%	140%	80%	60%	130%	95%	50%	140%

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5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
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Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21T732038

PROJECT: 301114

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

Trace Organics Analysis (Continued)

RPT Date: Apr 16, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Trans- 1,2-Dichloroethylene	2325916		<0.05	<0.05	NA	< 0.05	89%	50%	140%	90%	60%	130%	108%	50%	140%
Methyl tert-butyl Ether	2325916		<0.05	<0.05	NA	< 0.05	91%	50%	140%	85%	60%	130%	108%	50%	140%
1,1-Dichloroethane	2325916		<0.02	<0.02	NA	< 0.02	97%	50%	140%	76%	60%	130%	88%	50%	140%
Methyl Ethyl Ketone	2325916		<0.50	<0.50	NA	< 0.50	76%	50%	140%	97%	50%	140%	98%	50%	140%
Cis- 1,2-Dichloroethylene	2325916		<0.02	<0.02	NA	< 0.02	82%	50%	140%	73%	60%	130%	84%	50%	140%
Chloroform	2325916		<0.04	<0.04	NA	< 0.04	100%	50%	140%	92%	60%	130%	105%	50%	140%
1,2-Dichloroethane	2325916		<0.03	<0.03	NA	< 0.03	99%	50%	140%	110%	60%	130%	103%	50%	140%
1,1,1-Trichloroethane	2325916		<0.05	<0.05	NA	< 0.05	92%	50%	140%	83%	60%	130%	73%	50%	140%
Carbon Tetrachloride	2325916		<0.05	<0.05	NA	< 0.05	78%	50%	140%	91%	60%	130%	73%	50%	140%
Benzene	2325916		<0.02	<0.02	NA	< 0.02	88%	50%	140%	73%	60%	130%	89%	50%	140%
1,2-Dichloropropane	2325916		<0.03	<0.03	NA	< 0.03	81%	50%	140%	76%	60%	130%	94%	50%	140%
Trichloroethylene	2325916		<0.03	<0.03	NA	< 0.03	96%	50%	140%	84%	60%	130%	108%	50%	140%
Bromodichloromethane	2325916		<0.05	<0.05	NA	< 0.05	78%	50%	140%	76%	60%	130%	72%	50%	140%
Methyl Isobutyl Ketone	2325916		<0.50	<0.50	NA	< 0.50	74%	50%	140%	96%	50%	140%	86%	50%	140%
1,1,2-Trichloroethane	2325916		<0.04	<0.04	NA	< 0.04	104%	50%	140%	113%	60%	130%	95%	50%	140%
Toluene	2325916		<0.05	<0.05	NA	< 0.05	115%	50%	140%	94%	60%	130%	106%	50%	140%
Dibromochloromethane	2325916		<0.05	<0.05	NA	< 0.05	84%	50%	140%	79%	60%	130%	74%	50%	140%
Ethylene Dibromide	2325916		<0.04	<0.04	NA	< 0.04	101%	50%	140%	109%	60%	130%	110%	50%	140%
Tetrachloroethylene	2325916		<0.05	<0.05	NA	< 0.05	102%	50%	140%	104%	60%	130%	115%	50%	140%
1,1,1,2-Tetrachloroethane	2325916		<0.04	<0.04	NA	< 0.04	94%	50%	140%	84%	60%	130%	83%	50%	140%
Chlorobenzene	2325916		<0.05	<0.05	NA	< 0.05	99%	50%	140%	105%	60%	130%	114%	50%	140%
Ethylbenzene	2325916		<0.05	<0.05	NA	< 0.05	108%	50%	140%	88%	60%	130%	100%	50%	140%
m & p-Xylene	2325916		<0.05	<0.05	NA	< 0.05	104%	50%	140%	96%	60%	130%	107%	50%	140%
Bromoform	2325916		<0.05	<0.05	NA	< 0.05	74%	50%	140%	72%	60%	130%	80%	50%	140%
Styrene	2325916		<0.05	<0.05	NA	< 0.05	103%	50%	140%	86%	60%	130%	98%	50%	140%
1,1,2,2-Tetrachloroethane	2325916		<0.05	<0.05	NA	< 0.05	111%	50%	140%	81%	60%	130%	86%	50%	140%
o-Xylene	2325916		<0.05	<0.05	NA	< 0.05	95%	50%	140%	103%	60%	130%	116%	50%	140%
1,3-Dichlorobenzene	2325916		<0.05	<0.05	NA	< 0.05	96%	50%	140%	107%	60%	130%	95%	50%	140%
1,4-Dichlorobenzene	2325916		<0.05	<0.05	NA	< 0.05	107%	50%	140%	90%	60%	130%	98%	50%	140%
1,2-Dichlorobenzene	2325916		<0.05	<0.05	NA	< 0.05	101%	50%	140%	91%	60%	130%	97%	50%	140%
n-Hexane	2325916		<0.05	<0.05	NA	< 0.05	78%	50%	140%	110%	60%	130%	80%	50%	140%

Certified By: N Popowkolof

AGAT Laboratories is accredited to ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA) and/or Standards Council of Canada (SCC) for specific tests listed on the scope of accreditation. AGAT Laboratories (Mississauga) is also accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) for specific drinking water tests. Accreditations are location and parameter specific. A complete listing of parameters for each location is available from www.cala.ca and/or www.scc.ca. The tests in this report may not necessarily be included in the scope of accreditation. RPDs calculated using raw data. The RPD may not be reflective of duplicate values shown, due to rounding of final results.

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AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21T732038

PROJECT: 301114

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Antimony	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Arsenic	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Barium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Beryllium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron (Hot Water Soluble)	MET-93-6104	modified from EPA 6010D and MSA PART 3, CH 21	ICP/OES
Cadmium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Cobalt	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Copper	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Lead	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Molybdenum	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Nickel	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Selenium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Silver	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Thallium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Uranium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Vanadium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Zinc	MET 93 -6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium, Hexavalent	INOR-93-6068	modified from EPA 3060 and EPA 7196	SPECTROPHOTOMETER
Cyanide, Free	INOR-93-6052	modified from ON MOECC E3015, SM 4500-CN- I, G-387	TECHNICON AUTO ANALYZER
Mercury	MET-93-6103	modified from EPA 7471B and SM 3112 B	ICP-MS
Electrical Conductivity (2:1)	INOR-93-6036	modified from MSA PART 3, CH 14 and SM 2510 B	EC METER
Sodium Adsorption Ratio (2:1) (Calc.)	INOR-93-6007	modified from EPA 6010D & Analytical Protocol	ICP/OES
pH, 2:1 CaCl2 Extraction	INOR-93-6031	modified from EPA 9045D and MCKEAGUE 3.11	PH METER

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Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21T732038

PROJECT: 301114

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluorene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benz(a)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Chrysene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
1 and 2 Methlynaphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5106	modified from EPA 3541 and EPA 8270E	GC/MS
Acenaphthene-d10	ORG-91-5106	modified from EPA 3541 and EPA 8270E	GC/MS
Chrysene-d12	ORG-91-5106	modified from EPA 3541 and EPA 8270E	GC/MS
Moisture Content	ORG-91-5009	CCME Tier 1 Method	BALANCE
F1 (C6 - C10)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
Toluene-d8	VOL-91-5009	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F4 (C34 to C50)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Terphenyl	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Benzene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Toluene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Ethylbenzene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
m & p-Xylene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS

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Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

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SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
o-Xylene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Xylenes (Total)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	P&T GC/FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34) minus PAHs	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Dichlorodifluoromethane	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Vinyl Chloride	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Trans- 1,2-Dichloroethylene	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Methyl tert-butyl Ether	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Cis- 1,2-Dichloroethylene	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Toluene	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21T732038

PROJECT: 301114

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Tetrachloroethylene	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Chlorobenzene	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
m & p-Xylene	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene (Cis + Trans)	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5002	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5002	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Mississauga, Ontario L4Z 1Y2
Ph: 905.712.5100 Fax: 905.712.5122
webearth.agatlabs.com

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Laboratory Use Only
Work Order #: 21T732038
Cooler Quantity:
Arrival Temperatures: 6.8 | 6.0 | 6.4 / 5.5 | 5.5 | 5.2
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes: ice pack

Report Information:
Company: SOIL-MAT
Contact: PETER MARKESIC
Address:
Phone: Fax:
Reports to be sent to:
1. Email: PMARKESIC@SOIL-MAT.CA
2. Email: YMORMIL@SOIL-MAT.CA
3. MACLETHOVE@SOIL-MAT.CA

Project Information:
Project: 301114
Site Location: 2020 LAKESHORE
Sampled By: MA
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:
Bill To Same: Yes ☐ No ☐
Company:
Contact:
Address:
Email:

Regulatory Requirements:
(Please check all applicable boxes)

☐ Regulation 153/04
Table (Indicate One) ☐ Ind/Com ☐ Res/Park ☐ Agriculture
Soil Texture (Check One) ☐ Coarse ☐ Fine

☑ Excess Soils R406
Table (Indicate One)

☐ Regulation 558

☐ CCME

☐ Sewer Use ☐ Sanitary ☐ Storm
(Region)

☐ Prov. Water Quality Objectives (PWQO)

☐ Other
(Indicate One)

Is this submission for a **Record of Site Condition?** ☐ Yes ☐ No

Report Guideline on *Certificate of Analysis* ☐ Yes ☐ No

Turnaround Time (TAT) Required:
Regular TAT ☐ 5 to 7 Business Days
Rush TAT (Rush Surcharges Apply)
☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day
OR Date Required (Rush Surcharges May Apply):
Please provide prior notification for rush TAT
**TAT is exclusive of weekends and statutory holidays*
For 'Same Day' analysis, please contact your AGAT CPM

Sample Matrix Legend
B Biota
GW Ground Water
O Oil
P Paint
S Soil
SD Sediment
SW Surface Water

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	BTEX, F1-F4 PHCs Analyze F4G if required ☐ Yes ☐ No	PAHs	PCBs	VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	Potentially Hazardous or High Concentration (Y/N)
BH1 SS3	APR 7	AM PM	2	S			✓		✓			✓					
BH1 SS4	11	AM PM	3	S			✓		✓			✓					
BH2 SS3	11	AM PM	4	S			✓		✓								
BH2 SS4	11	AM PM	3	S			✓		✓								
BH3 SS2	APR 8	AM PM	4	S			✓		✓								
BH3 SS4	11	AM PM	3	S			✓		✓			✓					
BH4 SS2	APR 6	AM PM	4	S			✓		✓	✓		✓					
BH4 SS4	11	AM PM	4	S			✓		✓	✓		✓					
BH5 SS2	APR 5	AM PM	3	S			✓		✓								
BH6 SS10	APR 6	AM PM	3	S			✓		✓			✓					
BH7 SS4	APR 5	AM PM	4	S			✓		✓	✓		✓					

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Malcolm C.	Apr 19	2:20			
	Date	Time	John Chypyha	Apr 9	2:20
	Date	Time	John Chypyha	Apr 9	5:3

Page 1 of 2
N°: 113664

AGAT Laboratories
5835 Coopers Avenue
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Ph: 905.712.5100 Fax: 905.712.5122
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Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Report Information:

Company: SOIL-MAT
Contact: PETER MARKESIC
Address:
Phone: Fax:
Reports to be sent to:
1. Email: PMARKESIC@SOIL-MAT.CA
2. Email: YMORMIL@SOIL-MAT.CA
3. MACLENNAN@SOIL-MAT.CA

Project Information:

Project: 301114
Site Location: 3020 LAKE SHORE
Sampled By: MA
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☐ No ☐
Company:
Contact:
Address:
Email:

Regulatory Requirements:

(Please check all applicable boxes)

☐ Regulation 153/04
Table (Indicate One) ☐ Ind/Com ☐ Res/Park ☐ Agriculture
Soil Texture (Check One) ☐ Coarse ☐ Fine

☑ Excess Soils R406
Table (Indicate One)
☐ Regulation 558
☐ CCME

☐ Sewer Use ☐ Sanitary ☐ Storm
(Region)
☐ Prov. Water Quality Objectives (PWQO)
☐ Other
(Indicate One)

Is this submission for a **Record of Site Condition**? ☐ Yes ☐ No

Report Guideline on *Certificate of Analysis* ☐ Yes ☐ No

Sample Matrix Legend

B	Biota
GW	Ground Water
O	Oil
P	Paint
S	Soil
SD	Sediment
SW	Surface Water

Laboratory Use Only

Work Order #:
Cooler Quantity:
Arrival Temperatures: 6.8 | 6 | 6.4
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes: ice pack.

Turnaround Time (TAT) Required:

Regular TAT ☐ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply):

Please provide prior notification for rush TAT
**TAT is exclusive of weekends and statutory holidays*

For 'Same Day' analysis, please contact your AGAT CPM

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC Y/N	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs, Analyze F4G if required ☐ Yes ☐ No	O. Reg 153: PAHs	O. Reg 153: PCBs	O. Reg 153: VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	Potentially Hazardous or High Concentration (Y/N)
DUP 1	N/A	AM PM	2	S					✓								
DUP 2	N/A	AM PM	2	S					✓								
		AM PM															
		AM PM															
		AM PM															
		AM PM															
		AM PM															
		AM PM															
		AM PM															
		AM PM															
		AM PM															

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Malcolm C. MacLennan	April 9	2120	John Chypyha	Apr9	2:20
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign): John Chypyha	Date Apr9	Time

Page 2 of 2
N°: 113658

AGAT Laboratories

Sample Temperature Log

Client: Gilmat

COC# or Work Order #:

# of Coolers: 2

# of Submissions:

	Arrival Temperatures - Branch/Driver	Arrival Temperatures - Laboratory
Cooler #1:	6.8 / 6 / 6.4	5 / 5 / 5.2
Cooler #2:	7 / 6.8 / 7	6 / 5.8 / 5.2
Cooler #3:	/ /	/ /
Cooler #4:	/ /	/ /
Cooler #5:	/ /	/ /
Cooler #6:	/ /	/ /
Cooler #7:	/ /	/ /
Cooler #8	/ /	/ /
Cooler #9:	/ /	/ /
Cooler #10:	/ /	/ /
IR Gun ID:		
Taken By:	John Chyogha	John Chyogha
Date (yyyy/mm/dd):	Apr 9	Apr 9
Time:	2:20 AM / PM	5:30 AM / PM

Instructions for use of this form: 1) complete all fields of info including total # of coolers and # of submissions rec'd, 2) photocopy and place in each submission prior to giving a WO#, 3) Proceed as normal, write the WO# and scan (please make sure to scan along with the COC)

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
130 LANCING DRIVE
HAMILTON, ON L8W3A1
(905) 318-7440

ATTENTION TO: Steve Sears

PROJECT: 301114

AGAT WORK ORDER: 21T838338

SOIL ANALYSIS REVIEWED BY: Jacky Zhu, Spectroscopy Technician

TRACE ORGANICS REVIEWED BY: Oksana Gushyla, Trace Organics Lab Supervisor

DATE REPORTED: Dec 10, 2021

PAGES (INCLUDING COVER): 22

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
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- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.

