

SOIL-MAT ENGINEERS & CONSULTANTS LTD. 130 LANCING DRIVE HAMILTON, ONTARIO L8W 3A1 PROJECT NO.: SM 302519-E



APRIL 18, 2022

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT 1284 MAIN STREET EAST HAMILTON, ONTARIO

PREPARED FOR:

LOSANI HOMES

BY

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

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LOSANI HOMES 430 McNeilly Road, Suite 203 Stoney Creek, Ontario L8E 5E3

Attention: Brandon Almeida, BES, MCIP, RPP Project Manager and Panner

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT PROPOSED RESIDENTIAL DEVELOPMENT 1284 MAIN STREET EAST HAMILTON, ONTARIO

Dear Mr. Almeida,

1.0 EXECUTIVE SUMMARY

SOIL-MAT ENGINEERS & CONSULTANTS LTD. [SOIL-MAT ENGINEERS] were retained by LOSANI HOMES to undertake Phase Two Environmental Site Assessment [ESA] activities on the above captioned property.

The Phase Two ESA fieldwork included the advancement of eleven [11] boreholes and one test pit on the property to facilitate the collection and submission of select soil and groundwater samples for laboratory analytical testing. The sampling program was conducted to address eight [8] Areas of Potential Environmental Concern [APEC] identified in the Phase One ESA report by our office.

Based on SOIL-MAT ENGINEERS' field observations and the analytical test results received in its office, SOIL-MAT ENGINEERS offered the following:

- With the exception of select elevated levels of electrical conductivity [EC] and sodium adsorption ratio [SAR], the laboratory analytical test results for the submitted soil samples meets the applicable Table 3 Residential/Parkland/Institutional [RPI] site condition standards for the select tested contaminants of potential concern [COPCs];
- With respect to the soil exhibiting elevated levels of EC and SAR, these specific COPCs are not considered exceedances as it has been determined that the elevated level of EC and/or SAR is a result of a substance applied to surfaces for the safety of vehicular or pedestrian traffic, and;
- The Phase Two ESA activities did not reveal any groundwater exceedances, of the applicable Table 3 RPI SCSs, for the secured groundwater samples.



In consideration of the above, the Phase Two ESA laboratory analytical test results are considered to meet the applicable Ontario Regulation 153/04 [as amended] Table 3 site condition standards, for the select tested COPCs.

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.

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.

Notwithstanding the above, it is noted that an APEC was not able to be fully assessed during these Phase Two activities. Specifically, the immediate vicinity of the former automotive repair classroom and the vicinity of a former waste oil UST that was removed from the Phase Two Property in 2008 [southwest wing of the building]. Previous environmental investigations of this area, by SOIL-MAT ENGINEERS, indicated evidence of some remaining elevated PHC in soil. The current scope of Phase Two did not reveal specific evidence of PHC impact to soil or water, however it would be anticipated that some level of soil remediation is required in connection with the former automotive repair classroom and waste oil UST. This would likely extend beneath the building, which was not able to be fully assessed in the current scope of Phase Two ESA.

On a preliminary basis, a reasonable conservative estimate of the potential area of concern would be:

- A remedial excavation measuring approximately 20 metres [width] by 20 metres [length] by 2.5 metres [depth]. This provides a volume estimate of 1,000 m³. Utilising an approximate in place unit weight of 2.2 tonne/m³ provides an estimate of 2,200 tonnes of soil requiring off-site disposal at a Ministry of the Environment licenced waste receiver. A reasonable budget rate for excavation and disposal of impacted soil, as a solid non-hazardous waste, is approximately \$65 per tonne. This provides for a rough preliminary budget estimate on the order of \$143,000. However, it is noted that actual cost estimates have not been solicited by this office. It is also noted that the exact extent of potential impacted soil may vary from this current estimate. In this regard it would be prudent to allow for a contingency of perhaps 40% for the potential remediation work, for a preliminary budget estimate of \$200,000.
- The remediation work can be readily conducted at the time of future demolition, to facilitate access to the area of anticipated impacted soil beneath the southwest wing of the building. It would be necessary to recover a representative sample of material for TCLP leachate toxicity testing to support disposal at a licensed waste facility as solid non-hazardous waste. The work should be monitored by a representative of our office to confirm the ultimate extent of soil removals, as well as confirmatory testing at the limits of the remediation.



2.0 INTRODUCTION

SOIL-MAT ENGINEERS were retained by the LOSANI HOMES to undertake a Phase Two Environmental Site Assessment [ESA] on the above captioned property. It is noted that the Phase Two ESA activities were undertake as per Ontario Regulation 153/04 [as amended].

A Phase One Environmental Site was previously prepared by SOIL-MAT ENGINEERS, and was utilised in determining the rationale for these Phase Two ESA activities [refer to SOIL-MAT ENGINEERS' Report No.: SM 302519-E dated February 3, 20227].

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 Site.

2.0 (i) SITE DESCRIPTION

The Site is comprised of a roughly rectangular shaped parcel of land on the south side of Main Street East between Graham Avenue South and Wexford Avenue South in the City of Hamilton, Ontario. For descriptive purposes Main Street East has been designated as having an east-west alignment.

At the time of this Report, the Site was occupied by a three [3] storey institutional building, with a basement level, which was identified as 'Delta Secondary School'. The remainder of the Site was comprised of asphaltic-concrete covered parking lots on the eastern and western portions of the Site. In addition, an asphaltic-concrete playground and basketball court was located on the southern portion of the Site. With the exception of asphaltic-concrete sidewalks leading to the main doors on the northern portion of the school building, the remaindered of the Site was comprised of grass covered areas.

The Site was bounded to the north by Main Street East, to the east by Wexford Avenue South, to the south by Maple Avenue and to the west by Graham Avenue South.

The Site is recognised with the municipal address of '1284 Main Street East, Hamilton, Ontario'. The property identification number [PIN] is '17239-0002'.

The area of the Site is 2.51 hectares in total.

2.0 (ii) **PROPERTY OWNERSHIP**

At the time of this report, the Site was owned by the Hamilton-Wentworth District School Board. However, as noted in the preamble of this Report, SOIL-MAT ENGINEERS were retained by LOSANI HOMES to undertake the Phase Two ESA activities on the Site in support of the redevelopment of the Site. The contact information for the owner is provided below:



- 1. Contact Name: Mr. Brandon Almeida
- 2. Mailing Address: 430 McNeilly Road, Suite 203, Stoney Creek, Ontario, L8E 5E3
- 3. Contact e-mail: <u>BAlmeida@losanihomes.com</u>
- 4. Contact Phone: 905-561-1700

2.0 (iii) CURRENT AND PROPOSED FUTURE USE

Current Use: Institutional Proposed Use: Residential

Based on the current use of the Site and the proposed use of the Site, the proposed redevelopment plan should not be subject to a mandatory Record of Site Condition [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: Institutional;
- Intended land use: Residential;
- Drinking Water Supply: Non-Potable Ground Water;
- On-site Soil Texture: Coarse Grained Soils;
- Depth to Bedrock: greater than 25.0 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, institutional, and retail commercial properties.

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 of the Site is relatively flat and level with surface water being directed towards several on-site catch basins.

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.

1. Phase One Environmental Site Assessment, 1284 Main Street East, Hamilton, Ontario, dated February 3, 2022: prepared for Losani Homes [Mr. Brandon Almeida].

The February 3, 2022 Phase One ESA report revealed seven [7] potentially contaminating activities [PCAs] on the Phase One Property, including the following:

- Observations recorded during the reconnaissance of the Phase One Property revealed the southwest portion of the school building houses an automotive shop for instructional purposes;
- Information gathered during the reconnaissance of the Phase One Property revealed an existing oil/water separator in connection with the instructional automotive shop;
- Observations recorded during the reconnaissance of the Phase One Property revealed welding operations occur in the southeast portion of the school building;
- Information gathered during the reconnaissance of the Phase One Property revealed a coal cute located in the centre portion of the school building;
- Information extrapolated from the EcoLog ERIS report, as well as information gathered from previous environmental reports, revealed a transformer room is present in the southern portion of the school building;
- Observation gathered during the reconnaissance of the Phase One Property revealed a large oil cooled compressor, with evidence of staining, present in the central portion of the basement level of school building, and;
- Information gathered from pervious environmental reports associated with the Phase One Property revealed a waste oil underground storage tank [UST] was formerly located southwest of the school building. In addition, the available report indicates soil with elevated levels of select petroleum hydrocarbon parameters is present in the vicinity of the former UST.



The lands in the general vicinity of the Phase One Property are comprised of a mixture of residential, institutional and commercial use lands. The Phase One Research revealed one PCA within the Phase One Study Area, including the following;

The lands in the general vicinity of the Site are comprised of a mixture of institutional, retail commercial and residential lands. The Phase One ESA research revealed one historical PCA on lands in the Phase One ESA Study Area that are considered a potential environmental liability to the Site, including the following items:

• Information extrapolated from available Fire Insurance Plans, the Vernon City Directories Series, as well a search of the T.S.S.A records, and confirmed during the reconnaissance of the Phase One Property revealed a gas station located approximately 15 metres east of the Phase One Property.

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	Southwest portion of the Site building	Other. Instructional Automotive Repairs	On-Site	Metals, PAHs, PHCs, VOCs and BTEX	Soil and groundwater
APEC #2	Southwest portion of the Site building	28. Gasoline and Associated Products3Storage in Fixed Tanks	On-Site	Metals, VOCs, PAHs, PHCs, and BTEX	Soil and groundwater
APEC #3	Southeast portion of the Site building	34. Metal Fabrication	On-Site	Metals and VOCs	Soil and groundwater
APEC #4	Central portion of the Site Building within basement level.	Other. Coal Chute	On-Site	PAHs	Soil
APEC #5	South portion of the Site building	55. Transformer Manufacturing, Processing and Use	On-Site	PHCs, VOCs and PCBs	Soil and groundwater
APEC #6	Central portion of the Site Building within basement level.	28. Gasoline and Associated Products Storage in Fixed Tanks	On-Site	PHCs, and BTEX	Soil
APEC #7	Southwest portion of the Site building	28. Gasoline and Associated Products Storage in Fixed Tanks	On-Site	PHCs, and BTEX	Soil and groundwater

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 #8	Northeast limit of the Phase One Property	28. Gasoline and Associated Products Storage in Fixed Tanks	Off-Site	Metals, PHCs, and BTEX.	Soil and groundwater

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

In addition to the above, SOIL-MAT ENGINEERS contacted the City of Hamilton 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

Based on the Phase One ESA findings eleven [11] boreholes and one test pit were advanced on Site to assess the impact to the soil, if any, as a result of the noted PCAs. In addition, a groundwater monitoring well was installed at six [6] of the borehole locations, upon completion of drilling activities, to facilitate the collection of groundwater samples for laboratory analytical testing.

Representative soil and groundwater samples were secured following standard industry sampling protocols and were submitted to AGAT laboratories for laboratory analytical testing for a mixture of the specific Phase Two COPCs; in this case being petroleum hydrocarbons [PHCs], benzene, toluene, ethylbenzene, and xylene mixture [BTEX], volatile organic compounds [VOCs], polychlorinated biphenyls [PCBs], polycyclic aromatic hydrocarbons [PAHs], Metals, As, Sb, Se, BHWS, CN-, Electrical Conductivity, Cr (VI), Hg and 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 ESA was to assess the soil and groundwater quality on the Site, as related to the environmental concerns identified in the findings of the February 3, 2022 Phase One ESA.

4.0 (iii) PHASE ONE CONCEPTUAL SITE MODEL

The Phase One Property is comprised of a roughly rectangular shaped parcel of land on the south side of Main Street east between Graham Avenue South and Wexford Avenue South, recognised with the municipal address of 1284 Main Street East in the City of Hamilton, Ontario.

SOIL-MAT ENGINEERS completed a Phase One ESA for the Site in February of 2022. The information gathered during the completion of this Phase One ESA report revealed that the Site was first developed in 1924 as institutional lands. The first readily available visual aid for the Site is a topographic map from 1907 which illustrate the Site as undeveloped lands. Other visual aids, including aerial photographs from 1934, 1943, 1954, 1965, 19784, 1988, 1995, 2015, and 2018, topographic maps from 1923, 1938, and 1996, confirm the development timeline above. The Phase One research revealed seven [7] PCAs on the Phase One Property.

The neighbouring and nearby lands to the Site are comprised of a mixture of residential, institutional and commercial use lands. Information gathered of the adjoining properties during the Phase One ESA revealed one historical PCA on lands in the Phase One ESA Study Area that are considered a potential environmental liability to the Site.

As a result of the Phase One ESA carried out by SOIL-MAT ENGINEERS for the Site, the following PCAs were identified on the Site.



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	Southwest portion of the Site building	Other. Instructional Automotive Repairs	On-Site	Metals, PAHs, PHCs, VOCs and BTEX	Soil and groundwater
APEC #2	Southwest portion of the Site building	28. Gasoline and Associated Products3Storage in Fixed Tanks	On-Site	Metals, VOCs, PAHs, PHCs, and BTEX	Soil and groundwater
APEC #3	Southeast portion of the Site building	34. Metal Fabrication	On-Site	Metals and VOCs	Soil and groundwater
APEC #4	Central portion of the Site Building within basement level.	Other. Coal Chute	On-Site	PAHs	Soil
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APEC #6	Central portion of the Site Building within basement level.	28. Gasoline and Associated Products Storage in Fixed Tanks	On-Site	PHCs, and BTEX	Soil
APEC #7	Southwest portion of the Site building	28. Gasoline and Associated Products Storage in Fixed Tanks	On-Site	PHCs, and BTEX	Soil and groundwater
APEC #8	Northeast limit of the Phase One Property	28. Gasoline and Associated Products Storage in Fixed Tanks	Off-Site	Metals, PHCs, and BTEX.	Soil and groundwater

No other PCAs were identified on the RSC property or on the neighbouring lands or lands located within the Phase One ESA study area.

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 borehole 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

It is noted that with respect to APECs #1, 3, 4, 5, and 7, indoor boreholes were not undertaken as part of these Phase Two activities. Although all of the soil and groundwater analysis undertaken during the Phase Two ESA activities meet the applicable site condition standards, in the event a Record of Site Condition is required for this Site, additional Phase Two ESA fieldwork within these APECs for both soil and groundwater will be required as O. Reg. 153 requires testing to be done at locations where maximum concentrations are expected.

In addition, with respect to the APEC #4 listed above, it is noted that a concrete core was advanced at this location to obtain a sample of the soil underneath the concrete slab on March 12, 2022, however, it is noted that the core barrel was extended to its full length of 0.4 metres and were unable to get through the floor slab. Given the thickness of the concrete in the location of the coal chute, it is the opinion of SOIL-MAT ENGINEERS' that an environmental impact as a result of the coal chute is considered remote.



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 boreholes were advanced using solid stem continuous flight auger equipment on February 7, 2022 through February 10, 2022 with the physical drilling work being performed by Elite Drilling Services [Elite], via a track mounted drill rig under the supervision of 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. The boreholes were advanced on the Site using solid stem augers.

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 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 picked up at our office by 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 custodies for the soil samples, the samples were delivered to AGAT with an average temperatures of 2.2°C, 6.3°C, and 4.5°C, and arrived at AGATs lab in Mississauga, Ontario, with final average temperatures of 1.7°C, 3.3°C, and 3.8°C.

5.0 (iv) FIELD SCREENING MEASUREMENTS

All of the secured 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 vapour monitor was utilised during the collection of the soil samples. With the exception of the samples listed below, the remaining soil samples did not register a measurable value [recorded as 0ppm]:

Sample Hexene Reading (ppr			
BH1 SS4	5 ppm		
BH2 SS1	5 ppm		
BH2 SS2	5 ppm		
BH3 SS1	5 ppm		
BH3 SS2	5 ppm		
BH3 SS3	10 ppm		
BH4 SS1	10 ppm		
BH4 SS2	30 ppm		
BH4 SS3	10 ppm		
BH4 SS4	10 ppm		
BH4 SS5	5 ppm		
BH4B SS1	20 ppm		
BH4B SS2	10 ppm		
BH4B SS3	5 ppm		
BH5 SS2	5 ppm		
BH6 SS1	5 ppm		
BH6 SS2	5 ppm		
BH7 SS2	5 ppm		
BH8 SS1	5 ppm		
BH8 SS2	5 ppm		
BH9 SS1	5 ppm		
BH9 SS2	5 ppm		
BH10 SS3	5 ppm		
BH10 SS6	5 ppm		

5.0 (v) GROUND WATER: MONITORING WELL INSTALLATION

A 50 millimetre groundwater monitoring well was installed at Borehole Nos. 4, 5, 6, 8, 9, and 10 upon the completion of drilling activities. The groundwater monitoring wells were installed to depths ranging between 4.57 and 6.1 metres below ground surface, 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 <u>Ontario Water Resources Act</u>.

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 monitoring installation details are summarized in the table on the following page.



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]
MW4	6.1	94.45	3.05	3.05 – 6.1	2.75 – 6.1	0.15 – 2.75	100.55
MW5	6.1	94.32	3.05	3.05 – 6.1	2.75 – 6.1	0.15 – 2.75	100.42
MW6	6.1	93.98	3.05	3.05 – 6.1	2.75 – 6.1	0.15 – 2.75	100.08
MW8	4.6	95.82	2.3	2.3 - 4.6	2.0 - 4.6	0.15 – 2.0	100.39
MW9	7.6	92.76	3.05	4.55 - 7.6	4.35 - 7.6	0.15 – 4.35	100.36
MW10	7.6	92.27	3.05	4.55 - 7.6	4.35 - 7.6	0.15 – 4.35	99.87

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

An Oil / Water interface probe was utilized during the monitoring and collection of the groundwater samples. Light non-aqueous phase liquid [LNAPL] was not identified in any of the on-site groundwater 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. As reported on the chain of custody for the water samples, the samples were delivered to AGAT with an average temperatures of 4.6°C, and arrived at the AGAT laboratory in Mississauga, Ontario with an average temperature 2.4°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.

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 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 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 [RSC] Regulation.

5.0 (x) RESIDUAL MANAGEMENT PROCEDURES

Soil cuttings produced from the physical drilling activities were stored on-site in the vicinity of each borehole until the results of the laboratory analytical testing demonstrated that the subject soil material met the applicable SCSs. Once determined that the soil was suitable for use on the site the material was discarded across the property in the vicinity of each borehole.

Purged groundwater was stored on-site until the results of the laboratory analytical testing demonstrated that the groundwater met the applicable SCS at which time the groundwater was discarded across the surface soil in the vicinity of each groundwater sampling point.

5.0 (xi) ELEVATION SURVEYING

All boreholes and groundwater monitoring wells were surveyed by a staff member of SOIL-MAT ENGINEERS to facilitate site relative survey information. A temporary benchmark, described as the catch basin located at the centre line of Graham Avenue South to the east of the dwelling with the address of #26 Graham Avenue South, was used with an assumed elevation of 100.00m.

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 ranging between 100 to 150 millimetres in thickness was encountered in Borehole No.: BH2, BH5 and BH10. It is noted that the depth of topsoil may vary across the site and from the borehole locations. It is also noted that the term 'topsoil' has been used from a geotechnical point of view, and does not necessarily reflect its nutrient content or ability to support plant life.
- PAVEMENT STRUCTURE: The remaining boreholes were advanced through an existing pavement structure of the existing parking lot and playground area which was found to consist of approximately 75 to 200 millimetres of asphaltic concrete overlying approximately 300 millimetres of compact granular base.
- SANDY SILT / SILTY SAND FILL: A Sandy Silt / Silty Sand fill was encountered beneath the existing pavement structure in Borehole No. 1, and beneath the topsoil in Borehole No. 2, at depths ranging between 0.1 and 0.5 metres. The granular soils were brown in colour, contained some gravel and trace construction debris, and was found to be in a generally compact state. The silty sand fill was proven to a depth of approximately 1.5 to 1.8 metres beneath the existing pavement surface.
- SANDY SILT / SILTY SAND: A native Sandy Silt / Silty Sand was encountered beneath the existing pavement structure in Borehole Nos. 3 and 8, and beneath the topsoil in Borehole Nos. 9 and 10, at depths ranging between 0.15 and 0.4 metres. The granular soils were brown in colour, contained some trace to some gravel, and was found to be in a generally very loose to compact state. Borehole No. 8 was also found to have some organics within the native sandy silt / silty sand soils. The sandy silt / silty sand was proven to a depth of approximately 1.0 to 2.0 metres beneath the existing ground surface.
- SILTY CLAY / CLAYEY SILT: A native Silty Clay / Clayey Silt was encountered beneath the Sandy Silt / Silty Sand Fill in Borehole Nos. 1 and 2, beneath the native Sandy Silt / Silty Sand in Borehole Nos. 3, 8, 9, and 10, beneath the pavement structure in the remaining boreholes. The cohesive soils were brown in colour, contained trace sand and gravel, and was found to be generally soft to hard in consistency. In addition, the cohesive soils were found to transition from brown to grey in colour at depths ranging between 3.0 to 4.5 metres below the existing ground surface. The silty clay / clayey silt fill was proven to depths ranging between 18.3 to 19.7 below ground surface in Borehole Nos. 2, 3, and 7, and proven to termination in the remaining boreholes at depths between 5.2 and 12.9 metres beneath the existing ground surface.
- GLACIAL TILL: Glacial Till was encountered beneath the silty clay / clayey silt in Borehole Nos. 2, 3, and 7. The glacial till was grey in colour, with sand and gravel, shale inclusions, and was generally hard in consistency. The glacial till was proven to termination at depths between 18.7 and 25.0 metres beneath the existing ground surface.
- GROUNDWATER: The depth to the groundwater table is anticipated to be approximately 1.0 to 6.0 metres based on groundwater readings from the six [6] monitoring wells installed on the Site. Seasonal fluctuations to this level should be expected.



6.0 (ii) GROUND WATER: ELEVATIONS AND FLOW DIRECTIONS

Borehole Nos. 1, 3, 4B, and 6 were recorded as 'dry' upon completion of drilling activities at depths of 5.2 to 25.0 metres below the existing pavement structure. The remaining boreholes were recorded as 'wet' with free water at depths between 1.5 and 19.8 metres beneath the existing ground surface upon completion. It is noted that insufficient time would have passed for the static groundwater level to stabilize in the open boreholes during drilling, 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. 4, 5, 6, 8, 9, and 10 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.

Borehole	Surface	February	22, 2022	February	24, 2022
No.	Elevation (m)	Depth [m]	Elev. [m]	Depth [m]	Elev. [m]
BH-#4	100.55	1.17	99.38	1.75	98.8
BH-#5	100.42	5.32	95.1	5.56	94.86
BH-#6	100.08	2.46	97.62	4.44	95.64
BH-#8	100.39	1.07	99.32	2.77	97.62
BH-#9	100.36	5.32	95.04	5.4	94.96
BH-#10	99.87	6.18	93.69	7.03	92.84

TABLE A SUMMARY OF GROUNDWATER LEVELS

Based on the groundwater readings, and based on our experience in the area and observations during drilling, the static groundwater level is estimated at a depth of approximately 1.0 and 6.0 metres below the existing pavement surface, although seasonal fluctuations must be expected.

The monitoring well locations, are illustrated on Drawing Nos. 2 in Appendix 'B'.

6.0 (iii) GROUND WATER: HYDRAULIC GRADIENTS

The horizontal hydraulic gradient was not calculated as part of the Phase Two ESA activities.

6.0 (iv) FINE-MEDIUM SOIL TEXTURE

SOIL-MAT ENGINEERS' borehole logs indicate that the surface and subsurface soil consists primarily of silty clay / clayey silt as the predominant soil type. However, a hydrometer was not performed on these soils. As such the soil was classified as a coarse texture.

6.0 (v) SOIL: FIELD SCREENING

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, thirty-five [35] soil samples including four [4] duplicates were secured from the Site to assess potential adverse impact(s) on the Site as a result of PCAs noted in the Phase One ESA.

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

Sample ID [PCA# / APEC#]	Depth [m bgs]	Laboratory Analysis	Soil Description
BH1 SS3	2.3 – 2.9	Metals, PHCs & BTEX	Silty Clay / Clayey Silt
BH1 SS4	3.0 – 3.6	Metals, PHCs & BTEX	Silty Clay / Clayey Silt
BH1 SS5	4.6 – 5.2	Metals, PHCs & BTEX	Silty Clay / Clayey Silt
BH2 SS3	1.5 – 2.1	Metals, PHCs & BTEX	Silty Clay / Clayey Silt
BH2 SS5	3.0 – 3.6	Metals, PHCs & BTEX	Silty Clay / Clayey Silt
BH2 SS6	4.6 – 5.2	Metals, PHCs & BTEX	Silty Clay / Clayey Silt
BH3 SS1	1.5 – 2.1	Metals, PHCs & BTEX	Silty Clay / Clayey Silt
BH3 SS2	3.0 – 3.6	Metals, PHCs & BTEX	Silty Clay / Clayey Silt
BH3 SS3	4.6 – 5.2	Metals, PHCs & BTEX	Silty Clay / Clayey Silt
BH3 SS4	6.1 – 6.7	Metals, PHCs & BTEX	Silty Clay / Clayey Silt
BH4 SS3 [PCA #28 & Other / APEC #1, 2, & 7]	2.3 – 2.9	Metals, VOCs, PHCs, PAHs & BTEX	Silty Clay / Clayey Silt
BH4 SS4 [PCA #28 & Other / APEC #1, 2, & 7]	3.0 - 3.6	Metals, VOCs, PHCs, PAHs & BTEX	Silty Clay / Clayey Silt
BH4 SS5 [PCA #28 & Other / APEC #1, 2, & 7]	4.6 – 5.2	Metals, VOCs, PHCs, PAHs & BTEX	Silty Clay / Clayey Silt
BH4 SS6 [PCA #28 & Other / APEC #1, 2, & 7]	6.1 – 6.7	Metals, VOCs, PHCs, PAHs & BTEX	Silty Clay / Clayey Silt
BH4B SS3 [PCA #28 & Other / APEC #1, 2, & 7]	3.0 – 3.6	Metals, VOCs, PHCs & BTEX	Silty Clay / Clayey Silt
BH4B SS4 [PCA #28 & Other / APEC #1, 2, & 7]	3.8 – 4.4	Metals, VOCs, PHCs & BTEX	Silty Clay / Clayey Silt
BH5 SS2 [PCA #5 / APEC #55]	1.5 – 2.1	Metals, VOCs, PHCs, PCBs & BTEX	Silty Clay / Clayey Silt
BH5 SS4 [PCA #5 / APEC #55]	3.0 - 3.6	Metals, VOCs, PHCs, PCBs & BTEX	Silty Clay / Clayey Silt
BH5 SS7 [PCA #5 / APEC #55]	6.1 – 6.7	Metals, VOCs, PHCs, PCBs & BTEX	Silty Clay / Clayey Silt
BH6 SS2 [PCA #28 & Other / APEC #1 & 7]	1.5 – 2.1	Metals, VOCs, PHCs, PAHs & BTEX	Silty Clay / Clayey Silt

SUMMARY OF TESTED SOIL SAMPLES



Sample ID [PCA# / APEC#]	Depth [m bgs]	Laboratory Analysis	Soil Description
BH6 SS4 [PCA #28 & Other / APEC #1 & 7]	3.0 – 3.6	Metals, VOCs, PHCs, PAHs & BTEX	Silty Clay / Clayey Silt
BH6 SS5 [PCA #28 & Other / APEC #1 & 7]	4.6 – 5.2	Metals, VOCs, PHCs, PAHs & BTEX	Silty Clay / Clayey Silt
BH8 SS4 [PCA #34 / APEC #3]	3.0 - 3.6	Metals, VOCs, PHCs & BTEX	Silty Clay / Clayey Silt
BH8 SS5 [PCA #34 / APEC #3]	3.8 - 4.4	Metals, VOCs, PHCs & BTEX	Silty Clay / Clayey Silt
BH9 SS5 [PCA #28 / APEC #8]	3.0 - 3.6	Metals, VOCs, PHCs & BTEX	Silty Clay / Clayey Silt
BH9 SS6 [PCA #28 / APEC #8]	4.6 – 5.2	Metals, VOCs, PHCs & BTEX	Silty Clay / Clayey Silt
BH10 SS3	1.5 – 2.1	Metals, VOCs, PHCs & BTEX	Silty Clay / Clayey Silt
BH10 SS5	3.0 - 3.6	Metals, VOCs, PHCs & BTEX	Silty Clay / Clayey Silt
BH10 SS6	4.4 – 5.2	Metals, VOCs, PHCs & BTEX	Silty Clay / Clayey Silt
BH10 SS7	6.1 – 6.7	Metals, VOCs, PHCs & BTEX	Silty Clay / Clayey Silt
Mar.2-S1 [PCA #28 / APEC #6]	0.1	PHCs & BTEX	Silty Clay / Clayey Silt
Dup 1 [BH5 SS2] [PCA #5 / APEC #55]	1.5 – 2.1	Metals, PHCs, VOCs & BTEX	Silty Clay / Clayey Silt
Dup 2 [BH8 SS4] [PCA #34 / APEC #3]	3.0 – 3.6	Metals, VOCs, PHCs & BTEX	Silty Clay / Clayey Silt
Dup 3 [BH6 SS2] [PCA #28 & Other / APEC #1 & 7]	1.5 – 2.1	Metals, VOCs, PHCs, PAHs & BTEX	Silty Clay / Clayey Silt
Dup 4 [Mar.2-S1] [PCA #28 / APEC #6]	0.1	PHCs & BTEX	Silty Clay / Clayey Silt

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

SUMMARY OF SOIL SAMPLE TEST RESULTS

Sample ID [PCA# / APEC#]	Depth [m bgs]	Laboratory Analysis	Soil Description	Table 3 RPI Exceedances
BH1 SS3	2.3 – 2.9	Metals, PHCs & BTEX	Silty Clay / Clayey Silt	No exceedances reported
BH1 SS4	3.0 - 3.6	Metals, PHCs & BTEX	Silty Clay / Clayey Silt	No exceedances reported
BH1 SS5	4.6 - 5.2	Metals, PHCs & BTEX	Silty Clay / Clayey Silt	No exceedances reported
BH2 SS3	1.5 – 2.1	Metals, PHCs & BTEX	Silty Clay / Clayey Silt	No exceedances reported
BH2 SS5	3.0 - 3.6	Metals, PHCs & BTEX	Silty Clay / Clayey Silt	No exceedances reported
BH2 SS6	4.6 - 5.2	Metals, PHCs & BTEX	Silty Clay / Clayey Silt	No exceedances reported



Sample ID [PCA# / APEC#]	Depth [m bas]	Laboratory Analysis	Soil Description	Table 3 RPI Exceedances
BH3 SS1	1.5 – 2.1	Metals, PHCs & BTEX	Silty Clay / Clayey Silt	No exceedances reported
BH3 SS2	3.0 - 3.6	Metals, PHCs & BTEX	Silty Clay / Clayey Silt	No exceedances reported
BH3 SS3	4.6 – 5.2	Metals, PHCs & BTEX	Silty Clay / Clayey Silt	No exceedances reported
BH3 SS4	6.1 – 6.7	Metals, PHCs & BTEX	Silty Clay / Clayey Silt	No exceedances reported
BH4 SS3 [PCA #28 & Other / APEC #1, 2, & 7]	2.3 – 2.6	Metals, VOCs, PHCs, PAHs & BTEX	Silty Clay / Clayey Silt	No exceedances reported
BH4 SS4 [PCA #28 & Other / APEC #1, 2, & 7]	3.0 - 3.6	Metals, VOCs, PHCs, PAHs & BTEX	Silty Clay / Clayey Silt	No exceedances reported
BH4 SS5 [PCA #28 & Other / APEC #1, 2, & 7]	4.6 – 5.2	Metals, VOCs, PHCs, PAHs & BTEX	Silty Clay / Clayey Silt	No exceedances reported
BH4 SS6 [PCA #28 & Other / APEC #1, 2, & 7]	6.1 – 6.7	Metals, VOCs, PHCs, PAHs & BTEX	Silty Clay / Clayey Silt	No exceedances reported
BH4B SS3 [PCA #28 & Other / APEC #1, 2, & 7]	3.0 - 3.6	Metals, VOCs, PHCs & BTEX	Silty Clay / Clayey Silt	No exceedances reported
BH4B SS4 [PCA #28 & Other / APEC #1, 2, & 7]	3.8 – 4.4	Metals, VOCs, PHCs & BTEX	Silty Clay / Clayey Silt	No exceedances reported
BH5 SS2 [PCA #5 / APEC #55]	1.5 – 2.1	Metals, VOCs, PHCs, PCBs & BTEX	Silty Clay / Clayey Silt	Exceeds the Table 3 RPI SCSs in Metals as: SAR – 6.51ppm vs 5ppm
BH5 SS4 [PCA #5 / APEC #55]	3.0 – 3.6	Metals, VOCs, PHCs, PCBs & BTEX	Silty Clay / Clayey Silt	Exceeds the Table 3 RPI SCSs in Metals as: EC - 1.45ppm vs 0.7ppm
BH5 SS7 [PCA #5 / APEC #55]	6.1 – 6.7	Metals, VOCs, PHCs, PCBs & BTEX	Silty Clay / Clayey Silt	No exceedances reported
BH6 SS2 [PCA #28 & Other / APEC #1 & 7]	1.5 – 2.1	Metals, VOCs, PHCs, PAHs & BTEX	Silty Clay / Clayey Silt	Exceeds the Table 3 RPI SCSs in Metals as: EC – 1.35ppm vs 0.7ppm
BH6 SS4 [PCA #28 & Other / APEC #1 & 7]	3.0 - 3.6	Metals, VOCs, PHCs, PAHs & BTEX	Silty Clay / Clayey Silt	No exceedances reported
BH6 SS5 [PCA #28 & Other / APEC #1 & 7]	4.6 – 5.2	Metals, VOCs, PHCs, PAHs & BTEX	Silty Clay / Clayey Silt	Exceeds the Table 3 RPI SCSs in Metals as: EC – 0.777ppm vs 0.7ppm
BH8 SS4 [PCA #34 / APEC #3]	3.0 - 3.6	Metals, VOCs, PHCs & BTEX	Silty Clay / Clayey Silt	No exceedances reported
BH8 SS5 [PCA #34 / APEC #3]	3.8 – 4.4	Metals, VOCs, PHCs & BTEX	Silty Clay / Clayey Silt	No exceedances reported
BH9 SS5 [PCA #28 / APEC #8]	3.0 - 3.6	Metals, VOCs, PHCs & BTEX	Silty Clay / Clayey Silt	No exceedances reported
BH9 SS6 [PCA #28 / APEC #8]	4.6 – 5.2	Metals, VOCs, PHCs & BTEX	Silty Clay / Clayey Silt	No exceedances reported
BH10 SS3	1.5 – 2.1	Metals, VOCs, PHCs & BTEX	Silty Clay / Clayey Silt	No exceedances reported
BH10 SS5	3.0 - 3.6	Metals, VOCs, PHCs & BTEX	Silty Clay / Clayey Silt	No exceedances reported
BH10 SS6	4.4 – 5.2	Metals, VOCs, PHCs & BTEX	Silty Clay / Clayey Silt	No exceedances reported



Sample ID [PCA# / APEC#]	Depth [m bgs]	Laboratory Analysis	Soil Description	Table 3 RPI Exceedances
BH10 SS7	0.1	PHCs & BTEX	Silty Clay / Clayey Silt	Mar.2-S1 [PCA #28 / APEC #6]
Mar.2-S1 [PCA #28 / APEC #6]	6.1 – 6.7	Metals, VOCs, PHCs & BTEX	Silty Clay / Clayey Silt	No exceedances reported
Dup 1 [BH5 SS2] [PCA #5 / APEC #55]	1.5 – 2.1	Metals, PHCs, VOCs & BTEX	Silty Clay / Clayey Silt	No exceedances reported
Dup 2 [BH8 SS4] [PCA #34 / APEC #3]	3.0 - 3.6	Metals, VOCs, PHCs & BTEX	Silty Clay / Clayey Silt	Exceeds the Table 3 RPI SCSs in Metals as: EC – 1.01ppm vs 0.7ppm
Dup 3 [BH6 SS2] [PCA #28 & Other / APEC #1 & 7]	1.5 – 2.1	Metals, VOCs, PHCs, PAHs & BTEX	Silty Clay / Clayey Silt	Exceeds the Table 3 RPI SCSs in Metals as: EC – 1.17ppm vs 0.7ppm
Dup 4 Silty Clay / Dup 4 [Mar.2-S1] 0.1 PHCs & BTEX Silty Clay / Dup 4 [PCA #28 / APEC #6] 0.1 PHCs & BTEX Silty Clay / Clayey Silt				
Notes: Metals = Metals, As, Sb, Se, BHWS, CN, Electrical Conductivity [EC], Cr (VI), Hg and SAR PHCs = Petroleum Hydrocarbons, VOCs = Volatile Organic Compounds, PCBs = Polychlorinated Biphenyls, PAHs = Polycyclic Aromatic Hydrocarbons BTEX - Benzene, Toluene, Ethylbenzene, and Xylene Mixture				

With the exception of select elevated levels of EC and SAR, the laboratory analytical test results for the submitted soil samples meets the applicable Table 3 RPI site condition standards for the select tested COCPs.

With respect to the soil exhibiting elevated levels of EC and SAR, these specific COPCs are not considered exceedances if it has been determined that the elevated level of EC and/or SAR is a result of a substance applied to surfaces for the safety of vehicular or pedestrian traffic.

The Phase Two ESA property, borehole locations and analytical test results are illustrated on Drawing Nos. 2, 2A – 2G, and 3A – 3F in Appendix 'A'. SOIL-MAT ENGINEERS' borehole logs are also included in Appendix 'A' for reference.

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

6.0 (vii) GROUND WATER QUALITY

In total, six [6] water samples including one duplicate was secured from the Site to assess potential adverse impact(s) on the Site as a result of PCAs noted in the Phase One ESA.

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

Sample ID [PCA# / APEC#]	Laboratory Analysis
MW4 [PCA #28 & Other / APEC #1, 2, & 7]	PHCs, BTEX, VOCs, PAHs & Metals
MW5 [PCA #5 / APEC #55]	PHCs, BTEX, VOCs, PCBs & Metals
MW6 [PCA #28 & Other / APEC #1 & 7]	PHCs, BTEX, VOCs, PAHs & Metals



Sample ID [PCA# / APEC#]	Laboratory Analysis	
MW8 [PCA #34 / APEC #3]	PHCs, BTEX, VOCs & Metals	
MW9 [PCA #28 / APEC #8]	PHCs, BTEX, VOCs & Metals	
MW10	PHCs, BTEX, VOCs & Metals	
Dup 1 [MW8] [PCA #34 / APEC #3]	PHCs, BTEX, VOCs & Metals	
Notes: Metals = Metals, As, Sb, Se, BHWS, CN, Electrical Conductivity [EC], Cr (VI), Hg and SAR. PHCs = Petroleum Hydrocarbons. VOCs = Volatile Organic Compounds. PCBs = Polychlorinated Biphenyls. PAHs = Polycyclic Aromatic Hydrocarbons. BTEX = Benzene, Toluene, Ethylbenzene, and Xylene Mixture		

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

Sample ID [PCA# / APEC#]	Laboratory Analysis	Table 3 NPGW Exceedances	
MW4 [PCA #28 & Other / APEC #1, 2, & 7]	PHCs, BTEX, VOCs, PAHs & Metals	No exceedances reported	
MW5 [PCA #5 / APEC #55]	PHCs, BTEX, VOCs, PCBs & Metals	No exceedances reported	
MW6 [PCA #28 & Other / APEC #1 & 7]	PHCs, BTEX, VOCs, PAHs & Metals	No exceedances reported	
MW8 [PCA #34 / APEC #3]	PHCs, BTEX, VOCs & Metals	No exceedances reported	
MW9 [PCA #28 / APEC #8]	PHCs, BTEX, VOCs & Metals	No exceedances reported	
MW10	PHCs, BTEX, VOCs & Metals	No exceedances reported	
Dup 1 [MW8] [PCA #34 / APEC #3]	PHCs, BTEX, VOCs & Metals	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. PCBs = Polychlorinated Biphenyls. PAHs = Polycyclic Aromatic Hydrocarbons. BTEX = Benzene, Toluene, Ethylbenzene, and Xylene Mixture. VOC= Volatile Organic Compounds			

SUMMARY OF ANALYTICAL TESTING – WATER [TABLE 3 NPGW]

The laboratory analytical test results for the submitted ground water samples are all below the applicable Table 3 NPGW Standards for the select test parameters.

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

6.0 (viii) SEDIMENT QUALITY

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



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

A Phase Two Conceptual Site Model was not completed as part of this Phase Two ESA as a Record of Site Condition is not presently required for this property.



7.0 CONCLUSIONS

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

Based on SOIL-MAT ENGINEERS' field observations and the analytical test results received in its office, SOIL-MAT ENGINEERS offered the following:

- With the exception of select elevated levels of electrical conductivity [EC] and sodium adsorption ratio [SAR], the laboratory analytical test results for the submitted soil samples meets the applicable Table 3 Residential/Parkland/Institutional [RPI] site condition standards for the select tested contaminants of potential concern [COPCs];
- With respect to the soil exhibiting elevated levels of EC and SAR, these specific COPCs are not considered exceedances as it has been determined that the elevated level of EC and/or SAR is a result of a substance applied to surfaces for the safety of vehicular or pedestrian traffic, and;
- The Phase Two ESA activities did not reveal any groundwater exceedances, of the applicable Table 3 RPI SCSs, for the secured groundwater samples.

In consideration of the above, the Phase Two ESA laboratory analytical test results are considered to meet the applicable Ontario Regulation 153/04 [as amended] Table 3 site condition standards, for the select tested COPCs.

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.

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.

Notwithstanding the above, it is noted that an APEC was not able to be fully assessed during these Phase Two activities. Specifically, the immediate vicinity of the former automotive repair classroom and the vicinity of a former waste oil UST that was removed from the Phase Two Property in 2008 [southwest wing of the building]. Previous environmental investigations of this area, by SOIL-MAT ENGINEERS, indicated evidence of some remaining elevated PHC in soil. The current scope of Phase Two did not reveal specific evidence of PHC impact to soil or water, however it would be anticipated that some level of soil remediation is required in connection with the former automotive repair classroom and waste oil UST. This would likely extend beneath the building, which was not able to be fully assessed in the current scope of Phase Two ESA.

On a preliminary basis, a reasonable conservative estimate of the potential area of concern would be:



- A remedial excavation measuring approximately 20 metres [width] by 20 metres [length] by 2.5 metres [depth]. This provides a volume estimate of 1,000 m³. Utilising an approximate in place unit weight of 2.2 tonne/m³ provides an estimate of 2,200 tonnes of soil requiring off-site disposal at a Ministry of the Environment licenced waste receiver. A reasonable budget rate for excavation and disposal of impacted soil, as a solid non-hazardous waste, is approximately \$65 per tonne. This provides for a rough preliminary budget estimate on the order of \$143,000. However, it is noted that actual cost estimates have not been solicited by this office. It is also noted that the exact extent of potential impacted soil may vary from this current estimate. In this regard it would be prudent to allow for a contingency of perhaps 40% for the potential remediation work, for a preliminary budget estimate of \$200,000.
- The remediation work can be readily conducted at the time of future demolition, to facilitate access to the area of anticipated impacted soil beneath the southwest wing of the building. It would be necessary to recover a representative sample of material for TCLP leachate toxicity testing to support disposal at a licensed waste facility as solid non-hazardous waste. The work should be monitored by a representative of our office to confirm the ultimate extent of soil removals, as well as confirmatory testing at the limits of the remediation.



SOIL-MAT ENGINEERS & CONSULTANTS LTD. prepared this Report for the account of LOSANI HOMES. 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.

Peter Markesic, B.Sc. Project Manager

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

lan Shaw, P.Eng., QP_{ESA} Review Engineer

Distribution: I	LOSANI HOMES	[2]
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Enclosures:

Appendix 'A': Appendix 'B' Appendix 'C' Appendix 'D' Appendix 'E'

Site Plan Drawings and Borehole Logs; AGAT Soil Analytical Data; AGAT Ground Water Analytical Data Qualifications of Assessors; Statement of Limitations





Appendix 'A'

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


































Project No: SM 302519-G-E Project: Proposed Residential Development Location: 1284 Main Street East, Hamilton Client: Losani Homes Project Manager: Ian Shaw, P.Eng Borehole Location: See Drawing No.1 UTM Coordinates - N: 4788152 E: 596200



								SAM	PLE				Mois	ture Cor	ntent
	-	Ê		Description				ts	mm		12)	n3)	10 2	w% 20 30	40
	Deptl	Elevation (Symbol	Description	Well Data	Type	Number	Blow Coun	Blows/300	Recovery	PP (kgf/cm	U.Wt.(kN/n	Standard • blov 20 4	Penetra ws/300m 40 60	ntion Test
ft	m	100.64		Ground Surface											
1 2 3		100.14	χ^{l}_{l}	Pavement Structure Approximately 200 millimetres of asphaltic concrete over 300 millimetres		99	1	8 13 0 /	22						
4			~~~	of compact granular base.			1	0,10,0,4					X		
6 7	2	98.80	Ĩ	Sandy Silt/Silty Sand Fill Brown, some gravel.		SS	2	5,6,6,6	12						
8 9- 10-		97.60		Silty Clay/Clayey Silt Brown, trace sand and gravel, stiff to		SS	3	6,9,11,14	20		>4.5			•	
11- 12-				Transition in colour to grey, stiff.		SS	4	5,6,9,12	15		>4.5			•	
13- 14- 15-	4			NOTES:											
16- 17-	5			1. Borehole was advanced using		SS	5	3,3,6,7	9		3.0			Ì	
18- 19- 20-	6			solid stem auger equipment on February 7, 2022 to termination											
21- 22-				2 Borehole was recorded as		SS	6	2,3,5,5	8		<1.0				
23 24 25	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			open and 'dry' upon completion and backfilled as per Ontario Regulation 903.											
27 27 28	E 8			3. Soil samples will be discarded											
29- 30-	<u> </u>		1	after 3 months unless otherwise											
31- 32-						SS	7	3,5,6,8	11		<1.0				
33- 34- 35-															
36- 37-	E 1'														
38- 39- 40-	E E 12														
41- 42-		87.80	HĽ.			SS	8	4,5,8,9	13		<1.0				
43 44 15				End of Borehole											
46 47	- 14														
48- 49-															

Drill Method: Solid Stem Augers Drill Date: February 7, 2022 Hole Size: 150 Millimetres Drilling Contractor: Elite Drilling Services

Soil-Mat Engineers & Consultants Ltd.

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

Project No: SM 302519-G-E Project: Proposed Residential Development Location: 1284 Main Street East, Hamilton Client: Losani Homes

Project Manager: Ian Shaw, P.Eng Borehole Location: See Drawing No.1 UTM Coordinates - N: 4788117 **E:** 596307



								SAM	PLE				M	oisture	Conte	ent
4+ 	nepul	Elevation (m)	Symbol	Description	Well Data	Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)	10 Stand	w ⁹ 20 ard Pen blows/3 40	% 30 etratio 00mn 60	40 on Test
ft	m	101.27		Ground Surface												
1 2 3	- 1		$\chi^{\chi}\chi^{\chi}\chi^{\chi}\chi^{\chi}$	Topsoil Approximately 100 millimetres of topsoil.		SS	1	13,9,6,9	15							
4		99.80	ړ <i>د</i> ا	Sandy Silt/Silty Sand Fill		55	2	9,8,8,5	16							
5 6 7	2		/.	Brown, some gravel, trace construction debris.		SS	3	3,1,3,5	4		>4.5				_	
8 9 10	- 3	98.20		Silty Clay/Clayey Silt Brown, trace sand and gravel, soft to		SS	4	6,8,12,15	20		4.5					
11-			/.	Very stiff. Transition in colour to grey, stiff.		SS	5	4,7,10,13	17		4.0		†	}		
13 14 15	- 4															
16 17	5					SS	6	4,3,6,8	9		3.0			t		
19 20	6		/.													
21 22 23	7					SS	7	2,4,5,6	9		<1.0			Î		
24 25			/.													
20 27 28	- 8															
29 30 31	9							2235			<10					
32 33	- 10		7			SS	8	_,_,0,0	5						_	
34 35 36	- 11															
37 38 39																
40	- 12		$\left \right $			SS	9	3,4,7,7	11		<1.0					
42 43 44	- 13															
45 46 47	- 14		\mathbb{R}													
48 49																

Drill Method: Solid Stem Augers Drill Date: February 7, 2022 Hole Size: 150 Millimetres

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 Drilling Contractor: Elite Drilling Services

Project No: SM 302519-G-E Project: Proposed Residential Development Location: 1284 Main Street East, Hamilton Client: Losani Homes

Project Manager: Ian Shaw, P.Eng Borehole Location: See Drawing No.1 UTM Coordinates - N: 4788117 E: 596307



								SAM	PLE				Мс	isture	Conte	ent
2	-	Ê		Description				Its	L L L L L L L L L L L L L L L L L L L		12)	n3)	10	w% 20	% 30	40
-ue Tent		Elevation (Symbol	Description	Well Data	Type	Number	Blow Coun	Blows/300	Recovery	PP (kgf/cm	U.Wt.(kN/n	Standar b 20	rd Pen lows/3 40	etratio 00mm 60	on Test 1 • 80
50 51						SS	10	4,6,10,11	16		<1.0					
52 53	- 16													+		
54 55																
56 57	- 1/		1													
58 59	- 18	83.00														
61 62		82.60		Glacial Till		SS	11	5,12,50/5"	100					Ţ		
63 64	- 19			inclusions, hard.												
65 66	- 20			End of Borenole												
67 68				NOTES:												
69 70	- 21			1. Borehole was advanced using solid stem auger equipment on												
71 72	- 22			February 7, 2022 to termination at a depth of 18 7 metres												
73- 74-				2 Borehole was recorded as												
75 76	- 23			open and 'wet' at a depth of 1.5												
// 78- 70-	- 24			backfilled as per Ontario Regulation 903												
80 81				3 Soil samples will be discarded												
82 83	- 25			after 3 months unless otherwise												
84 85	- 26															
86 87	20															
88 89	- 27															
90 - 91 -																
92 93	- 28															
94 95	- 29															
97 98																

Drill Method: Solid Stem AugersDrill Date: February 7, 2022Hole Size: 150 MillimetresDrilling Contractor: Elite Drilling Services

Soil-Mat Engineers & Consultants Ltd.

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

Project No: SM 302519-G-E Project: Proposed Residential Development Location: 1284 Main Street East, Hamilton Client: Losani Homes Project Manager: Ian Shaw, P.Eng Borehole Location: See Drawing No.1 UTM Coordinates - N: 4788143 E: 596259



								SAM	PLE				м	oisture	e Conte	ent
	Ļ.	(L		Description				Its	mm		ו2)	n3)	10	w 20	% <u>30</u>	40
	Dept	Elevation (Symbol	Description	Well Data	Type	Number	Blow Cour	Blows/300	Recovery	PP (kgf/cn	U.Wt.(kN/r	Stand	ard Per blows/3 40	netrati 300mr 60	on Test n • 80
ft	m	101.00		Ground Surface												
1 2 3 4		100.60 99.50	$(1)^{l_1 l_2 l_3}$	Pavement Structure Approximately 100 millimetres of asphaltic concrete over 300 millimetres of compact granular base.												
5 6 7	2		7	Sandy Silt/Silty Sand Brown, some gravel, compact.	1	SS	1	3,3,7,7	10				•			
8 9 10	- 3	98.00]	Silty Clay/Clayey Silt Brown, trace sand and gravel, stiff												
11-			/.	Transition in colour to grey, stiff to very stiff.		SS	2	4,5,7,7	12		3.25					
13- 14- 15-	4		/													
16- 17-	5					SS	3	4,6,7,10	13		2.0			t		
19- 20-	6		/.													
21 - 22 - 23 -	- 7					SS	4	3,5,6,7	11		1.5			Î		
24 25 26																
27- 28-	8		/.													
29- 30- 31-	9															
32 33 34	- 10															
35	– – 1 [,]	1				SS	5	4,5,7,7	12		1.75		•			
37 38 39	E E E 12		/.													
40 41 42																
43-	E 1:															
45 46 47	E 14															
48 49																

Drill Method: Solid Stem AugersDrill Date: February 8, 2022Hole Size: 150 MillimetresDrilling Contractor: Elite Drilling Services

Soil-Mat Engineers & Consultants Ltd.

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

Project No: SM 302519-G-E Project: Proposed Residential Development Location: 1284 Main Street East, Hamilton Client: Losani Homes

Project Manager: Ian Shaw, P.Eng Borehole Location: See Drawing No.1 UTM Coordinates - N: 4788143 E: 596259



							SAM	PLE				Moisture Content
Ę	(u)		Description				nts	mmC		m2)	(m3)	• w% • 10 20 30 40
Dep	Elevation	Symbol		Well Data	Type	Number	Blow Cou	Blows/30	Recovery	PP (kgf/c	U.Wt.(kN	Standard Penetration Test blows/300mm 20 40 60 80
50 51 52					SS	6	5,7,11,15	18		3.0		•
53 54 55 56 57 57 58												
59 1 60 61 62 1 63 62 1 64 62 64	82.70		Glacial Till Brown, with sand and gravel, some shale inclusions, hard.									
65 <u> </u>		•••			SS	7	9,17,27,31	44				
69 2 70 7 71 7 72 2												
73												
79 2 80 1 81 1	76.00	•••			SS	8	14,24,40,50/5	64				
82 <u></u> 23 83 <u></u> 84 <u></u>	70.00		End of Borehole									
85 <u>2</u> 86 <u>8</u> 7			NOTES:	id stem	aude	r equ	inment on Fe	brua	v 8 2	2022		
88 89 89			to termination at a depth of 25.0 met	res.	auge	r equ			y 0, 2	022		
91 <u>1</u> 92 <u>2</u>	1		2. Borenole was recorded as open a Ontario Regulation 903.	nd 'dry'	upon	com	pietion and b	acktil	ed as	s per		
93 94 95 95 96 96 97			3. Soil samples will be discarded afte client.	er 3 mo	nths u	Inles	s otherwise d	irecte	d by	our		
98												

Drill Method: Solid Stem AugersDrill Date: February 8, 2022Hole Size: 150 MillimetresDrilling Contractor: Elite Drilling Services

Soil-Mat Engineers & Consultants Ltd.

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

Project No: SM 302519-G-E Project: Proposed Residential Development Location: 1284 Main Street East, Hamilton Client: Losani Homes

Project Manager: Ian Shaw, P.Eng Borehole Location: See Drawing No.1 UTM Coordinates - N: 4788180 E: 596213



								SAM	PLE				Moist	ure Co	ntent
	문	(E		Description				ıts	mm		n2)	n3)	10 2	w% <u>030</u>	40
	Dept	Elevation	Symbol	Decomption	Well Data	Type	Number	Blow Cour	Blows/300	Recovery	PP (kgf/cn	U.Wt.(kN/i	Standard • blov 20 4	Penetra vs/300r 0 60	ation Test mm •) 80
ft	m	100.55		Ground Surface											
1 2 3		100.17		Pavement Structure Approximately 75 millimetres of asphaltic concrete over 300 millimetres /			1	2 2 2 6	5						
4				of compact granular base.		- 33	1	3,2,3,0	5				IT T		
6	2			Silty Clay/Clayey Silt Grey, trace sand and gravel, firm to hard.		SS	2	4,3,3,5	6						
9-	Ë,		\mathbb{H}			SS	3	7,10,13,17	23						
10- 11- 12-						SS	4	7,12,19,22	31		4.5				
13- 14-	4		/.												
15 16 17	5					SS	5	3,4,5,6	9		2.0				
18- 19-	6														
20- 21- 22-		93.80				 SS	6	3,3,5,6	8		<1.0				
23	- 7			End of Borehole											
25-				NOTES:											
20	8			1. Borehole was advanced using											
28- 29- 30- 31-	9			solid stem auger equipment on February 8, 2022 to termination at a depth of 6.7 metres.											
32 33 34	E 10 E			2. Borehole was recorded as open and 'wet' at a depth of 4.5 metres											
35 36 37	E E 11	1		upon completion and backfilled as per Ontario Regulation 903.											
38 39 40 41	12 12			3. Soil samples will be discarded after 3 months unless otherwise directed by our client.											
42 43 44 45				4. A monitoring well was installed. The following free groundwater level readings have been measured:											
40 47 48 49															

Drill Method: Solid Stem Augers Drill Date: February 8 2022 Hole Size: 150 Millimetres Drilling Contractor: Elite Drilling Services

Soil-Mat Engineers & Consultants Ltd.

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

Project No: SM 302519-G-E Project: Proposed Residential Development Location: 1284 Main Street East, Hamilton Client: Losani Homes Project Manager: Ian Shaw, P.Eng Borehole Location: See Drawing No.1 UTM Coordinates - N: 4788189 E: 596202



								SAM	PLE				Moistur	e Content	t
	-	Ê						ţs	mn		2)	13)	10 20	v% 30 4	0
Dent	200	Elevation (r	Symbol	Description	Well Data	Type	Number	Blow Coun	Blows/300r	Recovery	PP (kgf/cm	U.Wt.(kN/m	Standard Pe blows, 20 40	enetration /300mm 60 8	Test 0
ft	m	100.60		Ground Surface											
1 2 3 4	- 1	100.20		Pavement Structure Approximately 100 millimetres of asphaltic concrete over 300 millimetres of compact granular base.											
6	- 2			Silty Clay/Clayey Silt Brown to greyish brown, trace sand		SS	1	8,11,14,13	25				• •		
8 9 10	- 3		/	and gravel, very stiff to hard.		SS	2	8,13,17,21	30						
11 12						SS	3	6,10,13,14	23		>4.5		 		
13 14 15	- 4	96.10	4			SS	4	6,9,13,15	22		>4.5		† †		
16 17	- 5	95.40	1	Transition in colour to grey, very stiff.		SS	5	4,7,8,7	15		3.0				
18 19	- 6			End of Borehole											
20 21 21	0														
23 23 24	- 7														
25 26	- 8			NOTES:											
27 28 29 30 31	- 9			1. Borehole was advanced using solid stem auger equipment on February 9, 2022 to termination at a depth of 5.2 metres.											
32 33 34	- 1(2. Borehole was recorded as open and 'dry' upon completion and											
35 36 37	- 11			Regulation 903.											
38 39 40	- 12			3. Soil samples will be discarded after 3 months unless otherwise directed by our client.											
41 42 43 44	- 13														
45 46 47	- 14														
48 49															

Drill Method: Solid Stem AugersDrill Date: February 9, 2022Hole Size: 150 MillimetresDrilling Contractor: Elite Drilling Services

Soil-Mat Engineers & Consultants Ltd.

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

Project No: SM 302519-G-E Project: Proposed Residential Development Location: 1284 Main Street East, Hamilton Client: Losani Homes

Project Manager: Ian Shaw, P.Eng Borehole Location: See Drawing No.1 UTM Coordinates - N: 4788156 E: 596286



								SAM	PLE				Moisture (Content
	nebili	evation (m)	ymbol	Description	ell Data	/pe	umber	aw Counts	ows/300mm	ecovery	P (kgf/cm2)	.Wt.(kN/m3)	 w% 10 20 Standard Pene blows/30 20 40 	30 40 etration Test 00mm •
ft	m	<u> </u>	Ś.		3	Γ,	z	ā		Ŕ	Р		20 40	00 00
	<u>0</u>	100.42		Bavement Structure										
	- 1			Approximately 100 millimetres of asphaltic concrete over 300 millimetres		ss	1	3,4,6,4	10				•	
5				Silty Clay/Clayey Silt				0400	_					
0	2		H.	Brown, trace sand and gravel, stiff to		55	2	3,4,3,Z	/				T I	
8 9 10	- 3		+	Solt.		ss	3	2,1,2,1	3					
11		97.10		Transition in colour to grey, firm to stiff.		ss	4	2,2,2,2	4					
13 14	4					ss	5	5,6,3,2	9		3.0			
15	5					ss	6	3,2,3,5	5		1.5			
1/ 18 10														
20	6		+		Ë	 99	7	3466	10		1 75			
22	- 7	93.70	11	End of Borehole	-		'	0,4,0,0			1.70			
23 24	<i>'</i>													
25 26	8			NOTES:										
27 28 29 30 31	9			1. Borehole was advanced using solid stem auger equipment on February 8, 2022 to termination at a depth of 6.7 metres.										
32 33 34 35 36	- 1(- 11			2. Borehole was recorded as open and 'wet' at a depth of 4.5 metres upon completion and backfilled as per Ontario Regulation 903.										
37 38 39 40 41	- 12			3. Soil samples will be discarded after 3 months unless otherwise directed by our client.										
42 43 44 45 46	13			4. A monitoring well was installed. The following free groundwater level readings have been measured:										
47 48 49														

Drill Method: Solid Stem AugersDrill Date: February 8 2022Hole Size: 150 MillimetresDrilling Contractor: Elite Drilling Services

Soil-Mat Engineers & Consultants Ltd.

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

Project No: SM 302519-G-E Project: Proposed Residential Development Location: 1284 Main Street East, Hamilton Client: Losani Homes

Project Manager: Ian Shaw, P.Eng Borehole Location: See Drawing No.1 UTM Coordinates - N: 4788239 E: 596219



								SAMF	PLE				n I	Noistu	ure Coi	ntent
	-	(u						ţs	ши		2)	13)	10) 2	w% 0 <u>30</u>	40
	nepu	Elevation (I	Symbol	Description	Well Data	Type	Number	Blow Coun	Blows/300r	Recovery	PP (kgf/cm	U.Wt.(kN/m	Stand 2(lard F blow) 4	^{>} enetra /s/300n 0 60	ation Test nm • 80
ft	m	100.08		Ground Surface												
1		99.68		Pavement Structure												
2	1			Approximately 100 millimetres of asphaltic concrete over 300 millimetres		ss	1	12,5,3,4	8				•	•		
5	2			Silty Clay/Clayey Silt Brown to grevish brown, trace sand		SS	2	5,8,12,12	20							
8 9				and gravel, very stiff to hard.		SS	3	12,11,12,14	23		>4.5			┝┥		
10 11 12	- 3					ss	4	5,6,12,13	18		>4.5		/	}		
13	4	95.60														
15 16 17	5			Transition in colour to grey, very stiff.		SS	5	4,4,5,5	9		2.5					
18 19 20	6													$ \rightarrow $		
21	-	93.40	11			SS	6	2,2,3,5	5		<1.0		-		k	
23	7			End of Borehole												
24 = 25 =	-			NOTES [.]												
26	8															
27 = 28 =				1. Borehole was advanced using												
29	9			February 10, 2022 to termination at a depth of 6.7 metres.												
32				2. Develop was recorded as short												
33 34	- 1(and 'dry' upon completion and												
35				backfilled as per Ontario												
36 = 37 =	- 11			Regulation 903.												
38	_			3. Soil samples will be discarded												
39 40	- 12			after 3 months unless otherwise												
41																
42 클 43 클	- 13															
44	=															
45 46	- 14															
47																
49	=															

Drill Method: Solid Stem AugersDrill Date: February 10, 2022Hole Size: 150 MillimetresDrilling Contractor: Elite Drilling Services

Soil-Mat Engineers & Consultants Ltd.