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AGAT WORK ORDER: 21T838338

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Steve Sears

SAMPLING SITE:

SAMPLED BY:

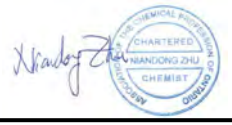
O. Reg. 153(511) - Metals & Inorganics (Soil)

DATE RECEIVED: 2021-12-01

DATE REPORTED: 2021-12-10

		SAMPLE DESCRIPTION:		BH101 SS1	BH102 SS2	BH102 SS3	BH103 SS1	BH103 SS2	BH104 SS1	BH104 SS8	BH105 SS5
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2021-11-30	2021-11-30	2021-11-30	2021-11-30	2021-11-30	2021-11-30	2021-11-30	2021-11-30
Parameter	Unit	G / S	RDL	3281970	3281971	3281972	3281973	3281974	3281975	3281976	3281977
Antimony	µg/g	1.3	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	1	4	2	7	3	4	8	6	6
Barium	µg/g	220	2.0	278	18.7	100	132	414	114	124	207
Beryllium	µg/g	2.5	0.4	0.8	<0.4	0.6	0.6	0.7	0.6	0.7	0.7
Boron	µg/g	36	5	34	6	18	13	23	18	23	21
Boron (Hot Water Soluble)	µg/g	NA	0.10	0.88	<0.10	0.14	0.15	0.20	0.34	0.32	0.62
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	70	5	23	10	20	26	20	18	20	22
Cobalt	µg/g	21	0.5	10.8	3.2	12.0	10.0	11.1	8.7	8.9	10.0
Copper	µg/g	92	1.0	6.0	10.7	32.9	20.9	11.6	48.2	16.4	19.2
Lead	µg/g	120	1	10	5	10	10	9	36	15	23
Molybdenum	µg/g	2	0.5	0.9	<0.5	0.9	<0.5	0.7	0.7	1.0	1.1
Nickel	µg/g	82	1	23	7	23	21	22	18	18	23
Selenium	µg/g	1.5	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	0.8
Silver	µg/g	0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Thallium	µg/g	1	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Uranium	µg/g	2.5	0.50	0.73	<0.50	0.56	0.62	0.68	0.70	0.64	0.59
Vanadium	µg/g	86	0.4	28.4	19.0	27.2	33.6	25.7	26.6	24.8	30.2
Zinc	µg/g	290	5	50	20	50	53	49	64	47	60
Chromium, Hexavalent	µg/g	0.66	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Cyanide, Free	µg/g	0.051	0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Mercury	µg/g	0.27	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.29	<0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	0.57	0.005	0.231	0.947	0.512	0.565	0.296	0.663	0.481	1.07
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	N/A	1.23	20.3	11.1	4.89	8.36	9.77	8.04	12.0
pH, 2:1 CaCl2 Extraction	pH Units		NA	7.32	7.53	7.22	7.36	7.23	7.23	7.22	7.33

Certified By:



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FAX (905)712-5122
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Certificate of Analysis

AGAT WORK ORDER: 21T838338

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Steve Sears

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - Metals & Inorganics (Soil)

DATE RECEIVED: 2021-12-01

DATE REPORTED: 2021-12-10

		SAMPLE DESCRIPTION:		BH105 SS7	BH106 SS1	BH106 SS3	BH107 SS2	BH108 SS1	BH108 SS3	DUP1
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2021-11-30	2021-11-30	2021-11-30	2021-11-30	2021-11-30	2021-11-30	2021-11-30
Parameter	Unit	G / S	RDL	3281978	3281979	3281980	3281982	3281983	3281984	3281985
Antimony	µg/g	1.3	0.8	<0.8	0.9	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	1	5	7	7	5	3	4	8
Barium	µg/g	220	2.0	222	86.9	101	64.4	65.9	87.7	78.6
Beryllium	µg/g	2.5	0.4	0.6	0.5	0.7	0.6	0.4	0.6	0.4
Boron	µg/g	36	5	22	13	24	14	6	24	7
Boron (Hot Water Soluble)	µg/g	NA	0.10	0.30	0.71	1.09	0.21	0.20	0.31	0.81
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	70	5	19	14	21	21	17	21	14
Cobalt	µg/g	21	0.5	10.1	6.1	11.0	12.2	4.3	10.8	4.5
Copper	µg/g	92	1.0	22.8	28.6	15.6	40.4	11.6	6.0	16.4
Lead	µg/g	120	1	10	95	26	9	7	10	34
Molybdenum	µg/g	2	0.5	0.8	0.6	1.3	0.6	0.6	0.9	<0.5
Nickel	µg/g	82	1	21	13	23	25	10	22	9
Selenium	µg/g	1.5	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Silver	µg/g	0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Thallium	µg/g	1	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Uranium	µg/g	2.5	0.50	0.75	0.57	0.54	0.64	0.51	0.55	0.71
Vanadium	µg/g	86	0.4	27.5	23.4	28.0	28.5	32.0	27.7	24.5
Zinc	µg/g	290	5	52	89	55	54	26	48	42
Chromium, Hexavalent	µg/g	0.66	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Cyanide, Free	µg/g	0.051	0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Mercury	µg/g	0.27	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	0.57	0.005	0.712	1.12	1.09	0.313	1.60	0.590	1.48
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	N/A	3.29	14.7	16.8	3.60	20.1	13.0	18.7
pH, 2:1 CaCl2 Extraction	pH Units		NA	7.23	7.37	6.71	7.07	7.14	7.01	7.18

Certified By:

Results relate only to the items tested. Results apply to samples as received.

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CANADA L4Z 1Y2
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AGAT WORK ORDER: 21T838338

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Steve Sears

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - Metals & Inorganics (Soil)

DATE RECEIVED: 2021-12-01

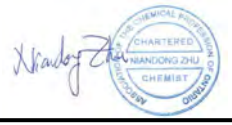
DATE REPORTED: 2021-12-10

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3281970-3281985 EC was determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil). pH was determined on the 0.01M CaCl2 extract prepared at 2:1 ratio. SAR is a calculated parameter.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



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CANADA L4Z 1Y2
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AGAT WORK ORDER: 21T838338

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Steve Sears

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - PAHs (Soil)

DATE RECEIVED: 2021-12-01

DATE REPORTED: 2021-12-10

		SAMPLE DESCRIPTION:		BH101 SS1
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2021-11-30
Parameter	Unit	G / S	RDL	3281970
Naphthalene	µg/g	0.09	0.05	<0.05
Acenaphthylene	µg/g	0.093	0.05	<0.05
Acenaphthene	µg/g	0.072	0.05	<0.05
Fluorene	µg/g	0.12	0.05	<0.05
Phenanthrene	µg/g	0.69	0.05	<0.05
Anthracene	µg/g	0.16	0.05	<0.05
Fluoranthene	µg/g	0.56	0.05	<0.05
Pyrene	µg/g	1	0.05	<0.05
Benz(a)anthracene	µg/g	0.36	0.05	<0.05
Chrysene	µg/g	2.8	0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.47	0.05	<0.05
Benzo(k)fluoranthene	µg/g	0.48	0.05	<0.05
Benzo(a)pyrene	µg/g	0.3	0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.46	0.05	<0.05
Dibenz(a,h)anthracene	µg/g	0.1	0.05	<0.05
Benzo(g,h,i)perylene	µg/g	0.68	0.05	<0.05
1 and 2 Methlynaphthalene	µg/g	0.59	0.05	<0.05
Moisture Content	%		0.1	3.2
Surrogate	Unit	Acceptable Limits		
Naphthalene-d8	%	50-140		78
Acridine-d9	%	50-140		96
Terphenyl-d14	%	50-140		99

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3281970 Results are based on the dry weight of the soil.
Note: The result for Benzo(b)Fluoranthene is the total of the Benzo(b)&j)Fluoranthene isomers because the isomers co-elute on the GC column.
2- and 1-Methyl Naphthalene is a calculated parameter. The calculated value is the sum of 2-Methyl Naphthalene and 1-Methyl Naphthalene.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 21T838338

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Steve Sears

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - PHCs F1 - F4 (-BTEX) (Soil)

DATE RECEIVED: 2021-12-01

DATE REPORTED: 2021-12-10

		SAMPLE DESCRIPTION:		BH102 SS2	BH102 SS3	BH103 SS1	BH103 SS2	BH104 SS1	BH104 SS8	BH105 SS5	BH105 SS7
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2021-11-30	2021-11-30	2021-11-30	2021-11-30	2021-11-30	2021-11-30	2021-11-30	2021-11-30
Parameter	Unit	G / S	RDL	3281971	3281972	3281973	3281974	3281975	3281976	3281977	3281978
F1 (C6 - C10)	µg/g	25	5	<5	<5	<5	<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	25	5	<5	<5	<5	<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g	10	10	<10	<10	<10	<10	<10	<10	<10	<10
F3 (C16 to C34)	µg/g	240	50	<50	<50	<50	<50	<50	<50	<50	<50
F4 (C34 to C50)	µg/g	120	50	<50	<50	<50	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	120	50	NA	NA	NA	NA	NA	NA	NA	NA
Moisture Content	%		0.1	21.8	9.1	15.6	7.8	7.6	11.9	12.6	10.9
Surrogate	Unit	Acceptable Limits									
Toluene-d8	% Recovery	50-140		71	98	102	84	82	108	76	80
Terphenyl	%	60-140		90	82	113	95	97	93	93	92

		SAMPLE DESCRIPTION:		BH106 SS1	BH106 SS3	BH108 SS1	BH108 SS3	DUP1
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2021-11-30	2021-11-30	2021-11-30	2021-11-30	2021-11-30
Parameter	Unit	G / S	RDL	3281979	3281980	3281983	3281984	3281985
F1 (C6 - C10)	µg/g	25	5	<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	25	5	<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g	10	10	<10	<10	<10	<10	<10
F3 (C16 to C34)	µg/g	240	50	<50	<50	<50	<50	<50
F4 (C34 to C50)	µg/g	120	50	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	120	50	NA	NA	NA	NA	NA
Moisture Content	%		0.1	9.8	6.4	17.5	7.9	14.1
Surrogate	Unit	Acceptable Limits						
Toluene-d8	% Recovery	50-140		92	110	92	76	95
Terphenyl	%	60-140		96	103	100	104	86

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 21T838338

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Steve Sears

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - PHCs F1 - F4 (-BTEX) (Soil)

DATE RECEIVED: 2021-12-01

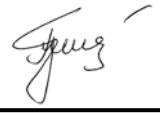
DATE REPORTED: 2021-12-10

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3281971-3281985 Results are based on sample dry weight.
The C6-C10 fraction is calculated using toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX contribution.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.
Fractions 1-4 are quantified without the contribution of PAHs. Under Ontario Regulation 153, results are considered valid without determining the PAH contribution if not requested by the client.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



Results relate only to the items tested. Results apply to samples as received.

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5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
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AGAT WORK ORDER: 21T838338

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Steve Sears

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)

DATE RECEIVED: 2021-12-01

DATE REPORTED: 2021-12-10

		SAMPLE DESCRIPTION:		BH101 SS1
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2021-11-30
Parameter	Unit	G / S	RDL	3281970
F1 (C6 - C10)	µg/g	25	5	<5
F1 (C6 to C10) minus BTEX	µg/g	25	5	<5
F2 (C10 to C16)	µg/g	10	10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10
F3 (C16 to C34)	µg/g	240	50	<50
F3 (C16 to C34) minus PAHs	µg/g		50	<50
F4 (C34 to C50)	µg/g	120	50	<50
Gravimetric Heavy Hydrocarbons	µg/g	120	50	NA
Moisture Content	%		0.1	3.2
Surrogate	Unit	Acceptable Limits		
Toluene-d8	% Recovery	50-140		110
Terphenyl	%	60-140		90

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3281970 Results are based on sample dry weight.
The C6-C10 fraction is calculated using toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX and PAH contributions.
C>10 – C16 (F2- Naphthalene) is a calculated parameter. The calculated value is F2 - Naphthalene.
C>16 - C34 (F3-PAH) is a calculated parameter. The calculated value is F3-PAH (PAH: sum of Phenanthrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Fluoranthene, Dibenzo(a,h)anthracene, Indeno(1,2,3-c,d)pyrene and Pyrene).
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

Results relate only to the items tested. Results apply to samples as received.

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

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AGAT WORK ORDER: 21T838338

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Steve Sears

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - VOCs (Soil)

DATE RECEIVED: 2021-12-01

DATE REPORTED: 2021-12-10

SAMPLE DESCRIPTION:				BH101 SS1	BH102 SS2	BH102 SS3	BH103 SS1	BH103 SS2	BH104 SS1	BH104 SS8	BH105 SS5
SAMPLE TYPE:				Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
DATE SAMPLED:				2021-11-30	2021-11-30	2021-11-30	2021-11-30	2021-11-30	2021-11-30	2021-11-30	2021-11-30
Parameter	Unit	G / S	RDL	3281970	3281971	3281972	3281973	3281974	3281975	3281976	3281977
Dichlorodifluoromethane	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	ug/g	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Bromomethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	ug/g	0.25	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acetone	ug/g	0.5	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trans- 1,2-Dichloroethylene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl tert-butyl Ether	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1-Dichloroethane	ug/g	0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Methyl Ethyl Ketone	ug/g	0.5	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cis- 1,2-Dichloroethylene	ug/g	0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,2-Dichloroethane	ug/g	0.05	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
1,1,1-Trichloroethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzene	ug/g	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-Dichloropropane	ug/g	0.05	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Trichloroethylene	ug/g	0.05	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Bromodichloromethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl Isobutyl Ketone	ug/g	0.5	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Toluene	ug/g	0.2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromochloromethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylene Dibromide	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Tetrachloroethylene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,1,2-Tetrachloroethane	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Chlorobenzene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
m & p-Xylene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Certified By:

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5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

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AGAT WORK ORDER: 21T838338

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Steve Sears

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - VOCs (Soil)

DATE RECEIVED: 2021-12-01

DATE REPORTED: 2021-12-10

		SAMPLE DESCRIPTION:		BH101 SS1	BH102 SS2	BH102 SS3	BH103 SS1	BH103 SS2	BH104 SS1	BH104 SS8	BH105 SS5
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2021-11-30	2021-11-30	2021-11-30	2021-11-30	2021-11-30	2021-11-30	2021-11-30	2021-11-30
Parameter	Unit	G / S	RDL	3281970	3281971	3281972	3281973	3281974	3281975	3281976	3281977
Bromoform	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Styrene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
o-Xylene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,3-Dichlorobenzene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,4-Dichlorobenzene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,2-Dichlorobenzene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,3-Dichloropropene (Cis + Trans)	µg/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
n-Hexane	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	3.2	21.8	9.1	15.6	7.8	7.6	11.9	12.6
Surrogate	Unit	Acceptable Limits									
Toluene-d8	% Recovery	50-140		104	100	109	103	85	92	96	102
4-Bromofluorobenzene	% Recovery	50-140		84	73	85	72	77	100	74	82

Certified By:

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5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
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AGAT WORK ORDER: 21T838338

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Steve Sears

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - VOCs (Soil)

DATE RECEIVED: 2021-12-01

DATE REPORTED: 2021-12-10

		SAMPLE DESCRIPTION:		BH105 SS7	BH106 SS1	BH106 SS3	BH108 SS1	BH108 SS3	DUP1
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2021-11-30	2021-11-30	2021-11-30	2021-11-30	2021-11-30	2021-11-30
Parameter	Unit	G / S	RDL	3281978	3281979	3281980	3281983	3281984	3281985
Dichlorodifluoromethane	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	ug/g	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Bromomethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	ug/g	0.25	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acetone	ug/g	0.5	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trans- 1,2-Dichloroethylene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl tert-butyl Ether	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1-Dichloroethane	ug/g	0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Methyl Ethyl Ketone	ug/g	0.5	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cis- 1,2-Dichloroethylene	ug/g	0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,2-Dichloroethane	ug/g	0.05	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
1,1,1-Trichloroethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzene	ug/g	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-Dichloropropane	ug/g	0.05	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Trichloroethylene	ug/g	0.05	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Bromodichloromethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl Isobutyl Ketone	ug/g	0.5	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Toluene	ug/g	0.2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromochloromethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylene Dibromide	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Tetrachloroethylene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,1,2-Tetrachloroethane	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Chlorobenzene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
m & p-Xylene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Certified By:

Results relate only to the items tested. Results apply to samples as received.

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5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
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AGAT WORK ORDER: 21T838338

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Steve Sears

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - VOCs (Soil)

DATE RECEIVED: 2021-12-01

DATE REPORTED: 2021-12-10

		SAMPLE DESCRIPTION:		BH105 SS7	BH106 SS1	BH106 SS3	BH108 SS1	BH108 SS3	DUP1
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2021-11-30	2021-11-30	2021-11-30	2021-11-30	2021-11-30	2021-11-30
Parameter	Unit	G / S	RDL	3281978	3281979	3281980	3281983	3281984	3281985
Bromoform	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Styrene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
o-Xylene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,3-Dichlorobenzene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,4-Dichlorobenzene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,2-Dichlorobenzene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,3-Dichloropropene (Cis + Trans)	µg/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
n-Hexane	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	10.9	9.8	6.4	17.5	7.9	14.1
Surrogate	Unit	Acceptable Limits							
Toluene-d8	% Recovery	50-140		94	105	102	93	103	102
4-Bromofluorobenzene	% Recovery	50-140		85	83	69	95	76	78

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3281970-3281985 The sample was analyzed using the high level technique. The sample was extracted using methanol, a small amount of the methanol extract was diluted in water and the purge & trap GC/MS analysis was performed. Results are based on the dry weight of the soil.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene + o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

Results relate only to the items tested. Results apply to samples as received.