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

Project No: SM 302519-G-E Project: Proposed Residential Development Location: 1284 Main Street East, Hamilton Client: Losani Homes

Project Manager: Ian Shaw, P.Eng Borehole Location: See Drawing No.1 UTM Coordinates - N: 4788219 E: 596224



								SAM	PLE				Мс	isture	Conte	ent
	oth	(m)		Description				Ints	Omm		m2)	/m3)	10	w 20	% 30	40
1	Del	Elevation	Symbol		Well Data	Type	Number	Blow Cou	Blows/30	Recovery	PP (kgf/c	U.Wt.(kN	Standa • b 20	rd Per lows/3 40	netrati 300mn 60	on Test n • 80
ft	m	100.05		Ground Surface												
1-	Ē	99.65		Pavement Structure												
2- 3- 4-	1		/.	Approximately 100 millimetres of asphaltic concrete over 300 millimetres of compact granular base.												
5 6 7	2			Silty Clay/Clayey Silt Brown to greyish brown, trace sand		SS	1	5,8,9,12	17		>4.5		•	1		
8- 9-	3		$\left \right $	and gravel, stiff to very stiff.												
11- 12-						SS	2	4,7,11,13	18		4.0			+		
13- 14- 15-	4	95.60	4	Transition is colour to grou stiff to												
16- 17-	5			hard.		SS	3	3,4,6,6	10		<1.0					
18- 19- 20-	6															
21- 22-						SS	4	2,3,3,5	6		<1.0			Ť		
23 24 25																
26- 27- 28-	8]]													
29- 30-	9															
31- 32- 33-	- 10		$\left \right $			SS	5	2,4,4,6	8		<1.0			1		
34- 35-																
37 38			+													
39- 40- 41-	12					SS	6	2468	10		15					
42	13							2,7,0,0			1.0					
44 45 46	14		$\left \right $													
47 48 49																

Drill Method: Solid Stem AugersDrill Date: February 10, 2022Hole Size: 150 MillimetresDrilling Contractor: Elite Drilling Services

Soil-Mat Engineers & Consultants Ltd.

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

Project No: SM 302519-G-E Project: Proposed Residential Development Location: 1284 Main Street East, Hamilton Client: Losani Homes

Project Manager: Ian Shaw, P.Eng Borehole Location: See Drawing No.1 UTM Coordinates - N: 4788219 E: 596224



								SAM	PLE				Moisture Content
ے		я ш		Description				ts	шш		12)	n3)	• w% • 10 20 30 40
Dept		Elevation (Symbol	Description	Well Data	Type	Number	Blow Coun	Blows/300	Recovery	PP (kgf/cm	U.Wt.(kN/n	Standard Penetration Test blows/300mm 20 40 60 80
50 51						SS	7	4,8,12,13	20				
52 <u>–</u> 53– 54–	16							•					
55	17												
57 58 59	18												
60						SS	8	10,12,21,27	33				
62 <u>+</u> 63 <u>+</u> 64 <u>+</u>	19	80.30											
65	20	00.00		Glacial Till Brown with sand and gravel shale									
68 69	21		.".	inclusions, hard.									
70 71 72	_	78.10				SS	9	12,17,23,50/5	40				<u> </u>
73 73 74	22			End of Borehole									
75	23			NOTES:									
78 79	24			solid stem auger equipment on February 10, 2022 to termination									
80 81	25			at a depth of 21.9 metres.									
83 84	2.			2. Borenole was recorded as open and 'wet' at a depth of 19.8 metres upon completion and backfilled as									
85	26			per Ontario Regulation 903.									
88 89	27			3. Soil samples will be discarded after 3 months unless otherwise									
90 91	28			directed by our client.									
93 94	24												
95	29												
98													

Drill Method: Solid Stem AugersDrill Date: February 10, 2022Hole Size: 150 MillimetresDrilling Contractor: Elite Drilling Services

Soil-Mat Engineers & Consultants Ltd.

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

Project No: SM 302519-G-E Project: Proposed Residential Development Location: 1284 Main Street East, Hamilton Client: Losani Homes

Project Manager: Ian Shaw, P.Eng Borehole Location: See Drawing No.1 UTM Coordinates - N: 4788194 E: 596329



									SAM	PLE				Мо	isture (Conte	ent
.	E	(m)		Description					Its	mm		ר2)	n3)	10	w% 20	, 30	40
	nepr	Elevation (Symbol	Description	Well Data		Type	Number	Blow Cour	Blows/300	Recovery	PP (kgf/cn	U.Wt.(kN/r	Standar • b 20	rd Pene lows/30 40	etratic)0mm 60	on Test 1 • 80
ft	m	100.39		Ground Surface													
1		99.99		Pavement Structure													
2 3 4	1			Approximately 100 millimetres of asphaltic concrete over 300 millimetres / of compact granular base.			SS	1	2,2,2,2	4				•	•		
5 6 7	2	98.40		Silty Sand/Sandy Silt Brown, trace gravel, some organics,			SS	2	3,4,6,7	10							
8 9				loose to compact.			SS	3	7,12,12,14	24		>4.5		•			
10- 11- 12-	- 3		\mathbb{H}	Brown to greyish brown, trace sand and gravel, very stiff to stiff.			SS	4	6,9,12,15	21		4.0		•	ł		
13- 14-	4	95.90					SS	5	5,7,8,9	15		2.0		+			
15 16	5	95.20	R	Transition in colour to grey.		<u>.</u>	SS	6	3,5,7,6	12		<1.0		•	Ţ		
18-	-			End of Borehole													
19- 20-	6			NOTES:													
21 22 23 24 25	7			1. Borehole was advanced using solid stem auger equipment on February 9, 2022 to termination at a depth of 5.2 metres.													
20 27 28 29 30 31	8 9			2. Borehole was recorded as open and 'wet' at a depth of 3.8 metres upon completion and backfilled as per Ontario Regulation 903.													
32 33 34 35	10			3. Soil samples will be discarded after 3 months unless otherwise directed by our client.													
37 37 38 39 40	12			4. A monitoring well was installed. The following free groundwater level readings have been measured:													
41 42 43 44	13			measureu.													
45 46 47	_ 14																
48 49	-																

Drill Method: Solid Stem AugersDrill Date: February 9, 2022Hole Size: 150 MillimetresDrilling Contractor: Elite Drilling Services

Soil-Mat Engineers & Consultants Ltd.

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

Project No: SM 302519-G-E Project: Proposed Residential Development Location: 1284 Main Street East, Hamilton Client: Losani Homes Project Manager: Ian Shaw, P.Eng Borehole Location: See Drawing No.1 UTM Coordinates - N: 4788245 E: 596361



					SAMPLE								Mois	ture Co	ntent
4	Depui	Elevation (m)	Symbol	Description	Well Data	Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)	tandard	w% 20 30 Penetra ws/300r 40 60) 40 ation Test mm ●) 80
ft	m	100.36		Ground Surface											
1-2-3-	_ 1		****	Topsoil Approximately 150 millimetres of		SS	1	4,2,1,1	3				•	1	
4	. '	98.90		Silty Sand/Sandy Silt		ss	2	2,1,2,3	3						
5 6 7	- 2		7	Brown, trace gravel, very loose.		ss	3	4,5,9,12	14		4.5		• •	·	
8	2	97.40		Silty Clay/Clayey Silt Brown to greyish brown, trace sand and gravel, very stiff to stiff.		SS	4	7,10,12,15	22		>4.5				
10 11 12	3		/.	Transition in colour to grey.		SS	5	6,7,11,15	18		3.0			t	
13 14	- 4		7												
15 16 17	- 5		/.			SS	6	4,5,5,5	10		1.75				
18 19	- 6														
20 21 22			/.			ss	7	2,3,5,4	8		<1.0			ł	
23 24 25	- /										T				
26 27	8	92.10	11		-	SS	8	2,3,5,10	8		<1.0			۰	
28- 29-				End of Borehole											
30 31	- 9														
32 33	- 10			NOTES:											
34 35 36 37	- 1'			1. Borehole was advanced using solid termination at a depth of 8.2 metres.	stem a	auger	equip	ment on Feb	ruary	9, 20	22 to				
30 39 40	- 12			2. Borehole was recorded as open an and backfilled as per Ontario Regulati	d 'wet' a on 903	at a de	epth c	f 6.0 metres	upon	com	pletior	h			
42 43 44	- 13			3. Soil samples will be discarded after client.	3 mon	ths ur	less	otherwise dir	ected	by oı	ur				
45 46 47 48	- 14			4. A monitoring well was installed. The been measured:	follow	ing fre	e gro	undwater lev	el rea	adings	s have	Ð			
49															

Drill Method: Solid Stem AugersDrill Date: February 9, 2022Hole Size: 150 MillimetresDrilling Contractor: Elite Drilling Services

Soil-Mat Engineers & Consultants Ltd.

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

Project No: SM 302519-G-E Project: Proposed Residential Development Location: 1284 Main Street East, Hamilton Client: Losani Homes Project Manager: Ian Shaw, P.Eng Borehole Location: See Drawing No.1 UTM Coordinates - N: 4788283 E: 596236



								SAM	PLE				Moisture Conter	nt
4 4	nepul	Elevation (m)	Symbol	Description	Well Data	Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)	w% 10 20 30 4 Standard Penetration blows/300mm 20 40 60 4	40 n Test 80
ft	m	99.87		Ground Surface										
1	0	98.90	<u>****</u> *	Topsoil Approximately 150 millimetres of		ss	1	4,2,5,3	7		1		1	•
3 4 5	- 1		7	Silty Sand/Sandy Silt		SS	2	3,5,7,9	12					
6 7	2			Brown, trace gravel, very loose.		SS	3	6,9,12,14	21		>4.5			
8 9	- 3			Brown to greyish brown, trace sand and gravel, very stiff to stiff.		ss	4	6,9,13,15	22		>4.5			
11						ss	5	5,7,10,12	17		>4.5			
13 <u>–</u> 14 –	- 4	95.40	H.											
15 16 17	- 5			Transition in colour to grey.		ss	6	2,2,4,4	6		1.5		<hr/>	
18 19 20	6										_			
21 22 23	- 7					ss	7	9,7,8,7	15		3.0			
24 25											-			
26 27	8	91.60				SS	8	4,5,9,9	14					
28	-			End of Borehole										
30	9													
31 32														
33 34	- 10			NOTES:	İ									
35 36 37	- 11			1. Borehole was advanced using solid termination at a depth of 8.2 metres.	stem a	uger	equip	ment on Feb	ruary	9, 20	22 to			
38 39 40	- 12			2. Borehole was recorded as open and and backfilled as per Ontario Regulati	d 'wet' a on 903.	at a de	epth c	of 6.0 metres	upon	com	pletior	ו		
41 42 43 44	- 13			3. Soil samples will be discarded after client.	3 mon	ths ur	less	otherwise dir	ected	by o	ur			
45 46 47 48 48	- 14			4. A monitoring well was installed. The been measured:	follow	ing fre	e gro	undwater lev	el rea	ading	s have	•		
┍╸┋	-													

Drill Method: Solid Stem AugersDrill Date: February 9, 2022Hole Size: 150 MillimetresDrilling Contractor: Elite Drilling Services

Soil-Mat Engineers & Consultants Ltd.

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



Appendix 'B'

1. AGAT Certificate of Analysis - Soil



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: Ian Shaw PROJECT: 302519 AGAT WORK ORDER: 22T861733 SOIL ANALYSIS REVIEWED BY: Amanjot Bhela, Inorganic Lab Manager TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist DATE REPORTED: Feb 14, 2022 PAGES (INCLUDING COVER): 13 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.
- 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.

AGAT Laboratories (V1)

Iember of: Association of Professional Engineers and Geoscientists of Alberta	
(APEGA)	
Western Enviro-Agricultural Laboratory Association (WEALA)	

(APEGA) Western Enviro-Agricultural Laboratory Association (WEALA) Environmental Services Association of Alberta (ESAA) 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. Measurement Uncertainty is not taken into consideration when stating conformity with a specified requirement.

Page 1 of 13



AGAT WORK ORDER: 22T861733 PROJECT: 302519 5835 COOPERS AVENUE MISSISSAUGA, ONTARIO CANADA L4Z 1Y2 TEL (905)712-5100 FAX (905)712-5122 http://www.aqatlabs.com

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

SAMPLING SITE:

ATTENTION TO: Ian Shaw

SAMPLED BY:

O. Reg. 406/19 Characterization Package - Inorganics (Soil)

DATE RECEIVED: 2022-02-08	3							I	DATE REPORT	ED: 2022-02-14	
		SAMPLE DES		BH1 SS3	BH1 SS4	BH1 SS5 Soil	BH2 SS3	BH2 SS5	BH2 SS6	BH3 SS1	BH3 SS2
Bananatan	11	DATE	SAMPLED:	2022-02-07	2022-02-07	2022-02-07	2022-02-07	2022-02-07	2022-02-07	2022-02-07	2022-02-07
Parameter	Unit	G/S	RDL	3495741	3495742	3495743	3495744	3495745	3495746	3495747	3495748
Antimony	µg/g	40	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	1	6	7	6	5	7	5	5	6
Barium	µg/g	670	2.0	126	142	119	81.3	156	112	58.8	108
Beryllium	µg/g	8	0.4	0.7	0.7	0.8	0.4	0.7	0.8	0.5	0.7
Boron	µg/g	120	5	11	11	12	6	10	12	8	11
Cadmium	µg/g	1.9	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	160	5	28	27	27	18	28	30	16	27
Cobalt	µg/g	80	0.5	16.2	15.9	14.3	8.5	14.5	15.0	9.3	13.8
Copper	µg/g	230	1.0	35.0	32.1	29.6	22.1	32.1	31.9	26.1	28.8
Lead	µg/g	120	1	11	11	11	10	12	13	10	11
Molybdenum	µg/g	40	0.5	0.6	0.7	0.5	0.6	0.7	0.5	<0.5	0.5
Nickel	µg/g	270	1	32	31	30	18	31	32	19	29
Selenium	µg/g	5.5	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Silver	µg/g	40	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Thallium	µg/g	3.3	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Uranium	µg/g	33	0.50	0.67	0.75	0.68	0.63	0.72	1.04	<0.50	0.75
Vanadium	µg/g	86	0.4	37.9	37.5	36.5	27.4	38.7	40.9	24.7	36.9
Zinc	µg/g	340	5	69	70	67	53	70	71	52	66
pH, 2:1 CaCl2 Extraction	pH Units		NA	6.96	7.37	7.40	7.32	7.42	7.50	7.49	7.47
Nickel Selenium Silver Thallium Uranium Vanadium Zinc pH, 2:1 CaCl2 Extraction	µg/g µg/g µg/g µg/g µg/g µg/g pH Units	270 5.5 40 3.3 33 86 340	1 0.8 0.5 0.5 0.50 0.4 5 NA	32 <0.8 <0.5 <0.5 0.67 37.9 69 6.96	31 <0.8 <0.5 <0.5 0.75 37.5 70 7.37	30 <0.8 <0.5 <0.5 0.68 36.5 67 7.40	18 <0.8 <0.5 <0.5 0.63 27.4 53 7.32	31 <0.8 <0.5 <0.5 0.72 38.7 70 7.42	32 <0.8 <0.5 <0.5 1.04 40.9 71 7.50	19 <0.8 <0.5 <0.5 <0.50 24.7 52 7.49	29 <0.8 <0.5 <0.5 0.75 36.9 66 7.47

Amanjot Bhells AMANDOT BHELS

Certified By:



AGAT WORK ORDER: 22T861733 PROJECT: 302519 5835 COOPERS AVENUE MISSISSAUGA, ONTARIO CANADA L4Z 1Y2 TEL (905)712-5100 FAX (905)712-5122 http://www.aqatlabs.com

DATE REPORTED: 2022-02-14

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

SAMPLING SITE:

ATTENTION TO: Ian Shaw

SAMPLED BY:

O. Reg. 406/19 Characterization Package - Inorganics (Soil)

DATE RECEIVED: 2022-02-08

	0					
		SAMPLE DES	CRIPTION:	BH3 SS3	BH3 SS4	
		SAM	PLE TYPE:	Soil	Soil	
		DATES	SAMPLED:	2022-02-07	2022-02-07	
Parameter	Unit	G/S	RDL	3495749	3495750	
Antimony	µg/g	40	0.8	<0.8	<0.8	
Arsenic	µg/g	18	1	6	6	
Barium	µg/g	670	2.0	110	103	
Beryllium	µg/g	8	0.4	0.7	0.7	
Boron	µg/g	120	5	12	12	
Cadmium	µg/g	1.9	0.5	<0.5	<0.5	
Chromium	µg/g	160	5	28	25	
Cobalt	µg/g	80	0.5	14.2	13.3	
Copper	µg/g	230	1.0	31.6	27.9	
Lead	µg/g	120	1	12	11	
Molybdenum	µg/g	40	0.5	0.5	<0.5	
Nickel	µg/g	270	1	30	28	
Selenium	µg/g	5.5	0.8	<0.8	<0.8	
Silver	µg/g	40	0.5	<0.5	<0.5	
Thallium	µg/g	3.3	0.5	<0.5	<0.5	
Uranium	µg/g	33	0.50	0.75	0.69	
Vanadium	µg/g	86	0.4	38.1	34.9	
Zinc	µg/g	340	5	66	63	
pH, 2:1 CaCl2 Extraction	pH Units		NA	7.54	7.62	

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to O. Reg. 406/19 TABLE 2.1: Full Depth Potable Ground Water Condition Volume Independent - Com/Ind 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.

3495741-3495750 pH was determined on the 0.01M CaCl2 extract prepared at 2:1 ratio.

Analysis performed at AGAT Toronto (unless marked by *)



Certified By:



AGAT WORK ORDER: 22T861733 PROJECT: 302519 5835 COOPERS AVENUE MISSISSAUGA, ONTARIO CANADA L4Z 1Y2 TEL (905)712-5100 FAX (905)712-5122 http://www.aqatlabs.com

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

SAMPLING SITE:

SAMPLED BY:

ATTENTION TO: Ian Shaw

O. Reg. 153(511) - PHCs F1 - F4 (Soil) DATE RECEIVED: 2022-02-08 **DATE REPORTED: 2022-02-14** SAMPLE DESCRIPTION: BH1 SS3 BH1 SS4 BH1 SS5 BH2 SS3 BH2 SS5 BH2 SS6 BH3 SS1 BH3 SS2 SAMPLE TYPE: Soil Soil Soil Soil Soil Soil Soil Soil DATE SAMPLED: 2022-02-07 2022-02-07 2022-02-07 2022-02-07 2022-02-07 2022-02-07 2022-02-07 2022-02-07 G/S RDL 3495741 3495742 3495743 3495744 3495745 3495746 3495747 3495748 Parameter Unit Benzene 0.02 0.02 < 0.02 < 0.02 < 0.02 < 0.02 < 0.02 < 0.02 < 0.02 < 0.02 µg/g Toluene 0.2 0.05 < 0.05 < 0.05 <0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 µg/g Ethylbenzene 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 µg/g 0.05 < 0.05 < 0.05 m & p-Xylene 0.05 <0.05 < 0.05 < 0.05 < 0.05 µg/g < 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 < 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 <5 F1 (C6 to C10) minus BTEX µg/g 25 5 <5 <5 <5 <5 <5 <5 <5 <5 F2 (C10 to C16) 10 10 <10 <10 <10 <10 <10 <10 <10 <10 µg/g F3 (C16 to C34) 240 50 <50 <50 <50 <50 <50 <50 <50 <50 µg/g 50 <50 <50 <50 F4 (C34 to C50) µg/g 120 <50 <50 <50 <50 <50 Gravimetric Heavy Hydrocarbons 50 NA NA NA NA NA NA NA µg/g NA % 0.1 12.7 Moisture Content 12.4 15.2 11.8 11.0 14.2 12.1 14.3 Unit Acceptable Limits Surrogate Toluene-d8 % Recovery 60-140 92 92 86 93 85 87 89 89 Terphenyl % 60-140 96 94 86 92 83 84 90 88

Certified By:

NPopukolof



AGAT WORK ORDER: 22T861733 PROJECT: 302519 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

SAMPLING SITE:

ATTENTION TO: Ian Shaw

SAMPLED BY:

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

DATE RECEIVED: 2022-02-08

		SAMPLE DESCR	RIPTION:	BH3 SS3	BH3 SS4	
		SAMPL	E TYPE:	Soil	Soil	
		DATE SA	MPLED:	2022-02-07	2022-02-07	
Parameter	Unit	G/S	RDL	3495749	3495750	
Benzene	µg/g	0.02	0.02	<0.02	<0.02	
Toluene	µg/g	0.2	0.05	<0.05	<0.05	
Ethylbenzene	µg/g	0.05	0.05	<0.05	<0.05	
m & p-Xylene	µg/g		0.05	<0.05	<0.05	
o-Xylene	µg/g		0.05	<0.05	<0.05	
Xylenes (Total)	µg/g	0.05	0.05	<0.05	<0.05	
F1 (C6 - C10)	µg/g		5	<5	<5	
F1 (C6 to C10) minus BTEX	µg/g	25	5	<5	<5	
F2 (C10 to C16)	µg/g	10	10	<10	<10	
F3 (C16 to C34)	µg/g	240	50	<50	<50	
F4 (C34 to C50)	µg/g	120	50	<50	<50	
Gravimetric Heavy Hydrocarbons	µg/g		50	NA	NA	
Moisture Content	%		0.1	11.2	13.1	
Surrogate	Unit	Acceptable	Limits			
Toluene-d8	% Recovery	60-140)	96	91	
Terphenyl	%	60-140)	85	84	

Certified By:

NPopukolof

DATE REPORTED: 2022-02-14



AGAT WORK ORDER: 22T861733 PROJECT: 302519 5835 COOPERS AVENUE MISSISSAUGA, ONTARIO CANADA L4Z 1Y2 TEL (905)712-5100 FAX (905)712-5122 http://www.aqatlabs.com

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

SAMPLING SITE:

ATTENTION TO: Ian Shaw

SAMPLED BY:

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

DATE RECEIVED: 2022-02-08 **DATE REPORTED: 2022-02-14** 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. 3495741-3495750 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:

NPopukoloj



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

PROJECT: 302519 SAMPLING SITE: AGAT WORK ORDER: 22T861733

ATTENTION TO: Ian Shaw

SAMPLED BY:

Soil Analysis															
RPT Date: Feb 14, 2022			D	UPLICAT	E		REFEREN	NCE MA	TERIAL	METHOD	BLANK	SPIKE	MATRIX SPIKE		
PARAMETER	Batch S	ample	Dup #1	Dup #2	RPD	Method Blank	Measured	Acce Lir	eptable nits	Recovery	Acce Lir	ptable nits	Recovery	Acce Lin	ptable nits
		iu	-	-			value	Lower	Upper	_	Lower	Upper	_	Lower	Upper
O. Reg. 406/19 Characterizatio	n Package - Inorg	ganics ((Soil)												
Antimony	3492680		<0.8	<0.8	NA	< 0.8	138%	70%	130%	105%	80%	120%	76%	70%	130%
Arsenic	3492680		4	4	NA	< 1	126%	70%	130%	104%	80%	120%	112%	70%	130%
Barium	3492680		167	160	4.3%	< 2.0	106%	70%	130%	96%	80%	120%	101%	70%	130%
Beryllium	3492680		0.9	0.8	NA	< 0.4	92%	70%	130%	101%	80%	120%	91%	70%	130%
Boron	3492680		9	9	NA	< 5	84%	70%	130%	98%	80%	120%	78%	70%	130%
Cadmium	3492680		<0.5	<0.5	NA	< 0.5	114%	70%	130%	101%	80%	120%	106%	70%	130%
Chromium	3492680		34	32	6.1%	< 5	100%	70%	130%	110%	80%	120%	104%	70%	130%
Cobalt	3492680		12.3	12.0	2.5%	< 0.5	112%	70%	130%	105%	80%	120%	109%	70%	130%
Copper	3492680		19.7	19.1	3.1%	< 1.0	104%	70%	130%	107%	80%	120%	103%	70%	130%
Lead	3492680		16	15	6.5%	< 1	109%	70%	130%	100%	80%	120%	100%	70%	130%
Molybdenum	3492680		0.5	0.6	NA	< 0.5	121%	70%	130%	107%	80%	120%	115%	70%	130%
Nickel	3492680		24	24	0.0%	< 1	111%	70%	130%	104%	80%	120%	107%	70%	130%
Selenium	3492680		3.6	2.9	NA	< 0.8	100%	70%	130%	104%	80%	120%	111%	70%	130%
Silver	3492680		<0.5	<0.5	NA	< 0.5	114%	70%	130%	102%	80%	120%	103%	70%	130%
Thallium	3492680		<0.5	<0.5	NA	< 0.5	103%	70%	130%	98%	80%	120%	100%	70%	130%
Uranium	3492680		0.79	0.72	NA	< 0.50	114%	70%	130%	96%	80%	120%	103%	70%	130%
Vanadium	3492680		49.5	47.5	4.1%	< 0.4	114%	70%	130%	105%	80%	120%	106%	70%	130%
Zinc	3492680		79	76	3.9%	< 5	115%	70%	130%	106%	80%	120%	121%	70%	130%
pH, 2:1 CaCl2 Extraction	3495741 349	5741	6.96	7.17	3.0%	NA	100%	80%	120%	NA			NA		

Comments: NA signifies Not Applicable.

Duplicate NA: results are under 5X the RDL and will not be calculated.

More than 90% of the elements met acceptance limits and overall data quality is acceptable for use. For a multi-element scan up to 10% of analytes may exceed the quoted limits by up to 10% absolute.

Certified By:



AGAT QUALITY ASSURANCE REPORT (V1)

Page 7 of 13

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Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

SAMPLING SITE:

AGAT WORK ORDER: 22T861733

ATTENTION TO: Ian Shaw

SAMPLED BY:

Trace Organics Analysis

RPT Date: Feb 14, 2022	DUPLICATE							METHOD	BLANK	SPIKE	MATRIX SPIKE				
PARAMETER	Batch	Sample	Dup #1	Dup #2	RPD	Method Blank	Measured	Acce Lir	ptable nits	Recoverv	Acce Lir	ptable nits	Recoverv	Acce Lir	ptable nits
		Id					value	Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (Soil)															
F2 (C10 to C16)	3498795		< 10	< 10	NA	< 10	129%	60%	140%	73%	60%	140%	73%	60%	140%
F3 (C16 to C34)	3498795		< 50	< 50	NA	< 50	130%	60%	140%	71%	60%	140%	63%	60%	140%
F4 (C34 to C50)	3498795		< 50	< 50	NA	< 50	112%	60%	140%	82%	60%	140%	86%	60%	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).															

0.	Rea.	153(511	۱-	PHCs	F1 -	- F4 ((Soil)
ς.	INCY.	1000011	, -	1 1103			

Benzene	3497888	<0.02	<0.02	NA	< 0.02	101%	60%	140%	104%	60%	140%	97%	60%	140%
Toluene	3497888	<0.05	<0.05	NA	< 0.05	100%	60%	140%	102%	60%	140%	97%	60%	140%
Ethylbenzene	3497888	<0.05	<0.05	NA	< 0.05	101%	60%	140%	101%	60%	140%	94%	60%	140%
m & p-Xylene	3497888	<0.05	<0.05	NA	< 0.05	101%	60%	140%	101%	60%	140%	102%	60%	140%
o-Xylene	3497888	<0.05	<0.05	NA	< 0.05	89%	60%	140%	101%	60%	140%	106%	60%	140%
F1 (C6 - C10)	3497888	<5	<5	NA	< 5	84%	60%	140%	86%	60%	140%	95%	60%	140%

Certified By:

NPopukot

AGAT QUALITY ASSURANCE REPORT (V1)

Page 8 of 13

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QC Exceedance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

AGAT WORK ORDER: 22T861733 ATTENTION TO: Ian Shaw

105%

80% 120%

76%

70% 130%

RPT Date: Feb 14, 2022		REFERENC	Е МАТЕ	RIAL	METHOD	BLANK	SPIKE	МАТ	RIX SPI	KE
PARAMETER	Sample Id	Measured	Acceptable Limits		Recovery	Acce Lir	ptable nits	Recovery	Acceptable Limits	
		value	Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 406/19 Characterization Package - Inorganics (Soil)										

Antimony

Comments: NA signifies Not Applicable. Duplicate NA: results are under 5X the RDL and will not be calculated.

More than 90% of the elements met acceptance limits and overall data quality is acceptable for use. For a multi-element scan up to 10% of analytes may exceed the quoted limits by up to 10% absolute.