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5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Exceedance Summary

AGAT WORK ORDER: 21T838338

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Steve Sears

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
3281970	BH101 SS1	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Barium	µg/g	220	278
3281971	BH102 SS2	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	0.947
3281971	BH102 SS2	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	20.3
3281972	BH102 SS3	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	11.1
3281973	BH103 SS1	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	4.89
3281974	BH103 SS2	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Barium	µg/g	220	414
3281974	BH103 SS2	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	8.36
3281975	BH104 SS1	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	0.663
3281975	BH104 SS1	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Mercury	µg/g	0.27	0.29
3281975	BH104 SS1	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	9.77
3281976	BH104 SS8	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	8.04
3281977	BH105 SS5	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	1.07
3281977	BH105 SS5	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	12.0
3281978	BH105 SS7	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Barium	µg/g	220	222
3281978	BH105 SS7	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	0.712
3281978	BH105 SS7	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	3.29
3281979	BH106 SS1	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	1.12
3281979	BH106 SS1	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	14.7
3281980	BH106 SS3	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	1.09
3281980	BH106 SS3	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	16.8
3281982	BH107 SS2	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	3.60
3281983	BH108 SS1	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	1.60
3281983	BH108 SS1	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	20.1
3281984	BH108 SS3	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	0.590
3281984	BH108 SS3	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	13.0
3281985	DUP1	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	1.48
3281985	DUP1	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	18.7

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AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21T838338

PROJECT: 301114

ATTENTION TO: Steve Sears

SAMPLING SITE:

SAMPLED BY:

Soil Analysis

RPT Date: Dec 10, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals & Inorganics (Soil)															
Antimony	3281970	3281970	<0.8	<0.8	NA	< 0.8	128%	70%	130%	102%	80%	120%	77%	70%	130%
Arsenic	3281970	3281970	4	4	NA	< 1	106%	70%	130%	98%	80%	120%	96%	70%	130%
Barium	3281970	3281970	278	315	12.5%	< 2.0	103%	70%	130%	104%	80%	120%	106%	70%	130%
Beryllium	3281970	3281970	0.8	0.8	NA	< 0.4	105%	70%	130%	98%	80%	120%	92%	70%	130%
Boron	3281970	3281970	34	35	2.9%	< 5	99%	70%	130%	109%	80%	120%	114%	70%	130%
Boron (Hot Water Soluble)	3281970	3281970	0.88	0.93	5.5%	< 0.10	90%	60%	140%	106%	70%	130%	100%	60%	140%
Cadmium	3281970	3281970	<0.5	<0.5	NA	< 0.5	103%	70%	130%	101%	80%	120%	101%	70%	130%
Chromium	3281970	3281970	23	24	NA	< 5	100%	70%	130%	103%	80%	120%	110%	70%	130%
Cobalt	3281970	3281970	10.8	11.5	6.3%	< 0.5	94%	70%	130%	102%	80%	120%	98%	70%	130%
Copper	3281970	3281970	6.0	6.2	3.3%	< 1.0	92%	70%	130%	106%	80%	120%	93%	70%	130%
Lead	3281970	3281970	10	15	40.0%	< 1	105%	70%	130%	106%	80%	120%	98%	70%	130%
Molybdenum	3281970	3281970	0.9	1.0	NA	< 0.5	101%	70%	130%	104%	80%	120%	101%	70%	130%
Nickel	3281970	3281970	23	24	4.3%	< 1	93%	70%	130%	102%	80%	120%	97%	70%	130%
Selenium	3281970	3281970	<0.8	<0.8	NA	< 0.8	130%	70%	130%	94%	80%	120%	93%	70%	130%
Silver	3281970	3281970	<0.5	<0.5	NA	< 0.5	102%	70%	130%	102%	80%	120%	97%	70%	130%
Thallium	3281970	3281970	<0.5	<0.5	NA	< 0.5	107%	70%	130%	104%	80%	120%	98%	70%	130%
Uranium	3281970	3281970	0.73	0.76	NA	< 0.50	109%	70%	130%	108%	80%	120%	102%	70%	130%
Vanadium	3281970	3281970	28.4	30.5	7.1%	< 0.4	104%	70%	130%	99%	80%	120%	103%	70%	130%
Zinc	3281970	3281970	50	51	2.0%	< 5	96%	70%	130%	99%	80%	120%	96%	70%	130%
Chromium, Hexavalent	3292421	3281977	<0.2	<0.2	NA	< 0.2	102%	70%	130%	90%	80%	120%	97%	70%	130%
Cyanide, Free	3281979	3281979	<0.040	<0.040	NA	< 0.040	101%	70%	130%	103%	80%	120%	77%	70%	130%
Mercury	3281970	3281970	<0.10	<0.10	NA	< 0.10	106%	70%	130%	98%	80%	120%	90%	70%	130%
Electrical Conductivity (2:1)	3281970	3281970	0.231	0.232	0.4%	< 0.005	105%	80%	120%						
Sodium Adsorption Ratio (2:1) (Calc.)	3281970	3281970	1.23	1.26	2.4%	NA									
pH, 2:1 CaCl2 Extraction	3276932		7.64	7.94	3.9%	NA	99%	80%	120%						

Comments: NA signifies Not Applicable.
pH duplicates QA acceptance criteria was met relative as stated in Table 5-15 of Analytical Protocol document.
Duplicate NA: results are under 5X the RDL and will not be calculated.

Certified By:



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AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21T838338

PROJECT: 301114

ATTENTION TO: Steve Sears

SAMPLING SITE:

SAMPLED BY:

Trace Organics Analysis

RPT Date: Dec 10, 2021

PARAMETER	Batch	Sample Id	DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
			Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)															
F1 (C6 - C10)	3281970		< 5	< 5	NA	< 5	102%	60%	140%	105%	60%	140%	90%	60%	140%
F2 (C10 to C16)	3281985	3281985	< 10	< 10	NA	< 10	113%	60%	140%	93%	60%	140%	111%	60%	140%
F3 (C16 to C34)	3281985	3281985	< 50	< 50	NA	< 50	109%	60%	140%	84%	60%	140%	95%	60%	140%
F4 (C34 to C50)	3281985	3281985	< 50	< 50	NA	< 50	86%	60%	140%	122%	60%	140%	108%	60%	140%
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	3257319		< 0.05	< 0.05	NA	< 0.05	78%	50%	140%	105%	50%	140%	105%	50%	140%
Acenaphthylene	3257319		< 0.05	< 0.05	NA	< 0.05	84%	50%	140%	83%	50%	140%	98%	50%	140%
Acenaphthene	3257319		< 0.05	< 0.05	NA	< 0.05	85%	50%	140%	92%	50%	140%	83%	50%	140%
Fluorene	3257319		< 0.05	< 0.05	NA	< 0.05	105%	50%	140%	94%	50%	140%	88%	50%	140%
Phenanthrene	3257319		< 0.05	< 0.05	NA	< 0.05	98%	50%	140%	98%	50%	140%	74%	50%	140%
Anthracene	3257319		< 0.05	< 0.05	NA	< 0.05	86%	50%	140%	86%	50%	140%	82%	50%	140%
Fluoranthene	3257319		< 0.05	< 0.05	NA	< 0.05	68%	50%	140%	88%	50%	140%	91%	50%	140%
Pyrene	3257319		< 0.05	< 0.05	NA	< 0.05	84%	50%	140%	74%	50%	140%	107%	50%	140%
Benz(a)anthracene	3257319		< 0.05	< 0.05	NA	< 0.05	80%	50%	140%	85%	50%	140%	87%	50%	140%
Chrysene	3257319		< 0.05	< 0.05	NA	< 0.05	95%	50%	140%	90%	50%	140%	85%	50%	140%
Benzo(b)fluoranthene	3257319		< 0.05	< 0.05	NA	< 0.05	88%	50%	140%	105%	50%	140%	96%	50%	140%
Benzo(k)fluoranthene	3257319		< 0.05	< 0.05	NA	< 0.05	93%	50%	140%	98%	50%	140%	105%	50%	140%
Benzo(a)pyrene	3257319		< 0.05	< 0.05	NA	< 0.05	92%	50%	140%	86%	50%	140%	98%	50%	140%
Indeno(1,2,3-cd)pyrene	3257319		< 0.05	< 0.05	NA	< 0.05	105%	50%	140%	88%	50%	140%	86%	50%	140%
Dibenz(a,h)anthracene	3257319		< 0.05	< 0.05	NA	< 0.05	98%	50%	140%	74%	50%	140%	88%	50%	140%
Benzo(g,h,i)perylene	3257319		< 0.05	< 0.05	NA	< 0.05	86%	50%	140%	82%	50%	140%	80%	50%	140%
O. Reg. 153(511) - VOCs (Soil)															
Dichlorodifluoromethane	3281985	3281985	< 0.05	< 0.05	NA	< 0.05	72%	50%	140%	85%	50%	140%	105%	50%	140%
Vinyl Chloride	3281985	3281985	< 0.02	< 0.02	NA	< 0.02	87%	50%	140%	96%	50%	140%	85%	50%	140%
Bromomethane	3281985	3281985	< 0.05	< 0.05	NA	< 0.05	89%	50%	140%	78%	50%	140%	95%	50%	140%
Trichlorofluoromethane	3281985	3281985	< 0.05	< 0.05	NA	< 0.05	90%	50%	140%	89%	50%	140%	76%	50%	140%
Acetone	3281985	3281985	< 0.50	< 0.50	NA	< 0.50	100%	50%	140%	99%	50%	140%	85%	50%	140%
1,1-Dichloroethylene	3281985	3281985	< 0.05	< 0.05	NA	< 0.05	112%	50%	140%	73%	60%	130%	98%	50%	140%
Methylene Chloride	3281985	3281985	< 0.05	< 0.05	NA	< 0.05	111%	50%	140%	104%	60%	130%	76%	50%	140%
Trans- 1,2-Dichloroethylene	3281985	3281985	< 0.05	< 0.05	NA	< 0.05	104%	50%	140%	82%	60%	130%	102%	50%	140%
Methyl tert-butyl Ether	3281985	3281985	< 0.05	< 0.05	NA	< 0.05	77%	50%	140%	93%	60%	130%	105%	50%	140%
1,1-Dichloroethane	3281985	3281985	< 0.02	< 0.02	NA	< 0.02	93%	50%	140%	94%	60%	130%	72%	50%	140%
Methyl Ethyl Ketone	3281985	3281985	< 0.50	< 0.50	NA	< 0.50	107%	50%	140%	98%	50%	140%	83%	50%	140%
Cis- 1,2-Dichloroethylene	3281985	3281985	< 0.02	< 0.02	NA	< 0.02	91%	50%	140%	93%	60%	130%	95%	50%	140%
Chloroform	3281985	3281985	< 0.04	< 0.04	NA	< 0.04	106%	50%	140%	108%	60%	130%	75%	50%	140%
1,2-Dichloroethane	3281985	3281985	< 0.03	< 0.03	NA	< 0.03	106%	50%	140%	108%	60%	130%	85%	50%	140%
1,1,1-Trichloroethane	3281985	3281985	< 0.05	< 0.05	NA	< 0.05	79%	50%	140%	112%	60%	130%	83%	50%	140%
Carbon Tetrachloride	3281985	3281985	< 0.05	< 0.05	NA	< 0.05	85%	50%	140%	72%	60%	130%	97%	50%	140%

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AGAT Laboratories
5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
AGAT WORK ORDER: 21T838338
PROJECT: 301114
ATTENTION TO: Steve Sears
SAMPLING SITE:
SAMPLED BY:

Trace Organics Analysis (Continued)

RPT Date: Dec 10, 2021

PARAMETER	Batch	Sample Id	DUPLICATE Dup #1	DUPLICATE Dup #2	DUPLICATE RPD	Method Blank	REFERENCE MATERIAL Measured Value	REFERENCE MATERIAL Acceptable Limits Lower	REFERENCE MATERIAL Acceptable Limits Upper	METHOD BLANK SPIKE Recovery	METHOD BLANK SPIKE Acceptable Limits Lower	METHOD BLANK SPIKE Acceptable Limits Upper	MATRIX SPIKE Recovery	MATRIX SPIKE Acceptable Limits Lower	MATRIX SPIKE Acceptable Limits Upper
Benzene	3281985	3281985	< 0.02	< 0.02	NA	< 0.02	112%	50%	140%	85%	60%	130%	86%	50%	140%
1,2-Dichloropropane	3281985	3281985	< 0.03	< 0.03	NA	< 0.03	103%	50%	140%	76%	60%	130%	81%	50%	140%
Trichloroethylene	3281985	3281985	< 0.03	< 0.03	NA	< 0.03	99%	50%	140%	76%	60%	130%	85%	50%	140%
Bromodichloromethane	3281985	3281985	< 0.05	< 0.05	NA	< 0.05	110%	50%	140%	87%	60%	130%	102%	50%	140%
Methyl Isobutyl Ketone	3281985	3281985	< 0.50	< 0.50	NA	< 0.50	102%	50%	140%	101%	50%	140%	105%	50%	140%
1,1,2-Trichloroethane	3281985	3281985	< 0.04	< 0.04	NA	< 0.04	111%	50%	140%	104%	60%	130%	76%	50%	140%
Toluene	3281985	3281985	< 0.05	< 0.05	NA	< 0.05	119%	50%	140%	96%	60%	130%	98%	50%	140%
Dibromochloromethane	3281985	3281985	< 0.05	< 0.05	NA	< 0.05	100%	50%	140%	105%	60%	130%	78%	50%	140%
Ethylene Dibromide	3281985	3281985	< 0.04	< 0.04	NA	< 0.04	113%	50%	140%	112%	60%	130%	82%	50%	140%
Tetrachloroethylene	3281985	3281985	< 0.05	< 0.05	NA	< 0.05	109%	50%	140%	93%	60%	130%	86%	50%	140%
1,1,1,2-Tetrachloroethane	3281985	3281985	< 0.04	< 0.04	NA	< 0.04	113%	50%	140%	117%	60%	130%	97%	50%	140%
Chlorobenzene	3281985	3281985	< 0.05	< 0.05	NA	< 0.05	120%	50%	140%	99%	60%	130%	86%	50%	140%
Ethylbenzene	3281985	3281985	< 0.05	< 0.05	NA	< 0.05	84%	50%	140%	89%	60%	130%	94%	50%	140%
m & p-Xylene	3281985	3281985	< 0.05	< 0.05	NA	< 0.05	108%	50%	140%	105%	60%	130%	76%	50%	140%
Bromoform	3281985	3281985	< 0.05	< 0.05	NA	< 0.05	102%	50%	140%	112%	60%	130%	85%	50%	140%
Styrene	3281985	3281985	< 0.05	< 0.05	NA	< 0.05	79%	50%	140%	73%	60%	130%	76%	50%	140%
1,1,2,2-Tetrachloroethane	3281985	3281985	< 0.05	< 0.05	NA	< 0.05	84%	50%	140%	91%	60%	130%	98%	50%	140%
o-Xylene	3281985	3281985	< 0.05	< 0.05	NA	< 0.05	90%	50%	140%	95%	60%	130%	85%	50%	140%
1,3-Dichlorobenzene	3281985	3281985	< 0.05	< 0.05	NA	< 0.05	95%	50%	140%	103%	60%	130%	86%	50%	140%
1,4-Dichlorobenzene	3281985	3281985	< 0.05	< 0.05	NA	< 0.05	102%	50%	140%	83%	60%	130%	82%	50%	140%
1,2-Dichlorobenzene	3281985	3281985	< 0.05	< 0.05	NA	< 0.05	93%	50%	140%	105%	60%	130%	98%	50%	140%
n-Hexane	3281985	3281985	< 0.05	< 0.05	NA	< 0.05	87%	50%	140%	71%	60%	130%	85%	50%	140%

Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

O. Reg. 153(511) - PHCs F1 - F4 (-BTEX) (Soil)															
F1 (C6 - C10)	3281985	3281985	<5	<5	NA	< 5	102%	60%	140%	105%	60%	140%	94%	60%	140%

Certified By:

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5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21T838338

PROJECT: 301114

ATTENTION TO: Steve Sears

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Antimony	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Arsenic	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Barium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Beryllium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron (Hot Water Soluble)	MET-93-6104	modified from EPA 6010D and MSA PART 3, CH 21	ICP/OES
Cadmium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Cobalt	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Copper	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Lead	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Molybdenum	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Nickel	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Selenium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Silver	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Thallium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Uranium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Vanadium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Zinc	MET 93 -6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium, Hexavalent	INOR-93-6068	modified from EPA 3060 and EPA 7196	SPECTROPHOTOMETER
Cyanide, Free	INOR-93-6052	modified from ON MOECC E3015, SM 4500-CN- I, G-387	TECHNICON AUTO ANALYZER
Mercury	MET-93-6103	modified from EPA 7471B and SM 3112 B	ICP-MS
Electrical Conductivity (2:1)	INOR-93-6036	modified from MSA PART 3, CH 14 and SM 2510 B	EC METER
Sodium Adsorption Ratio (2:1) (Calc.)	INOR-93-6007	modified from EPA 6010D & Analytical Protocol	ICP/OES
pH, 2:1 CaCl2 Extraction	INOR-93-6031	modified from EPA 9045D and MCKEAGUE 3.11	PH METER

Results relate only to the items tested. Results apply to samples as received.

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21T838338

PROJECT: 301114

ATTENTION TO: Steve Sears

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluorene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benz(a)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Chrysene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
1 and 2 Methlynaphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Moisture Content	VOL-91-5009	CCME Tier 1 Method	BALANCE
F1 (C6 - C10)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
Toluene-d8	VOL-91-5009	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F4 (C34 to C50)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Terphenyl	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	P&T GC/FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34) minus PAHs	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID

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5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
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Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21T838338

PROJECT: 301114

ATTENTION TO: Steve Sears

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Dichlorodifluoromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Vinyl Chloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trans- 1,2-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl tert-butyl Ether	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Cis- 1,2-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Toluene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Chlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21T838338

PROJECT: 301114

ATTENTION TO: Steve Sears

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Ethylbenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
m & p-Xylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene (Cis + Trans)	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5002	modified from EPA 5035A & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5002	modified from EPA 5035A & EPA 8260D	(P&T)GC/MS
Moisture Content	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE

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AGAT Laboratories

5835 Coopers Avenue
Mississauga, Ontario L4Z 1Y2
Ph: 905.712.5100 Fax: 905.712.5122
webearth.agatlabs.com

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Laboratory Use Only

Work Order #: 21T838338.

Cooler Quantity: 1 cooler

Arrival Temperatures: 3.9 | 4.7 | 2.3
5.3 | 4.9 | 4.7

Custody Seal Intact: ☐ Yes ☐ No ☐ N/A

Notes:

Report Information:

Company: Soil-Mat

Contact:

Address:

Phone: Fax:

Reports to be sent to:
1. Email: Peter Markesic
2. Email: Steve Sears

Regulatory Requirements:

(Please check all applicable boxes)

☒ Regulation 153/04 ☒ Excess Soils R406 ☐ Sewer Use ☐ Sanitary ☐ Storm

Table 1 (Indicate One) — Table 1 (Indicate One) — Region

☐ Ind/Com ☐ Res/Park ☐ Agriculture — ☐ Regulation 558 — ☐ Prov. Water Quality Objectives (PWQO)

Soil Texture (Check One): ☐ Coarse ☐ Fine — ☐ CCME — ☐ Other (Indicate One)

Is this submission for a **Record of Site Condition?** ☐ Yes ☐ No

Report Guideline on *Certificate of Analysis* ☐ Yes ☐ No

Turnaround Time (TAT) Required:

Regular TAT ☒ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply):

Please provide prior notification for rush TAT
*TAT is exclusive of weekends and statutory holidays

For 'Same Day' analysis, please contact your AGAT CPM

Project Information:

Project: 301114
Site Location: 2020 Lakeshore
Sampled By: NS
AGAT Quote #: PO:

Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☒ No ☐

Company:
Contact:
Address:
Email:

Sample Matrix Legend

B	Biota
GW	Ground Water
O	Oil
P	Paint
S	Soil
SD	Sediment
SW	Surface Water

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC Y/N	O. Reg 153: Metals & Inorganics	Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	BTEX, F1-F4 PHCs Analyze F4G if required ☐ Yes ☐ No	PAHs	PCBs	VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	Potentially Hazardous or High Concentration (Y/N)
BH101SS1	Nov30	AM PM	4	S			X		X	X		X					
BH102SS2		AM PM	4				X		X			X					
BH102SS3		AM PM					X		X			X					
BH103SS1		AM PM					X		X			X					
BH103SS2		AM PM					X		X			X					
BH104SS1		AM PM					X		X			X					
BH104SS8		AM PM					X		X			X					
BH105SS5		AM PM					X		X			X					
BH105SS7		AM PM					X		X			X					
BH106SS1		AM PM					X		X			X					
BH106SS3		AM PM					X		X			X					

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Melissa Tetlow	Dec 1/21	2:07		12/1/21	2:46
RM	12/1/21	3:59			

Page 1 of 2

N°: T 126801

Pink Copy - Client | Yellow Copy - AGAT | White Copy- AGAT

Date Issued: March 9, 2021

AGAT Laboratories
5835 Coopers Avenue
Mississauga, Ontario L4Z 1Y2
Ph: 905.712.5100 Fax: 905.712.5122
webearth.agatlabs.com

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Report Information:

Company: Soil-Mat
Contact:
Address:
Phone: Fax:
Reports to be sent to:
1. Email: Peter Markesic
2. Email: Steve Sears

Project Information:

Project: 301114
Site Location: 2020 Lakeshore NS
Sampled By:
AGAT Quote #: PO:
Please note: if quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☒ No ☐
Company:
Contact:
Address:
Email:

Regulatory Requirements:

(Please check all applicable boxes)

☒ Regulation 153/04 — Table 1 (Indicate One) ☐ Ind/Com ☐ Res/Park ☐ Agriculture
Soil Texture *(Check One)* ☐ Coarse ☐ Fine

☒ Excess Soils R406 — Table (Indicate One)
☐ Regulation 558
☐ CCME

☐ Sewer Use ☐ Sanitary ☐ Storm — Region
☐ Prov. Water Quality Objectives (PWQO)
☐ Other — Indicate One

Is this submission for a **Record of Site Condition?** ☐ Yes ☐ No

Report Guideline on *Certificate of Analysis* ☐ Yes ☐ No

Laboratory Use Only

Work Order #:
Cooler Quantity:
Arrival Temperatures: 6.9 | 7 | 7.7 / 5.3 | 4.9 | 4.7
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes:

Turnaround Time (TAT) Required:

Regular TAT ☒ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply):

Please provide prior notification for rush TAT
**TAT is exclusive of weekends and statutory holidays*

For 'Same Day' analysis, please contact your AGAT CPM

Sample Matrix Legend

B	Biota
GW	Ground Water
O	Oil
P	Paint
S	Soil
SD	Sediment
SW	Surface Water

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC Y/N	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs Analyze F4G if required ☐ Yes ☐ No	O. Reg 153: PAHs	O. Reg 153: PCBs	O. Reg 153: VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	Potentially Hazardous or High Concentration (Y/N)
BH107 552	Nov 30	AM/PM	1	S			X										
BH108 551		AM/PM	4				X		X			X					
BH108 553		AM/PM					X		X			X					
Dup1		AM/PM					X		X			X					
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															

Samples Relinquished By (Print Name and Sign): Mohamed Ali	Date: 2:07 ↔ Dec. 1/21	Time:	Samples Received By (Print Name and Sign): Rey	Date: 12/1/21 Time: 2:16
Samples Relinquished By (Print Name and Sign): Rey	Date: 12/1/21	Time:	Samples Received By (Print Name and Sign):	Date: Time:
Samples Relinquished By (Print Name and Sign):	Date:	Time:	Samples Received By (Print Name and Sign):	Date: Time:

Page 2 of 2

N°: T 126869

Pink Copy - Client | Yellow Copy - AGAT | White Copy- AGAT

Date Issued: March 9, 2021

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
130 LANCING DRIVE
HAMILTON, ON L8W3A1
(905) 318-7440

ATTENTION TO: Ross Keiller

PROJECT: 301114

AGAT WORK ORDER: 21T839310

SOIL ANALYSIS REVIEWED BY: Nivine Basily, Inorganics Report Writer

TRACE ORGANICS REVIEWED BY: Oksana Gushyla, Trace Organics Lab Supervisor

DATE REPORTED: Dec 11, 2021

PAGES (INCLUDING COVER): 16

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days following analysis, unless expressly agreed otherwise in writing. Please contact your Client Project Manager if you require additional sample storage time.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This report shall not be reproduced or distributed, in whole or in part, without the prior written consent of AGAT Laboratories.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the information contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.

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Western Enviro-Agricultural Laboratory Association (WEALA)
Environmental Services Association of Alberta (ESAA)

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AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
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http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 21T839310

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Ross Keiller

SAMPLING SITE:2020 Lakeshore

SAMPLED BY:NS

O. Reg. 153(511) - Metals & Inorganics (Soil)

DATE RECEIVED: 2021-12-02

DATE REPORTED: 2021-12-11

		SAMPLE DESCRIPTION:		BH109SS1	DUP 2
		SAMPLE TYPE:		Soil	Soil
		DATE SAMPLED:		2021-12-01	2021-12-01
Parameter	Unit	G / S	RDL	3290138	3290153
Antimony	µg/g	1.3	0.8	<0.8	<0.8
Arsenic	µg/g	18	1	7	6
Barium	µg/g	220	2.0	179	181
Beryllium	µg/g	2.5	0.4	0.7	0.7
Boron	µg/g	36	5	29	28
Boron (Hot Water Soluble)	µg/g	NA	0.10	3.62	3.51
Cadmium	µg/g	1.2	0.5	<0.5	<0.5
Chromium	µg/g	70	5	34	33
Cobalt	µg/g	21	0.5	16.3	15.6
Copper	µg/g	92	1.0	7.0	6.6
Lead	µg/g	120	1	11	10
Molybdenum	µg/g	2	0.5	1.4	1.4
Nickel	µg/g	82	1	34	33
Selenium	µg/g	1.5	0.8	<0.8	<0.8
Silver	µg/g	0.5	0.5	<0.5	<0.5
Thallium	µg/g	1	0.5	<0.5	<0.5
Uranium	µg/g	2.5	0.50	1.60	2.38
Vanadium	µg/g	86	0.4	38.4	36.1
Zinc	µg/g	290	5	63	62
Chromium, Hexavalent	µg/g	0.66	0.2	<0.2	<0.2
Cyanide, Free	µg/g	0.051	0.040	<0.040	<0.040
Mercury	µg/g	0.27	0.10	<0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	0.57	0.005	0.246	0.250
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	N/A	1.67	1.74
pH, 2:1 CaCl2 Extraction	pH Units		NA	7.35	7.44

Certified By:

Results relate only to the items tested. Results apply to samples as received.

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 21T839310

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Ross Keiller

SAMPLING SITE:2020 Lakeshore

SAMPLED BY:NS

O. Reg. 153(511) - Metals & Inorganics (Soil)

DATE RECEIVED: 2021-12-02

DATE REPORTED: 2021-12-11

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3290138-3290153 EC was determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil). pH was determined on the 0.01M CaCl2 extract prepared at 2:1 ratio. SAR is a calculated parameter.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



Results relate only to the items tested. Results apply to samples as received.

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5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 21T839310

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Ross Keiller

SAMPLING SITE:2020 Lakeshore

SAMPLED BY:NS

O. Reg. 153(511) - PAHs (Soil)

DATE RECEIVED: 2021-12-02

DATE REPORTED: 2021-12-11

		SAMPLE DESCRIPTION:		BH109SS1	TP1	TP2
		SAMPLE TYPE:		Soil	Soil	Soil
		DATE SAMPLED:		2021-12-01	2021-12-01	2021-12-01
Parameter	Unit	G / S	RDL	3290138	3290154	3290176
Naphthalene	µg/g	0.09	0.05	<0.05	<0.05	<0.05
Acenaphthylene	µg/g	0.093	0.05	<0.05	<0.05	<0.05
Acenaphthene	µg/g	0.072	0.05	<0.05	<0.05	<0.05
Fluorene	µg/g	0.12	0.05	<0.05	<0.05	<0.05
Phenanthrene	µg/g	0.69	0.05	<0.05	0.11	<0.05
Anthracene	µg/g	0.16	0.05	<0.05	<0.05	<0.05
Fluoranthene	µg/g	0.56	0.05	<0.05	0.21	<0.05
Pyrene	µg/g	1	0.05	<0.05	0.17	<0.05
Benz(a)anthracene	µg/g	0.36	0.05	<0.05	0.06	<0.05
Chrysene	µg/g	2.8	0.05	<0.05	0.07	<0.05
Benzo(b)fluoranthene	µg/g	0.47	0.05	<0.05	0.08	<0.05
Benzo(k)fluoranthene	µg/g	0.48	0.05	<0.05	0.07	<0.05
Benzo(a)pyrene	µg/g	0.3	0.05	<0.05	0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.46	0.05	<0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g	0.1	0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	0.68	0.05	<0.05	<0.05	<0.05
1 and 2 Methlynaphthalene	µg/g	0.59	0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	4.8	10.8	14.2
Surrogate	Unit	Acceptable Limits				
Naphthalene-d8	%	50-140		105	64	109
Acridine-d9	%	50-140		98	62	86
Terphenyl-d14	%	50-140		88	66	88

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3290138-3290176 Results are based on the dry weight of the soil.
Note: The result for Benzo(b)Fluoranthene is the total of the Benzo(b)&j)Fluoranthene isomers because the isomers co-elute on the GC column.
2- and 1-Methyl Naphthalene is a calculated parameter. The calculated value is the sum of 2-Methyl Naphthalene and 1-Methyl Naphthalene.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

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5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

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AGAT WORK ORDER: 21T839310

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Ross Keiller

SAMPLING SITE:2020 Lakeshore

SAMPLED BY:NS

O. Reg. 153(511) - PHCs F1 - F4 (-BTEX) (Soil)

DATE RECEIVED: 2021-12-02

DATE REPORTED: 2021-12-11

		SAMPLE DESCRIPTION:		DUP 2
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2021-12-01
Parameter	Unit	G / S	RDL	3290153
F1 (C6 - C10)	µg/g	25	5	<5
F1 (C6 to C10) minus BTEX	µg/g	25	5	<5
F2 (C10 to C16)	µg/g	10	10	<10
F3 (C16 to C34)	µg/g	240	50	<50
F4 (C34 to C50)	µg/g	120	50	<50
Gravimetric Heavy Hydrocarbons	µg/g	120	50	NA
Moisture Content	%		0.1	4.3
Surrogate	Unit	Acceptable Limits		
Toluene-d8	% Recovery	50-140		87
Terphenyl	%	60-140		106

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3290153 Results are based on sample dry weight.
The C6-C10 fraction is calculated using toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX contribution.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.
Fractions 1-4 are quantified without the contribution of PAHs. Under Ontario Regulation 153, results are considered valid without determining the PAH contribution if not requested by the client.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

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5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 21T839310

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Ross Keiller

SAMPLING SITE:2020 Lakeshore

SAMPLED BY:NS

O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)

DATE RECEIVED: 2021-12-02

DATE REPORTED: 2021-12-11

		SAMPLE DESCRIPTION:		BH109SS1
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2021-12-01
Parameter	Unit	G / S	RDL	3290138
F1 (C6 - C10)	µg/g	25	5	<5
F1 (C6 to C10) minus BTEX	µg/g	25	5	<5
F2 (C10 to C16)	µg/g	10	10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10
F3 (C16 to C34)	µg/g	240	50	<50
F3 (C16 to C34) minus PAHs	µg/g		50	<50
F4 (C34 to C50)	µg/g	120	50	<50
Gravimetric Heavy Hydrocarbons	µg/g	120	50	NA
Moisture Content	%		0.1	4.8
Surrogate	Unit	Acceptable Limits		
Toluene-d8	% Recovery	50-140		88
Terphenyl	%	60-140		100

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3290138 Results are based on sample dry weight.
The C6-C10 fraction is calculated using toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX and PAH contributions.
C>10 – C16 (F2- Naphthalene) is a calculated parameter. The calculated value is F2 - Naphthalene.
C>16 - C34 (F3-PAH) is a calculated parameter. The calculated value is F3-PAH (PAH: sum of Phenanthrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Fluoranthene, Dibenzo(a,h)anthracene, Indeno(1,2,3-c,d)pyrene and Pyrene).
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

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MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
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Certificate of Analysis

AGAT WORK ORDER: 21T839310

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Ross Keiller

SAMPLING SITE:2020 Lakeshore

SAMPLED BY:NS

O. Reg. 153(511) - VOCs (Soil)

DATE RECEIVED: 2021-12-02

DATE REPORTED: 2021-12-11

		SAMPLE DESCRIPTION:		BH109SS1	DUP 2
		SAMPLE TYPE:		Soil	Soil
		DATE SAMPLED:		2021-12-01	2021-12-01
Parameter	Unit	G / S	RDL	3290138	3290153
Dichlorodifluoromethane	µg/g	0.05	0.05	<0.05	<0.05
Vinyl Chloride	ug/g	0.02	0.02	<0.02	<0.02
Bromomethane	ug/g	0.05	0.05	<0.05	<0.05
Trichlorofluoromethane	ug/g	0.25	0.05	<0.05	<0.05
Acetone	ug/g	0.5	0.50	<0.50	<0.50
1,1-Dichloroethylene	ug/g	0.05	0.05	<0.05	<0.05
Methylene Chloride	ug/g	0.05	0.05	<0.05	<0.05
Trans- 1,2-Dichloroethylene	ug/g	0.05	0.05	<0.05	<0.05
Methyl tert-butyl Ether	ug/g	0.05	0.05	<0.05	<0.05
1,1-Dichloroethane	ug/g	0.05	0.02	<0.02	<0.02
Methyl Ethyl Ketone	ug/g	0.5	0.50	<0.50	<0.50
Cis- 1,2-Dichloroethylene	ug/g	0.05	0.02	<0.02	<0.02
Chloroform	ug/g	0.05	0.04	<0.04	<0.04
1,2-Dichloroethane	ug/g	0.05	0.03	<0.03	<0.03
1,1,1-Trichloroethane	ug/g	0.05	0.05	<0.05	<0.05
Carbon Tetrachloride	ug/g	0.05	0.05	<0.05	<0.05
Benzene	ug/g	0.02	0.02	<0.02	<0.02
1,2-Dichloropropane	ug/g	0.05	0.03	<0.03	<0.03
Trichloroethylene	ug/g	0.05	0.03	<0.03	<0.03
Bromodichloromethane	ug/g	0.05	0.05	<0.05	<0.05
Methyl Isobutyl Ketone	ug/g	0.5	0.50	<0.50	<0.50
1,1,2-Trichloroethane	ug/g	0.05	0.04	<0.04	<0.04
Toluene	ug/g	0.2	0.05	<0.05	<0.05
Dibromochloromethane	ug/g	0.05	0.05	<0.05	<0.05
Ethylene Dibromide	ug/g	0.05	0.04	<0.04	<0.04
Tetrachloroethylene	ug/g	0.05	0.05	<0.05	<0.05
1,1,1,2-Tetrachloroethane	ug/g	0.05	0.04	<0.04	<0.04
Chlorobenzene	ug/g	0.05	0.05	<0.05	<0.05
Ethylbenzene	ug/g	0.05	0.05	<0.05	<0.05
m & p-Xylene	ug/g		0.05	<0.05	<0.05