138%

70% 130%

AGAT QUALITY ASSURANCE REPORT (V1)

Page 9 of 13

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Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

SAMPLING SITE:

AGAT WORK ORDER: 22T861733

ATTENTION TO: Ian Shaw

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis		1	
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
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
pH, 2:1 CaCl2 Extraction	INOR-93-6031	modified from EPA 9045D and MCKEAGUE 3.11	PH METER



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

PROJECT: 302519

AGAT WORK ORDER: 22T861733

SAMPLING SITE:

ATTENTION TO: Ian Shaw

SAMPLING SITE:	SAMPLED BY:																	
PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE															
Trace Organics Analysis	I																	
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															
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 - 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															
Moisture Content	VOL-91-5009	CCME Tier 1 Method	BALANCE															
Terphenyl	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID															
Chain of Custody Reco		Lat	ora	torie	Ph	M : 905.71	5 ississau .2.5100 we	835 Ci iga, Or) Fax: ! ebearth	oopers Itario L 905.71 In.agatla	Avenue 4Z 1Y2 2.5122 bs.com		Labora Work Orde Cooler Qu Arrival Te	er #: antity:	Use (2,	27861 27861	73	3.	1
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Report Information: Soit Company: Soit Contact: Address: Phone: Tan Shau Reports to be sent to: Tan Shau 1. Email: Tan Shau 2. Email: Northan Project Information: Soit Project: Soit Site Location: 1280	Fax: - Mat - Mat - Mat - Mat - Mat - Ster - Sea S	Han itto		Soil Te	gulatory Requirements: check all applicable boxes) rgulation 153/04 ind/Com Res/Park Agriculture exture (check One) Coarse Fine this submission for a cord of Site Condition? Yes No	Re Ces	Sew Sa Prov Obje Othe Othe Yes	rer Use anitary Region v. Wate ectives er Indicate Guide te of	Star r Qualiti (PWQO One eline (Anaiy	y) on vsis NO		Custody S Notes: Turnaro Regular Rush TA Da Da Ol *77 For 'Sa	ieal Inta und T TAT (Rush su Busines Nys R Date F Please (<i>T is exc.</i> me Day	rcharges s Require provid usive of analys	(TAT) Reque (TAT)	INO INO IREG: ness Days rges May on for rus d statutor tact your	s Next Bi Day Apply): sh TAT y holida AGAT C	USINESS
Sampled By: AGAT Quote #: Please note: If quotation number Invoice Information: Company: Contact: Address: Email:	PO: ner is not provided, client will b Bil	e billed full price for a	naiysis. s 🌠 No 🗆	B B GW O P S SD SW	ple Matrix Legend Biota Ground Water Oil Paint Soil Sediment Surface Water	Field Filtered - Metals, Hg, CrVI, DOC	s & Inorganics .	5 - CrVI, CHg, CHWSB	e F4G if required TYes TNo			IDisposal Characterization TCLP. 510 JM&I UVOS UABNS UB(a)P UPCBS 828 5 Soils SPLP Rainwater Leach 0	s Soils Characterization Package	EC/SAR				ally Hazardous or High Concentration (Y/N)
Sample Identification BHLISS B	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Y/N	NXXXXXXXX Metal	Metals	And XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX				Excess	Sait-E	Page			Potentie
Samples Relinquished By (Print Name and Sign):		Date	Time		Samples Received By (Print Name and Sign):			P	ink Cop	Dati y - Clier	e nt I Y	Time /ellow Copy - /	AGAT I	White (Page_ Nº: T <u>1</u> 3 Copy- AGAT	Date Isse Page	33 12 of 1	9.2021 3

) agat	Laboratories
	Sample Tem	perature Log
Client:	SOIL-MAT	COC# or Work Order #:
# of Coolers:	Arrival Temperatures - Branch/Driver	# of Submissions: Arrival Temperatures - Laboratory
	Cooler #1: 2.0 / 2.3 / 2.1	Cooler #1: 18_1/155_//
	Cooler #2: 2.5 / 2.7 / 2.8	Cooler #2: <u>2.1 / 2.0 / 1.9</u>
	Cooler #3: 2.8 / 3.1 / 2.6	Cooler #3: 2.2 / 2.5 / 2.0
	Cooler #4: / /	Cooler #4: / / /
	Cooler #5: / /	Cooler #5: / / /
	Cooler #6: / /	Cooler #6: / /
	Cooler #7: / /	Cooler #7: / / /
	Cooler #8 / /	Cooler #8 / /
	Cooler #9; / /	Cooler #9: / /
	Cooler #10: / / /	Cooler #10: / /
IR Gun ID:		IR Gun ID:
Taken By:	STEPHEN DHARMOD	Taken By: STEBHEN DHARMUG
Date (yyyy/mm/dd):	52/08/22 Time: 1:43 MM/ PM Stall Dhenney for use of this form: 1) complete all fields of info including tot	Date $(yyyy/mm/dd): \frac{\partial 2}{\partial 2} \frac{\partial 2}{\partial 2}$ Time: $\frac{1}{2} \cdot \frac{15}{2} - \frac{1}{2}$ PM Stehn photocopy and place in each tal # 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)

Document ID: SR-78-9511.003 Date Issued: 2017-2-23

Page:_____ of _____



CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT 130 LANCING DRIVE HAMILTON, ON L8W3A1 (905) 318-7440 ATTENTION TO: Ian Shaw PROJECT: 302519 AGAT WORK ORDER: 22T862209 SOIL ANALYSIS REVIEWED BY: Amanjot Bhela, Inorganic Lab Manager TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist DATE REPORTED: Feb 16, 2022 PAGES (INCLUDING COVER): 28 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.
- 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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Page 1 of 28



AGAT WORK ORDER: 22T862209 PROJECT: 302519 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

SAMPLING SITE:

ATTENTION TO: Ian Shaw

SAMPLED BY:

			О.	Reg. 153(511) - Metal	s & Inorgan	nics (Soil)				
DATE RECEIVED: 2022-02-09								I	DATE REPORT	ED: 2022-02-16	
	s	SAMPLE DES SAM DATE	CRIPTION: PLE TYPE: SAMPLED:	BH5 SS2 Soil 2022-02-08	BH5 SS4 Soil 2022-02-08	BH5 SS7 Soil 2022-02-08	BH4 SS3 Soil 2022-02-08	BH4 SS4 Soil 2022-02-08	BH4 SS5 Soil 2022-02-08	BH4 SS6 Soil 2022-02-08	DUP1 Soil 2022-02-08
Parameter	Unit	G/S	RDL	3499808	3499809	3499810	3499811	3499818	3499819	3499820	3499821
Antimony	hð\ð	1.3	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	hð\ð	18	1	4	4	5	4	4	5	5	5
Barium	hð\ð	220	2.0	111	98.0	103	105	120	100	117	166
Beryllium	hð/ð	2.5	0.4	1.0	0.6	0.6	0.5	0.6	0.6	0.7	1.5
Boron	µg/g	36	5	11	10	12	9	10	11	15	14
Boron (Hot Water Soluble)	µg/g	NA	0.10	0.24	0.34	0.66	0.46	0.23	0.34	0.59	0.24
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5
Chromium	hð\ð	70	5	19	20	26	19	27	26	28	26
Cobalt	µg/g	21	0.5	8.2	9.7	12.7	8.3	13.4	13.1	13.4	10.2
Copper	µg/g	92	1.0	24.1	32.4	26.8	25.9	33.5	28.0	32.2	32.7
Lead	µg/g	120	1	30	22	10	30	13	13	10	71
Molybdenum	µg/g	2	0.5	<0.5	<0.5	<0.5	0.6	<0.5	0.7	0.5	0.7
Nickel	µg/g	82	1	17	20	26	17	27	27	28	21
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	0.68	0.77	0.72	0.76	0.80	0.87	0.79	0.97
Vanadium	µg/g	86	0.4	26.8	31.8	35.9	29.0	35.9	34.1	38.6	35.5
Zinc	µg/g	290	5	200	91	64	208	70	62	83	175
Chromium, Hexavalent	hð/ð	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	0.433	1.45	0.442	0.689	0.411	0.587	0.583	0.425
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	N/A	6.51	2.23	1.44	0.713	0.987	1.01	1.35	3.12
pH, 2:1 CaCl2 Extraction	pH Units		NA	7.50	7.39	7.49	7.50	7.43	7.45	7.40	7.51



Certified By:



ATTENTION TO: Ian Shaw

SAMPLED BY:

AGAT WORK ORDER: 22T862209 **PROJECT: 302519**

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CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

SAMPLING SITE:

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

DATE

DATE RECEIVED: 2022-02-09								DATE REPORTED: 2022-02-16
		SAMPLE DES SAMI DATE S	CRIPTION: PLE TYPE: SAMPLED:	BH6 SS2 Soil 2022-02-10	BH6 SS4 Soil 2022-02-10	BH6 SS5 Soil 2022-02-10	DUP3 Soil 2022-02-10	
Parameter	Unit	G/S	RDL	3507224	3507225	3507226	3507227	
Antimony	µg/g	1.3	0.8	<0.8	<0.8	<0.8	<0.8	
Arsenic	µg/g	18	1	7	5	5	6	
Barium	µg/g	220	2.0	118	167	101	110	
Beryllium	µg/g	2.5	0.4	0.7	0.9	0.7	0.7	
Boron	µg/g	36	5	13	15	14	12	
Boron (Hot Water Soluble)	µg/g	NA	0.10	0.37	0.36	0.57	0.22	
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	<0.5	
Chromium	µg/g	70	5	27	31	29	26	
Cobalt	µg/g	21	0.5	13.3	15.1	14.0	13.6	
Copper	µg/g	92	1.0	35.3	32.9	30.6	46.5	
Lead	µg/g	120	1	22	13	11	11	
Molybdenum	µg/g	2	0.5	1.1	<0.5	0.5	<0.5	
Nickel	µg/g	82	1	28	30	30	28	
Selenium	µg/g	1.5	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	
Thallium	µg/g	1	0.5	<0.5	<0.5	<0.5	<0.5	
Uranium	µg/g	2.5	0.50	1.13	0.80	0.73	0.78	
Vanadium	µg/g	86	0.4	39.4	42.6	39.6	36.7	
Zinc	µg/g	290	5	174	73	70	70	
Chromium, Hexavalent	µg/g	0.66	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	
Mercury	µg/g	0.27	0.10	<0.10	<0.10	<0.10	<0.10	
Electrical Conductivity (2:1)	mS/cm	0.57	0.005	1.35	0.648	0.777	1.17	
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	N/A	4.42	1.19	1.24	4.38	
pH, 2:1 CaCl2 Extraction	pH Units		NA	7.42	7.42	7.20	7.27	



Certified By:



AGAT WORK ORDER: 22T862209 PROJECT: 302519 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

SAMPLING SITE:

ATTENTION TO: Ian Shaw

SAMPLED BY:

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

DATE REPORTED: 2022-02-16

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.

3499808-3507227 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 *)





AGAT WORK ORDER: 22T862209 **PROJECT: 302519**

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

SAMPLING SITE:

ATTENTION TO: Ian Shaw

SAMPLED BY:

O. Reg. 558 Metals and Inorganics DATE RECEIVED: 2022-02-09 DATE REPORTED: 2022-02-16 SAMPLE DESCRIPTION: BH4 SS3 SAMPLE TYPE: Soil DATE SAMPLED: 2022-02-08 G/S RDL 3499811 Parameter Unit Arsenic Leachate mg/L 2.5 0.010 < 0.010 Barium Leachate 100 0.010 1.05 mg/L Boron Leachate 500 mg/L 0.050 0.071 0.5 Cadmium Leachate mg/L 0.010 < 0.010 Chromium Leachate mg/L 5 0.050 < 0.050 5 Lead Leachate mg/L 0.010 0.058 Mercury Leachate mg/L 0.1 0.01 < 0.01 Selenium Leachate mg/L 1 0.010 < 0.010 Silver Leachate 5 0.010 < 0.010 mg/L Uranium Leachate mg/L 10 <0.050 0.050 Fluoride Leachate mg/L 150 0.10 0.26 Cyanide Leachate 20 0.05 < 0.05 mg/L 1000 (Nitrate + Nitrite) as N Leachate mg/L 0.70 <0.70

RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to O. Reg. 558 - Schedule IV Leachate Quality Criteria Comments:

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.

Analysis performed at AGAT Toronto (unless marked by *)

ANJOT BHE CHEMIS

Certified By:



AGAT WORK ORDER: 22T862209 PROJECT: 302519

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

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

SAMPLING SITE:

ATTENTION TO: Ian Shaw

SAMPLED BY:

DATE RECEIVED: 2022-02-09								1		D: 2022-02-16		
Parameter	Unit	SAMPLE DES SAM DATE G/S	CRIPTION: PLE TYPE: SAMPLED: RDL	BH4 SS3 Soil 2022-02-08 3499811	BH4 SS4 Soil 2022-02-08 3499818	BH4 SS5 Soil 2022-02-08 3499819	BH4 SS6 Soil 2022-02-08 3499820	BH6 SS2 Soil 2022-02-10 3507224	BH6 SS4 Soil 2022-02-10 3507225	BH6 SS5 Soil 2022-02-10 3507226	DUP3 Soil 2022-02-10 3507227	
Naphthalene	µg/g	0.09	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Acenaphthylene	µg/g	0.093	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Acenaphthene	µg/g	0.072	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Fluorene	µg/g	0.12	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Phenanthrene	µg/g	0.69	0.05	<0.05	<0.05	<0.05	<0.05	0.24	<0.05	<0.05	<0.05	
Anthracene	µg/g	0.16	0.05	<0.05	<0.05	<0.05	<0.05	0.06	<0.05	<0.05	<0.05	
Fluoranthene	µg/g	0.56	0.05	<0.05	<0.05	<0.05	<0.05	0.32	<0.05	<0.05	<0.05	
Pyrene	µg/g	1	0.05	<0.05	<0.05	<0.05	<0.05	0.28	<0.05	<0.05	<0.05	
Benz(a)anthracene	µg/g	0.36	0.05	<0.05	<0.05	<0.05	<0.05	0.14	<0.05	<0.05	<0.05	
Chrysene	µg/g	2.8	0.05	<0.05	<0.05	<0.05	<0.05	0.11	<0.05	<0.05	<0.05	
Benzo(b)fluoranthene	µg/g	0.47	0.05	<0.05	<0.05	<0.05	<0.05	0.15	<0.05	<0.05	<0.05	
Benzo(k)fluoranthene	µg/g	0.48	0.05	<0.05	<0.05	<0.05	<0.05	0.06	<0.05	<0.05	<0.05	
Benzo(a)pyrene	µg/g	0.3	0.05	<0.05	<0.05	<0.05	<0.05	0.12	<0.05	<0.05	<0.05	
Indeno(1,2,3-cd)pyrene	µg/g	0.46	0.05	<0.05	<0.05	<0.05	<0.05	0.07	<0.05	<0.05	<0.05	
Dibenz(a,h)anthracene	µg/g	0.1	0.05	<0.05	<0.05	<0.05	<0.05	<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	<0.05	0.09	<0.05	<0.05	<0.05	
1 and 2 Methlynaphthalene	µg/g	0.59	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Moisture Content	%		0.1	16.1	17.2	16.4	18.2	14.4	15.4	15.4	15.3	
Surrogate	Unit	Acceptab	le Limits									
Naphthalene-d8	%	50-1	140	70	73	63	61	70	60	79	67	
Acridine-d9	%	50-1	140	74	96	79	86	84	85	96	79	
Terphenyl-d14	%	50-	140	89	84	85	97	79	89	87	85	

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.

3499811-3507227 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:

NPopukolof



AGAT WORK ORDER: 22T862209 PROJECT: 302519 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

SAMPLING SITE:

ATTENTION TO: Ian Shaw

SAMPLED BY:

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

DATE RECEIVED: 2022-02-09

		SAMPLE DES	CRIPTION:	BH5 SS2	BH5 SS4	BH5 SS7
		SAM	PLE TYPE:	Soil	Soil	Soil
		DATE	SAMPLED:	2022-02-08	2022-02-08	2022-02-08
Parameter	Unit	G/S	RDL	3499808	3499809	3499810
Polychlorinated Biphenyls	hð/ð	0.3	0.1	<0.1	<0.1	<0.1
Moisture Content	%		0.1	15.4	15.2	16.6
wet weight PCB	g		0.01	10.67	10.52	10.60
Surrogate	Unit	Acceptab	ole Limits			
Decachlorobiphenyl	%	50-	140	108	120	120

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.

3499808-3499810 Results are based on the dry weight of soil extracted.

PCB total is a calculated parameter. The calculated value is the sum of Aroclor 1242, Aroclor 1248, Aroclor 1254 and Aroclor 1260. 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:

NPopukolof

DATE REPORTED: 2022-02-16



AGAT WORK ORDER: 22T862209 PROJECT: 302519 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

SAMPLING SITE:

ATTENTION TO: Ian Shaw

SAMPLED BY:

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

DATE RECEIVED: 2022-02-09

SAMPLE DESCRIPTION: BH5 SS2 BH5 SS4 BH5 SS7 DUP1 SAMPLE TYPE: Soil Soil Soil Soil DATE SAMPLED: 2022-02-08 2022-02-08 2022-02-08 2022-02-08 RDL 3499808 3499809 3499810 3499821 Parameter Unit G/S F1 (C6 - C10) 25 5 <5 <5 <5 <5 µg/g F1 (C6 to C10) minus BTEX 25 5 <5 <5 <5 <5 µg/g F2 (C10 to C16) 10 10 <10 <10 <10 µg/g <10 F3 (C16 to C34) 240 50 <50 <50 <50 <50 µg/g F4 (C34 to C50) 120 50 <50 <50 <50 <50 µg/g Gravimetric Heavy Hydrocarbons 120 50 NA NA NA NA µg/g Moisture Content % 0.1 15.4 15.2 16.6 15.4 Surrogate Unit Acceptable Limits Toluene-d8 50-140 106 110 73 108 % Recovery 60-140 88 85 85 90 Terphenyl %

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.

3499808-3499821 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 *)

NPopukolof

DATE REPORTED: 2022-02-16

Certified By:



AGAT WORK ORDER: 22T862209 **PROJECT: 302519**

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

SAMPLING SITE:

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

ATTENTION TO: Ian Shaw

DATE RECEIVED: 2022-02-09								L	DATE REPORT	ED: 2022-02-16	
	S	SAMPLE DES	CRIPTION:	BH4 SS3	BH4 SS4	BH4 SS5	BH4 SS6	BH6 SS2	BH6 SS4	BH6 SS5	DUP3
		SAM	PLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATES	SAMPLED:	2022-02-08	2022-02-08	2022-02-08	2022-02-08	2022-02-10	2022-02-10	2022-02-10	2022-02-10
Parameter	Unit	G/S	RDL	3499811	3499818	3499819	3499820	3507224	3507225	3507226	3507227
⁻ 1 (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
F2 (C10 to C16) minus Naphthalene	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	<50
F3 (C16 to C34) minus PAHs	µg/g		50	<50	<50	<50	<50	<50	<50	<50	<50
⁼ 4 (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	16.1	17.2	16.4	18.2	14.4	15.4	15.4	15.3
Surrogate	Unit	Acceptab	le Limits								
Toluene-d8	% Recovery	50-1	40	110	103	101	102	85	94	87	85
Ferphenyl	%	60-1	40	113	111	118	123	105	110	98	90

RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil -Comments:

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.

3499811-3507227 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:

NPopukoloj



AGAT WORK ORDER: 22T862209 PROJECT: 302519

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

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

SAMPLING SITE:

ATTENTION TO: Ian Shaw

SAMPLED BY:

DATE RECEIVED: 2022-02-09								ļ	DATE REPORT	ED: 2022-02-16	
		SAMPLE DESC SAMP DATE S	CRIPTION: PLE TYPE: CAMPLED:	BH5 SS2 Soil 2022-02-08	BH5 SS4 Soil 2022-02-08	BH5 SS7 Soil 2022-02-08	BH4 SS3 Soil 2022-02-08	BH4 SS4 Soil 2022-02-08	BH4 SS5 Soil 2022-02-08	BH4 SS6 Soil 2022-02-08	DUP1 Soil 2022-02-08
Parameter	Unit	G/S	RDL	3499808	3499809	3499810	3499811	3499818	3499819	3499820	3499821
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	uq/q	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	ua/a	0.05	0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Chlorobenzene	ug/a	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	ua/a	0.05	0.05	< 0.05	<0.05	<0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
m & p-Xvlene	ua/a		0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Certified By:

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AGAT WORK ORDER: 22T862209 PROJECT: 302519 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

SAMPLING SITE:

ATTENTION TO: Ian Shaw SAMPLED BY:

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

DATE RECEIVED: 2022-02-09								I	DATE REPORTI	ED: 2022-02-16	
	:	SAMPLE DES	CRIPTION:	BH5 SS2	BH5 SS4	BH5 SS7	BH4 SS3	BH4 SS4	BH4 SS5	BH4 SS6	DUP1
		SAM	PLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE	SAMPLED:	2022-02-08	2022-02-08	2022-02-08	2022-02-08	2022-02-08	2022-02-08	2022-02-08	2022-02-08
Parameter	Unit	G/S	RDL	3499808	3499809	3499810	3499811	3499818	3499819	3499820	3499821
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	15.4	15.2	16.6	16.1	17.2	16.4	18.2	15.4
Surrogate	Unit	Acceptab	le Limits								
Toluene-d8	% Recovery	50-	140	98	96	102	99	98	98	98	95
4-Bromofluorobenzene	% Recovery	50-	140	82	100	104	85	105	88	97	86

Certified By:

NPopukolof



AGAT WORK ORDER: 22T862209 PROJECT: 302519 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

SAMPLING SITE:

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

DATE RECEIVED: 2022-02-09

DATE REPORTED: 2022-02-16

ATTENTION TO: Ian Shaw

SAMPLED BY:

		SAMPLE DESC	SAMPLE DESCRIPTION:		BH6 SS4	BH6 SS5	DUP3	
		SAMF	PLE TYPE:	Soil	Soil	Soil	Soil	
		DATE S	SAMPLED:	2022-02-10	2022-02-10	2022-02-10	2022-02-10	
Parameter	Unit	G/S	RDL	3507224	3507225	3507226	3507227	
Dichlorodifluoromethane	µg/g	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	
Bromomethane	ug/g	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	
Acetone	ug/g	0.5	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	
Methylene Chloride	ug/g	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	
Methyl tert-butyl Ether	ug/g	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	
Methyl Ethyl Ketone	ug/g	0.5	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	
Chloroform	ug/g	0.05	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	
1,1,1-Trichloroethane	ug/g	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	
Benzene	ug/g	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	
Trichloroethylene	ug/g	0.05	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	
Methyl Isobutyl Ketone	ug/g	0.5	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	
Toluene	ug/g	0.2	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	
Ethylene Dibromide	ug/g	0.05	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	
1,1,1,2-Tetrachloroethane	ug/g	0.05	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	
Ethylbenzene	ug/g	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	

Certified By:

NPopukolof



AGAT WORK ORDER: 22T862209 PROJECT: 302519 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

SAMPLING SITE:

SAMPLED BY:

ATTENTION TO: Ian Shaw

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

DATE RECEIVED: 2022-02-09

DATE REPORTED: 2022-02-16

		SAMPLE DESC	CRIPTION:	BH6 SS2	BH6 SS4	BH6 SS5	DUP3
		SAM	PLE TYPE:	Soil	Soil	Soil	Soil
		DATE S	SAMPLED:	2022-02-10	2022-02-10	2022-02-10	2022-02-10
Parameter	Unit	G/S	RDL	3507224	3507225	3507226	3507227
Bromoform	ug/g	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
1,1,2,2-Tetrachloroethane	ug/g	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
1,3-Dichlorobenzene	ug/g	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
1,2-Dichlorobenzene	ug/g	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
1,3-Dichloropropene (Cis + Trans)	µg/g	0.05	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
Moisture Content	%		0.1	14.4	15.4	15.4	15.3
Surrogate	Unit	Acceptab	le Limits				
Toluene-d8	% Recovery	50-1	40	111	114	96	94
4-Bromofluorobenzene	% Recovery	50-1	40	97	82	83	96

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.

3499808-3507227 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:

NPopukolof



AGAT WORK ORDER: 22T862209 PROJECT: 302519 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

SAMPLING SITE:

ATTENTION TO: Ian Shaw

SAMPLED BY:

O. Reg. 558 - Benzo(a) pyrene

DATE RECEIVED: 2022-02-09

	S	AMPLE DESC	CRIPTION:	BH4 SS3	
		SAMF	PLE TYPE:	Soil	
		DATE S	SAMPLED:	2022-02-08	
Parameter	Unit	G/S	RDL	3499811	
Benzo(a)pyrene Leachate	mg/L	0.001	0.001	<0.001	
Surrogate	Unit	Acceptab	le Limits		
Acridine-d9	%	50-1	40	85	
Naphthalene-d8	%	50-1	40	79	
Terphenyl-d14	%	50-1	50-140 50-140		

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to O. Reg. 558 - Schedule IV Leachate Quality Criteria

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.

3499811 The sample was leached according to Regulation 558 protocol. Analysis was performed on the leachate.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

NPopukolof

DATE REPORTED: 2022-02-16



CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

Exceedance Summary

AGAT WORK ORDER: 22T862209 PROJECT: 302519 5835 COOPERS AVENUE MISSISSAUGA, ONTARIO CANADA L4Z 1Y2 TEL (905)712-5100 FAX (905)712-5122 http://www.agatlabs.com

ATTENTION TO: lan Shaw

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
3499808	BH5 SS2	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	6.51
3499809	BH5 SS4	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	1.45
3499811	BH4 SS3	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	0.689
3499819	BH4 SS5	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	0.587
3499820	BH4 SS6	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	0.583
3499821	DUP1	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.	N/A	2.4	3.12
3507224	BH6 SS2	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	1.35
3507224	BH6 SS2	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.	N/A	2.4	4.42
3507225	BH6 SS4	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	0.648
3507226	BH6 SS5	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	0.777
3507227	DUP3	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	1.17
3507227	DUP3	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.	N/A	2.4	4.38



Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

SAMPLING SITE:

AGAT WORK ORDER: 22T862209

ATTENTION TO: Ian Shaw

SAMPLED BY:

Soil Analysis

RPT Date: Feb 16, 2022			DUPLICAT	E		REFERE	NCE MA	TERIAL	METHOD	BLAN	K SPIKE	MAT	RIX SPI	KE
PARAMETER	Batch Sam	Dup #1	Dup #2	RPD	Method Blank	Measured	Acce Lii	eptable nits	Recovery	Acce Lii	eptable mits	Recovery	Acce Lir	ptable nits
						value	Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals & Inor	ganics (Soil)													
Antimony	3499790	<0.8	<0.8	NA	< 0.8	118%	70%	130%	100%	80%	120%	88%	70%	130%
Arsenic	3499790	1	1	NA	< 1	124%	70%	130%	99%	80%	120%	103%	70%	130%
Barium	3499790	6.2	6.2	NA	< 2.0	103%	70%	130%	95%	80%	120%	93%	70%	130%
Beryllium	3499790	<0.4	<0.4	NA	< 0.4	93%	70%	130%	91%	80%	120%	84%	70%	130%
Boron	3499790	<5	<5	NA	< 5	84%	70%	130%	94%	80%	120%	80%	70%	130%
Boron (Hot Water Soluble)	3506703 349980	8 0.13	0.14	NA	< 0.10	111%	60%	140%	97%	70%	130%	107%	60%	140%
Cadmium	3499790	<0.5	<0.5	NA	< 0.5	110%	70%	130%	96%	80%	120%	93%	70%	130%
Chromium	3499790	<5	<5	NA	< 5	112%	70%	130%	101%	80%	120%	99%	70%	130%
Cobalt	3499790	1.8	1.8	NA	< 0.5	111%	70%	130%	97%	80%	120%	98%	70%	130%
Copper	3499790	7.6	7.7	1.3%	< 1.0	101%	70%	130%	100%	80%	120%	95%	70%	130%
Lead	3499790	3	3	NA	< 1	105%	70%	130%	95%	80%	120%	88%	70%	130%
Molybdenum	3499790	<0.5	<0.5	NA	< 0.5	111%	70%	130%	101%	80%	120%	104%	70%	130%
Nickel	3499790	2	2	NA	< 1	109%	70%	130%	96%	80%	120%	94%	70%	130%
Selenium	3499790	<0.8	<0.8	NA	< 0.8	86%	70%	130%	97%	80%	120%	99%	70%	130%
Silver	3499790	<0.5	<0.5	NA	< 0.5	111%	70%	130%	95%	80%	120%	89%	70%	130%
Thallium	3499790	<0.5	<0.5	NA	< 0.5	111%	70%	130%	95%	80%	120%	92%	70%	130%
Uranium	3499790	<0.50	<0.50	NA	< 0.50	119%	70%	130%	98%	80%	120%	99%	70%	130%
Vanadium	3499790	8.0	8.1	1.2%	< 0.4	118%	70%	130%	99%	80%	120%	101%	70%	130%
Zinc	3499790	17	17	NA	< 5	115%	70%	130%	100%	80%	120%	110%	70%	130%
Chromium, Hexavalent	3499819 349981	9 <0.2	<0.2	NA	< 0.2	103%	70%	130%	91%	80%	120%	74%	70%	130%
Cyanide, Free	3495326	<0.040	<0.040	NA	< 0.040	107%	70%	130%	98%	80%	120%	86%	70%	130%
Mercury	3499790	<0.10	<0.10	NA	< 0.10	108%	70%	130%	89%	80%	120%	96%	70%	130%
Electrical Conductivity (2:1)	3492594	0.213	0.203	4.8%	< 0.005	106%	80%	120%						
Sodium Adsorption Ratio (2:1) (Calc.)	3499790	0.226	0.210	7.3%	NA									
pH, 2:1 CaCl2 Extraction	3497881	6.72	6.98	3.8%	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.

O. Reg. 558 Metals and Inorganics

Arsenic Leachate	3499811	3499811	<0.010	<0.010	NA	< 0.010	97%	70%	130%	108%	80%	120%	124%	70%	130%
Barium Leachate	3499811	3499811	1.05	1.12	6.5%	< 0.010	99%	70%	130%	116%	80%	120%	125%	70%	130%
Boron Leachate	3499811	3499811	0.071	0.081	NA	< 0.050	99%	70%	130%	112%	80%	120%	119%	70%	130%
Cadmium Leachate	3499811	3499811	<0.010	<0.010	NA	< 0.010	101%	70%	130%	102%	80%	120%	102%	70%	130%
Chromium Leachate	3499811	3499811	<0.050	<0.050	NA	< 0.050	98%	70%	130%	103%	80%	120%	112%	70%	130%
Lead Leachate	3499811	3499811	0.058	0.061	5.0%	< 0.010	101%	70%	130%	106%	80%	120%	103%	70%	130%
Mercury Leachate	3499811	3499811	<0.01	<0.01	NA	< 0.01	99%	70%	130%	97%	80%	120%	98%	70%	130%
Selenium Leachate	3499811	3499811	<0.010	<0.010	NA	< 0.010	98%	70%	130%	103%	80%	120%	120%	70%	130%
Silver Leachate	3499811	3499811	<0.010	<0.010	NA	< 0.010	101%	70%	130%	104%	80%	120%	96%	70%	130%

AGAT QUALITY ASSURANCE REPORT (V1)

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Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

SAMPLING SITE:

AGAT WORK ORDER: 22T862209

ATTENTION TO: Ian Shaw

SAMPLED BY:

Soil Analysis (Continued)

RPT Date: Feb 16, 2022			C	UPLICAT	E		REFEREN	ICE MA	TERIAL	METHOD	BLANK	SPIKE	MAT	RIX SPI	KE
PARAMETER	Batch	Sample	Dup #1	Dup #2	RPD	Method Blank	Measured	Acce Lin	ptable nits	Recovery	Acce Lir	ptable nits	Recovery	Acce Lir	ptable nits
		Ia					value	Lower	Upper		Lower	Upper		Lower	Upper
Uranium Leachate	3499811	3499811	<0.050	<0.050	NA	< 0.050	97%	70%	130%	113%	80%	120%	112%	70%	130%
Fluoride Leachate	3499811	3499811	0.26	0.26	NA	< 0.10	102%	90%	110%	101%	90%	110%	94%	70%	130%
Cyanide Leachate	3499811	3499811	<0.05	<0.05	NA	< 0.05	100%	70%	130%	97%	80%	120%	108%	70%	130%
(Nitrate + Nitrite) as N Leachate	3499811	3499811	<0.70	<0.70	NA	< 0.70	98%	80%	120%	102%	80%	120%	100%	70%	130%

Comments: NA signifies Not Applicable.

Duplicate NA: results are under 5X the RDL and will not be calculated.