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MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
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PROJECT: 301114

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SAMPLING SITE:2020 Lakeshore

SAMPLED BY:NS

O. Reg. 153(511) - VOCs (Soil)

DATE RECEIVED: 2021-12-02

DATE REPORTED: 2021-12-11

		SAMPLE DESCRIPTION:		BH109SS1	DUP 2
		SAMPLE TYPE:		Soil	Soil
		DATE SAMPLED:		2021-12-01	2021-12-01
Parameter	Unit	G / S	RDL	3290138	3290153
Bromoform	ug/g	0.05	0.05	<0.05	<0.05
Styrene	ug/g	0.05	0.05	<0.05	<0.05
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.05	<0.05	<0.05
o-Xylene	ug/g		0.05	<0.05	<0.05
1,3-Dichlorobenzene	ug/g	0.05	0.05	<0.05	<0.05
1,4-Dichlorobenzene	ug/g	0.05	0.05	<0.05	<0.05
1,2-Dichlorobenzene	ug/g	0.05	0.05	<0.05	<0.05
Xylenes (Total)	ug/g	0.05	0.05	<0.05	<0.05
1,3-Dichloropropene (Cis + Trans)	µg/g	0.05	0.04	<0.04	<0.04
n-Hexane	µg/g	0.05	0.05	<0.05	<0.05
Moisture Content	%		0.1	4.8	4.3
Surrogate	Unit	Acceptable Limits			
Toluene-d8	% Recovery	50-140		91	94
4-Bromofluorobenzene	% Recovery	50-140		71	70

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
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3290138-3290153 The sample was analyzed using the high level technique. The sample was extracted using methanol, a small amount of the methanol extract was diluted in water and the purge & trap GC/MS analysis was performed. Results are based on the dry weight of the soil.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene + o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

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MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
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Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21T839310

PROJECT: 301114

ATTENTION TO: Ross Keiller

SAMPLING SITE:2020 Lakeshore

SAMPLED BY:NS

Soil Analysis

RPT Date: Dec 11, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals & Inorganics (Soil)															
Antimony	3282277		<0.8	<0.8	NA	< 0.8	130%	70%	130%	101%	80%	120%	87%	70%	130%
Arsenic	3282277		3	2	NA	< 1	120%	70%	130%	97%	80%	120%	109%	70%	130%
Barium	3282277		39.5	40.9	3.3%	< 2.0	100%	70%	130%	99%	80%	120%	101%	70%	130%
Beryllium	3282277		<0.4	<0.4	NA	< 0.4	84%	70%	130%	92%	80%	120%	85%	70%	130%
Boron	3282277		11	12	NA	< 5	93%	70%	130%	96%	80%	120%	97%	70%	130%
Boron (Hot Water Soluble)	3280243		0.10	<0.10	NA	< 0.10	87%	60%	140%	102%	70%	130%	97%	60%	140%
Cadmium	3282277		<0.5	<0.5	NA	< 0.5	106%	70%	130%	100%	80%	120%	100%	70%	130%
Chromium	3282277		19	20	NA	< 5	99%	70%	130%	104%	80%	120%	109%	70%	130%
Cobalt	3282277		6.2	6.1	1.6%	< 0.5	111%	70%	130%	105%	80%	120%	113%	70%	130%
Copper	3282277		12.4	12.6	1.4%	< 1.0	99%	70%	130%	102%	80%	120%	98%	70%	130%
Lead	3282277		5	5	NA	< 1	108%	70%	130%	99%	80%	120%	98%	70%	130%
Molybdenum	3282277		<0.5	<0.5	NA	< 0.5	114%	70%	130%	111%	80%	120%	121%	70%	130%
Nickel	3282277		13	13	0.1%	< 1	111%	70%	130%	108%	80%	120%	109%	70%	130%
Selenium	3282277		<0.8	<0.8	NA	< 0.8	93%	70%	130%	96%	80%	120%	104%	70%	130%
Silver	3282277		<0.5	<0.5	NA	< 0.5	99%	70%	130%	104%	80%	120%	97%	70%	130%
Thallium	3282277		<0.5	<0.5	NA	< 0.5	110%	70%	130%	108%	80%	120%	109%	70%	130%
Uranium	3282277		0.59	0.57	NA	< 0.50	116%	70%	130%	105%	80%	120%	114%	70%	130%
Vanadium	3282277		23.1	24.0	3.7%	< 0.4	108%	70%	130%	102%	80%	120%	115%	70%	130%
Zinc	3282277		25	25	NA	< 5	101%	70%	130%	95%	80%	120%	108%	70%	130%
Chromium, Hexavalent	3302102		<0.2	<0.2	NA	< 0.2	102%	70%	130%	99%	80%	120%	98%	70%	130%
Cyanide, Free	3278450		<0.040	<0.040	NA	< 0.040	105%	70%	130%	91%	80%	120%	107%	70%	130%
Mercury	3282277		<0.10	<0.10	NA	< 0.10	108%	70%	130%	99%	80%	120%	100%	70%	130%
Electrical Conductivity (2:1)	3291590		0.130	0.134	3.3%	< 0.005	105%	80%	120%						
Sodium Adsorption Ratio (2:1) (Calc.)	3291590		0.161	0.160	0.5%	NA									
pH, 2:1 CaCl2 Extraction	3291872		7.00	6.99	0.1%	NA	100%	80%	120%						

Comments: NA signifies Not Applicable.
pH duplicates QA acceptance criteria was met relative as stated in Table 5-15 of Analytical Protocol document.
Duplicate NA: results are under 5X the RDL and will not be calculated.

Certified By:



AGAT Laboratories is accredited to ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA) and/or Standards Council of Canada (SCC) for specific tests listed on the scope of accreditation. AGAT Laboratories (Mississauga) is also accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) for specific drinking water tests. Accreditations are location and parameter specific. A complete listing of parameters for each location is available from www.cala.ca and/or www.scc.ca. The tests in this report may not necessarily be included in the scope of accreditation. RPDs calculated using raw data. The RPD may not be reflective of duplicate values shown, due to rounding of final results.

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MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
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Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
AGAT WORK ORDER: 21T839310
PROJECT: 301114
ATTENTION TO: Ross Keiller
SAMPLING SITE:2020 Lakeshore
SAMPLED BY:NS

Trace Organics Analysis

RPT Date: Dec 11, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)															
F1 (C6 - C10)	3278991		< 5	< 5	NA	< 5	98%	60%	140%	91%	60%	140%	101%	60%	140%
F2 (C10 to C16)	3287167		< 10	< 10	NA	< 10	102%	60%	140%	85%	60%	140%	92%	60%	140%
F3 (C16 to C34)	3287167		< 50	< 50	NA	< 50	106%	60%	140%	76%	60%	140%	75%	60%	140%
F4 (C34 to C50)	3287167		< 50	< 50	NA	< 50	95%	60%	140%	85%	60%	140%	76%	60%	140%
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	3257319		< 0.05	< 0.05	NA	< 0.05	78%	50%	140%	105%	50%	140%	105%	50%	140%
Acenaphthylene	3257319		< 0.05	< 0.05	NA	< 0.05	84%	50%	140%	83%	50%	140%	98%	50%	140%
Acenaphthene	3257319		< 0.05	< 0.05	NA	< 0.05	85%	50%	140%	92%	50%	140%	83%	50%	140%
Fluorene	3257319		< 0.05	< 0.05	NA	< 0.05	105%	50%	140%	94%	50%	140%	88%	50%	140%
Phenanthrene	3257319		< 0.05	< 0.05	NA	< 0.05	98%	50%	140%	98%	50%	140%	74%	50%	140%
Anthracene	3257319		< 0.05	< 0.05	NA	< 0.05	86%	50%	140%	86%	50%	140%	82%	50%	140%
Fluoranthene	3257319		< 0.05	< 0.05	NA	< 0.05	68%	50%	140%	88%	50%	140%	91%	50%	140%
Pyrene	3257319		< 0.05	< 0.05	NA	< 0.05	84%	50%	140%	74%	50%	140%	107%	50%	140%
Benz(a)anthracene	3257319		< 0.05	< 0.05	NA	< 0.05	80%	50%	140%	85%	50%	140%	87%	50%	140%
Chrysene	3257319		< 0.05	< 0.05	NA	< 0.05	95%	50%	140%	90%	50%	140%	85%	50%	140%
Benzo(b)fluoranthene	3257319		< 0.05	< 0.05	NA	< 0.05	88%	50%	140%	105%	50%	140%	96%	50%	140%
Benzo(k)fluoranthene	3257319		< 0.05	< 0.05	NA	< 0.05	93%	50%	140%	98%	50%	140%	105%	50%	140%
Benzo(a)pyrene	3257319		< 0.05	< 0.05	NA	< 0.05	92%	50%	140%	86%	50%	140%	98%	50%	140%
Indeno(1,2,3-cd)pyrene	3257319		< 0.05	< 0.05	NA	< 0.05	105%	50%	140%	88%	50%	140%	86%	50%	140%
Dibenz(a,h)anthracene	3257319		< 0.05	< 0.05	NA	< 0.05	98%	50%	140%	74%	50%	140%	88%	50%	140%
Benzo(g,h,i)perylene	3257319		< 0.05	< 0.05	NA	< 0.05	86%	50%	140%	82%	50%	140%	80%	50%	140%
O. Reg. 153(511) - VOCs (Soil)															
Dichlorodifluoromethane	3290153	3290153	< 0.05	< 0.05	NA	< 0.05	89%	50%	140%	78%	50%	140%	96%	50%	140%
Vinyl Chloride	3290153	3290153	< 0.02	< 0.02	NA	< 0.02	83%	50%	140%	74%	50%	140%	85%	50%	140%
Bromomethane	3290153	3290153	< 0.05	< 0.05	NA	< 0.05	106%	50%	140%	106%	50%	140%	89%	50%	140%
Trichlorofluoromethane	3290153	3290153	< 0.05	< 0.05	NA	< 0.05	102%	50%	140%	83%	50%	140%	91%	50%	140%
Acetone	3290153	3290153	< 0.50	< 0.50	NA	< 0.50	103%	50%	140%	98%	50%	140%	100%	50%	140%
1,1-Dichloroethylene	3290153	3290153	< 0.05	< 0.05	NA	< 0.05	87%	50%	140%	85%	60%	130%	85%	50%	140%
Methylene Chloride	3290153	3290153	< 0.05	< 0.05	NA	< 0.05	107%	50%	140%	101%	60%	130%	114%	50%	140%
Trans- 1,2-Dichloroethylene	3290153	3290153	< 0.05	< 0.05	NA	< 0.05	74%	50%	140%	89%	60%	130%	84%	50%	140%
Methyl tert-butyl Ether	3290153	3290153	< 0.05	< 0.05	NA	< 0.05	83%	50%	140%	71%	60%	130%	88%	50%	140%
1,1-Dichloroethane	3290153	3290153	< 0.02	< 0.02	NA	< 0.02	113%	50%	140%	112%	60%	130%	94%	50%	140%
Methyl Ethyl Ketone	3290153	3290153	< 0.50	< 0.50	NA	< 0.50	97%	50%	140%	102%	50%	140%	103%	50%	140%
Cis- 1,2-Dichloroethylene	3290153	3290153	< 0.02	< 0.02	NA	< 0.02	101%	50%	140%	100%	60%	130%	92%	50%	140%
Chloroform	3290153	3290153	< 0.04	< 0.04	NA	< 0.04	113%	50%	140%	113%	60%	130%	101%	50%	140%
1,2-Dichloroethane	3290153	3290153	< 0.03	< 0.03	NA	< 0.03	113%	50%	140%	102%	60%	130%	109%	50%	140%
1,1,1-Trichloroethane	3290153	3290153	< 0.05	< 0.05	NA	< 0.05	77%	50%	140%	84%	60%	130%	77%	50%	140%
Carbon Tetrachloride	3290153	3290153	< 0.05	< 0.05	NA	< 0.05	72%	50%	140%	71%	60%	130%	91%	50%	140%

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5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
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Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
AGAT WORK ORDER: 21T839310
PROJECT: 301114
ATTENTION TO: Ross Keiller
SAMPLING SITE:2020 Lakeshore
SAMPLED BY:NS

Trace Organics Analysis (Continued)

RPT Date: Dec 11, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Benzene	3290153	3290153	< 0.02	< 0.02	NA	< 0.02	104%	50%	140%	102%	60%	130%	94%	50%	140%
1,2-Dichloropropane	3290153	3290153	< 0.03	< 0.03	NA	< 0.03	111%	50%	140%	97%	60%	130%	93%	50%	140%
Trichloroethylene	3290153	3290153	< 0.03	< 0.03	NA	< 0.03	72%	50%	140%	77%	60%	130%	74%	50%	140%
Bromodichloromethane	3290153	3290153	< 0.05	< 0.05	NA	< 0.05	95%	50%	140%	87%	60%	130%	78%	50%	140%
Methyl Isobutyl Ketone	3290153	3290153	< 0.50	< 0.50	NA	< 0.50	99%	50%	140%	102%	50%	140%	99%	50%	140%
1,1,2-Trichloroethane	3290153	3290153	< 0.04	< 0.04	NA	< 0.04	116%	50%	140%	106%	60%	130%	88%	50%	140%
Toluene	3290153	3290153	< 0.05	< 0.05	NA	< 0.05	103%	50%	140%	103%	60%	130%	101%	50%	140%
Dibromochloromethane	3290153	3290153	< 0.05	< 0.05	NA	< 0.05	111%	50%	140%	104%	60%	130%	95%	50%	140%
Ethylene Dibromide	3290153	3290153	< 0.04	< 0.04	NA	< 0.04	105%	50%	140%	120%	60%	130%	109%	50%	140%
Tetrachloroethylene	3290153	3290153	< 0.05	< 0.05	NA	< 0.05	87%	50%	140%	74%	60%	130%	79%	50%	140%
1,1,1,2-Tetrachloroethane	3290153	3290153	< 0.04	< 0.04	NA	< 0.04	93%	50%	140%	93%	60%	130%	79%	50%	140%
Chlorobenzene	3290153	3290153	< 0.05	< 0.05	NA	< 0.05	95%	50%	140%	92%	60%	130%	94%	50%	140%
Ethylbenzene	3290153	3290153	< 0.05	< 0.05	NA	< 0.05	79%	50%	140%	74%	60%	130%	71%	50%	140%
m & p-Xylene	3290153	3290153	< 0.05	< 0.05	NA	< 0.05	110%	50%	140%	99%	60%	130%	99%	50%	140%
Bromoform	3290153	3290153	< 0.05	< 0.05	NA	< 0.05	106%	50%	140%	100%	60%	130%	84%	50%	140%
Styrene	3290153	3290153	< 0.05	< 0.05	NA	< 0.05	84%	50%	140%	71%	60%	130%	73%	50%	140%
1,1,2,2-Tetrachloroethane	3290153	3290153	< 0.05	< 0.05	NA	< 0.05	116%	50%	140%	89%	60%	130%	110%	50%	140%
o-Xylene	3290153	3290153	< 0.05	< 0.05	NA	< 0.05	99%	50%	140%	99%	60%	130%	101%	50%	140%
1,3-Dichlorobenzene	3290153	3290153	< 0.05	< 0.05	NA	< 0.05	84%	50%	140%	113%	60%	130%	116%	50%	140%
1,4-Dichlorobenzene	3290153	3290153	< 0.05	< 0.05	NA	< 0.05	94%	50%	140%	115%	60%	130%	118%	50%	140%
1,2-Dichlorobenzene	3290153	3290153	< 0.05	< 0.05	NA	< 0.05	89%	50%	140%	104%	60%	130%	103%	50%	140%
n-Hexane	3290153	3290153	< 0.05	< 0.05	NA	< 0.05	97%	50%	140%	90%	60%	130%	119%	50%	140%

Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

Certified By:

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MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21T839310