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

3506703	<0.8	<0.8	NA	< 0.8	138%	70%	130%	107%	80%	120%	98%	70%	130%
3506703	2	2	NA	< 1	124%	70%	130%	110%	80%	120%	112%	70%	130%
3506703	42.4	42.2	0.5%	< 2.0	109%	70%	130%	103%	80%	120%	111%	70%	130%
3506703	<0.4	<0.4	NA	< 0.4	100%	70%	130%	95%	80%	120%	97%	70%	130%
3506703	5	5	NA	< 5	80%	70%	130%	100%	80%	120%	99%	70%	130%
3506703	<0.5	<0.5	NA	< 0.5	96%	70%	130%	109%	80%	120%	107%	70%	130%
3506703	13	12	NA	< 5	111%	70%	130%	114%	80%	120%	113%	70%	130%
3506703	5.1	5.1	0.0%	< 0.5	116%	70%	130%	111%	80%	120%	111%	70%	130%
3506703	9.2	9.0	2.2%	< 1.0	103%	70%	130%	117%	80%	120%	105%	70%	130%
3506703	4	4	NA	< 1	113%	70%	130%	107%	80%	120%	102%	70%	130%
3506703	<0.5	<0.5	NA	< 0.5	124%	70%	130%	114%	80%	120%	120%	70%	130%
3506703	9	9	0.0%	< 1	114%	70%	130%	112%	80%	120%	105%	70%	130%
3506703	<0.8	<0.8	NA	< 0.8	106%	70%	130%	113%	80%	120%	115%	70%	130%
3506703	<0.5	<0.5	NA	< 0.5	107%	70%	130%	108%	80%	120%	99%	70%	130%
3506703	<0.5	<0.5	NA	< 0.5	118%	70%	130%	103%	80%	120%	100%	70%	130%
3506703	<0.50	<0.50	NA	< 0.50	126%	70%	130%	103%	80%	120%	107%	70%	130%
3506703	24.0	24.1	0.4%	< 0.4	120%	70%	130%	110%	80%	120%	117%	70%	130%
3506703	25	25	0.0%	< 5	114%	70%	130%	112%	80%	120%	105%	70%	130%
3506703	<0.10	<0.10	NA	< 0.10	119%	70%	130%	99%	80%	120%	101%	70%	130%
	3506703 3506703 3506703 3506703 3506703 3506703 3506703 3506703 3506703 3506703 3506703 3506703 3506703 3506703 3506703 3506703 3506703 3506703 3506703	3506703 <0.8	3506703 <0.8	3506703 <0.8 <0.8 NA 3506703 2 2 NA 3506703 42.4 42.2 0.5% 3506703 <0.4	3506703 <0.8 <0.8 <0.8 <0.8 <0.8 3506703 22NA <1 3506703 42.4 42.2 $0.5%$ <2.0 3506703 <0.4 <0.4 NA <0.4 3506703 5 5 NA <0.4 3506703 5 5 NA <0.5 3506703 5 5 NA <0.5 3506703 13 12 NA <5 3506703 5.1 5.1 $0.0%$ <0.5 3506703 9.2 9.0 $2.2%$ <1.0 3506703 9.2 9.0 $2.2%$ <1.0 3506703 9.2 9.0 $2.2%$ <1.0 3506703 9.2 9.0 $2.2%$ <1.0 3506703 9.5 <0.5 NA <0.5 3506703 <0.5 <0.5 NA <0.5 3506703 <0.5 <0.5 NA <0.5 3506703 <0.50 <0.50 NA <0.5 3506703 <0.50 <0.50 NA <0.50 3506703 24.0 24.1 $0.4%$ <0.4 3506703 25 25 $0.0%$ <5 3506703 25 25 $0.0%$ <5 3506703 <0.10 <0.10 NA <0.10	3506703 <0.8 <0.8 <0.8 <0.8 $<138%$ 3506703 22 NA <1 $124%$ 3506703 42.4 42.2 $0.5%$ <2.0 $109%$ 3506703 <0.4 <0.4 NA <0.4 $100%$ 3506703 <0.4 <0.4 NA <0.4 $100%$ 3506703 5 5 NA <0.4 $100%$ 3506703 5 5 NA <0.5 $80%$ 3506703 13 12 NA <5 $111%$ 3506703 5.1 5.1 $0.0%$ <0.5 $116%$ 3506703 9.2 9.0 $2.2%$ <1.0 $103%$ 3506703 4 4 NA <1 $113%$ 3506703 9.2 9.0 $2.2%$ <1.0 $103%$ 3506703 9.5 <0.5 NA <0.5 $124%$ 3506703 <0.5 <0.5 NA <0.5 $124%$ 3506703 <0.5 <0.5 NA <0.5 $118%$ 3506703 <0.5 <0.5 NA <0.5 $118%$ 3506703 24.0 24.1 $0.4%$ <0.4 $120%$ 3506703 25 25 $0.0%$ <5 $114%$ 3506703 20.10 <0.10 NA <0.10 $119%$	3506703 <0.8 <0.8 <0.8 <0.8 $<138%$ $70%$ 3506703 2 2 NA <1 $124%$ $70%$ 3506703 42.4 42.2 $0.5%$ <2.0 $109%$ $70%$ 3506703 <0.4 <0.4 NA <0.4 $100%$ $70%$ 3506703 <0.4 <0.4 NA <0.4 $100%$ $70%$ 3506703 5 5 NA <0.4 $100%$ $70%$ 3506703 5 5 NA <0.5 $96%$ $70%$ 3506703 13 12 NA <5 $111%$ $70%$ 3506703 5.1 5.1 $0.0%$ <0.5 $116%$ $70%$ 3506703 9.2 9.0 $2.2%$ <1.0 $103%$ $70%$ 3506703 9.2 9.0 $2.2%$ <1.0 $103%$ $70%$ 3506703 9.5 <0.5 NA <0.5 $124%$ $70%$ 3506703 <0.5 <0.5 NA <0.5 $124%$ $70%$ 3506703 <0.5 <0.5 NA <0.5 $114%$ $70%$ 3506703 <0.5 <0.5 NA <0.5 $118%$ $70%$ 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td=""><td>3506703$<0.8$$<0.8$$<0.8$$<0.8$$<138%$$70%$$130%$$107%$$80%$$3506703$$2$$2$$NA$$<1$$124%$$70%$$130%$$110%$$80%$$3506703$$42.4$$42.2$$0.5%$$<2.0$$109%$$70%$$130%$$103%$$80%$$3506703$$<0.4$$<0.4$$NA$$<0.4$$100%$$70%$$130%$$95%$$80%$$3506703$$5$$5$$NA$$<0.4$$100%$$70%$$130%$$100%$$80%$$3506703$$<0.5$$<0.5$$NA$$<0.5$$96%$$70%$$130%$$109%$$80%$$3506703$$13$$12$$NA$$<5$$91%$$70%$$130%$$109%$$80%$$3506703$$5.1$$5.1$$0.0%$$<0.5$$116%$$70%$$130%$$111%$$80%$$3506703$$9.2$$9.0$$2.2%$$<1.0$$103%$$70%$$130%$$111%$$80%$$3506703$$9.2$$9.0$$2.2%$$<1.0$$103%$$70%$$130%$$111%$$80%$$3506703$$<0.5$$<0.5$$NA$$<0.5$$124%$$70%$$130%$$114%$$80%$$3506703$$<0.5$$<0.5$$NA$$<0.5$$124%$$70%$$130%$$114%$$80%$$3506703$$<0.5$$<0.5$$NA$$<0.5$$107%$$130%$$114%$$80%$$350670$</td><td>$\begin{array}{c ccccccccccccccccccccccccccccccccccc$</td><td>3506703$<0.8$$<0.8$$NA$$<0.8$$138%$$70%$$130%$$107%$$80%$$120%$$98%$$3506703$$2$$2$$NA$$<1$$124%$$70%$$130%$$110%$$80%$$120%$$111%$$3506703$$42.4$$42.2$$0.5%$$<2.0$$109%$$70%$$130%$$103%$$80%$$120%$$111%$$3506703$$<0.4$$<0.4$$NA$$<0.4$$100%$$70%$$130%$$95%$$80%$$120%$$97%$$3506703$$5$$5$$NA$$<5$$80%$$70%$$130%$$100%$$80%$$120%$$97%$$3506703$$<0.5$$<0.5$$NA$$<0.5$$96%$$70%$$130%$$109%$$80%$$120%$$107%$$3506703$$<0.5$$<0.5$$NA$$<0.5$$96%$$70%$$130%$$109%$$80%$$120%$$117%$$3506703$$5.1$$5.1$$0.0%$$<0.5$$116%$$70%$$130%$$114%$$80%$$120%$$111%$$3506703$$9.2$$9.0$$2.2%$$<1.0$$103%$$70%$$130%$$111%$$80%$$120%$$105%$$3506703$$4$$4$$NA$$<1$$113%$$70%$$130%$$114%$$80%$$120%$$105%$$3506703$$<0.5$$<0.5$$NA$$<0.5$$124%$$70%$$130%$$114%$$80%$$120%$$105%$</td></t<> <td>3506703$<0.8$$<0.8$$<0.8$$<0.8$$<138%$$70%$$130%$$107%$$80%$$120%$$98%$$70%$$3506703$$2$$2$$NA$$<1$$124%$$70%$$130%$$110%$$80%$$120%$$111%$$70%$$3506703$$42.4$$42.2$$0.5%$$<2.0$$109%$$70%$$130%$$103%$$80%$$120%$$111%$$70%$$3506703$$<0.4$$<0.4$$NA$$<0.4$$100%$$70%$$130%$$100%$$80%$$120%$$97%$$70%$$3506703$$<0.5$$<0.5$$NA$$<0.5$$96%$$70%$$130%$$100%$$80%$$120%$$107%$$70%$$3506703$$<0.5$$<0.5$$NA$$<0.5$$96%$$70%$$130%$$100%$$80%$$120%$$107%$$70%$$3506703$$<0.5$$<0.5$$NA$$<0.5$$96%$$70%$$130%$$109%$$80%$$120%$$111%$$70%$$3506703$$5.1$$5.1$$0.0%$$<0.5$$116%$$70%$$130%$$111%$$80%$$120%$$105%$$70%$$3506703$$9.2$$9.0$$2.2%$$<1.0$$103%$$70%$$130%$$117%$$80%$$120%$$105%$$70%$$3506703$$<0.5$$<0.5$$NA$$<0.5$$124%$$70%$$130%$$114%$$80%$$120%$$105%$$70%$$3506703$<td< td=""></td<></td>	3506703 <0.8 <0.8 <0.8 <0.8 $<138%$ $70%$ $130%$ $107%$ $80%$ 3506703 2 2 NA <1 $124%$ $70%$ $130%$ $110%$ $80%$ 3506703 42.4 42.2 $0.5%$ <2.0 $109%$ $70%$ $130%$ $103%$ $80%$ 3506703 <0.4 <0.4 NA <0.4 $100%$ $70%$ 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Comments: NA signifies Not Applicable.

Duplicate NA: results are under 5X the RDL and will not be calculated.

Matrix spike: More than 90% of the elements met acceptance limits and overall data quality is acceptable for use. For a multi-element scan up to 10% of analytes may exceed the quoted limits by up to 10% absolute.

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

Electrical Conductivity (2:1)	3506703	0.188	0.186	1.4%	< 0.005	118%	80%	120%	NA	NA

Certified By:

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.

Amanjot Bhelds AMANLOT BHELD

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AGAT QUALITY ASSURANCE REPORT (V1)



Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

SAMPLING SITE:

AGAT WORK ORDER: 22T862209

ATTENTION TO: Ian Shaw

SAMPLED BY:

Soil Analysis (Continued)

RPT Date: Feb 16, 2022			C	UPLICAT	E		REFEREN	ICE MA	TERIAL	METHOD	BLANK	SPIKE	MAT	RIX SPI	KE
PARAMETER	Batch	Sample	Dup #1	Dup #2	RPD	Method Blank	Measured	Acce Lir	ptable nits	Recoverv	Acce Lir	ptable nits	Recoverv	Acce Lir	ptable nits
		Id					value	Lower	Upper		Lower	Upper		Lower	Upper

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Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

SAMPLING SITE:

AGAT WORK ORDER: 22T862209

ATTENTION TO: Ian Shaw

SAMPLED BY:

Trace Organics Analysis

				5		, , ,	-							
RPT Date: Feb 16, 2022			DUPLICA	TE		REFERE	NCE MA	TERIAL	METHOD	BLAN	(SPIKE	MAT	RIX SPI	KE
PARAMETER	Batch	ple Dup #	1 Dup #2	RPD	Method Blank	Measured	Acce Li	eptable mits	Recoverv	Acce	eptable mits	Recovery	Acce	ptable nits
	Id					value	Lower	Upper],	Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4	(-BTEX) (Soil)			•										
F1 (C6 - C10)	3499792	<5	<5	NA	< 5	106%	60%	140%	99%	60%	140%	106%	60%	140%
F2 (C10 to C16)	3497474	< 10	< 10	NA	< 10	103%	60%	140%	92%	60%	140%	106%	60%	140%
F3 (C16 to C34)	3497474	< 50	< 50	NA	< 50	95%	60%	140%	79%	60%	140%	78%	60%	140%
F4 (C34 to C50)	3497474	< 50	< 50	NA	< 50	86%	60%	140%	80%	60%	140%	72%	60%	140%
O. Reg. 153(511) - PCBs (Soil)														
Polychlorinated Biphenyls	3495367	< 0.1	< 0.1	NA	< 0.1	98%	50%	140%	94%	50%	140%	93%	50%	140%
O. Reg. 153(511) - PHCs F1 - F4	(with PAHs and V	OC) (Soil)												
F1 (C6 - C10)	3499792	<5	<5	NA	< 5	106%	60%	140%	99%	60%	140%	106%	60%	140%
O. Reg. 153(511) - PAHs (Soil)														
Naphthalene	3497494	<0.05	<0.05	NA	< 0.05	107%	50%	140%	100%	50%	140%	116%	50%	140%
Acenaphthylene	3497494	<0.05	<0.05	NA	< 0.05	112%	50%	140%	107%	50%	140%	75%	50%	140%
Acenaphthene	3497494	<0.05	<0.05	NA	< 0.05	110%	50%	140%	113%	50%	140%	84%	50%	140%
Fluorene	3497494	<0.05	<0.05	NA	< 0.05	115%	50%	140%	118%	50%	140%	99%	50%	140%
Phenanthrene	3497494	<0.05	<0.05	NA	< 0.05	104%	50%	140%	107%	50%	140%	98%	50%	140%
Anthracene	3497494	<0.05	<0.05	NA	< 0.05	111%	50%	140%	103%	50%	140%	95%	50%	140%
Fluoranthene	3497494	<0.05	<0.05	NA	< 0.05	118%	50%	140%	108%	50%	140%	87%	50%	140%
Pyrene	3497494	<0.05	<0.05	NA	< 0.05	111%	50%	140%	119%	50%	140%	121%	50%	140%
Benz(a)anthracene	3497494	<0.05	< 0.05	NA	< 0.05	97%	50%	140%	119%	50%	140%	107%	50%	140%
Chrysene	3497494	<0.05	<0.05	NA	< 0.05	116%	50%	140%	111%	50%	140%	100%	50%	140%
Benzo(b)fluoranthene	3497494	<0.05	<0.05	NA	< 0.05	66%	50%	140%	111%	50%	140%	109%	50%	140%
Benzo(k)fluoranthene	3497494	<0.05	<0.05	NA	< 0.05	71%	50%	140%	106%	50%	140%	116%	50%	140%
Benzo(a)pyrene	3497494	<0.05	<0.05	NA	< 0.05	70%	50%	140%	106%	50%	140%	84%	50%	140%
Indeno(1,2,3-cd)pyrene	3497494	<0.05	<0.05	NA	< 0.05	81%	50%	140%	111%	50%	140%	83%	50%	140%
Dibenz(a,h)anthracene	3497494	<0.05	<0.05	NA	< 0.05	78%	50%	140%	108%	50%	140%	108%	50%	140%
Benzo(g,h,i)perylene	3497494	<0.05	<0.05	NA	< 0.05	76%	50%	140%	104%	50%	140%	79%	50%	140%
O. Reg. 558 - Benzo(a) pyrene														
Benzo(a)pyrene Leachate	3494433	< 0.00	1 < 0.001	NA	< 0.001	70%	50%	140%	106%	50%	140%	84%	50%	140%
Comments: When the average of the	ne sample and dupli	cate results	is less than	5x the RD	L, the Rela	ative Perce	ent Diffe	rence (RPD) will b	pe indic	ated as	Not Appli	cable (N	√ A).
O. Reg. 153(511) - VOCs (Soil)														
Dichlorodifluoromethane	3499809 34998	09 <0.05	<0.05	NA	< 0.05	102%	50%	140%	76%	50%	140%	96%	50%	140%
	0 100000 0 1000	~ ~ ~ ~			~ ~ ~	000/	= 0 0 /	4 4 9 9 4	000/	= 0 0 /	4 4 9 9 4	1050/	= 0 0 /	4 4 0 0 /

Dichlorodifluoromethane	3499809 3499809	<0.05	<0.05	NA	< 0.05	102%	50%	140%	76%	50%	140%	96%	50%	140%
Vinyl Chloride	3499809 3499809	<0.02	<0.02	NA	< 0.02	83%	50%	140%	93%	50%	140%	105%	50%	140%
Bromomethane	3499809 3499809	<0.05	<0.05	NA	< 0.05	90%	50%	140%	110%	50%	140%	74%	50%	140%
Trichlorofluoromethane	3499809 3499809	<0.05	<0.05	NA	< 0.05	94%	50%	140%	84%	50%	140%	83%	50%	140%
Acetone	3499809 3499809	<0.50	<0.50	NA	< 0.50	101%	50%	140%	104%	50%	140%	99%	50%	140%
1,1-Dichloroethylene	3499809 3499809	<0.05	<0.05	NA	< 0.05	111%	50%	140%	88%	60%	130%	73%	50%	140%
Methylene Chloride	3499809 3499809	<0.05	<0.05	NA	< 0.05	117%	50%	140%	91%	60%	130%	109%	50%	140%

AGAT QUALITY ASSURANCE REPORT (V1)



Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519 SAMPLING SITE:

AGAT WORK ORDER: 22T862209 ATTENTION TO: Ian Shaw SAMPLED BY:

Trace Organics Analysis (Continued)

RPT Date: Feb 16, 2022	PT Date: Feb 16, 2022				E		REFEREN	NCE MA	TERIAL	METHOD	BLANK	SPIKE	MAT	RIX SPI	KE
PARAMETER	Batch	Sample	Dup #1	Dup #2	RPD	Method Blank	Measured	Acce Lin	ptable nits	Recovery	Acce Lin	ptable nits	Recovery	Acce Lin	ptable nits
		iu iu					Value	Lower	Upper		Lower	Upper		Lower	Upper
Trans- 1,2-Dichloroethylene	3499809	3499809	<0.05	<0.05	NA	< 0.05	101%	50%	140%	93%	60%	130%	93%	50%	140%
Methyl tert-butyl Ether	3499809	3499809	<0.05	<0.05	NA	< 0.05	103%	50%	140%	116%	60%	130%	110%	50%	140%
1,1-Dichloroethane	3499809	3499809	<0.02	<0.02	NA	< 0.02	102%	50%	140%	107%	60%	130%	102%	50%	140%
Methyl Ethyl Ketone	3499809	3499809	<0.50	<0.50	NA	< 0.50	98%	50%	140%	103%	50%	140%	103%	50%	140%
Cis- 1,2-Dichloroethylene	3499809	3499809	<0.02	<0.02	NA	< 0.02	98%	50%	140%	111%	60%	130%	93%	50%	140%
Chloroform	3499809	3499809	<0.04	< 0.04	NA	< 0.04	107%	50%	140%	116%	60%	130%	83%	50%	140%
1,2-Dichloroethane	3499809	3499809	<0.03	<0.03	NA	< 0.03	93%	50%	140%	101%	60%	130%	81%	50%	140%
1,1,1-Trichloroethane	3499809	3499809	<0.05	<0.05	NA	< 0.05	103%	50%	140%	93%	60%	130%	90%	50%	140%
Carbon Tetrachloride	3499809	3499809	<0.05	<0.05	NA	< 0.05	85%	50%	140%	76%	60%	130%	78%	50%	140%
Benzene	3499809	3499809	<0.02	<0.02	NA	< 0.02	109%	50%	140%	97%	60%	130%	89%	50%	140%
1,2-Dichloropropane	3499809	3499809	< 0.03	< 0.03	NA	< 0.03	95%	50%	140%	86%	60%	130%	77%	50%	140%
Trichloroethylene	3499809	3499809	<0.03	<0.03	NA	< 0.03	86%	50%	140%	116%	60%	130%	101%	50%	140%
Bromodichloromethane	3499809	3499809	<0.05	<0.05	NA	< 0.05	118%	50%	140%	118%	60%	130%	79%	50%	140%
Methyl Isobutyl Ketone	3499809	3499809	<0.50	<0.50	NA	< 0.50	105%	50%	140%	94%	50%	140%	99%	50%	140%
1,1,2-Trichloroethane	3499809	3499809	<0.04	<0.04	NA	< 0.04	112%	50%	140%	107%	60%	130%	96%	50%	140%
Toluene	3499809	3499809	<0.05	<0.05	NA	< 0.05	87%	50%	140%	102%	60%	130%	102%	50%	140%
Dibromochloromethane	3499809	3499809	<0.05	<0.05	NA	< 0.05	97%	50%	140%	114%	60%	130%	98%	50%	140%
Ethylene Dibromide	3499809	3499809	<0.04	<0.04	NA	< 0.04	117%	50%	140%	111%	60%	130%	94%	50%	140%
Tetrachloroethylene	3499809	3499809	< 0.05	< 0.05	NA	< 0.05	79%	50%	140%	80%	60%	130%	97%	50%	140%
1,1,1,2-Tetrachloroethane	3499809	3499809	<0.04	< 0.04	NA	< 0.04	112%	50%	140%	111%	60%	130%	102%	50%	140%
Chlorobenzene	3499809	3499809	<0.05	<0.05	NA	< 0.05	99%	50%	140%	104%	60%	130%	108%	50%	140%
Ethylbenzene	3499809	3499809	<0.05	<0.05	NA	< 0.05	73%	50%	140%	87%	60%	130%	140%	50%	140%
m & p-Xylene	3499809	3499809	<0.05	<0.05	NA	< 0.05	83%	50%	140%	102%	60%	130%	93%	50%	140%
Bromoform	3499809	3499809	<0.05	<0.05	NA	< 0.05	86%	50%	140%	106%	60%	130%	102%	50%	140%
Styrene	3499809	3499809	<0.05	<0.05	NA	< 0.05	74%	50%	140%	78%	60%	130%	86%	50%	140%
1,1,2,2-Tetrachloroethane	3499809	3499809	<0.05	<0.05	NA	< 0.05	113%	50%	140%	105%	60%	130%	108%	50%	140%
o-Xylene	3499809	3499809	<0.05	<0.05	NA	< 0.05	95%	50%	140%	105%	60%	130%	99%	50%	140%
1,3-Dichlorobenzene	3499809	3499809	<0.05	<0.05	NA	< 0.05	118%	50%	140%	99%	60%	130%	119%	50%	140%
1,4-Dichlorobenzene	3499809	3499809	<0.05	<0.05	NA	< 0.05	118%	50%	140%	87%	60%	130%	101%	50%	140%
1,2-Dichlorobenzene	3499809	3499809	<0.05	<0.05	NA	< 0.05	116%	50%	140%	116%	60%	130%	98%	50%	140%
n-Hexane	3499809	3499809	<0.05	<0.05	NA	< 0.05	72%	50%	140%	86%	60%	130%	87%	50%	140%

Certified By:

NPopukot

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AGAT QUALITY ASSURANCE REPORT (V1)



QC Exceedance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

AGAT WORK ORDER: 22T862209 ATTENTION TO: Ian Shaw

RPT Date: Feb 16, 2022		REFERENC	Е МАТЕ	RIAL	METHOD	BLANK	(SPIKE	MAT	RIX SP	IKE		
PARAMETER	Sample Id	Measured	Acce Lir	ptable nits	Recovery	Acceptable Limits		Acceptable Limits		Recovery	Acce	ptable
		value	Lower	Upper		Lower	Upper		Lower	Upper		
O. Reg. 153(511) - Metals & Inorganics (Soil)												
Antimony		138%	70%	130%	107%	80%	120%	98%	70%	130%		

Comments: NA signifies Not Applicable. Duplicate NA: results are under 5X the RDL and will not be calculated.

Matrix spike: More than 90% of the elements met acceptance limits and overall data quality is acceptable for use. For a multi-element scan up to 10% of analytes may exceed the quoted limits by up to 10% absolute.

AGAT QUALITY ASSURANCE REPORT (V1)

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Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519 SAMPLING SITE: AGAT WORK ORDER: 22T862209

ATTENTION TO: Ian Shaw

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
Arsenic Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020B	ICP-MS
Barium Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020B	ICP-MS
Boron Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020B	ICP-MS
Cadmium Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020B	ICP-MS
Chromium Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020B	ICP-MS



Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

AGAT WORK ORDER: 22T862209 ATTENTION TO: Ian Shaw

SAMPLING SITE:		SAMPLED BY:	
PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Lead Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020	B ICP-MS
Mercury Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020	B ICP-MS
Selenium Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020	B ICP-MS
Silver Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020	B ICP-MS
Uranium Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020	B ICP-MS
Fluoride Leachate	INOR-93-6018	EPA 1311 & modified from SM4500-F-C	ION SELECTIVE ELECTRODE
Cyanide Leachate	INOR-93-6052	EPA 1311 modified from MOE 3015 SM 4500 CN-I,G387	TECHNICON AUTO ANALYZER
(Nitrate + Nitrite) as N Leachate	INOR-93-6053	EPA SW 846-1311 & modified from SM 4500 - NO3- I	LACHAT FIA



Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

AGAT WORK ORDER: 22T862209

ATTENTION TO: Ian Shaw

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
Polychlorinated Biphenyls	ORG-91-5113	modified from EPA SW-846 3541 & 8082A	GC/ECD
Decachlorobiphenyl	ORG-91-5113	modified from EPA SW-846 3541 & 8082A	GC/ECD
wet weight PCB	ORG-91-5113		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



Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

SAMPLING SITE:

AGAT WORK ORDER: 22T862209

ATTENTION TO: Ian Shaw SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
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
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



Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

AGAT WORK ORDER: 22T862209

ATTENTION TO: Ian Shaw

SAMPLING SITE:		SAMPLED BY:	
PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
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
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
Benzo(a)pyrene Leachate	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
Naphthalene-d8	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

hain of Custody Record	If this Is a I	Drinking Water sample	e, please use Drin	e use Drinking Water Chain of Custody Form (potable water consumed by humans)							Arri	val Tem	peratur	es:	6.8 1	7.) r 4.8 1	7.3
Report Information: Solution	U _G +		(Please	Regulatory Requirements: (Please check all applicable boxes)						Custody Seal Intact: Yes No N/A Notes: FASE TEE							
Contact: Address: Phone: Reports to be sent to: 1. Email:	Fax:		IX R₀ I I I br>I I I I	egulation 153/04 able	406 [] 3 [_ Sew _ Sa _ Prov Obje _ Othe	Region Region V. Wate ectives	□ St r Quali (PWQ(orm ty D)		Tur Reg Rus	narou Jular T. h TAT (Days	Ind Ti AT Rush Sure Usiness S	charges Ap	TAT) Req 5 to 7 Bus perty) 2 Busines Days	uired: siness Days	lext Busir Day
Project Information:	2519 imster	Hamilton	Re	s this submission for a condition?	Re Cer	port tifica Yes	Guid te of	eline Anal	on ysis No		F	*TAT	Please is exclu e Day'	provide usive of analysi	prior notifica weekends a s, please co	tion for rush nd statulory	TAT holidays GAT CPM
AGAT Quote #:	not provided, client will B	be billed full price for analysis	No □ GW No □ GW O P S SD SD SW	nple Matrix Legend Biota Ground Water Oil Paint Soil Sediment Surface Water	Field Filtered - Metals, Hg, CrVI, DC	& Inorganics	- 🗆 CrVI, 🗆 Hg, 🗆 HWSB	- 1-r4 rnus e F4G if required 🗆 Yes 🗆 No			Disposal Characterization TCLP: M&I DVOCS DABNS DB(a)P DPCBS	Soils SPLP Rainwater Leach	Soils Characterization Package MS Metals, BTEX, F1-F4	.c/SAR	CLP PX HE		
Sample Identification BHSSS 2 BHSSS 7 BHSSS 7 BH4455 BH4455 BH4555 BH4555 BH4556 DUP1	Date Sampled	Time Sampled Cont AM AM AM AM AM AM AM AM AM AM AM AM AM	ainers Sample Matrix Matrix	Comments/ Special Instructions	Y/N	XXXX XXXX Meta	Meta	XXXXXXX Analy	XXXX XXXX PCIRe	XXXXXXX voc		SPLP	Exces	Salt-	N S S S S S S S S S S S S S S S S S S S		
		AM	-														

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	lf this is a Dri	inking Water sa	ample, pleas	e use Drinki	ing Water Chain of Cu	ustody Form (potable	e water co	nsumed	by hum	ans)	•	-	Arriva	il Temp	erature	3.2	2 3	3 C	5.4
eport Information: Soit-M. pompany: Soit-M. pontact:	to: <u>Fax:</u> <u>Tan Shuw</u> <u>Nathun Saus</u> ormation: <u>302519</u>					ements:] Excess Soils R40 Table Indicate One] Regulation 558] CCME for a dition?	Cert	Sewe San Prov. Objec Objec	r Use itary Region Water tives (idicate 0	Quality PWQO Ine	rm y) Don vsis		Custa Notes Turna Regu Rush	arou lar T TAT (3 Bu Day: 0R	al Intact: al Intact: and Tin Aush Surch usiness b Date Re- Please p is exclus	The (TAT)	Require P 7 Business Ausiness /s a Surcharge potification ends and s	No cd: s Days Nex Day s May Appl for rush TA tatutory ho	t Busine ly):
oject: te Location: 1284 M	a'mstE,	Accoriltan] Yes 🛛	No		Yes	ġ.		No		For	r 'Sam	e Day' a	nalysis, plea	ase contac	t your AGA	T CPM
nvoice Information: ompany:	Bill	I To Same: Ye	es 🟹 No 🗆	GW O P S SD SW	Ground Water Oil Paint Soil Sediment Surface Water		Field Filtered - Metals, Hg	s & Inorganics	s - 🗆 CrVI, 🗆 Hg, 🗆 HWSE F1-F4 PHCs	e F4G if required D Yes	and the first		II Disposal Characterization J M&I □VOCs □ ABNs □ B(a	s Soils SPLP Rainwater L □ Metals □ vocs □ svoc	s Soils Characterization F PMS Metals, BTEX, F1-F ²	EC/SAR			
Sample Identification	Date	Time	# of Containers	Sample Matrix	Comm Special In	nents/ structions	Y/N	Metals	Metals	Analyz	PAHs	VOC	Landfil TCLP: [Exces: SPLP:	Excess pH, IC	Salt -			
R416552	Febro	AN	4 4	5				×	1	<	X	x	-						
BHGSSY		AN PN			1000 24			×	1	F .	E	X		_		_			-
BH 6555		AN PN						Y		×	×	X							
DUP3	-	Ph		-		4	N. MI	F	-	۴X	-	r							
		Ph AN	4		-			1	-						181		1		
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			VII					NG.								04	1.1.1.1.1	vuu	
		PN	XI.					200											1.000
		PM Af Pr At PT																	



CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT 130 LANCING DRIVE HAMILTON, ON L8W3A1 (905) 318-7440 **ATTENTION TO: lan Shaw PROJECT: 302519** AGAT WORK ORDER: 22T862759 SOIL ANALYSIS REVIEWED BY: Amanjot Bhela, Inorganic Lab Manager **TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist** DATE REPORTED: Feb 16, 2022 PAGES (INCLUDING COVER): 23 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.
- 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.

AGAT Laboratories (V1)

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(APEGA)	
Western Enviro-Agricultural Laboratory Association (WEALA)	

Environmental Services Association of Alberta (ESAA)

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AGAT WORK ORDER: 22T862759 PROJECT: 302519 5835 COOPERS AVENUE MISSISSAUGA, ONTARIO CANADA L4Z 1Y2 TEL (905)712-5100 FAX (905)712-5122 http://www.aqatlabs.com

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

SAMPLING SITE:1284 Main St E, Hamilton

ATTENTION TO: Ian Shaw SAMPLED BY:NS

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

DATE RECEIVED: 2022-02-10								ſ		ED: 2022-02-16	
		SAMPLE DES SAM DATE	CRIPTION: PLE TYPE: SAMPLED:	BH4BSS3 Soil 2022-02-09	BH4BSS4 Soil 2022-02-09	BH8SS4 Soil 2022-02-09	BH8SS5 Soil 2022-02-09	DUP2 Soil 2022-02-09	BH9SS5 Soil 2022-02-09	BH9SS6 Soil 2022-02-09	BH10SS3 Soil 2022-02-09
Parameter	Unit	G/S	RDL	3505613	3505614	3505615	3505616	3505617	3505618	3505619	3505620
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	6	5	11	5	6	6	5	5
Barium	µg/g	220	2.0	161	99.3	119	116	122	166	101	115
Beryllium	µg/g	2.5	0.4	1.3	0.7	1.0	0.8	0.9	0.9	0.9	0.9
Boron	µg/g	36	5	13	11	12	12	13	13	13	12
Boron (Hot Water Soluble)	µg/g	NA	0.10	0.78	0.51	0.26	0.49	0.24	0.26	0.43	0.14
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	27	25	27	26	28	28	27	28
Cobalt	µg/g	21	0.5	12.5	12.5	19.2	13.4	14.6	15.8	13.1	15.1
Copper	µg/g	92	1.0	29.2	27.6	36.4	28.6	32.3	33.7	30.0	33.4
Lead	µg/g	120	1	14	11	13	11	13	12	10	12
Molybdenum	µg/g	2	0.5	0.6	<0.5	1.0	<0.5	0.6	0.6	<0.5	0.5
Nickel	µg/g	82	1	26	26	34	28	29	31	28	30
Selenium	µg/g	1.5	0.8	0.9	<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	0.95	0.63	0.86	0.75	0.77	0.79	0.71	0.74
Vanadium	µg/g	86	0.4	36.3	33.1	37.6	34.6	38.2	38.5	35.2	37.8
Zinc	µg/g	290	5	77	67	76	67	77	69	67	71
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	0.408	0.513	0.463	0.466	1.01	0.402	0.658	0.302
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	N/A	1.10	0.981	0.957	1.06	3.84	1.10	1.23	1.01
pH, 2:1 CaCl2 Extraction	pH Units		NA	7.43	7.44	7.34	7.32	7.45	7.48	7.46	7.43





AGAT WORK ORDER: 22T862759 PROJECT: 302519 5835 COOPERS AVENUE MISSISSAUGA, ONTARIO CANADA L4Z 1Y2 TEL (905)712-5100 FAX (905)712-5122 http://www.aqatlabs.com

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

SAMPLING SITE:1284 Main St E, Hamilton

ATTENTION TO: Ian Shaw SAMPLED BY:NS

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

DATE RECEIVED: 2022-02-10

		SAMPLE DES	CRIPTION:	BH10SS5	BH10SS6	BH10SS7	
		SAM	PLE TYPE:	Soil	Soil	Soil	
		DATES	SAMPLED:	2022-02-09	2022-02-09	2022-02-09	
Parameter	Unit	G/S	RDL	3505621	3505622	3505623	
Antimony	µg/g	1.3	0.8	<0.8	<0.8	<0.8	
Arsenic	µg/g	18	1	6	5	5	
Barium	µg/g	220	2.0	79.9	113	119	
Beryllium	µg/g	2.5	0.4	0.8	0.8	0.8	
Boron	µg/g	36	5	13	13	16	
Boron (Hot Water Soluble)	µg/g	NA	0.10	0.24	0.43	0.57	
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	
Chromium	µg/g	70	5	28	25	28	
Cobalt	µg/g	21	0.5	15.2	12.8	13.3	
Copper	µg/g	92	1.0	33.1	28.3	28.8	
_ead	µg/g	120	1	12	10	12	
Volybdenum	µg/g	2	0.5	0.6	0.9	0.6	
Nickel	µg/g	82	1	31	27	28	
Selenium	µg/g	1.5	0.8	<0.8	<0.8	<0.8	
Silver	µg/g	0.5	0.5	<0.5	<0.5	<0.5	
Thallium	µg/g	1	0.5	<0.5	<0.5	<0.5	
Jranium	µg/g	2.5	0.50	0.75	0.71	0.81	
/anadium	µg/g	86	0.4	37.9	33.7	38.0	
Zinc	µg/g	290	5	72	66	65	
Chromium, Hexavalent	µg/g	0.66	0.2	<0.2	<0.2	<0.2	
Cyanide, Free	µg/g	0.051	0.040	<0.040	<0.040	<0.040	
Mercury	µg/g	0.27	0.10	<0.10	<0.10	<0.10	
Electrical Conductivity (2:1)	mS/cm	0.57	0.005	0.306	0.434	0.515	
Sodium Adsorption Ratio (2:1) Calc.)	N/A	2.4	N/A	1.08	1.31	1.53	
oH, 2:1 CaCl2 Extraction	pH Units		NA	7.45	7.47	7.46	



DATE REPORTED: 2022-02-16

Certified By:



AGAT WORK ORDER: 22T862759 PROJECT: 302519 5835 COOPERS AVENUE MISSISSAUGA, ONTARIO CANADA L4Z 1Y2 TEL (905)712-5100 FAX (905)712-5122 http://www.aqatlabs.com

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

SAMPLING SITE:1284 Main St E, Hamilton

ATTENTION TO: Ian Shaw

SAMPLED BY:NS

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

DATE RE	CEIVED: 2022-02-10		
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DATE REPORTED: 2022-02-16

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil -Residential/Parkland/Institutional/Industrial/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.

3505613-3505623 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 *)





AGAT WORK ORDER: 22T862759 **PROJECT: 302519**

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

SAMPLING SITE:1284 Main St E, Hamilton

ATTENTION TO: Ian Shaw

SAMPLED BY:NS

O. Reg. 558 Metals and Inorganics												
DATE RECEIVED: 2022-02-10					DATE REPORTED: 2022-02-16							
	SAMPLE DESCRIPTION: SAMPLE TYPE: DATE SAMPLED:			BH8SS4 Soil 2022-02-09								
Parameter	Unit	G/S	RDL	3505615								
Arsenic Leachate	mg/L	2.5	0.010	<0.010								
Barium Leachate	mg/L	100	0.010	1.20								
Boron Leachate	mg/L	500	0.050	0.111								
Cadmium Leachate	mg/L	0.5	0.010	<0.010								
Chromium Leachate	mg/L	5	0.050	<0.050								
Lead Leachate	mg/L	5	0.010	<0.010								
Mercury Leachate	mg/L	0.1	0.01	<0.01								
Selenium Leachate	mg/L	1	0.010	<0.010								
Silver Leachate	mg/L	5	0.010	<0.010								
Uranium Leachate	mg/L	10	0.050	<0.050								
Fluoride Leachate	mg/L	150	0.10	0.27								
Cyanide Leachate	mg/L	20	0.05	<0.05								
(Nitrate + Nitrite) as N Leachate	mg/L	1000	0.70	<0.70								

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to O. Reg. 558 - Schedule IV Leachate Quality Criteria

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. Analysis performed at AGAT Toronto (unless marked by *)





AGAT WORK ORDER: 22T862759 PROJECT: 302519 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

SAMPLING SITE:1284 Main St E, Hamilton

SAMPLED BY:NS

ATTENTION TO: Ian Shaw

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

DATE RECEIVED: 2022-02-10								DATE REPORTED: 2022-02-16			
	S	AMPLE DES SAM DATE	CRIPTION: PLE TYPE: SAMPLED:	BH4BSS3 Soil 2022-02-09	BH4BSS4 Soil 2022-02-09	BH8SS4 Soil 2022-02-09	BH8SS5 Soil 2022-02-09	DUP2 Soil 2022-02-09	BH9SS5 Soil 2022-02-09	BH9SS6 Soil 2022-02-09	BH10SS3 Soil 2022-02-09
Parameter	Unit	G/S	RDL	3505613	3505614	3505615	3505616	3505617	3505618	3505619	3505620
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	13.6	16.2	17.0	19.2	17.4	18.6	15.8	14.5
Surrogate	Unit	Acceptable Limits									
Toluene-d8	% Recovery	50-140		104	94	94	98	71	72	83	70
Terphenyl	%	60-	140	119	94	76	98	82	75	97	82
	S	SAMPLE DESCRIPTION: SAMPLE TYPE: DATE SAMPLED:		BH10SS5 Soil	BH10SS6 Soil	BH10SS7 Soil					
				2022-02-09	2022-02-09	2022-02-09					
Parameter	Unit	G/S	RDL	3505621	3505622	3505623					
F1 (C6 - C10)	µg/g	25	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	<50	<50	<50					
Gravimetric Heavy Hydrocarbons	µg/g	120	50	NA	NA	NA					
Moisture Content	%		0.1	18.4	17.5	8.3					
Surrogate	Unit	Acceptable Limits									
Toluene-d8	% Recovery	50-140		99	77	87					
Terphenyl	%	60-	140	114	82	95					

NPopukolof **Certified By:**


AGAT WORK ORDER: 22T862759 PROJECT: 302519 5835 COOPERS AVENUE MISSISSAUGA, ONTARIO CANADA L4Z 1Y2 TEL (905)712-5100 FAX (905)712-5122 http://www.aqatlabs.com

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

SAMPLING SITE:1284 Main St E, Hamilton

ATTENTION TO: Ian Shaw

SAMPLED BY:NS

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

DATE RECEIVED: 2022-02-10

DATE REPORTED: 2022-02-16

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. 3505613-3505623 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:

NPopukoloj



AGAT WORK ORDER: 22T862759 PROJECT: 302519

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

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

SAMPLING SITE:1284 Main St E, Hamilton

SAMPLED BY:NS

ATTENTION TO: Ian Shaw

DATE RECEIVED: 2022-02-10				DATE REPORTED: 2022-02-							
		SAMPLE DES SAM DATE S	CRIPTION: PLE TYPE: SAMPLED:	BH4BSS3 Soil 2022-02-09	BH4BSS4 Soil 2022-02-09	BH8SS4 Soil 2022-02-09	BH8SS5 Soil 2022-02-09	DUP2 Soil 2022-02-09	BH9SS5 Soil 2022-02-09	BH9SS6 Soil 2022-02-09	BH10SS3 Soil 2022-02-09
Parameter	Unit	G/S	RDL	3505613	3505614	3505615	3505616	3505617	3505618	3505619	3505620
Dichlorodifiuoromethane	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyi Chioride	ug/g	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Trichlorofluoromothono	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
I nonioroniuorometnane	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:

NPopukoloj



AGAT WORK ORDER: 22T862759 PROJECT: 302519 5835 COOPERS AVENUE MISSISSAUGA, ONTARIO CANADA L4Z 1Y2 TEL (905)712-5100 FAX (905)712-5122 http://www.aqatlabs.com

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

SAMPLING SITE:1284 Main St E, Hamilton

SAMPLED BY:NS

ATTENTION TO: Ian Shaw

DATE RECEIVED: 2022-02-10								1	ED: 2022-02-16	16		
	S	SAMPLE DESCRIPTION: SAMPLE TYPE:		BH4BSS3 Soil	BH4BSS4 Soil	BH8SS4 Soil	BH8SS5 Soil	DUP2 Soil	BH9SS5 Soil	BH9SS6 Soil	BH10SS3 Soil	
Parameter	Unit	DATE S G / S	SAMPLED: RDL	2022-02-09 3505613	2022-02-09 3505614	2022-02-09 3505615	2022-02-09 3505616	2022-02-09 3505617	2022-02-09 3505618	2022-02-09 3505619	2022-02-09 3505620	
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	13.6	16.2	17.0	19.2	17.4	18.6	15.8	14.5	
Surrogate	Unit	Acceptab	le Limits									
Toluene-d8	% Recovery	50-1	40	106	105	106	107	104	104	104	104	
4-Bromofluorobenzene	% Recovery	50-1	40	83	77	94	79	88	112	92	100	

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

Certified By:

NPopukolof



AGAT WORK ORDER: 22T862759 **PROJECT: 302519**

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

SAMPLING SITE:1284 Main St E, Hamilton

SAMPLED BY:NS

ATTENTION TO: Ian Shaw

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

DATE RECEIVED: 2022-02-10

DATE RECEIVED: 2022-02-10							DATE REPORTED: 2022-02-16
		SAMPLE DESCR	RIPTION:	BH10SS5	BH10SS6	BH10SS7	
		SAMPL	E TYPE:	Soil	Soil	Soil	
		DATE SA	MPLED:	2022-02-09	2022-02-09	2022-02-09	
Parameter	Unit	G/S	RDL	3505621	3505622	3505623	
Dichlorodifluoromethane	µg/g	0.05	0.05	<0.05	<0.05	<0.05	
Vinyl Chloride	ug/g	0.02	0.02	<0.02	<0.02	<0.02	
Bromomethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	
Trichlorofluoromethane	ug/g	0.25	0.05	<0.05	<0.05	<0.05	
Acetone	ug/g	0.5	0.50	<0.50	<0.50	<0.50	
1,1-Dichloroethylene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	
Methylene Chloride	ug/g	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	
Methyl tert-butyl Ether	ug/g	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	
Methyl Ethyl Ketone	ug/g	0.5	0.50	<0.50	<0.50	<0.50	
Cis- 1,2-Dichloroethylene	ug/g	0.05	0.02	<0.02	<0.02	<0.02	
Chloroform	ug/g	0.05	0.04	<0.04	<0.04	< 0.04	
1,2-Dichloroethane	ug/g	0.05	0.03	<0.03	<0.03	< 0.03	
1,1,1-Trichloroethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	
Carbon Tetrachloride	ug/g	0.05	0.05	<0.05	<0.05	<0.05	
Benzene	ug/g	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	
Trichloroethylene	ug/g	0.05	0.03	<0.03	<0.03	< 0.03	
Bromodichloromethane	ug/g	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	
1,1,2-Trichloroethane	ug/g	0.05	0.04	<0.04	<0.04	< 0.04	
Toluene	ug/g	0.2	0.05	<0.05	<0.05	<0.05	
Dibromochloromethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	
Ethylene Dibromide	ug/g	0.05	0.04	<0.04	<0.04	<0.04	
Tetrachloroethylene	ug/g	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	
Chlorobenzene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	
Ethylbenzene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	
m & p-Xylene	ug/g		0.05	<0.05	<0.05	<0.05	

Certified By:

NPopukoloj



AGAT WORK ORDER: 22T862759 PROJECT: 302519 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

SAMPLING SITE:1284 Main St E, Hamilton

ATTENTION TO: Ian Shaw

SAMPLED BY:NS

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

DATE RECEIVED: 2022-02-10

		SAMPLE DESC	CRIPTION:	BH10SS5	BH10SS6	BH10SS7
		SAMF	PLE TYPE:	Soil	Soil	Soil
		DATE S	SAMPLED:	2022-02-09	2022-02-09	2022-02-09
Parameter	Unit	G/S	RDL	3505621	3505622	3505623
Bromoform	ug/g	0.05	0.05	<0.05	<0.05	<0.05
Styrene	ug/g	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
o-Xylene	ug/g		0.05	<0.05	<0.05	<0.05
1,3-Dichlorobenzene	ug/g	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
1,2-Dichlorobenzene	ug/g	0.05	0.05	<0.05	<0.05	<0.05
Xylenes (Total)	ug/g	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
n-Hexane	µg/g	0.05	0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	18.4	17.5	8.3
Surrogate	Unit	Acceptabl	le Limits			
Toluene-d8	% Recovery	50-1	40	100	97	100
4-Bromofluorobenzene	% Recovery	50-1	40	87	94	97

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.

3505613-3505623 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:

NPopukolof

DATE REPORTED: 2022-02-16



AGAT WORK ORDER: 22T862759 PROJECT: 302519 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

SAMPLING SITE:1284 Main St E, Hamilton

DATE RECEIVED: 2022-02-10

ATTENTION TO: Ian Shaw

SAMPLED BY:NS

O. Reg. 558 - Benzo(a) pyrene DATE REPORTED: 2022-02-16 SAMPLE DESCRIPTION: BH8SS4 SAMPLE TYPE: Soil DATE SAMPLED: 2022-02-09

		DATE SA	MPLED:	2022-02-09
Parameter	Unit	G/S	RDL	3505615
Benzo(a)pyrene Leachate	mg/L	0.001	0.001	<0.001
Surrogate	Unit	Acceptable	Limits	
Acridine-d9	%	50-14	0	69
Naphthalene-d8	%	50-14	0	96
Terphenyl-d14	%	50-14	0	67

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to O. Reg. 558 - Schedule IV Leachate Quality Criteria

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.

3505615 The sample was leached according to Regulation 558 protocol. Analysis was performed on the leachate.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

NPopukolof



Exceedance Summary

AGAT WORK ORDER: 22T862759 PROJECT: 302519 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

ATTENTION TO: Ian Shaw

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
3505617	DUP2	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	1.01
3505617	DUP2	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	3.84
3505619	BH9SS6	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	0.658



Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

SAMPLING SITE:1284 Main St E, Hamilton

AGAT WORK ORDER: 22T862759

ATTENTION TO: lan Shaw

SAMPLED BY:NS

Soil Analysis															
RPT Date: Feb 16, 2022			C	UPLICATI	E		REFERE	NCE MA	TERIAL	METHOD	BLANK	SPIKE	MAT	RIX SPI	KE
PARAMETER	Batch	Sample	Dup #1	Dup #2	RPD	Method Blank	Measured	Acce Lir	ptable nits	Recovery	Acce Lir	ptable nits	Recovery	Acce Lir	ptable nits
		IG					value	Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals & Inor	ganics (Soil)													
Antimony	3505613	3505613	<0.8	<0.8	NA	< 0.8	105%	70%	130%	112%	80%	120%	85%	70%	130%
Arsenic	3505613	3505613	6	5	18.2%	< 1	119%	70%	130%	111%	80%	120%	109%	70%	130%
Barium	3505613	3505613	161	147	9.1%	< 2.0	106%	70%	130%	101%	80%	120%	100%	70%	130%
Beryllium	3505613	3505613	1.3	1.2	NA	< 0.4	108%	70%	130%	109%	80%	120%	105%	70%	130%
Boron	3505613	3505613	13	11	NA	< 5	83%	70%	130%	106%	80%	120%	89%	70%	130%
Boron (Hot Water Soluble)	3505613	3505613	0.78	0.65	18.2%	< 0.10	83%	60%	140%	113%	70%	130%	106%	60%	140%
Cadmium	3505613	3505613	<0.5	<0.5	NA	< 0.5	94%	70%	130%	105%	80%	120%	105%	70%	130%
Chromium	3505613	3505613	27	25	7.7%	< 5	105%	70%	130%	108%	80%	120%	96%	70%	130%
Cobalt	3505613	3505613	12.5	12.1	3.3%	< 0.5	105%	70%	130%	107%	80%	120%	100%	70%	130%
Copper	3505613	3505613	29.2	28.1	3.8%	< 1.0	98%	70%	130%	111%	80%	120%	94%	70%	130%
Lead	3505613	3505613	14	14	0.0%	< 1	102%	70%	130%	99%	80%	120%	95%	70%	130%
Molybdenum	3505613	3505613	0.6	0.6	NA	< 0.5	120%	70%	130%	111%	80%	120%	111%	70%	130%
Nickel	3505613	3505613	26	25	3.9%	< 1	105%	70%	130%	107%	80%	120%	96%	70%	130%
Selenium	3505613	3505613	0.9	0.8	NA	< 0.8	103%	70%	130%	112%	80%	120%	110%	70%	130%
Silver	3505613	3505613	<0.5	<0.5	NA	< 0.5	103%	70%	130%	102%	80%	120%	96%	70%	130%
Thallium	3505613	3505613	<0.5	<0.5	NA	< 0.5	102%	70%	130%	98%	80%	120%	96%	70%	130%
Uranium	3505613	3505613	0.95	0.92	NA	< 0.50	114%	70%	130%	99%	80%	120%	103%	70%	130%
Vanadium	3505613	3505613	36.3	33.8	7.1%	< 0.4	112%	70%	130%	107%	80%	120%	102%	70%	130%
Zinc	3505613	3505613	77	70	9.5%	< 5	109%	70%	130%	113%	80%	120%	105%	70%	130%
Chromium, Hexavalent	3505622	3505622	<0.2	<0.2	NA	< 0.2	95%	70%	130%	92%	80%	120%	103%	70%	130%
Cyanide, Free	3506717		<0.040	<0.040	NA	< 0.040	104%	70%	130%	96%	80%	120%	103%	70%	130%
Mercury	3505613	3505613	<0.10	<0.10	NA	< 0.10	103%	70%	130%	100%	80%	120%	100%	70%	130%
Electrical Conductivity (2:1)	3505613	3505613	0.408	0.369	10.0%	< 0.005	97%	80%	120%	NA			NA		
Sodium Adsorption Ratio (2:1) (Calc.)	3505613	3505613	1.10	1.12	1.8%	NA	NA			NA			NA		
pH, 2:1 CaCl2 Extraction	3501926		6.74	6.95	3.1%	NA	99%	80%	120%	NA			NA		

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. Rea.	153(511) - Metals	& Inorganics	(Soil)
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Antimony	3499617	<0.8	<0.8	NA	< 0.8	104%	70%	130%	112%	80%	120%	98%	70%	130%
Arsenic	3499617	4	3	NA	< 1	127%	70%	130%	111%	80%	120%	114%	70%	130%
Barium	3499617	53.1	53.6	0.8%	< 2.0	107%	70%	130%	100%	80%	120%	110%	70%	130%
Beryllium	3499617	0.5	0.4	NA	< 0.4	93%	70%	130%	115%	80%	120%	113%	70%	130%
Boron	3499617	6	5	NA	< 5	79%	70%	130%	106%	80%	120%	99%	70%	130%
Cadmium	3499617	<0.5	<0.5	NA	< 0.5	111%	70%	130%	107%	80%	120%	109%	70%	130%
Chromium	3499617	16	16	NA	< 5	103%	70%	130%	108%	80%	120%	102%	70%	130%
Cobalt	3499617	6.0	5.9	2.2%	< 0.5	109%	70%	130%	108%	80%	120%	104%	70%	130%
Copper	3499617	15.3	15.3	0.1%	< 1.0	101%	70%	130%	112%	80%	120%	101%	70%	130%

AGAT QUALITY ASSURANCE REPORT (V1)

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Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

SAMPLING SITE:1284 Main St E, Hamilton

AGAT WORK ORDER: 22T862759

ATTENTION TO: Ian Shaw

SAMPLED BY:NS

Soil Analysis	(Continued)
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RPT Date: Feb 16, 2022			DUPLICATE				REFERE	NCE MA	TERIAL	METHOD	BLANK	SPIKE	MATRIX SPIKE		
PARAMETER	Batch	Sample	Dup #1	Dup #2	RPD	Method Blank	Measured	Acce Lir	eptable nits	Recoverv	Acceptable Limits		Recoverv	Acceptable Limits	
		Id					value	Lower	Upper		Lower	Upper		Lower	Upper
Lead	3499617		17	18	5.4%	< 1	103%	70%	130%	103%	80%	120%	100%	70%	130%
Molybdenum	3499617		<0.5	<0.5	NA	< 0.5	118%	70%	130%	111%	80%	120%	114%	70%	130%
Nickel	3499617		12	12	1.2%	< 1	106%	70%	130%	109%	80%	120%	102%	70%	130%
Selenium	3499617		<0.8	<0.8	NA	< 0.8	137%	70%	130%	112%	80%	120%	117%	70%	130%
Silver	3499617		<0.5	<0.5	NA	< 0.5	111%	70%	130%	107%	80%	120%	100%	70%	130%
Thallium	3499617		<0.5	<0.5	NA	< 0.5	91%	70%	130%	100%	80%	120%	97%	70%	130%
Uranium	3499617		<0.50	<0.50	NA	< 0.50	115%	70%	130%	105%	80%	120%	105%	70%	130%
Vanadium	3499617		23.6	24.4	3.2%	< 0.4	112%	70%	130%	106%	80%	120%	106%	70%	130%
Zinc	3499617		59	60	0.3%	< 5	115%	70%	130%	113%	80%	120%	115%	70%	130%
Mercury	3499617		<0.10	<0.10	NA	< 0.10	114%	70%	130%	102%	80%	120%	100%	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.

O. Reg. 558 Metals and Inorgani	cs													
Arsenic Leachate	3499811	<0.010	<0.010	NA	< 0.010	97%	70%	130%	108%	80%	120%	124%	70%	130%
Barium Leachate	3499811	1.05	1.12	7.1%	< 0.010	99%	70%	130%	116%	80%	120%	125%	70%	130%
Boron Leachate	3499811	0.071	0.081	NA	< 0.050	99%	70%	130%	112%	80%	120%	119%	70%	130%
Cadmium Leachate	3499811	<0.010	<0.010	NA	< 0.010	101%	70%	130%	102%	80%	120%	102%	70%	130%
Chromium Leachate	3499811	<0.050	<0.050	NA	< 0.050	98%	70%	130%	103%	80%	120%	112%	70%	130%
Lead Leachate	3499811	0.058	0.061	5.6%	< 0.010	101%	70%	130%	106%	80%	120%	103%	70%	130%
Mercury Leachate	3499811	<0.01	<0.01	NA	< 0.01	99%	70%	130%	97%	80%	120%	98%	70%	130%
Selenium Leachate	3499811	<0.010	<0.010	NA	< 0.010	98%	70%	130%	103%	80%	120%	120%	70%	130%
Silver Leachate	3499811	<0.010	<0.010	NA	< 0.010	101%	70%	130%	104%	80%	120%	96%	70%	130%
Uranium Leachate	3499811	<0.050	<0.050	NA	< 0.050	97%	70%	130%	113%	80%	120%	112%	70%	130%
Fluoride Leachate	3499811	0.26	0.26	NA	< 0.10	102%	90%	110%	101%	90%	110%	94%	70%	130%
Cyanide Leachate	3499811	<0.05	<0.05	NA	< 0.05	100%	70%	130%	97%	80%	120%	108%	70%	130%
(Nitrate + Nitrite) as N Leachate	3499811	<0.70	<0.70	NA	< 0.70	98%	80%	120%	102%	80%	120%	100%	70%	130%

Comments: NA signifies Not Applicable.

Duplicate NA: results are under 5X the RDL and will not be calculated.