PROJECT: 301114

ATTENTION TO: Ross Keiller

SAMPLING SITE:2020 Lakeshore

SAMPLED BY:NS

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Antimony	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Arsenic	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Barium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Beryllium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron (Hot Water Soluble)	MET-93-6104	modified from EPA 6010D and MSA PART 3, CH 21	ICP/OES
Cadmium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Cobalt	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Copper	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Lead	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Molybdenum	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Nickel	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Selenium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Silver	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Thallium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Uranium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Vanadium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Zinc	MET 93 -6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium, Hexavalent	INOR-93-6068	modified from EPA 3060 and EPA 7196	SPECTROPHOTOMETER
Cyanide, Free	INOR-93-6052	modified from ON MOECC E3015, SM 4500-CN- I, G-387	TECHNICON AUTO ANALYZER
Mercury	MET-93-6103	modified from EPA 7471B and SM 3112 B	ICP-MS
Electrical Conductivity (2:1)	INOR-93-6036	modified from MSA PART 3, CH 14 and SM 2510 B	EC METER
Sodium Adsorption Ratio (2:1) (Calc.)	INOR-93-6007	modified from EPA 6010D & Analytical Protocol	ICP/OES
pH, 2:1 CaCl2 Extraction	INOR-93-6031	modified from EPA 9045D and MCKEAGUE 3.11	PH METER

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5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
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PROJECT: 301114

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PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluorene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benz(a)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Chrysene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
1 and 2 Methlynaphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Moisture Content	VOL-91-5009	CCME Tier 1 Method	BALANCE
F1 (C6 - C10)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
Toluene-d8	VOL-91-5009	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F4 (C34 to C50)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Terphenyl	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	P&T GC/FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34) minus PAHs	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID

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PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Dichlorodifluoromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Vinyl Chloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trans- 1,2-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl tert-butyl Ether	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Cis- 1,2-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Toluene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Chlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS

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PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Ethylbenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
m & p-Xylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene (Cis + Trans)	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5002	modified from EPA 5035A & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5002	modified from EPA 5035A & EPA 8260D	(P&T)GC/MS
Moisture Content	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE

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AGAT Laboratories

1LS

5835 Coopers Avenue
Mississauga, Ontario L4Z 1Y2
Ph: 905.712.5100 Fax: 905.712.5122
webearth.agatlabs.com

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Laboratory Use Only

Work Order #: 21T839310

Cooler Quantity: 4

Arrival Temperatures: 4.9 | 5.0 | 5.0 / 5.1 | 5.2 | 5.2

Custody Seal Intact: ☐ Yes ☐ No ☐ N/A

Notes:

Report Information:

Company: Soil-Mat

Contact:

Address:

Phone: Fax:

Reports to be sent to:

1. Email: Peter Markesic

2. Email: Steve Sears

Regulatory Requirements:

(Please check all applicable boxes)

☒ Regulation 153/04 — Table (Indicate One): ☐ Ind/Com ☐ Res/Park ☐ Agriculture

Soil Texture *(Check One)*: ☐ Coarse ☐ Fine

☐ Excess Soils R406 — Table (Indicate One)

☐ Regulation 558

☐ CCME

☐ Sewer Use ☐ Sanitary ☐ Storm — Region

☐ Prov. Water Quality Objectives (PWQO)

☐ Other — Indicate One

Is this submission for a **Record of Site Condition?** ☐ Yes ☐ No

Report Guideline on *Certificate of Analysis* ☐ Yes ☐ No

Turnaround Time (TAT) Required:

Regular TAT ☒ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply):

Please provide prior notification for rush TAT

**TAT is exclusive of weekends and statutory holidays*

For 'Same Day' analysis, please contact your AGAT CPM

Project Information:

Project: 30114

Site Location: 2020 Lakeshore

Sampled By: NS

AGAT Quote #: PO:

Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☒ No ☐

Company:

Contact:

Address:

Email:

Sample Matrix Legend

B	Biota
GW	Ground Water
O	Oil
P	Paint
S	Soil
SD	Sediment
SW	Surface Water

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs Analyze F4G if required ☐ Yes ☐ No	O. Reg 153: PAHs	O. Reg 153: PCBs	O. Reg 153: VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	Potentially Hazardous or High Concentration (Y/N)
BH109SS1	Dec 1	AM/PM	4	S			X		X	X	X	X					
DUP2		AM/PM	4				X		X			X					
TP1		AM/PM	1							X							
TP2		AM/PM	1							X							
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign): 2021/12/02	Date	Time 3:10
Samples Relinquished By (Print Name and Sign): 2021/12/02	Date	Time 4:45	Samples Received By (Print Name and Sign):	Date	Time
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time

Page _____ of _____

Nº: T 126867

Document ID: DIV 78 1511 0[illegible]

Pink Copy - Client | Yellow Copy - AGAT | White Copy- AGAT

AGAT Laboratories

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MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
130 LANCING DRIVE
HAMILTON, ON L8W3A1
(905) 318-7440

ATTENTION TO: Peter Markesic

PROJECT: 301114

AGAT WORK ORDER: 21T840718

TRACE ORGANICS REVIEWED BY: Oksana Gushyla, Trace Organics Lab Supervisor

WATER ANALYSIS REVIEWED BY: Yris Verastegui, Report Reviewer

DATE REPORTED: Dec 07, 2021

PAGES (INCLUDING COVER): 15

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
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- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.

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CANADA L4Z 1Y2
TEL (905)712-5100
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Certificate of Analysis

AGAT WORK ORDER: 21T840049

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - PAHs (Soil)

DATE RECEIVED: 2021-12-03

DATE REPORTED: 2021-12-08

		SAMPLE DESCRIPTION:		TP1-Dec2
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2021-12-02
Parameter	Unit	G / S	RDL	3295985
Naphthalene	µg/g	0.09	0.05	<0.05
Acenaphthylene	µg/g	0.093	0.05	<0.05
Acenaphthene	µg/g	0.072	0.05	<0.05
Fluorene	µg/g	0.12	0.05	<0.05
Phenanthrene	µg/g	0.69	0.05	0.44
Anthracene	µg/g	0.16	0.05	0.09
Fluoranthene	µg/g	0.56	0.05	0.68
Pyrene	µg/g	1	0.05	0.48
Benz(a)anthracene	µg/g	0.36	0.05	0.21
Chrysene	µg/g	2.8	0.05	0.19
Benzo(b)fluoranthene	µg/g	0.47	0.05	0.22
Benzo(k)fluoranthene	µg/g	0.48	0.05	0.13
Benzo(a)pyrene	µg/g	0.3	0.05	0.12
Indeno(1,2,3-cd)pyrene	µg/g	0.46	0.05	0.07
Dibenz(a,h)anthracene	µg/g	0.1	0.05	<0.05
Benzo(g,h,i)perylene	µg/g	0.68	0.05	0.10
1 and 2 Methlynaphthalene	µg/g	0.59	0.05	<0.05
Moisture Content	%		0.1	7.4
Surrogate	Unit	Acceptable Limits		
Naphthalene-d8	%	50-140		63
Acridine-d9	%	50-140		89
Terphenyl-d14	%	50-140		66

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3295985 Results are based on the dry weight of the soil.
Note: The result for Benzo(b)Fluoranthene is the total of the Benzo(b)&j)Fluoranthene isomers because the isomers co-elute on the GC column.
2- and 1-Methyl Naphthalene is a calculated parameter. The calculated value is the sum of 2-Methyl Naphthalene and 1-Methyl Naphthalene.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

Results relate only to the items tested. Results apply to samples as received.

AGAT Laboratories

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MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
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Exceedance Summary

AGAT WORK ORDER: 21T840049

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
3295985	TP1-Dec2	ON T1 S RPI/ICC	O. Reg. 153(511) - PAHs (Soil)	Fluoranthene	µg/g	0.56	0.68

Results relate only to the items tested. Results apply to samples as received.

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MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
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Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21T840049

PROJECT: 301114

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

Trace Organics Analysis

RPT Date: Dec 08, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	3257319		< 0.05	< 0.05	NA	< 0.05	78%	50%	140%	105%	50%	140%	105%	50%	140%
Acenaphthylene	3257319		< 0.05	< 0.05	NA	< 0.05	84%	50%	140%	83%	50%	140%	98%	50%	140%
Acenaphthene	3257319		< 0.05	< 0.05	NA	< 0.05	85%	50%	140%	92%	50%	140%	83%	50%	140%
Fluorene	3257319		< 0.05	< 0.05	NA	< 0.05	105%	50%	140%	94%	50%	140%	88%	50%	140%
Phenanthrene	3257319		< 0.05	< 0.05	NA	< 0.05	98%	50%	140%	98%	50%	140%	74%	50%	140%
Anthracene	3257319		< 0.05	< 0.05	NA	< 0.05	86%	50%	140%	86%	50%	140%	82%	50%	140%
Fluoranthene	3257319		< 0.05	< 0.05	NA	< 0.05	68%	50%	140%	88%	50%	140%	91%	50%	140%
Pyrene	3257319		< 0.05	< 0.05	NA	< 0.05	84%	50%	140%	74%	50%	140%	107%	50%	140%
Benz(a)anthracene	3257319		< 0.05	< 0.05	NA	< 0.05	80%	50%	140%	85%	50%	140%	87%	50%	140%
Chrysene	3257319		< 0.05	< 0.05	NA	< 0.05	95%	50%	140%	90%	50%	140%	85%	50%	140%
Benzo(b)fluoranthene	3257319		< 0.05	< 0.05	NA	< 0.05	88%	50%	140%	105%	50%	140%	96%	50%	140%
Benzo(k)fluoranthene	3257319		< 0.05	< 0.05	NA	< 0.05	93%	50%	140%	98%	50%	140%	105%	50%	140%
Benzo(a)pyrene	3257319		< 0.05	< 0.05	NA	< 0.05	92%	50%	140%	86%	50%	140%	98%	50%	140%
Indeno(1,2,3-cd)pyrene	3257319		< 0.05	< 0.05	NA	< 0.05	105%	50%	140%	88%	50%	140%	86%	50%	140%
Dibenz(a,h)anthracene	3257319		< 0.05	< 0.05	NA	< 0.05	98%	50%	140%	74%	50%	140%	88%	50%	140%
Benzo(g,h,i)perylene	3257319		< 0.05	< 0.05	NA	< 0.05	86%	50%	140%	82%	50%	140%	80%	50%	140%

Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

Certified By:

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Results relate only to the items tested. Results apply to samples as received.

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21T840049

PROJECT: 301114

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluorene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benz(a)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Chrysene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
1 and 2 Methlynaphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Moisture Content	VOL-91-5009	CCME Tier 1 Method	BALANCE

Results relate only to the items tested. Results apply to samples as received.

AGAT Laboratories

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Mississauga, Ontario L4Z 1Y2
Ph: 905.712.5100 Fax: 905.712.5122
webearth.agatlabs.com

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Laboratory Use Only

Work Order #: 21T840049

Cooler Quantity: 1 BAG (1 small)

Arrival Temperatures: 7.9 | 8.0 | 8.8
8.1 | 8.5 | 9.0

Custody Seal Intact: ☐ Yes ☐ No ☐ N/A

Notes: ICE PK

Report Information:

Company: SOIL MAT
Contact: Peter Markesic
Address:
Phone: Fax:
Reports to be sent to:
1. Email: pmarkesic@soilmat.ca
2. Email: bolds@soilmat.ca

Project Information:

Project: 30114
Site Location: 2020 LAKESHORE
Sampled By: BJ
AGAT ID #: PO:
Please note: if quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☐ No ☐

Company:
Contact:
Address:
Email:

Regulatory Requirements:

(Please check all applicable boxes)

- ☒ Regulation 153/04 — Table C (Indicate One) — ☐ Ind/Com ☐ Res/Park ☐ Agriculture
- Soil Texture (Check One): ☐ Coarse ☐ Fine
- ☐ Excess Soils R406 — Table (Indicate One)
- ☐ Regulation 558
- ☐ CCME
- ☐ Sewer Use ☐ Sanitary ☐ Storm — Region
- ☐ Prov. Water Quality Objectives (PWQO)
- ☐ Other — Indicate One

Is this submission for a **Record of Site Condition?** ☐ Yes ☐ No

Report Guideline on *Certificate of Analysis* ☐ Yes ☐ No

Turnaround Time (TAT) Required:

Regular TAT (Most Analysis) ☒ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply):

Please provide prior notification for rush TAT
**TAT is exclusive of weekends and statutory holidays*

For 'Same Day' analysis, please contact your AGAT CPM

Sample Matrix Legend

B	Biota
GW	Ground Water
O	Oil
P	Paint
S	Soil
SD	Sediment
SW	Surface Water

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	BTEX, F1-F4 PHCs Analyze F4G if required ☐ Yes ☐ No	PAHs	Total PCBs ☐ Aroclor	VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	Potentially Hazardous or High Concentration (Y/N)
TP1-Dec2	Dec2/21	6PM AM PM	1	SOIL						X							
		AM PM															
		AM PM															
		AM PM															
		AM PM															
		AM PM															
		AM PM															
		AM PM															
		AM PM															
		AM PM															
		AM PM															

Samples Relinquished By (Print Name and Sign):	Date: Dec2/21	Time: 4:30pm	Samples Received By (Print Name and Sign):	Date: Dec2/21	Time: 4:00PM
Samples Relinquished By (Print Name and Sign): DTAL BJ	Date: Dec3/21	Time: 30m	Samples Received By (Print Name and Sign): 2021/12/03	Date:	Time: 3:05
Samples Relinquished By (Print Name and Sign): 2021/12/03	Date:	Time: 4:20	Samples Received By (Print Name and Sign):	Date:	Time:

Page 1 of 1

Nº: T 123415

Appendix 'C'

1. AGAT Certificate of Analysis – Groundwater

AGAT Laboratories

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MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
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FAX (905)712-5122
http://www.agatlabs.com

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
130 LANCING DRIVE
HAMILTON, ON L8W3A1
(905) 318-7440

ATTENTION TO: Peter Markesic

PROJECT: 301114

AGAT WORK ORDER: 21T840049

TRACE ORGANICS REVIEWED BY: Oksana Gushyla, Trace Organics Lab Supervisor

DATE REPORTED: Dec 08, 2021

PAGES (INCLUDING COVER): 6

VERSION*: 1

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*Notes

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MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 21T840718

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - PAHs (Water)

DATE RECEIVED: 2021-12-06

DATE REPORTED: 2021-12-07

		SAMPLE DESCRIPTION:		MW4	MW7	MW109	DUP1
		SAMPLE TYPE:		Water	Water	Water	Water
		DATE SAMPLED:		2021-12-06	2021-12-06	2021-12-06	2021-12-06
Parameter	Unit	G / S	RDL	3304257	3304351	3304352	3304353
Naphthalene	µg/L	7	0.20	<0.20	<0.20	<0.20	<0.20
Acenaphthylene	µg/L	1	0.20	<0.20	<0.20	<0.20	<0.20
Acenaphthene	µg/L	4.1	0.20	<0.20	<0.20	<0.20	<0.20
Fluorene	µg/L	120	0.20	<0.20	<0.20	<0.20	<0.20
Phenanthrene	µg/L	0.1	0.10	<0.10	<0.10	<0.10	<0.10
Anthracene	µg/L	0.1	0.10	<0.10	<0.10	<0.10	<0.10
Fluoranthene	µg/L	0.4	0.20	<0.20	<0.20	<0.20	<0.20
Pyrene	µg/L	0.2	0.20	<0.20	<0.20	<0.20	<0.20
Benzo(a)anthracene	µg/L	0.2	0.20	<0.20	<0.20	<0.20	<0.20
Chrysene	µg/L	0.1	0.10	<0.10	<0.10	<0.10	<0.10
Benzo(b)fluoranthene	µg/L	0.1	0.10	<0.10	<0.10	<0.10	<0.10
Benzo(k)fluoranthene	µg/L	0.1	0.10	<0.10	<0.10	<0.10	<0.10
Benzo(a)pyrene	µg/L	0.01	0.01	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	µg/L	0.2	0.20	<0.20	<0.20	<0.20	<0.20
Dibenz(a,h)anthracene	µg/L	0.2	0.20	<0.20	<0.20	<0.20	<0.20
Benzo(g,h,i)perylene	µg/L	0.2	0.20	<0.20	<0.20	<0.20	<0.20
2-and 1-methyl Naphthalene	µg/L	2	0.20	<0.20	<0.20	<0.20	<0.20
Sediment				No	No	No	No
Surrogate	Unit	Acceptable Limits					
Naphthalene-d8	%	50-140		78	90	105	105
Acridine-d9	%	50-140		85	85	88	74
Terphenyl-d14	%	50-140		105	99	78	89

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Ground Water - All Types of Property Uses
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3304257-3304353 Note: The result for Benzo(b)Fluoranthene is the total of the Benzo(b)&(j)Fluoranthene isomers because the isomers co-elute on the GC column.
2- and 1-Methyl Naphthalene is a calculated parameter. The calculated value is the sum of 2-Methyl Naphthalene and 1-Methyl Naphthalene. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

Results relate only to the items tested. Results apply to samples as received.

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5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 21T840718

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Water)

DATE RECEIVED: 2021-12-06

DATE REPORTED: 2021-12-07

		SAMPLE DESCRIPTION:		MW4	MW7	MW109	DUP1
		SAMPLE TYPE:		Water	Water	Water	Water
		DATE SAMPLED:		2021-12-06	2021-12-06	2021-12-06	2021-12-06
Parameter	Unit	G / S	RDL	3304257	3304351	3304352	3304353
F1 (C6-C10)	µg/L	420	25	<25	<25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L	420	25	<25	<25	<25	<25
F2 (C10 to C16)	µg/L	150	100	<100	<100	<100	<100
F2 (C10 to C16) minus Naphthalene	µg/L		100	<100	<100	<100	<100
F3 (C16 to C34)	µg/L	500	100	<100	<100	<100	<100
F3 (C16 to C34) minus PAHs	µg/L		100	<100	<100	<100	<100
F4 (C34 to C50)	µg/L	500	100	<100	<100	<100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500	NA	NA	NA	NA
Sediment				Trace	Trace	Trace	Trace
Surrogate	Unit	Acceptable Limits					
Toluene-d8	% Recovery	50-140		82.5	88.2	89.2	91.0
Terphenyl	% Recovery	60-140		98	75	105	96

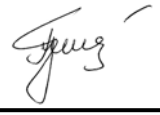
Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Ground Water - All Types of Property Uses
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3304257-3304353 Sediment present in sample.
The C6-C10 fraction is calculated using toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX and PAH contributions.
C>10 – C16 (F2- Naphthalene) is a calculated parameter. The calculated value is F2 - Naphthalene.
C>16 - C34 (F3-PAH) is a calculated parameter. The calculated value is F3-PAH (PAH: sum of Phenanthrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Fluoranthene, Dibenzo(a,h)anthracene, Indeno(1,2,3-c,d)pyrene and Pyrene).
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.

Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



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5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 21T840718

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - VOCs (Water)

DATE RECEIVED: 2021-12-06

DATE REPORTED: 2021-12-07

		SAMPLE DESCRIPTION:		MW4	MW7	MW109	DUP1
		SAMPLE TYPE:		Water	Water	Water	Water
		DATE SAMPLED:		2021-12-06	2021-12-06	2021-12-06	2021-12-06
Parameter	Unit	G / S	RDL	3304257	3304351	3304352	3304353
Dichlorodifluoromethane	µg/L	590	0.20	<0.20	<0.20	<0.20	<0.20
Vinyl Chloride	µg/L	0.5	0.17	<0.17	<0.17	<0.17	<0.17
Bromomethane	µg/L	0.89	0.20	<0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L	150	0.40	<0.40	<0.40	<0.40	<0.40
Acetone	µg/L	2700	1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene	µg/L	0.5	0.30	<0.30	<0.30	<0.30	<0.30
Methylene Chloride	µg/L	5	0.30	<0.30	<0.30	<0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20	<0.20	<0.20
Methyl tert-butyl ether	µg/L	15	0.20	<0.20	<0.20	<0.20	<0.20
1,1-Dichloroethane	µg/L	0.5	0.30	<0.30	<0.30	<0.30	<0.30
Methyl Ethyl Ketone	µg/L	400	1.0	<1.0	<1.0	<1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20	17.6	<0.20
Chloroform	µg/L	2	0.20	<0.20	<0.20	1.05	<0.20
1,2-Dichloroethane	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20
1,1,1-Trichloroethane	µg/L	0.5	0.30	<0.30	<0.30	<0.30	<0.30
Carbon Tetrachloride	µg/L	0.2	0.20	<0.20	<0.20	<0.20	<0.20
Benzene	µg/L	0.5	0.20	1.02	0.50	0.39	0.66
1,2-Dichloropropane	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20
Trichloroethylene	µg/L	0.5	0.20	<0.20	<0.20	12.5	<0.20
Bromodichloromethane	µg/L	2	0.20	<0.20	<0.20	<0.20	<0.20
Methyl Isobutyl Ketone	µg/L	640	1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20
Toluene	µg/L	0.8	0.20	<0.20	<0.20	<0.20	<0.20
Dibromochloromethane	µg/L	2	0.10	<0.10	<0.10	<0.10	<0.10
Ethylene Dibromide	µg/L	0.2	0.10	<0.10	<0.10	<0.10	<0.10
Tetrachloroethylene	µg/L	0.5	0.20	<0.20	<0.20	27.1	<0.20
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.10	<0.10	<0.10	<0.10	<0.10
Chlorobenzene	µg/L	0.5	0.10	<0.10	<0.10	<0.10	<0.10
Ethylbenzene	µg/L	0.5	0.10	<0.10	<0.10	<0.10	<0.10
m & p-Xylene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20

Certified By:

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5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 21T840718

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - VOCs (Water)

DATE RECEIVED: 2021-12-06

DATE REPORTED: 2021-12-07

		SAMPLE DESCRIPTION:		MW4	MW7	MW109	DUP1
		SAMPLE TYPE:		Water	Water	Water	Water
		DATE SAMPLED:		2021-12-06	2021-12-06	2021-12-06	2021-12-06
Parameter	Unit	G / S	RDL	3304257	3304351	3304352	3304353
Bromoform	µg/L	5	0.10	<0.10	<0.10	<0.10	<0.10
Styrene	µg/L	0.5	0.10	<0.10	<0.10	<0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	0.5	0.10	<0.10	<0.10	<0.10	<0.10
o-Xylene	µg/L		0.10	<0.10	<0.10	<0.10	<0.10
1,3-Dichlorobenzene	µg/L	0.5	0.10	<0.10	<0.10	<0.10	<0.10
1,4-Dichlorobenzene	µg/L	0.5	0.10	<0.10	<0.10	<0.10	<0.10
1,2-Dichlorobenzene	µg/L	0.5	0.10	<0.10	<0.10	<0.10	<0.10
1,3-Dichloropropene	µg/L	0.5	0.30	<0.30	<0.30	<0.30	<0.30
Xylenes (Total)	µg/L	72	0.20	<0.20	<0.20	<0.20	<0.20
n-Hexane	µg/L	5	0.20	<0.20	<0.20	<0.20	<0.20
Surrogate	Unit	Acceptable Limits					
Toluene-d8	% Recovery	50-140		76	72	52	75
4-Bromofluorobenzene	% Recovery	50-140		95	84	58	83

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Ground Water - All Types of Property Uses
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3304257-3304353 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

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MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
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Certificate of Analysis

AGAT WORK ORDER: 21T840718

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - Metals & Inorganics (Water)

DATE RECEIVED: 2021-12-06

DATE REPORTED: 2021-12-07

		SAMPLE DESCRIPTION:		MW4		MW7	MW109		DUP1
		SAMPLE TYPE:		Water		Water	Water		Water
		DATE SAMPLED:		2021-12-06		2021-12-06	2021-12-06		2021-12-06
Parameter	Unit	G / S	RDL	3304257	RDL	3304351	3304352	RDL	3304353
Dissolved Antimony	µg/L	1.5	1.0	<1.0	1.0	<1.0	<1.0	1.0	<1.0
Dissolved Arsenic	µg/L	13	1.0	2.5	1.0	9.5	6.0	1.0	2.6
Dissolved Barium	µg/L	610	2.0	57.8	2.0	301	84.0	2.0	62.8
Dissolved Beryllium	µg/L	0.5	0.50	<0.50	0.50	<0.50	<0.50	0.50	<0.50
Dissolved Boron	µg/L	1700	10.0	240	10.0	340	384	10.0	255
Dissolved Cadmium	µg/L	0.5	0.20	<0.20	0.20	<0.20	<0.20	0.20	<0.20
Dissolved Chromium	µg/L	11	2.0	<2.0	2.0	<2.0	<2.0	2.0	<2.0
Dissolved Cobalt	µg/L	3.8	0.50	<0.50	0.50	<0.50	0.67	0.50	<0.50
Dissolved Copper	µg/L	5	1.0	<1.0	1.0	<1.0	<1.0	1.0	1.1
Dissolved Lead	µg/L	1.9	0.50	<0.50	0.50	0.96	0.54	0.50	<0.50
Dissolved Molybdenum	µg/L	23	0.50	7.74	0.50	14.2	33.4	0.50	7.19
Dissolved Nickel	µg/L	14	1.0	2.0	1.0	2.3	3.5	1.0	2.3
Dissolved Selenium	µg/L	5	1.0	<1.0	1.0	1.6	2.1	1.0	<1.0
Dissolved Silver	µg/L	0.3	0.20	<0.20	0.20	<0.20	<0.20	0.20	<0.20
Dissolved Thallium	µg/L	0.5	0.30	<0.30	0.30	<0.30	<0.30	0.30	<0.30
Dissolved Uranium	µg/L	8.9	0.50	15.5	0.50	0.72	6.22	0.50	15.8
Dissolved Vanadium	µg/L	3.9	0.40	1.08	0.40	4.00	3.22	0.40	0.81
Dissolved Zinc	µg/L	160	5.0	19.7	5.0	<5.0	<5.0	5.0	<5.0
Mercury	µg/L	0.1	0.02	<0.02	0.02	<0.02	<0.02	0.02	<0.02
Chromium VI	µg/L	25	2.000	<2.000	2.000	<2.000	<2.000	2.000	<2.000
Cyanide, Free	µg/L	5	2	<2	2	<2	<2	2	<2
Dissolved Sodium	µg/L	490000	250	442000	250	240000	553000	250	472000
Chloride	µg/L	790000	122	1100000	100	236000	941000	122	1120000
Electrical Conductivity	uS/cm	NA	2	4070	2	1310	3550	2	4080
pH	pH Units		NA	7.61	NA	7.98	7.84	NA	7.57

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Ground Water - All Types of Property Uses
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3304257-3304353 Metals analysis completed on a filtered sample.
Dilution required, RDL has been increased accordingly.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: Iris Verástegui

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5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Exceedance Summary

AGAT WORK ORDER: 21T840718

PROJECT: 301114

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
3304257	MW4	ON T1 GW	O. Reg. 153(511) - Metals & Inorganics (Water)	Chloride	µg/L	790000	1100000
3304257	MW4	ON T1 GW	O. Reg. 153(511) - Metals & Inorganics (Water)	Dissolved Uranium	µg/L	8.9	15.5
3304257	MW4	ON T1 GW	O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Water)	Benzene	µg/L	0.5	1.02
3304257	MW4	ON T1 GW	O. Reg. 153(511) - VOCs (Water)	Benzene	µg/L	0.5	1.02
3304351	MW7	ON T1 GW	O. Reg. 153(511) - Metals & Inorganics (Water)	Dissolved Vanadium	µg/L	3.9	4.00
3304352	MW109	ON T1 GW	O. Reg. 153(511) - Metals & Inorganics (Water)	Chloride	µg/L	790000	941000
3304352	MW109	ON T1 GW	O. Reg. 153(511) - Metals & Inorganics (Water)	Dissolved Molybdenum	µg/L	23	33.4
3304352	MW109	ON T1 GW	O. Reg. 153(511) - Metals & Inorganics (Water)	Dissolved Sodium	µg/L	490000	553000
3304352	MW109	ON T1 GW	O. Reg. 153(511) - VOCs (Water)	Tetrachloroethylene	µg/L	0.5	27.1
3304352	MW109	ON T1 GW	O. Reg. 153(511) - VOCs (Water)	Trichloroethylene	µg/L	0.5	12.5
3304352	MW109	ON T1 GW	O. Reg. 153(511) - VOCs (Water)	cis- 1,2-Dichloroethylene	µg/L	1.6	17.6
3304353	DUP1	ON T1 GW	O. Reg. 153(511) - Metals & Inorganics (Water)	Chloride	µg/L	790000	1120000
3304353	DUP1	ON T1 GW	O. Reg. 153(511) - Metals & Inorganics (Water)	Dissolved Uranium	µg/L	8.9	15.8
3304353	DUP1	ON T1 GW	O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Water)	Benzene	µg/L	0.5	0.66
3304353	DUP1	ON T1 GW	O. Reg. 153(511) - VOCs (Water)	Benzene	µg/L	0.5	0.66

Results relate only to the items tested. Results apply to samples as received.

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5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21T840718

PROJECT: 301114

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

Trace Organics Analysis

RPT Date: Dec 07, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Water)															
F1 (C6-C10)	3284472		<25	<25	NA	< 25	103%	60%	140%	90%	60%	140%	108%	60%	140%
F2 (C10 to C16)	3271660		< 100	< 100	NA	< 100	120%	60%	140%	96%	60%	140%	66%	60%	140%
F3 (C16 to C34)	3271660		< 100	< 100	NA	< 100	114%	60%	140%	96%	60%	140%	60%	60%	140%
F4 (C34 to C50)	3271660		< 100	< 100	NA	< 100	92%	60%	140%	108%	60%	140%	75%	60%	140%
O. Reg. 153(511) - PAHs (Water)															
Naphthalene	3227991		< 0.20	< 0.20	NA	< 0.20	105%	50%	140%	78%	50%	140%	77%	50%	140%
Acenaphthylene	3227991		< 0.20	< 0.20	NA	< 0.20	98%	50%	140%	82%	50%	140%	107%	50%	140%
Acenaphthene	3227991		< 0.20	< 0.20	NA	< 0.20	105%	50%	140%	71%	50%	140%	81%	50%	140%
Fluorene	3227991		< 0.20	< 0.20	NA	< 0.20	86%	50%	140%	92%	50%	140%	92%	50%	140%
Phenanthrene	3227991		< 0.10	< 0.10	NA	< 0.10	98%	50%	140%	88%	50%	140%	85%	50%	140%
Anthracene	3227991		< 0.10	< 0.10	NA	< 0.10	85%	50%	140%	93%	50%	140%	78%	50%	140%
Fluoranthene	3227991		< 0.20	< 0.20	NA	< 0.20	99%	50%	140%	96%	50%	140%	93%	50%	140%
Pyrene	3227991		< 0.20	< 0.20	NA	< 0.20	78%	50%	140%	96%	50%	140%	99%	50%	140%
Benzo(a)anthracene	3227991		< 0.20	< 0.20	NA	< 0.20	96%	50%	140%	94%	50%	140%	96%	50%	140%
Chrysene	3227991		< 0.10	< 0.10	NA	< 0.10	86%	50%	140%	114%	50%	140%	84%	50%	140%
Benzo(b)fluoranthene	3227991		< 0.10	< 0.10	NA	< 0.10	92%	50%	140%	76%	50%	140%	92%	50%	140%
Benzo(k)fluoranthene	3227991		< 0.10	< 0.10	NA	< 0.10	98%	50%	140%	92%	50%	140%	78%	50%	140%
Benzo(a)pyrene	3227991		< 0.01	< 0.01	NA	< 0.01	78%	50%	140%	105%	50%	140%	101%	50%	140%
Indeno(1,2,3-cd)pyrene	3227991		< 0.20	< 0.20	NA	< 0.20	92%	50%	140%	108%	50%	140%	105%	50%	140%
Dibenz(a,h)anthracene	3227991		< 0.20	< 0.20	NA	< 0.20	95%	50%	140%	75%	50%	140%	72%	50%	140%
Benzo(g,h,i)perylene	3227991		< 0.20	< 0.20	NA	< 0.20	91%	50%	140%	85%	50%	140%	105%	50%	140%
O. Reg. 153(511) - VOCs (Water)															
Dichlorodifluoromethane	3253229		<0.20	<0.20	NA	< 0.20	98%	50%	140%	84%	50%	140%	86%	50%	140%
Vinyl Chloride	3253229		<0.17	<0.17	NA	< 0.17	100%	50%	140%	97%	50%	140%	92%	50%	140%
Bromomethane	3253229		<0.20	<0.20	NA	< 0.20	97%	50%	140%	96%	50%	140%	95%	50%	140%
Trichlorofluoromethane	3253229		<0.40	<0.40	NA	< 0.40	90%	50%	140%	75%	50%	140%	78%	50%	140%
Acetone	3253229		<1.0	<1.0	NA	< 1.0	103%	50%	140%	100%	50%	140%	99%	50%	140%
1,1-Dichloroethylene	3253229		<0.30	<0.30	NA	< 0.30	98%	50%	140%	103%	60%	130%	92%	50%	140%
Methylene Chloride	3253229		<0.30	<0.30	NA	< 0.30	100%	50%	140%	101%	60%	130%	93%	50%	140%
trans- 1,2-Dichloroethylene	3253229		<0.20	<0.20	NA	< 0.20	93%	50%	140%	74%	60%	130%	94%	50%	140%
Methyl tert-butyl ether	3253229		<0.20	<0.20	NA	< 0.20	115%	50%	140%	91%	60%	130%	105%	50%	140%
1,1-Dichloroethane	3253229		<0.30	<0.30	NA	< 0.30	104%	50%	140%	99%	60%	130%	90%	50%	140%
Methyl Ethyl Ketone	3253229		<1.0	<1.0	NA	< 1.0	101%	50%	140%	102%	50%	140%	102%	50%	140%
cis- 1,2-Dichloroethylene	3253229		<0.20	<0.20	NA	< 0.20	116%	50%	140%	85%	60%	130%	117%	50%	140%
Chloroform	3253229		<0.20	<0.20	NA	< 0.20	76%	50%	140%	112%	60%	130%	98%	50%	140%
1,2-Dichloroethane	3253229		<0.20	<0.20	NA	< 0.20	106%	50%	140%	98%	60%	130%	95%	50%	140%
1,1,1-Trichloroethane	3253229		<0.30	<0.30	NA	< 0.30	84%	50%	140%	112%	60%	130%	95%	50%	140%
Carbon Tetrachloride	3253229		<0.20	<0.20	NA	< 0.20	88%	50%	140%	94%	60%	130%	100%	50%	140%