Certified By:



AGAT QUALITY ASSURANCE REPORT (V1)

Page 15 of 23



Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

SAMPLING SITE:1284 Main St E, Hamilton

AGAT WORK ORDER: 22T862759

ATTENTION TO: Ian Shaw

SAMPLED BY:NS

Trace Organics Analysis DUPLICATE REFERENCE MATERIAL METHOD BLANK SPIKE RPT Date: Feb 16, 2022 MATRIX SPIKE Method Acceptable Acceptable Acceptable Sample Maasurad Blank Limits Limits Limits Dup #2 PARAMETER Batch Dup #1 RPD Recovery Recovery ld Value Lower Upper Lower Upper Lower Upper O. Reg. 153(511) - PHCs F1 - F4 (-BTEX) (Soil) 94% F1 (C6 - C10) 140% 3505623 3505623 <5 95% 60% 140% 105% 60% 140% 60% <5 NA < 5 F2 (C10 to C16) 140% 3501824 < 10 < 10 NA < 10 136% 60% 140% 70% 60% 140% 75% 60% F3 (C16 to C34) 3501824 < 50 < 50 NA < 50 116% 60% 140% 62% 60% 140% 64% 60% 140% F4 (C34 to C50) 3501824 < 50 < 50 NA < 50 95% 60% 140% 92% 60% 140% 100% 60% 140% O. Reg. 153(511) - VOCs (Soil) 50% Dichlorodifluoromethane 3505622 3505622 < 0.05 < 0.05 NA < 0.05 79% 50% 140% 73% 140% 90% 50% 140% Vinyl Chloride 3505622 3505622 104% 140% < 0.02 < 0.02 NA < 0.0287% 50% 140% 110% 50% 140% 50% 3505622 3505622 94% Bromomethane < 0.05 < 0.05 NA < 0.05 100% 50% 140% 50% 140% 102% 50% 140% Trichlorofluoromethane 3505622 3505622 < 0.05 < 0.05 NA < 0.05 99% 50% 140% 112% 50% 140% 95% 50% 140% Acetone 3505622 3505622 <0.50 <0.50 NA < 0.50 92% 50% 140% 93% 50% 140% 109% 50% 140% 1,1-Dichloroethylene 3505622 3505622 < 0.05 < 0.05 NA < 0.05 50% 140% 97% 130% 87% 50% 140% 117% 60% Methylene Chloride 3505622 3505622 <0.05 <0.05 NA < 0.0589% 50% 140% 90% 130% 119% 50% 140% 60% Trans- 1,2-Dichloroethylene 3505622 3505622 <0.05 <0.05 NA < 0.0593% 50% 140% 97% 60% 130% 95% 50% 140% Methyl tert-butyl Ether 3505622 3505622 < 0.05 <0.05 NΑ < 0.05 111% 50% 140% 70% 60% 130% 118% 50% 140% 1.1-Dichloroethane 3505622 3505622 91% 140% < 0.02 < 0.02 NA < 0.02 101% 50% 140% 60% 130% 101% 50% < 0.50 140% Methyl Ethyl Ketone 3505622 3505622 < 0.50 < 0.50 NA 101% 50% 140% 102% 50% 140% 91% 50% Cis- 1,2-Dichloroethylene 3505622 3505622 < 0.02 < 0.02 NA < 0.02 97% 50% 140% 88% 60% 130% 104% 50% 140% Chloroform 3505622 3505622 < 0.04 < 0.04 NA < 0.04 99% 50% 140% 90% 60% 130% 109% 50% 140% 3505622 3505622 50% 140% 80% 140% 1.2-Dichloroethane < 0.03 < 0.03 NA < 0.03 106% 60% 130% 110% 50% 1.1.1-Trichloroethane 3505622 3505622 < 0.05 < 0.05 NA < 0.05 97% 50% 140% 102% 60% 130% 106% 50% 140% Carbon Tetrachloride 3505622 3505622 < 0.05 < 0.05 NA < 0.05 111% 50% 140% 118% 60% 130% 103% 50% 140% Benzene 3505622 3505622 <0.02 <0.02 NA < 0.02 87% 50% 140% 102% 60% 130% 111% 50% 140% 1.2-Dichloropropane 3505622 3505622 < 0.03 < 0.03 NA < 0.03 113% 50% 140% 93% 60% 130% 99% 50% 140% Trichloroethylene 3505622 3505622 < 0.03 < 0.03 NA < 0.03104% 50% 140% 102% 60% 130% 105% 50% 140% 3505622 3505622 Bromodichloromethane 87% 140% < 0.05 < 0.05 NA < 0.05 105% 50% 140% 60% 130% 103% 50% Methyl Isobutyl Ketone 3505622 3505622 < 0.50< 0.50NA < 0.50 101% 50% 140% 97% 50% 140% 93% 50% 140% 1.1.2-Trichloroethane 3505622 3505622 < 0.04 < 0.04 NA < 0.04118% 50% 140% 117% 60% 130% 97% 50% 140% Toluene 3505622 3505622 < 0.05 < 0.05 NA < 0.05 95% 50% 140% 103% 60% 130% 108% 50% 140% 60% Dibromochloromethane 3505622 3505622 < 0.05 < 0.05 NA < 0.05 94% 50% 140% 106% 130% 107% 50% 140% Ethylene Dibromide 3505622 3505622 50% 140% 104% 97% 140% < 0.04 < 0.04 NA < 0.04 109% 60% 130% 50% Tetrachloroethylene 94% 140% 3505622 3505622 < 0.05 < 0.05 NA < 0.05 87% 50% 140% 114% 60% 130% 50% 1.1.1.2-Tetrachloroethane 3505622 3505622 <0.04 < 0.04 NA < 0.04 102% 50% 140% 115% 60% 130% 104% 50% 140% Chlorobenzene 3505622 3505622 <0.05 <0.05 NA < 0.05 99% 50% 140% 103% 60% 130% 104% 50% 140% Ethylbenzene 3505622 3505622 < 0.05 < 0.05 NA < 0.05 86% 50% 140% 104% 60% 130% 83% 50% 140% m & p-Xylene 3505622 3505622 <0.05 <0.05 < 0.0593% 50% 140% 103% 60% 130% 94% 50% 140% NA 3505622 3505622 103% 98% 130% 140% Bromoform < 0.05 < 0.05 NA < 0.0550% 140% 60% 116% 50% 100% 140% 3505622 3505622 90% Stvrene < 0.05 < 0.05 NA < 0.05 108% 50% 140% 60% 130% 50% 115% 3505622 3505622 140% 1,1,2,2-Tetrachloroethane < 0.05 < 0.05 NA < 0.05 104% 50% 140% 112% 60% 130% 50% o-Xylene 3505622 3505622 < 0.05 < 0.05 NA < 0.05 97% 50% 140% 95% 60% 130% 95% 50% 140%

AGAT QUALITY ASSURANCE REPORT (V1)

Page 16 of 23



Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

SAMPLING SITE:1284 Main St E, Hamilton

AGAT WORK ORDER: 22T862759

ATTENTION TO: Ian Shaw

SAMPLED BY:NS

Trace Organics Analysis (Continued)

			-			•	•			,					
RPT Date: Feb 16, 2022				DUPLICATE			REFERENCE MATERIAL			METHOD	BLANK	SPIKE	MATRIX SPIKE		
PARAMETER	Batch	Sample	Dup #1	Dup #2	RPD	Method Blank	Measured	Acceptable Limits		Recoverv	Acceptable Limits		Recoverv	Acceptable Limits	
		Ia					value	Lower	Upper		Lower	Upper		Lower	Upper
1,3-Dichlorobenzene	3505622	3505622	<0.05	<0.05	NA	< 0.05	102%	50%	140%	114%	60%	130%	108%	50%	140%
1,4-Dichlorobenzene	3505622	3505622	<0.05	<0.05	NA	< 0.05	104%	50%	140%	113%	60%	130%	107%	50%	140%
1,2-Dichlorobenzene	3505622	3505622	<0.05	<0.05	NA	< 0.05	103%	50%	140%	104%	60%	130%	103%	50%	140%
n-Hexane	3505622	3505622	<0.05	<0.05	NA	< 0.05	103%	50%	140%	82%	60%	130%	85%	50%	140%
O. Reg. 558 - Benzo(a) pyrene															
Benzo(a)pyrene Leachate	3503647		< 0.001	< 0.001	NA	< 0.001	96%	50%	140%	119%	50%	140%	97%	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:

NPopukok

AGAT QUALITY ASSURANCE REPORT (V1)

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QC Exceedance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

AGAT WORK ORDER: 22T862759

ATTENTION TO: Ian Shaw

RPT Date: Feb 16, 2022	REFERENC	METHOD	BLANK	SPIKE	MATRIX SPIKE					
PARAMETER	Sample Id	Measured	Acceptable Limits		Recovery	Acce Lin	ptable nits	Recovery	Acceptable Limits	
		Value	Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals & Inorganics (Soil)										

Selenium

137% 70% 130% 112% 80% 120% 117% 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.

Page 18 of 23



Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

SAMPLING SITE:1284 Main St F. Hamilton

AGAT WORK ORDER: 22T862759

ATTENTION TO: Ian Shaw

SAMPLING SITE:1284 Main St E, Ham	ilton	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	¹ TECHNICON AUTO ANALYZER							
Mercury	MET-93-6103	modified from EPA 7471B and SM 3112 B	ICP-MS							
Electrical Conductivity (2:1)	INOR-93-6075	modified from MSA PART 3, CH 14 and SM 2510 B	PC TITRATE							
Sodium Adsorption Ratio (2:1) (Calc.)	INOR-93-6007	modified from EPA 6010D & Analytica Protocol	I ICP/OES							
pH, 2:1 CaCl2 Extraction	INOR-93-6075	modified from EPA 9045D, MCKEAGUE 3.11 E3137	PC TITRATE							
Arsenic Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020	B ICP-MS							
Barium Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020	B ICP-MS							
Boron Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020	B ICP-MS							
Cadmium Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020	B ICP-MS							
Chromium Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020	B ICP-MS							

AGAT METHOD SUMMARY (V1)



Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

AGAT WORK ORDER: 22T862759 ATTENTION TO: Ian Shaw

SAMPLING SITE:1284 Main St E, Ha	amilton	SAMPLED BY:NS	6
PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Lead Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020	B ICP-MS
Mercury Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020	B ICP-MS
Selenium Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020	B ICP-MS
Silver Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020	B ICP-MS
Uranium Leachate	MET-93-6103	EPA 1311 & modified from EPA 6020	B ICP-MS
Fluoride Leachate	INOR-93-6018	EPA 1311 & modified from SM4500-F-C	ION SELECTIVE ELECTRODE
Cyanide Leachate	INOR-93-6052	EPA 1311 modified from MOE 3015 SM 4500 CN-I,G387	TECHNICON AUTO ANALYZER
(Nitrate + Nitrite) as N Leachate	INOR-93-6053	EPA SW 846-1311 & modified from SM 4500 - NO3- I	LACHAT FIA



Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

AGAT WORK ORDER: 22T862759

ATTENTION TO: Ian Shaw

SAMPLING SITE:1284 Main St E, Ham	nilton	SAMPLED BY:NS									
PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE								
Trace Organics Analysis											
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								
Moisture Content	VOL-91-5009	CCME Tier 1 Method	BALANCE								
Terphenyl	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID								
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								



Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

SAMPLING SITE:1284 Main St E, Hamilton

AGAT WORK ORDER: 22T862759

ATTENTION TO: Ian Shaw

SAMPLED BY:NS

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
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
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
Benzo(a)pyrene Leachate	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
Naphthalene-d8	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

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Project Information: Project: 3024 Site Location: 1289 Mg.	519 S+E, Ha	milton		Is Rec	s this submission for a cord of Site Condition?] Yes [] No	Re Cer	port G tificate Yes	uidei e of A [ine or nalys] N	n Is O		*7. For 'Sa	Please AT is exc ame Day	e provid slusive c ' analy s	e prior n of weeke sis, plea	notificatio ends and use conta	n for rush stat <i>utory</i> I ct your A	n TAT holidays I GAT CPM	
Sampled By:	PO: Provided, client will I Bi	be billed full price for a	nalysis. B 🌮 No 🗆	Sam B GW O P S SD	nple Matrix Legend Biota Ground Water Oil Paint Soil Sediment	Fittered - Metals, Hg, CrVI, DOC	vrganics	eg 123	If required DYes DNo			sal Characterization TCLP.	als L vous L svous Characterization Package Metals. BTEX. F1-F4	Ľ	rAH5		18 18 18 18 18 18 18 18 18 18 18 18 18 1		zardous or High Concentration (Y/N)
Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	A / A	Metals & Inc	BTEX, F1-F4	Analyze F40 PAHs	PCBs	voc	Landfill Dispo TOLP- PSMal 1 Excess Soils	Excess Soils DH. ICPMS N	Salt - EC/SA	Tcut				Potentially Ha
BH9BSS3 BH9BSS4 BH8SS4 BH8SS4	Fab9	AM PM AM PM AM PM	335	9			XXX	やいた			XXX	×			× _				
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Samples Relinguisticed By (Print Name and Sign):		Date		10Pm	Samples Received By (Print Name and Sign): Simples Received By (Print Name and Sign):		× 02	10	22	Date	4	SPm Tin	ne			Page	of		
Samples Relinquished By (Print Name and Sign):		Date	Time		Samples Received By (Print Name and Sign):			Pir	k Copy	Date	e nt Y	Tin ellow Conv -	ne AGAT 1	White	Ѻ: T Copy- AG	13 3AT		12 ed: March 9, 20	121



CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT 130 LANCING DRIVE HAMILTON, ON L8W3A1 (905) 318-7440 **ATTENTION TO: Peter Markesic PROJECT: 302519** AGAT WORK ORDER: 22H869437 **TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist** DATE REPORTED: Mar 04, 2022 PAGES (INCLUDING COVER): 7 VERSION*: 1

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

<u>otes</u>	
claimer.	

- 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.
- 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.

AGAT Laboratories (V1)

Nember of: Association of Professional Engineers and Geoscientists of Alberta	
(APEGA)	
Western Enviro-Agricultural Laboratory Association (WEALA)	
Environmental Services Association of Alberta (ESAA)	

Page 1 of 7

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. Measurement Uncertainty is not taken into consideration when stating conformity with a specified requirement.



AGAT WORK ORDER: 22H869437 PROJECT: 302519 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

SAMPLING SITE:

ATTENTION TO: Peter Markesic

SAMPLED BY:

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

DATE RECEIVED: 2022-03-02

		SAMPLE DES	CRIPTION:	MW5	
		SAM	PLE TYPE:	Water	
		DATE SAMPLED:		2022-03-02 16:00	
Parameter	Unit	G/S	RDL	3575437	
Polychlorinated Biphenyls	µg/L	0.2	0.1	<0.1	
Surrogate	Unit	Acceptab	le Limits		
Decachlorobiphenyl	%	60-1	140	75	

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.

3575437 PCB total is a calculated parameter. The calculated value is the sum of Aroclor 1242, Aroclor 1248, Aroclor 1254 and Aroclor 1260. 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:

NPopukoloj

DATE REPORTED: 2022-03-04



AGAT WORK ORDER: 22H869437 **PROJECT: 302519**

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

SAMPLING SITE:

ATTENTION TO: Peter Markesic

SAMPLED BY:

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

DATE RECEIVED: 2022-03-02

DATE RECEIVED: 2022-03-02						DATE REPORTED: 2022-03-04
		SAMPLE DESC	RIPTION:	Mar.2 S1	Dup4	
		SAMP	LE TYPE:	Soil	Soil	
		DATE S	AMPLED:	2022-03-02 16:00	2022-03-02 16:00	
Parameter	Unit	G/S	RDL	3575432	3575436	
Benzene	µg/g	0.02	0.02	<0.02	<0.02	
Toluene	µg/g	0.2	0.05	<0.05	<0.05	
Ethylbenzene	µg/g	0.05	0.05	<0.05	<0.05	
n & p-Xylene	µg/g		0.05	<0.05	<0.05	
o-Xylene	µg/g		0.05	<0.05	<0.05	
Kylenes (Total)	µg/g	0.05	0.05	<0.05	<0.05	
=1 (C6 - C10)	µg/g	25	5	<5	<5	
F1 (C6 to C10) minus BTEX	µg/g	25	5	<5	<5	
⁼ 2 (C10 to C16)	µg/g	10	10	<10	<10	
F3 (C16 to C34)	µg/g	240	50	<50	<50	
⁼ 4 (C34 to C50)	µg/g	120	50	<50	<50	
Gravimetric Heavy Hydrocarbons	µg/g	120	50	NA	NA	
Moisture Content	%		0.1	24.8	21.5	
Surrogate	Unit	Acceptable	e Limits			
Toluene-d8	% Recovery	60-14	10	84.7	89	
Ferphenyl	%	60-14	10	94	93	

Certified By:

NPopukolof



AGAT WORK ORDER: 22H869437 PROJECT: 302519 5835 COOPERS AVENUE MISSISSAUGA, ONTARIO CANADA L4Z 1Y2 TEL (905)712-5100 FAX (905)712-5122 http://www.aqatlabs.com

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

SAMPLING SITE:

ATTENTION TO: Peter Markesic

SAMPLED BY:

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

DATE RECEIVED: 2022-03-02 **DATE REPORTED: 2022-03-04** 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. 3575432-3575436 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 guantified 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:

NPopukoloj



Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

SAMPLING SITE:

AGAT WORK ORDER: 22H869437 ATTENTION TO: Peter Markesic

SAMPLED BY:

Trace Organics Analysis

RPT Date: Mar 04, 2022				UPLICAT	E		REFERENCE MATERIAL			METHOD	BLANK	SPIKE	MATRIX SPIKE		
PARAMETER	Batch	Sample	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acce Lir	ptable nits
		Ia		-				Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (S	Soil)														
Benzene	3564138		<0.02	<0.02	NA	< 0.02	112%	60%	140%	98%	60%	140%	96%	60%	140%
Toluene	3564138		<0.05	<0.05	NA	< 0.05	91%	60%	140%	93%	60%	140%	118%	60%	140%
Ethylbenzene	3564138		<0.05	<0.05	NA	< 0.05	117%	60%	140%	102%	60%	140%	110%	60%	140%
m & p-Xylene	3564138		<0.05	<0.05	NA	< 0.05	112%	60%	140%	117%	60%	140%	99%	60%	140%
o-Xylene	3564138		<0.05	<0.05	NA	< 0.05	100%	60%	140%	101%	60%	140%	91%	60%	140%
F1 (C6 - C10)	3564138		<5	<5	NA	< 5	100%	60%	140%	101%	60%	140%	102%	60%	140%
F2 (C10 to C16)	3563500		< 10	< 10	NA	< 10	110%	60%	140%	64%	60%	140%	103%	60%	140%
F3 (C16 to C34)	3563500		< 50	< 50	NA	< 50	115%	60%	140%	74%	60%	140%	120%	60%	140%
F4 (C34 to C50)	3563500		< 50	< 50	NA	< 50	109%	60%	140%	67%	60%	140%	86%	60%	140%
O. Reg. 153(511) - PCBs (Water)															
Polychlorinated Biphenyls	3552319		< 0.1	< 0.1	NA	< 0.1	96%	50%	140%	82%	50%	140%	78%	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:

NPopukoli

AGAT QUALITY ASSURANCE REPORT (V1)

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Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

SAMPLING SITE:

AGAT WORK ORDER: 22H869437

ATTENTION TO: Peter Markesic

		OAMI LED DT.	
PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis	L	·	
Polychlorinated Biphenyls	ORG-91-5112	modified from EPA SW-846 3510 & 8082A	GC/ECD
Decachlorobiphenyl	ORG-91-5112	modified from EPA SW-846 3510 & 8082A	GC/ECD
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
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 - 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
Moisture Content	VOL-91-5009	CCME Tier 1 Method	BALANCE
Terphenyl	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID

Chain of Custody Record If this is a Drini	Laborato	Dries	Mis Ph: 905.712 dy Form (potable water co	5835 Coopers Avenue sissauga, Ontario L4Z 1Y2 2.5100 Fax: 905.712.5122 webearth.agatlabs.com	Laboratory Use Only Work Order #: 22H\$69437 Cooler Quantity: SM COOLER Arrival Temperatures: 7-0 7-(17-3 5-8 16-3 6-6
Report Information: Soil-Mat Company: Soil-Mat Contact: Peter Markesi Address: 1302ancing Hamilton Hamilton Phone: Fax: Reports to be sent to: Phone: 1. Email: Pmarkesicaso 2. Email: Mtolton Gasoilr. Project Information: Report 10	C. Dr. Mmat.ccs nat.cci	Regulatory Requirem (Please check all applicable boxes) Regulation 153/04 Table Indicate One Indicate One Indicate One Res/Park Agriculture Soil Texture (check One) Coarse Fine Is this submission for Record of Site Condition	xcess Soils R406 ble regulation 558 CME a con?	Sewer Use Sanitary Storm Region Prov. Water Quality Objectives (PWQO) Other Indicate One port Guideline on tificate of Analysis	Custody Seal Intact: Yes No No Notes: Turnaround Time (TAT) Required: Regular TAT 5 to 7 Business Days Rush TAT (Rush surcharges Apply) 3 Business 2 Business Days Days Next Business Days OR Date Required (Rush Surcharges May Apply): Please provide prior notification for rush TAT table is acclusive of unploads and statutory holidays
Project: Sold State Site Location: 1290 Main St Sampled By: MT AGAT Quote #: PO: Please note: If quotation number is not provided, client will be bill Invoice Information: Bill To Company: Contact: Address: Email:	□ Yes □ No Sample Matrix Legend B Biota GW Ground Water O Oil P Paint S Soil SD Sediment SW Surface Water	Field Filtered - Metals, Hg, C.VI, DOC	Ves No 0. Reg 153 CrVI, - Hg, - HKSB 0. Reg 153 No	IAI is exclusive of weekeins and statutory nondoja Provide and the exclusive of weekeinds and statutory nondoja Provide and the exclusive of weekeinds and statutory nondoja Image: Image and the exclusive of the	
Sample Identification Date Sampled Mar. 2 SI Mar. 2/21 Dup I I MWS I	Time # of Containers Sampled Containers 4 pm AM 2 AM 2	Sample Comments Matrix Special Instruct S GW	s/ Y/N	Metak	PGBs PGBs PGBs PGBs PGBs PGBs PGBs PGBs
Samples Belinguished By (Print Name and Sign) Samples Relinguished By (Print Name and Sign) Samples Relinguished By (Print Name and Sign) Samples Relinguished By (Print Name and Sign)	PM Date Mq4.2/22 Date MHY3/22 Date MHY3/22 Time 24.2 Date Date MHY3/22 Time 24.2 Date Date Date MHY3/22 Time 24.2 Date	43pm Samples Received By (Print Nan Bumples Received By (Print Nan Samples Received By (Print Nar Samples Received By (Print Nar	ne and Sign):	Pick Copy - Oligi	Date Time Page of Date Time Nº: T 130972 Dirent I Vellow Conv. AGAT White Conv. AGAT Dute Issued: March 9, 2021

Document ID: DIV 711 11:10.001

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Appendix 'C'

1. AGAT Certificate of Analysis - Water



CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT 130 LANCING DRIVE HAMILTON, ON L8W3A1 (905) 318-7440 ATTENTION TO: Peter Markesic PROJECT: 302519 AGAT WORK ORDER: 22H867068 TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist WATER ANALYSIS REVIEWED BY: Nivine Basily, Inorganics Report Writer DATE REPORTED: Feb 25, 2022 PAGES (INCLUDING COVER): 18 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.

AGAT Laboratories (V1)

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AGAT WORK ORDER: 22H867068 **PROJECT: 302519**

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

SAMPLING SITE:

SAMPLED BY:BO

ATTENTION TO: Peter Markesic

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

DATE DECEIVED: 2022-02-24

DATE RECEIVED: 2022-02-24						DATE REPORTED: 2022-02-25
		SAMPLE DESC	RIPTION:	MW4	MW6	
		SAMP	LE TYPE:	Water	Water	
		DATE S	AMPLED:	2022-02-24 12:00	2022-02-24 12:00	
Parameter	Unit	G/S	RDL	3550559	3550665	
Naphthalene	µg/L	7	0.20	<0.20	<0.20	
Acenaphthylene	µg/L	1	0.20	<0.20	<0.20	
Acenaphthene	µg/L	4.1	0.20	<0.20	<0.20	
Fluorene	µg/L	120	0.20	<0.20	<0.20	
Phenanthrene	µg/L	0.1	0.10	<0.10	<0.10	
Anthracene	µg/L	0.1	0.10	<0.10	<0.10	
Fluoranthene	µg/L	0.4	0.20	<0.20	<0.20	
Pyrene	µg/L	0.2	0.20	<0.20	<0.20	
Benzo(a)anthracene	μg/L	0.2	0.20	<0.20	<0.20	
Chrysene	µg/L	0.1	0.10	<0.10	<0.10	
Benzo(b)fluoranthene	µg/L	0.1	0.10	<0.10	<0.10	
Benzo(k)fluoranthene	μg/L	0.1	0.10	<0.10	<0.10	
Benzo(a)pyrene	µg/L	0.01	0.01	<0.01	<0.01	
Indeno(1,2,3-cd)pyrene	µg/L	0.2	0.20	<0.20	<0.20	
Dibenz(a,h)anthracene	μg/L	0.2	0.20	<0.20	<0.20	
Benzo(g,h,i)perylene	µg/L	0.2	0.20	<0.20	<0.20	
2-and 1-methyl Naphthalene	µg/L	2	0.20	<0.20	<0.20	
Sediment				TRACE	TRACE	
Surrogate	Unit	Acceptabl	Acceptable Limits			
Naphthalene-d8	%	50-14	40	85	85	
Acridine-d9	%	50-14	40	79	79	
Terphenyl-d14	%	50-14	40	85	85	

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 Comments: 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.

3550559-3550665 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:

NPopukoloj



AGAT WORK ORDER: 22H867068 PROJECT: 302519 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

SAMPLING SITE:

ATTENTION TO: Peter Markesic

SAMPLED BY:BO

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

DATE RECEIVED: 2022-02-24

	:	SAMPLE DESC	RIPTION:	MW5	MW8	MW9	MW10	DUP1
		SAMPI	LE TYPE:	Water	Water	Water	Water	Water
		DATE S	AMPLED:	2022-02-24 12:00	2022-02-24 12:00	2022-02-24 12:00	2022-02-24 12:00	2022-02-24 12:00
Parameter	Unit	G/S	RDL	3550592	3550666	3550667	3550668	3550669
F1 (C6 - C10)	µg/L	420	25	<25	<25	<25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L	420	25	<25	<25	<25	<25	<25
F2 (C10 to C16)	µg/L	150	100	<100	<100	<100	<100	<100
F3 (C16 to C34)	µg/L	500	100	<100	<100	<100	<100	<100
F4 (C34 to C50)	µg/L	500	100	<100	<100	<100	<100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500	NA	NA	NA	NA	NA
Sediment				TRACE	NO	YES	NO	NO
Surrogate	Unit	Acceptable	e Limits					
Toluene-d8	% Recovery	50-14	10	120	91.2	102	109	84
Terphenyl	%	60-14	0	79	91	70	78	76

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.

3550592-3550669 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 nC34.

Gravimetric Heavy Hydrocarbons are not included in the Total C16 - C50 and are only determined if the chromatogram of the C34 - C50 Hydrocarbons indicated 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. 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 *)

NPopukoly

DATE REPORTED: 2022-02-25

Certified By:



AGAT WORK ORDER: 22H867068 PROJECT: 302519 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

SAMPLING SITE:

ATTENTION TO: Peter Markesic

DATE REPORTED: 2022-02-25

SAMPLED BY:BO

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

DATE RECEIVED: 2022-02-24

					MWG
				11144	IVIVO
		SAM	SAMPLE TYPE:		Water
		DATES	SAMPLED:	2022-02-24 12:00	2022-02-24 12:00
Parameter	Unit	G/S	RDL	3550559	3550665
F1 (C6-C10)	µg/L	420	25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L	420	25	<25	<25
F2 (C10 to C16)	µg/L	150	100	<100	<100
F2 (C10 to C16) minus Naphthalene	µg/L		100	<100	<100
F3 (C16 to C34)	µg/L	500	100	<100	<100
F3 (C16 to C34) minus PAHs	µg/L		100	<100	<100
F4 (C34 to C50)	µg/L	500	100	<100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500	NA	NA
Sediment				NO	NO
Surrogate	Unit	Acceptab	le Limits		
Toluene-d8	% Recovery	50-1	50-140		87
Terphenyl	% Recovery	60-1	40	96	97

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.

3550559-3550665 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 *)

NPopukoloj



AGAT WORK ORDER: 22H867068 PROJECT: 302519 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

SAMPLING SITE:

ATTENTION TO: Peter Markesic SAMPLED BY:BO

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

- · · · · ·													
DATE RECEIVED: 2022-02-24							DATE REPORTED: 2022-02-25						
		SAMPLE DESCRIPTION:		MW4	MW5	MW6	MW8	MW9	MW10	DUP1			
		SAMPI	LE TYPE:	Water	Water	Water	Water	Water	Water	Water			
		DATE SA	AMPLED:	2022-02-24	2022-02-24	2022-02-24	2022-02-24	2022-02-24	2022-02-24	2022-02-24			
Baramotor	Unit	G/S	וחפ	12:00	12:00	12:00	12:00	12:00	12:00	12:00 3550669			
Dishlaradifluoromethana	Unit ug/l	500	0.40	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40	-0.40			
Visul Chlorida	µg/L	0.5	0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40			
Promomethano	µg/L	0.5	0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17			
Triplorefluoromothono	µg/L	0.89	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20			
	µg/L	150	0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40			
Acetone	µg/L	2700	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0			
	µg/L	0.5	0.30	<0.30	<0.30	<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	<0.30	<0.30	<0.30			
trans- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20	<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	<0.20	<0.20	<0.20			
1,1-Dichloroethane	µg/L	0.5	0.30	<0.30	<0.30	<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	<1.0	<1.0	<1.0			
cis- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20			
Chloroform	µg/L	2	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20			
1,2-Dichloroethane	µg/L	0.5	0.20	<0.20	<0.20	<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	<0.30	<0.30	<0.30			
Carbon Tetrachloride	µg/L	0.2	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20			
Benzene	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20			
1,2-Dichloropropane	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20			
Trichloroethylene	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20			
Bromodichloromethane	µg/L	2	0.20	<0.20	<0.20	<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	<1.0	<1.0	<1.0			
1,1,2-Trichloroethane	µg/L	0.5	0.20	<0.20	<0.20	<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	<0.20	<0.20	<0.20			
Dibromochloromethane	µg/L	2	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			
Ethylene Dibromide	ua/L	0.2	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			
Tetrachloroethylene	ua/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20			
1.1.1.2-Tetrachloroethane	ua/L	1.1	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			
Chlorobenzene	ua/L	0.5	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			
Ethylbenzene	µg/=	0.5	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			

Certified By:

NPopukoloj



ATTENTION TO: Peter Markesic

SAMPLED BY:BO

AGAT WORK ORDER: 22H867068 PROJECT: 302519 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

SAMPLING SITE:

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

DATE RECEIVED: 2022-02-24									DATE REPORTED: 2022-02-25					
	5	SAMPLE DES	CRIPTION:	MW4	MW5	MW6	MW8	MW9	MW10	DUP1				
		SAM	SAMPLE TYPE:		Water	Water	Water	Water	Water	Water				
		DATE	DATE SAMPLED:		2022-02-24 12:00	2022-02-24 12:00	2022-02-24 12:00	2022-02-24 12:00	2022-02-24 12:00	2022-02-24 12:00				
Parameter	Unit	G/S	RDL	3550559	3550592	3550665	3550666	3550667	3550668	3550669				
m & p-Xylene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20				
Bromoform	µg/L	5	0.10	<0.10	<0.10	<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	<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	<0.10	<0.10	<0.10				
o-Xylene	µg/L		0.10	<0.10	<0.10	<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	<0.10	<0.10	<0.10				
1,4-Dichlorobenzene	µg/L	0.5	0.10	<0.10	<0.10	<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	<0.10	<0.10	<0.10				
1,3-Dichloropropene	µg/L	0.5	0.30	<0.30	<0.30	<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	<0.20	<0.20	<0.20				
n-Hexane	µg/L	5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20				
Surrogate	Unit	Acceptat	le Limits											
Toluene-d8	% Recovery	50-	140	100	100	99	101	100	98	99				
4-Bromofluorobenzene	% Recovery	50-	50-140		97	98	72	99	93	100				

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.