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MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
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Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21T840718

PROJECT: 301114

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

Trace Organics Analysis (Continued)

RPT Date: Dec 07, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Benzene	3253229		2.45	2.35	4.2%	< 0.20	77%	50%	140%	114%	60%	130%	84%	50%	140%
1,2-Dichloropropane	3253229		<0.20	<0.20	NA	< 0.20	115%	50%	140%	80%	60%	130%	101%	50%	140%
Trichloroethylene	3253229		<0.20	<0.20	NA	< 0.20	99%	50%	140%	92%	60%	130%	103%	50%	140%
Bromodichloromethane	3253229		<0.20	<0.20	NA	< 0.20	116%	50%	140%	84%	60%	130%	90%	50%	140%
Methyl Isobutyl Ketone	3253229		<1.0	<1.0	NA	< 1.0	93%	50%	140%	103%	50%	140%	103%	50%	140%
1,1,2-Trichloroethane	3253229		<0.20	<0.20	NA	< 0.20	85%	50%	140%	72%	60%	130%	90%	50%	140%
Toluene	3253229		0.25	0.24	NA	< 0.20	95%	50%	140%	95%	60%	130%	86%	50%	140%
Dibromochloromethane	3253229		<0.10	<0.10	NA	< 0.10	74%	50%	140%	90%	60%	130%	110%	50%	140%
Ethylene Dibromide	3253229		<0.10	<0.10	NA	< 0.10	82%	50%	140%	93%	60%	130%	90%	50%	140%
Tetrachloroethylene	3253229		<0.20	<0.20	NA	< 0.20	89%	50%	140%	120%	60%	130%	73%	50%	140%
1,1,1,2-Tetrachloroethane	3253229		<0.10	<0.10	NA	< 0.10	91%	50%	140%	94%	60%	130%	98%	50%	140%
Chlorobenzene	3253229		<0.10	<0.10	NA	< 0.10	115%	50%	140%	119%	60%	130%	74%	50%	140%
Ethylbenzene	3253229		<0.10	<0.10	NA	< 0.10	98%	50%	140%	102%	60%	130%	78%	50%	140%
m & p-Xylene	3253229		<0.20	<0.20	NA	< 0.20	103%	50%	140%	103%	60%	130%	96%	50%	140%
Bromoform	3253229		<0.10	<0.10	NA	< 0.10	90%	50%	140%	109%	60%	130%	102%	50%	140%
Styrene	3253229		<0.10	<0.10	NA	< 0.10	97%	50%	140%	108%	60%	130%	79%	50%	140%
1,1,2,2-Tetrachloroethane	3253229		<0.10	<0.10	NA	< 0.10	112%	50%	140%	109%	60%	130%	108%	50%	140%
o-Xylene	3253229		<0.10	<0.10	NA	< 0.10	105%	50%	140%	114%	60%	130%	106%	50%	140%
1,3-Dichlorobenzene	3253229		<0.10	<0.10	NA	< 0.10	101%	50%	140%	109%	60%	130%	98%	50%	140%
1,4-Dichlorobenzene	3253229		<0.10	<0.10	NA	< 0.10	119%	50%	140%	119%	60%	130%	83%	50%	140%
1,2-Dichlorobenzene	3253229		<0.10	<0.10	NA	< 0.10	114%	50%	140%	115%	60%	130%	75%	50%	140%
n-Hexane	3253229		<0.20	<0.20	NA	< 0.20	77%	50%	140%	94%	60%	130%	99%	50%	140%

Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

Certified By:

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CANADA L4Z 1Y2
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Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21T840718

PROJECT: 301114

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

Water Analysis

RPT Date: Dec 07, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals & Inorganics (Water)															
Dissolved Antimony	3304482		<1.0	<1.0	NA	< 1.0	103%	70%	130%	100%	80%	120%	110%	70%	130%
Dissolved Arsenic	3304482		<1.0	<1.0	NA	< 1.0	96%	70%	130%	105%	80%	120%	112%	70%	130%
Dissolved Barium	3304482		20.0	19.3	3.6%	< 2.0	104%	70%	130%	102%	80%	120%	113%	70%	130%
Dissolved Beryllium	3304482		<0.50	<0.50	NA	< 0.50	105%	70%	130%	106%	80%	120%	90%	70%	130%
Dissolved Boron	3304482		49.2	49.5	NA	< 10.0	101%	70%	130%	103%	80%	120%	85%	70%	130%
Dissolved Cadmium	3304482		<0.20	<0.20	NA	< 0.20	101%	70%	130%	105%	80%	120%	109%	70%	130%
Dissolved Chromium	3304482		<2.0	<2.0	NA	< 2.0	99%	70%	130%	98%	80%	120%	102%	70%	130%
Dissolved Cobalt	3304482		<0.50	<0.50	NA	< 0.50	100%	70%	130%	103%	80%	120%	106%	70%	130%
Dissolved Copper	3304482		<1.0	<1.0	NA	< 1.0	99%	70%	130%	102%	80%	120%	109%	70%	130%
Dissolved Lead	3304482		<0.50	<0.50	NA	< 0.50	100%	70%	130%	104%	80%	120%	101%	70%	130%
Dissolved Molybdenum	3304482		14.2	12.2	15.2%	< 0.50	102%	70%	130%	104%	80%	120%	113%	70%	130%
Dissolved Nickel	3304482		1.6	1.1	NA	< 1.0	101%	70%	130%	106%	80%	120%	106%	70%	130%
Dissolved Selenium	3304482		2.9	2.3	NA	< 1.0	99%	70%	130%	107%	80%	120%	118%	70%	130%
Dissolved Silver	3304482		<0.20	<0.20	NA	< 0.20	100%	70%	130%	102%	80%	120%	106%	70%	130%
Dissolved Thallium	3304482		<0.30	<0.30	NA	< 0.30	95%	70%	130%	100%	80%	120%	108%	70%	130%
Dissolved Uranium	3304482		<0.50	<0.50	NA	< 0.50	106%	70%	130%	113%	80%	120%	108%	70%	130%
Dissolved Vanadium	3304482		0.57	0.86	NA	< 0.40	103%	70%	130%	106%	80%	120%	109%	70%	130%
Dissolved Zinc	3304482		<5.0	<5.0	NA	< 5.0	102%	70%	130%	102%	80%	120%	102%	70%	130%
Mercury	3304482		<0.02	<0.02	NA	< 0.02	102%	70%	130%	101%	80%	120%	104%	70%	130%
Chromium VI	3304482		<2.000	<2.000	NA	< 2	102%	70%	130%	101%	80%	120%	102%	70%	130%
Cyanide, Free	3304482		<2	<2	NA	< 2	103%	70%	130%	90%	80%	120%	103%	70%	130%
Dissolved Sodium	3304482		167000	167000	0.0%	< 50	95%	70%	130%	98%	80%	120%	106%	70%	130%
Chloride	3301720		112000	108000	3.6%	< 100	95%	70%	130%	103%	80%	120%	100%	70%	130%
Electrical Conductivity	3300857		600	599	0.2%	< 2	105%	90%	110%						
pH	3300857		7.23	7.37	1.9%	NA	102%	90%	110%						

Comments: NA signifies Not Applicable.
If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

Certified By: Iris Verástegui

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MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21T840718

PROJECT: 301114

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Fluorene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Anthracene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Pyrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(a)anthracene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Chrysene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
2-and 1-methyl Naphthalene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Sediment			
F1 (C6-C10)	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	modified from MOE PHC-E3421	P&T GC/FID
Toluene-d8	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F3 (C16 to C34)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F3 (C16 to C34) minus PAHs	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F4 (C34 to C50)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	modified from MOE PHC-E3421	BALANCE
Terphenyl	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Dichlorodifluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Vinyl Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
trans- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl tert-butyl ether	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
cis- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
m & p-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis			
Dissolved Antimony	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Arsenic	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Barium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Beryllium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Boron	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Cadmium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Chromium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Cobalt	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Copper	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Lead	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Molybdenum	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Nickel	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Selenium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Silver	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Thallium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Uranium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Vanadium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Zinc	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Mercury	MET-93-6100	modified from EPA 245.2 and SM 3112 B	CVAAS
Chromium VI	INOR-93-6034	modified from SM 3500-CR B	LACHAT FIA
Cyanide, Free	INOR-93-6052	modified from ON MOECC E3015, SM 4500-CN- I, G-387	TECHNICON AUTO ANALYZER
Dissolved Sodium	MET-93-6105	modified from EPA 6010D	ICP/OES
Chloride	INOR-93-6004	modified from SM 4110 B	ION CHROMATOGRAPH
Electrical Conductivity	INOR-93-6000	SM 2510 B	PC TITRATE
pH	INOR-93-6000	modified from SM 4500-H+ B	PC TITRATE

Results relate only to the items tested. Results apply to samples as received.

AGAT Laboratories

5835 Coopers Avenue
Mississauga, Ontario L4Z 1Y2
Ph: 905.712.5100 Fax: 905.712.5122
webearth.agatlabs.com

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Report Information:

Company: SOIL MAT
Contact: Peter markesic
Address:
Phone: Fax:
Reports to be sent to:
1. Email: pmarkesic@soilmat.ca
2. Email: bolds@soilmat.ca

Project Information:

Project: 301114
Site Location: 2020 Lakeshore
Sampled By: BD
AGAT ID #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☐ No ☐
Company:
Contact:
Address:
Email:

Regulatory Requirements:

(Please check all applicable boxes)

- ☒ Regulation 153/04 — Table 1 (Indicate One) — ☐ Ind/Com ☐ Res/Park ☐ Agriculture
- Soil Texture *(Check One)*: ☐ Coarse ☐ Fine
- ☐ Excess Soils R406 — Table ____ (Indicate One)
- ☐ Regulation 558
- ☐ CCME
- ☐ Sewer Use ☐ Sanitary ☐ Storm — Region
- ☐ Prov. Water Quality Objectives (PWQO)
- ☐ Other — Indicate One

Is this submission for a **Record of Site Condition?** ☐ Yes ☐ No

Report Guideline on *Certificate of Analysis* ☐ Yes ☐ No

Sample Matrix Legend

B	Biota
GW	Ground Water
O	Oil
P	Paint
S	Soil
SD	Sediment
SW	Surface Water

Laboratory Use Only

Work Order #: 21T840718
Cooler Quantity:
Arrival Temperatures: 4.9 | 4.5 | 5.2
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes:

Turnaround Time (TAT) Required:

Regular TAT (Most Analysis) ☐ 5 to 7 Business Days
Rush TAT (Rush Surcharges Apply)
☐ 3 Business Days ☐ 2 Business Days ☒ Next Business Day
OR Date Required (Rush Surcharges May Apply):
Please provide prior notification for rush TAT
**TAT is exclusive of weekends and statutory holidays*
For 'Same Day' analysis, please contact your AGAT CPM

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs — Analyze F4G if required ☐ Yes ☐ No	O. Reg 153: PAHs	O. Reg 153: Total PCBs ☐ Arocolor	O. Reg 153: VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach — SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Excess Soils Characterization Package — pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	Potentially Hazardous or High Concentration (Y/N)
MW4	Dec 6/21	AM	16	GW			X		X	X		X					
MW7	↓	AM					X		X	X		X					
MW 109		AM					X		X	X		X					
DUP1		AM					X		X	X		X					
		AM															
		AM															
		AM															
		AM															
		AM															
		AM															
		AM															

Samples Relinquished By (Print Name and Sign):	Date: Dec 6/21	Time: 2:30pm	Samples Received By (Print Name and Sign):	Date: 21.12.06	Time: 2:40pm	Page 1 of 1	
Samples Relinquished By (Print Name and Sign):	Date: 12/6/21	Time: 4:50	Samples Received By (Print Name and Sign):	Date: 22/6/21	Time: 3:53		
Samples Relinquished By (Print Name and Sign):	Date:	Time:	Samples Received By (Print Name and Sign):	Date:	Time:	Nº: T 123442	

Appendix ‘D’

1. Qualifications of Assessors

COMPANY BACKGROUND

SOIL-MAT ENGINEERS & CONSULTANTS LTD. [SOIL-MAT ENGINEERS] is a Canadian Consulting Engineering firm owned by its senior staff. Over the past thirty years the principals of SOIL-MAT ENGINEERS have undertaken geotechnical investigations in all areas of Hamilton and surrounding area and are familiar with the distinct geology of the area and therefore well-versed with the various soil, bedrock and groundwater conditions. SOIL-MAT ENGINEERS has a staff of over twenty-five engineers and technical staff who specialize in geotechnical assignments, environmental assessments, hydrogeological investigations and construction quality control/assurance projects. The company commenced operation on June 15, 1992 and has undertaken over 5,000 projects since its inception. The firm and all professional staff are in good standing with Professional Engineers Ontario. The company has maintained a current Certificate of Authorisation since it was granted on April 28, 1992. The firm's office and laboratory facilities are located at 130 Lancing Drive in Hamilton, Ontario.

REPORT AUTHORS

Billy Olds, B.Sc.
Environmental Technician

Mr. Olds has over two years of experience in conducting Phase I ESA research and Phase II ESA fieldwork, including soil and groundwater sampling. Mr. Olds has also been a key member on a number of projects including the supervision and direction of traditional 'dig and dump' remediation projects.

Stephen R. Sears, B. Eng. Mgmt., P. Eng.
[Director/ Senior Professional]

Mr. Sears has over twenty-two years of experience in the geotechnical and geo-environmental fields. Mr. Sears holds current Consulting Engineer designations with the Professional Engineers Ontario and the Association of Professional Engineers and Geoscientists of Saskatchewan and has supervised the geotechnical investigations for numerous industrial, commercial and residential development projects in Southern Ontario, slope stability assignments associated with Hamilton Conservation Authority, Conservation Halton and Niagara Peninsula Conservation Authority requirements, and several high rise developments throughout Ontario. Mr. Sears has also been involved in geotechnical and hydrogeological investigations for industrial park developments in the Greater Toronto Area and Niagara Peninsula. Some of Mr. Sears' projects have included the decommissioning and reconstruction of underground and above ground fuel oil storage tanks in Ontario and Saskatchewan, the study of the containment structures at a number of Petroleum Storage Facilities in Ontario and and numerous 'dig and dump' remediation projects.

Keith Gleadall, B.A, EA Dipl.
Vice President [Senior Professional]

Mr. Gleadall has over fourteen years of experience in conducting Phase I, II and III Environmental Site Assessments and has successfully completed the requirements of the Associated Environmental Site Assessors of Canada and a Post Graduate Diploma in Environmental Site Assessment from Niagara College. Mr. Gleadall is responsible for undertaking numerous hydrogeological investigations, primarily within the City of Hamilton, associated with the development of residential and commercial subdivision projects, together with Phase I, II and III Environmental Site Assessments. Projects have included the decommissioning of underground and above ground fuel oil storage tanks, the implementation of in-situ and ex-situ remediation programmes, the decommissioning of a former dry cleaning facility and numerous 'dig and dump' remediation projects.

Appendix ‘E’

1. Statement of Limitations

REPORT LIMITATIONS

Achieving the objectives that are stated in this report has required SOIL-MAT ENGINEERS to derive conclusions based upon the best and most recent information currently available to SOIL-MAT ENGINEERS. No investigative method can completely eliminate the possibility of obtaining partially imprecise information. SOIL-MAT ENGINEERS has expressed professional judgement in gathering and analysing the information obtained and in the formulation of its conclusions.

Information in this report was obtained from sources deemed to be reliable, however, no representation or warranty is made as to the accuracy of this information. To the best of SOIL-MAT ENGINEERS' knowledge, the information gathered from outside sources contained in this report on which SOIL-MAT ENGINEERS has formulated its opinions and conclusions, are both true and correct. SOIL-MAT ENGINEERS assumes no responsibility for any misrepresentation of facts gathered from outside sources.

This report was prepared to assess and document evidence of potential environmental contamination, and not to judge the acceptability of the risks associated with such environmental contamination. Much of the information gathered for this report is only accurate at the time of collection and a change in the Site conditions may alter the interpretation of SOIL-MAT ENGINEERS' findings. Furthermore, the reader should note that the Site reconnaissance described in this report was an environmental assessment of the Site, not a regulatory compliance or an environmental audit of the Site.

SOIL-MAT ENGINEERS & CONSULTANTS LTD. prepared this Report for the account of the BURLINGTON 2020 LAKESHORE INC. The material in it reflects SOIL-MAT ENGINEERS best judgement 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 or decisions to be made based on it, are the responsibility of such third parties. SOIL-MAT ENGINEERS accepts no responsibility for damages, if any suffered by any third party as a result of decisions made or actions based on this report.