3550559-3550669 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:

NPopukolof



AGAT WORK ORDER: 22H867068 PROJECT: 302519 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

SAMPLING SITE:

ATTENTION TO: Peter Markesic

SAMPLED BY:BO

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

DATE RECEIVED: 2022-02-24 **DATE REPORTED: 2022-02-25** SAMPLE DESCRIPTION: MW4 MW5 MW6 MW8 MW9 **MW10** SAMPLE TYPE: Water Water Water Water Water Water DATE SAMPLED: 2022-02-24 2022-02-24 2022-02-24 2022-02-24 2022-02-24 2022-02-24 12:00 12:00 12:00 12:00 12:00 12:00 Parameter Unit G/S RDL 3550559 RDL 3550592 RDL 3550665 3550666 3550667 3550668 Dissolved Antimony µg/L 1.5 1.0 <1.0 1.0 <1.0 1.0 <1.0 <1.0 1.3 <1.0 Dissolved Arsenic µg/L 13 1.0 <1.0 1.0 <1.0 1.0 <1.0 <1.0 5.6 2.0 610 36.0 2.0 47.5 2.0 38.4 12.1 **Dissolved Barium** µg/L 2.0 43.1 30.1 Dissolved Beryllium µg/L 0.50 <0.50 0.50 < 0.50 0.5 0.50 < 0.50 < 0.50 < 0.50 < 0.50 µg/L 1700 10.0 204 10.0 111 10.0 210 272 320 360 Dissolved Boron Dissolved Cadmium µg/L 0.5 0.20 <0.20 0.20 <0.20 0.20 <0.20 <0.20 <0.20 <0.20 **Dissolved Chromium** 2.0 <2.0 <2.0 µg/L 11 2.0 <2.0 2.0 <2.0 <2.0 <2.0 Dissolved Cobalt µg/L 3.8 0.50 1.80 0.50 <0.50 0.50 4.11 1.61 0.58 1.21 Dissolved Copper µg/L 5 1.0 <1.0 1.0 2.6 1.0 1.4 <1.0 <1.0 1.4 Dissolved Lead µg/L 1.9 0.50 0.64 0.50 <0.50 0.50 0.94 < 0.50 0.55 < 0.50 Dissolved Molybdenum µg/L 23 0.50 6.94 0.50 5.25 0.50 4.05 7.69 23.3 29.8 Dissolved Nickel µg/L 14 1.0 3.5 1.0 1.4 1.0 8.6 2.8 4.3 4.7 Dissolved Selenium 5 1.0 1.3 1.0 1.4 1.0 9.4 7.1 7.1 12.8 µg/L Dissolved Silver µg/L 0.20 <0.20 0.20 <0.20 <0.20 0.3 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 0.30 < 0.30 Dissolved Uranium 8.9 0.50 2.32 0.50 18.7 10.6 4.43 17.8 µg/L 0.50 6.06 Dissolved Vanadium µg/L 3.9 0.40 0.75 0.40 1.04 0.40 0.74 0.66 < 0.40 0.54 **Dissolved Zinc** µg/L 160 5.0 <5.0 5.0 10.3 5.0 10.2 <5.0 <5.0 23.9 0.02 Mercury µg/L 0.1 0.02 < 0.02 0.02 < 0.02 < 0.02 < 0.02 < 0.02 < 0.02 2 2 Chromium VI µg/L 25 2 <2 <2 <2 <2 <2 <2 <2 2 5 2 <2 2 <2 <2 <2 <2 Cyanide, Free µg/L Dissolved Sodium 490000 250 50 68200 250 µg/L 113000 256000 140000 277000 311000 100 Chloride µg/L 790000 100 200000 199000 100 659000 323000 338000 527000 Electrical Conductivity uS/cm NA 2 2270 2 1190 2 4290 2700 1980 3570 bΗ pH Units NA 7.68 NA 7.66 NA 7.70 7.71 7.86 7.97



Certified By:



AGAT WORK ORDER: 22H867068 **PROJECT: 302519**

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

SAMPLING SITE:

ATTENTION TO: Peter Markesic

SAMPLED BY:BO

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

DATE DECEIVED. 2022 02 24

DATE RECEIVED: 2022-02-2	4				DATE REPORTED: 2022-02-23
	S	AMPLE DESC	RIPTION:	DUP1	
		SAMF	PLE TYPE:	Water	
		DATE SAMPLED:		2022-02-24 12:00	
Parameter	Unit	G/S	RDL	3550669	
Dissolved Antimony	µg/L	1.5	1.0	<1.0	
Dissolved Arsenic	µg/L	13	1.0	<1.0	
Dissolved Barium	µg/L	610	2.0	42.6	
Dissolved Beryllium	µg/L	0.5	0.50	<0.50	
Dissolved Boron	μg/L	1700	10.0	283	
Dissolved Cadmium	μg/L	0.5	0.20	<0.20	
Dissolved Chromium	μg/L	11	2.0	<2.0	
Dissolved Cobalt	μg/L	3.8	0.50	1.03	
Dissolved Copper	μg/L	5	1.0	<1.0	
Dissolved Lead	μg/L	1.9	0.50	<0.50	
Dissolved Molybdenum	µg/L	23	0.50	5.18	
Dissolved Nickel	µg/L	14	1.0	3.3	
Dissolved Selenium	µg/L	5	1.0	6.8	
Dissolved Silver	µg/L	0.3	0.20	<0.20	
Dissolved Thallium	µg/L	0.5	0.30	<0.30	
Dissolved Uranium	μg/L	8.9	0.50	11.2	
Dissolved Vanadium	μg/L	3.9	0.40	<0.40	
Dissolved Zinc	μg/L	160	5.0	<5.0	
Mercury	μg/L	0.1	0.02	<0.02	
Chromium VI	μg/L	25	2	<2	
Cyanide, Free	μg/L	5	2	<2	
Dissolved Sodium	μg/L	490000	250	143000	
Chloride	μg/L	790000	100	318000	
Electrical Conductivity	uS/cm	NA	2	2670	
рН	pH Units		NA	7.79	



Certified By:



AGAT WORK ORDER: 22H867068 PROJECT: 302519 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

SAMPLING SITE:

ATTENTION TO: Peter Markesic

SAMPLED BY:BO

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

DATE RECEIVED: 2022-02-24

DATE REPORTED: 2022-02-25

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.

3550559-3550669 Metals analysis completed on a filtered sample.

Dilution required, RDL has been increased accordingly.

Analysis performed at AGAT Toronto (unless marked by *)





Guideline Violation

AGAT WORK ORDER: 22H867068 PROJECT: 302519 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

ATTENTION TO: Peter Markesic

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
3550665	MW6	ON T1 GW	O. Reg. 153(511) - Metals & Inorganics (Water)	Dissolved Cobalt	µg/L	3.8	4.11
3550665	MW6	ON T1 GW	O. Reg. 153(511) - Metals & Inorganics (Water)	Dissolved Selenium	µg/L	5	9.4
3550665	MW6	ON T1 GW	O. Reg. 153(511) - Metals & Inorganics (Water)	Dissolved Uranium	µg/L	8.9	18.7
3550666	MW8	ON T1 GW	O. Reg. 153(511) - Metals & Inorganics (Water)	Dissolved Selenium	µg/L	5	7.1
3550666	MW8	ON T1 GW	O. Reg. 153(511) - Metals & Inorganics (Water)	Dissolved Uranium	µg/L	8.9	10.6
3550667	MW9	ON T1 GW	O. Reg. 153(511) - Metals & Inorganics (Water)	Dissolved Molybdenum	µg/L	23	23.3
3550667	MW9	ON T1 GW	O. Reg. 153(511) - Metals & Inorganics (Water)	Dissolved Selenium	µg/L	5	7.1
3550668	MW10	ON T1 GW	O. Reg. 153(511) - Metals & Inorganics (Water)	Dissolved Molybdenum	µg/L	23	29.8
3550668	MW10	ON T1 GW	O. Reg. 153(511) - Metals & Inorganics (Water)	Dissolved Selenium	µg/L	5	12.8
3550668	MW10	ON T1 GW	O. Reg. 153(511) - Metals & Inorganics (Water)	Dissolved Uranium	µg/L	8.9	17.8
3550669	DUP1	ON T1 GW	O. Reg. 153(511) - Metals & Inorganics (Water)	Dissolved Selenium	µg/L	5	6.8
3550669	DUP1	ON T1 GW	O. Reg. 153(511) - Metals & Inorganics (Water)	Dissolved Uranium	µg/L	8.9	11.2



Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

SAMPLING SITE:

AGAT WORK ORDER: 22H867068 ATTENTION TO: Peter Markesic

SAMPLED BY:BO

Trace Organics Analysis

						· · · · · ·									
RPT Date: Feb 25, 2022		-	0	UPLICAT	E		REFERE	NCE MA	TERIAL	METHOD BLANK SPIKE			MAT	RIX SPI	KE
PARAMETER	Batch	Sample	Dup #1	Dup #2	RPD	Method Blank	Measured	Acce Lir	ptable nits	Recoverv	Acce Lir	ptable nits	Recoverv	Acce Lin	ptable nits
		Ια					value	Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - VOCs (Water)						•									
Dichlorodifluoromethane	3541638		<0.40	<0.40	NA	< 0.40	78%	50%	140%	107%	50%	140%	116%	50%	140%
Vinyl Chloride	3541638		<0.17	<0.17	NA	< 0.17	72%	50%	140%	81%	50%	140%	82%	50%	140%
Bromomethane	3541638		<0.20	<0.20	NA	< 0.20	87%	50%	140%	117%	50%	140%	109%	50%	140%
Trichlorofluoromethane	3541638		<0.40	<0.40	NA	< 0.40	91%	50%	140%	82%	50%	140%	78%	50%	140%
Acetone	3541638		<1.0	<1.0	NA	< 1.0	86%	50%	140%	100%	50%	140%	87%	50%	140%
1,1-Dichloroethylene	3541638		<0.30	<0.30	NA	< 0.30	81%	50%	140%	74%	60%	130%	77%	50%	140%
Methylene Chloride	3541638		<0.30	<0.30	NA	< 0.30	100%	50%	140%	93%	60%	130%	102%	50%	140%
trans- 1,2-Dichloroethylene	3541638		<0.20	<0.20	NA	< 0.20	73%	50%	140%	74%	60%	130%	78%	50%	140%
Methyl tert-butyl ether	3541638		<0.20	<0.20	NA	< 0.20	116%	50%	140%	87%	60%	130%	93%	50%	140%
1,1-Dichloroethane	3541638		<0.30	<0.30	NA	< 0.30	82%	50%	140%	74%	60%	130%	79%	50%	140%
Methyl Ethyl Ketone	3541638		<1.0	<1.0	NA	< 1.0	102%	50%	140%	103%	50%	140%	99%	50%	140%
cis- 1,2-Dichloroethylene	3541638		<0.20	<0.20	NA	< 0.20	93%	50%	140%	77%	60%	130%	83%	50%	140%
Chloroform	3541638		<0.20	<0.20	NA	< 0.20	108%	50%	140%	88%	60%	130%	95%	50%	140%
1,2-Dichloroethane	3541638		<0.20	<0.20	NA	< 0.20	112%	50%	140%	87%	60%	130%	99%	50%	140%
1,1,1-Trichloroethane	3541638		<0.30	<0.30	NA	< 0.30	77%	50%	140%	78%	60%	130%	86%	50%	140%
Carbon Tetrachloride	3541638		<0.20	<0.20	NA	< 0.20	75%	50%	140%	77%	60%	130%	72%	50%	140%
Benzene	3541638		<0.20	<0.20	NA	< 0.20	79%	50%	140%	75%	60%	130%	75%	50%	140%
1,2-Dichloropropane	3541638		<0.20	<0.20	NA	< 0.20	84%	50%	140%	100%	60%	130%	93%	50%	140%
Trichloroethylene	3541638		<0.20	<0.20	NA	< 0.20	73%	50%	140%	72%	60%	130%	75%	50%	140%
Bromodichloromethane	3541638		<0.20	<0.20	NA	< 0.20	99%	50%	140%	74%	60%	130%	77%	50%	140%
Methyl Isobutyl Ketone	3541638		<1.0	<1.0	NA	< 1.0	88%	50%	140%	109%	50%	140%	107%	50%	140%
1,1,2-Trichloroethane	3541638		<0.20	<0.20	NA	< 0.20	109%	50%	140%	104%	60%	130%	114%	50%	140%
Toluene	3541638		<0.20	<0.20	NA	< 0.20	73%	50%	140%	89%	60%	130%	97%	50%	140%
Dibromochloromethane	3541638		<0.10	<0.10	NA	< 0.10	111%	50%	140%	103%	60%	130%	107%	50%	140%
Ethylene Dibromide	3541638		<0.10	<0.10	NA	< 0.10	100%	50%	140%	100%	60%	130%	105%	50%	140%
Tetrachloroethylene	3541638		<0.20	<0.20	NA	< 0.20	76%	50%	140%	99%	60%	130%	111%	50%	140%
1,1,1,2-Tetrachloroethane	3541638		<0.10	<0.10	NA	< 0.10	108%	50%	140%	104%	60%	130%	107%	50%	140%
Chlorobenzene	3541638		<0.10	<0.10	NA	< 0.10	89%	50%	140%	91%	60%	130%	103%	50%	140%
Ethylbenzene	3541638		<0.10	<0.10	NA	< 0.10	75%	50%	140%	78%	60%	130%	81%	50%	140%
m & p-Xylene	3541638		<0.20	<0.20	NA	< 0.20	110%	50%	140%	86%	60%	130%	97%	50%	140%
Bromoform	3541638		<0.10	<0.10	NA	< 0.10	81%	50%	140%	116%	60%	130%	100%	50%	140%
Styrene	3541638		<0.10	<0.10	NA	< 0.10	87%	50%	140%	88%	60%	130%	78%	50%	140%
1,1,2,2-Tetrachloroethane	3541638		<0.10	<0.10	NA	< 0.10	83%	50%	140%	116%	60%	130%	100%	50%	140%
o-Xylene	3541638		<0.10	<0.10	NA	< 0.10	79%	50%	140%	89%	60%	130%	101%	50%	140%
1,3-Dichlorobenzene	3541638		<0.10	<0.10	NA	< 0.10	112%	50%	140%	109%	60%	130%	110%	50%	140%
1,4-Dichlorobenzene	3541638		<0.10	<0.10	NA	< 0.10	115%	50%	140%	108%	60%	130%	105%	50%	140%
1,2-Dichlorobenzene	3541638		<0.10	<0.10	NA	< 0.10	116%	50%	140%	103%	60%	130%	108%	50%	140%
n-Hexane	3541638		<0.20	<0.20	NA	< 0.20	90%	50%	140%	100%	60%	130%	77%	50%	140%

AGAT QUALITY ASSURANCE REPORT (V1)

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Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519 SAMPLING SITE:

AGAT WORK ORDER: 22H867068 ATTENTION TO: Peter Markesic SAMPLED BY:BO

Trace Organics Analysis (Continued)

RPT Date: Feb 25, 2022		1	DUPLICAT	E		REFERE	NCE MA	TERIAL	METHOD	BLANK		MATRIX SPIKE		
PARAMETER	Batch	e Dup #1	Dup #2	RPD	Method Blank	Measured	Acce Lir	eptable nits	Recoverv	Acce Lir	ptable nits	Recoverv	Acce Lir	ptable nits
	Id					value	Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PAHs (Water)	• •													
Naphthalene	3514811	13.1	10.7	20.6%	< 0.20	69%	50%	140%	83%	50%	140%	77%	50%	140%
Acenaphthylene	3514811	0.22	0.33	NA	< 0.20	83%	50%	140%	85%	50%	140%	87%	50%	140%
Acenaphthene	3514811	1.78	1.78	0.0%	< 0.20	116%	50%	140%	110%	50%	140%	96%	50%	140%
Fluorene	3514811	2.89	2.89	0.0%	< 0.20	104%	50%	140%	96%	50%	140%	116%	50%	140%
Phenanthrene	3514811	4.00	4.00	0.0%	< 0.10	95%	50%	140%	86%	50%	140%	116%	50%	140%
Anthracene	3514811	<0.10	<0.10	NA	< 0.10	101%	50%	140%	84%	50%	140%	94%	50%	140%
Fluoranthene	3514811	0.56	0.56	NA	< 0.20	107%	50%	140%	92%	50%	140%	93%	50%	140%
Pyrene	3514811	0.33	0.44	NA	< 0.20	116%	50%	140%	106%	50%	140%	104%	50%	140%
Benzo(a)anthracene	3514811	<0.20	<0.20	NA	< 0.20	87%	50%	140%	75%	50%	140%	88%	50%	140%
Chrysene	3514811	<0.10	<0.10	NA	< 0.10	93%	50%	140%	81%	50%	140%	102%	50%	140%
Benzo(b)fluoranthene	3514811	<0.10	<0.10	NA	< 0.10	107%	50%	140%	105%	50%	140%	95%	50%	140%
Benzo(k)fluoranthene	3514811	<0.10	<0.10	NA	< 0.10	95%	50%	140%	113%	50%	140%	97%	50%	140%
Benzo(a)pyrene	3514811	<0.01	<0.01	NA	< 0.01	107%	50%	140%	122%	50%	140%	105%	50%	140%
Indeno(1,2,3-cd)pyrene	3514811	<0.20	<0.20	NA	< 0.20	92%	50%	140%	100%	50%	140%	88%	50%	140%
Dibenz(a,h)anthracene	3514811	<0.20	<0.20	NA	< 0.20	107%	50%	140%	113%	50%	140%	93%	50%	140%
Benzo(g,h,i)perylene	3514811	<0.20	<0.20	NA	< 0.20	102%	50%	140%	109%	50%	140%	110%	50%	140%
O. Reg. 153(511) - PHCs F1 - F4	(with PAHs and VO	C) (Water)												
F1 (C6-C10)	3543287	<25	<25	NA	< 25	95%	60%	140%	93%	60%	140%	98%	60%	140%
F2 (C10 to C16)	3550665 3550665	< 100	< 100	NA	< 100	96%	60%	140%	91%	60%	140%	94%	60%	140%
F3 (C16 to C34)	3550665 3550665	< 100	< 100	NA	< 100	92%	60%	140%	74%	60%	140%	81%	60%	140%
F4 (C34 to C50)	3550665 3550665	< 100	< 100	NA	< 100	90%	60%	140%	64%	60%	140%	60%	60%	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:

NPopukoli

AGAT QUALITY ASSURANCE REPORT (V1)

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Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

SAMPLING SITE:

AGAT WORK ORDER: 22H867068

ATTENTION TO: Peter Markesic

SAMPLED BY:BO

Water Analysis

RPT Date: Feb 25, 2022			C	UPLICATI	E		REFEREN	NCE MA	TERIAL	METHOD	BLANK	SPIKE	MATRIX SPIKE		
PARAMETER	Batch	Sample	Dup #1	Dup #2	RPD	Method Blank	Measured	Acce Lir	ptable nits	Recovery	Acce Lir	Acceptable Limits		Acce Lir	ptable nits
		IG					value	Lower	Upper		Lower	Upper	-	Lower	Upper
O. Reg. 153(511) - Metals & Inc	organics (Wate	er)													
Dissolved Antimony	3550559	3550559	<1.0	<1.0	NA	< 1.0	107%	70%	130%	99%	80%	120%	98%	70%	130%
Dissolved Arsenic	3550559	3550559	<1.0	<1.0	NA	< 1.0	95%	70%	130%	100%	80%	120%	94%	70%	130%
Dissolved Barium	3550559	3550559	36.0	35.3	2.0%	< 2.0	105%	70%	130%	99%	80%	120%	98%	70%	130%
Dissolved Beryllium	3550559	3550559	<0.50	<0.50	NA	< 0.50	102%	70%	130%	105%	80%	120%	100%	70%	130%
Dissolved Boron	3550559	3550559	204	198	3.0%	< 10.0	108%	70%	130%	109%	80%	120%	91%	70%	130%
Dissolved Cadmium	3550559	3550559	<0.20	<0.20	NA	< 0.20	101%	70%	130%	100%	80%	120%	98%	70%	130%
Dissolved Chromium	3550559	3550559	<2.0	<2.0	NA	< 2.0	94%	70%	130%	95%	80%	120%	91%	70%	130%
Dissolved Cobalt	3550559	3550559	1.80	1.81	NA	< 0.50	97%	70%	130%	98%	80%	120%	94%	70%	130%
Dissolved Copper	3550559	3550559	<1.0	1.3	NA	< 1.0	96%	70%	130%	101%	80%	120%	95%	70%	130%
Dissolved Lead	3550559	3550559	0.64	0.69	NA	< 0.50	100%	70%	130%	100%	80%	120%	93%	70%	130%
Dissolved Molybdenum	3550559	3550559	6.94	7.32	5.3%	< 0.50	105%	70%	130%	105%	80%	120%	107%	70%	130%
Dissolved Nickel	3550559	3550559	3.5	2.3	NA	< 1.0	96%	70%	130%	98%	80%	120%	92%	70%	130%
Dissolved Selenium	3550559	3550559	1.3	2.0	NA	< 1.0	98%	70%	130%	99%	80%	120%	100%	70%	130%
Dissolved Silver	3550559	3550559	<0.20	<0.20	NA	< 0.20	98%	70%	130%	98%	80%	120%	90%	70%	130%
Dissolved Thallium	3550559	3550559	<0.30	<0.30	NA	< 0.30	102%	70%	130%	101%	80%	120%	92%	70%	130%
Dissolved Uranium	3550559	3550559	6.06	5.77	4.9%	< 0.50	107%	70%	130%	114%	80%	120%	107%	70%	130%
Dissolved Vanadium	3550559	3550559	0.75	1.20	NA	< 0.40	97%	70%	130%	97%	80%	120%	97%	70%	130%
Dissolved Zinc	3550559	3550559	<5.0	7.9	NA	< 5.0	104%	70%	130%	105%	80%	120%	113%	70%	130%
Mercury	3550559	3550559	<0.02	<0.02	NA	< 0.02	98%	70%	130%	101%	80%	120%	103%	70%	130%
Chromium VI	3547318		120	122	1.7%	< 2	99%	70%	130%	98%	80%	120%	NA	70%	130%
Cyanide, Free	3550559	3550559	<2	<2	NA	< 2	100%	70%	130%	NA	80%	120%	98%	70%	130%
Dissolved Sodium	3550592	3550592	68200	65900	3.4%	< 50	104%	70%	130%	103%	80%	120%	100%	70%	130%
Chloride	3548529		399000	393000	1.5%	< 100	94%	70%	130%	104%	80%	120%	NA	70%	130%
Electrical Conductivity	3550559	3550559	2270	2260	0.4%	< 2	99%	90%	110%						
рН	3550559	3550559	7.68	7.70	0.3%	NA	102%	90%	110%						

Comments: NA signifies Not Applicable.

Duplicate NA: results are under 5X the RDL and will not be calculated.

Matrix spike NA: Spike level < native concentration. Matrix spike acceptance limits do not apply and are not calculated.

Certified By:



AGAT QUALITY ASSURANCE REPORT (V1)

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Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

AGAT WORK ORDER: 22H867068

ATTENTION TO: Peter Markesic SAMPLED BY:BO

SAMPLING SITE:		SAMPLED BY:BO)						
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									
Toluene-d8	VOL-91-5009	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS						
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						
F2 (C10 to C16)	VOL-91-5010	modified from MOE PHC E3421	GC / FID						
F3 (C16 to C34)	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-91-5009	modified from MOE PHC E3421	GC/FID						
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						

AGAT METHOD SUMMARY (V1)



Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

SAMPLING SITE:

AGAT WORK ORDER: 22H867068 **ATTENTION TO: Peter Markesic**

SAMPLING SITE:		SAMPLED BY:BO	
PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
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
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

AGAT METHOD SUMMARY (V1)



Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

AGAT WORK ORDER: 22H867068 ATTENTION TO: Peter Markesic

SAMPLING SITE:		SAMPLED BY:B	0
PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
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
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



Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

AGAT WORK ORDER: 22H867068

ATTENTION TO: Peter Markesic

SAMPLING SITE:		SAMPLED BY:BO	0				
PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE				
Water Analysis	l						
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 311 B	² CVAAS				
Chromium VI	INOR-93-6034	modified from SM 3500-CR B	LACHAT FIA				
Cyanide, Free	INOR-93-6052	modified from ON MOECC E3015, SN 4500-CN- I, G-387	¹ 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				
рН	INOR-93-6000	modified from SM 4500-H+ B	PC TITRATE				

Chain of Custody Record	If this is a Dr	Lat)Ora ample, pleas	torie	Ph:	M 905.71 e water d	58 ssissaug 2.5100 web consumed	35 Coop a, Ontarl Fax: 905 earth.ag by human	ers Av o L42 712. atlabs s)	enue 2 1Y2 5122 5.com		Lab Work Coole Arriv	orato Order a er Quan al Temp	erature	es:		HS 52 CO (1)	670	68	14
Report Information: 50	ILMAT			Regulatory Requirements: (Please check all applicable boxes)								Custody Seal Intact: Yes No N/A Notes:								
Contact: Peter	er Mail	us.c			egulation 153/04 Excess Soils R4	-	Sewe	r Use itary] Storn	ı		Turn Regu	arou Jar TA	nd Ti AT	ime (TAT)	Requi	red: ness Days	5	
Phone: Reports to be sent to: 1. Email: 2. Email: bc	Fax:	10 53 10 53, 1m	ilmitic	Soil Te	Agriculture		Objec	dicate One	/QO)		-		3 Bu Days	siness Date Re	equirec	2 Bi Day d (Rush	usiness /s Surchal	ges May	Next Bur Day Apply):	siness
Project Information: Project: 302 Site Location: /	519 284 M	tin ST	HAM	IS Rec	this submission for a cord of Site Condition?	Re Cer	eport G tificat Yes	uidelir e of An	alys	n Is O		Fo	P *TAT i	lease p is exclu	provide usive of analys	e prior n f weeke	notificatio ands and	on for rus I statutor	sh TAT 'y holiday AGAT CF	ys PM
Sampled By: AGAT Quote #: Please note: If quotation number is	PO:	billed full price for a	nalynia.	- Sam B	nple Matrix Legend Biota	CrVI, DOC	0. R	eg 153	2				O. Reg	406 98893		ia, pica.				ration (Y/N)
Invoice Information: Company: Contact: Address: Email:	Bill	To Same: Yes	5 🗌 No 🗌	GW O P S SD SW	Ground Water Oil Paint Soil Sediment Surface Water	Field Filtered - Metals, Hg,	s & Inorganics	5 - L CrVI, LI HB, LI HWSB F1-F4 PHCs o F4G if raminad F1 Vac I				I Disposal Characterization ™ JM&J □VOCs □ABNs □B(a)P	s Soils SPLP Rainwater Le.	s Soils Characterization Par PMS Metals, BTEX, F1-F4	EC/SAR		4	「五」の地下		ally Hazardous or High Concent
Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Y/N	Metals	BTEX, Analyz	PAHs	PCBs	voc	TCLP: []	Excess SPLP:	Excess pH, ICI	Salt - E					Potenti
MW4 MW5 MW6	Feb24/2=		16 14 16	GW	Field Fitorel		× × 4	××	×		X X X X X									
MN 8 MN 9 MN 10		AM PM AM PM AM PM	14 14 14		where app?.cable		XXX	××××			× × × ×									
	Ψ	AM PM AM PM AM PM	14																	
Samples Rollinguished By (Print Name and Sign)	3h	Date Feb24 Date Feb24 Date Feb24	122 Time 122 Time 22 41	· ST SPM	Samples Received By (Print Name and Sign) Samples Received By (Print Name and Sign) Samples Received By (Print Name and Sign):	Per	zh-	Dink	Copy	Date FC O. Date	<u>eb</u> 2/2	24/2	Time Z Time Time	کد: کر: ۸۳ ۱ ۱	S B Nhite C	'55 Nº: T	Page	of 561	60 Surger March	9, 2021



CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT 130 LANCING DRIVE HAMILTON, ON L8W3A1 (905) 318-7440 **ATTENTION TO: Peter Markesic PROJECT: 302519** AGAT WORK ORDER: 22H869437 **TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist** DATE REPORTED: Mar 04, 2022 PAGES (INCLUDING COVER): 7 VERSION*: 1

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

<u>otes</u>	
claimer.	

- 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.
- 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.

AGAT Laboratories (V1)

Nember of: Association of Professional Engineers and Geoscientists of Alberta	
(APEGA)	
Western Enviro-Agricultural Laboratory Association (WEALA)	
Environmental Services Association of Alberta (ESAA)	

Page 1 of 7

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. Measurement Uncertainty is not taken into consideration when stating conformity with a specified requirement.



Certificate of Analysis

AGAT WORK ORDER: 22H869437 PROJECT: 302519 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

SAMPLING SITE:

ATTENTION TO: Peter Markesic

SAMPLED BY:

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

DATE RECEIVED: 2022-03-02

		SAMPLE DES	CRIPTION:	MW5	
		SAM	PLE TYPE:	Water	
		DATES	SAMPLED:	2022-03-02 16:00	
Parameter	Unit	G/S	RDL	3575437	
Polychlorinated Biphenyls	µg/L	0.2	0.1	<0.1	
Surrogate	Unit	Acceptab	le Limits		
Decachlorobiphenyl	%	60-1	140	75	

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.

3575437 PCB total is a calculated parameter. The calculated value is the sum of Aroclor 1242, Aroclor 1248, Aroclor 1254 and Aroclor 1260. 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:

NPopukoloj

DATE REPORTED: 2022-03-04



Certificate of Analysis

AGAT WORK ORDER: 22H869437 **PROJECT: 302519**

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

SAMPLING SITE:

ATTENTION TO: Peter Markesic

SAMPLED BY:

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

DATE RECEIVED: 2022-03-02

DATE RECEIVED: 2022-03-02						DATE REPORTED: 2022-03-04
		SAMPLE DESC	RIPTION:	Mar.2 S1	Dup4	
		SAMP	LE TYPE:	Soil	Soil	
		DATE S	AMPLED:	2022-03-02 16:00	2022-03-02 16:00	
Parameter	Unit	G/S	RDL	3575432	3575436	
Benzene	µg/g	0.02	0.02	<0.02	<0.02	
Toluene	µg/g	0.2	0.05	<0.05	<0.05	
Ethylbenzene	µg/g	0.05	0.05	<0.05	<0.05	
n & p-Xylene	µg/g		0.05	<0.05	<0.05	
o-Xylene	µg/g		0.05	<0.05	<0.05	
Kylenes (Total)	µg/g	0.05	0.05	<0.05	<0.05	
=1 (C6 - C10)	µg/g	25	5	<5	<5	
F1 (C6 to C10) minus BTEX	µg/g	25	5	<5	<5	
⁼ 2 (C10 to C16)	µg/g	10	10	<10	<10	
F3 (C16 to C34)	µg/g	240	50	<50	<50	
⁼ 4 (C34 to C50)	µg/g	120	50	<50	<50	
Gravimetric Heavy Hydrocarbons	µg/g	120	50	NA	NA	
Moisture Content	%		0.1	24.8	21.5	
Surrogate	Unit	Acceptable	e Limits			
Toluene-d8	% Recovery	60-14	10	84.7	89	
Ferphenyl	%	60-14	10	94	93	

Certified By:

NPopukolof



Certificate of Analysis

AGAT WORK ORDER: 22H869437 PROJECT: 302519 5835 COOPERS AVENUE MISSISSAUGA, ONTARIO CANADA L4Z 1Y2 TEL (905)712-5100 FAX (905)712-5122 http://www.aqatlabs.com

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

SAMPLING SITE:

ATTENTION TO: Peter Markesic

SAMPLED BY:

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

DATE RECEIVED: 2022-03-02 **DATE REPORTED: 2022-03-04** 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. 3575432-3575436 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 guantified 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:

NPopukoloj



Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

SAMPLING SITE:

AGAT WORK ORDER: 22H869437 ATTENTION TO: Peter Markesic

SAMPLED BY:

Trace Organics Analysis

					-		-								
RPT Date: Mar 04, 2022			DUPLICATE				REFERENCE MATERIAL			METHOD	BLANK	SPIKE	MAT	RIX SPI	KE
PARAMETER	Batch	Sample	Dup #1	Dup #2	RPD	Method Blank	Measured	Acce Lir	ptable nits	Recovery	Acce Lin	ptable nits	Recovery	Acce Lir	ptable nits
		ia		-			value	Lower	Upper		Lower	Upper	-	Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (S	Soil)														
Benzene	3564138		<0.02	<0.02	NA	< 0.02	112%	60%	140%	98%	60%	140%	96%	60%	140%
Toluene	3564138		<0.05	<0.05	NA	< 0.05	91%	60%	140%	93%	60%	140%	118%	60%	140%
Ethylbenzene	3564138		<0.05	<0.05	NA	< 0.05	117%	60%	140%	102%	60%	140%	110%	60%	140%
m & p-Xylene	3564138		<0.05	<0.05	NA	< 0.05	112%	60%	140%	117%	60%	140%	99%	60%	140%
o-Xylene	3564138		<0.05	<0.05	NA	< 0.05	100%	60%	140%	101%	60%	140%	91%	60%	140%
F1 (C6 - C10)	3564138		<5	<5	NA	< 5	100%	60%	140%	101%	60%	140%	102%	60%	140%
F2 (C10 to C16)	3563500		< 10	< 10	NA	< 10	110%	60%	140%	64%	60%	140%	103%	60%	140%
F3 (C16 to C34)	3563500		< 50	< 50	NA	< 50	115%	60%	140%	74%	60%	140%	120%	60%	140%
F4 (C34 to C50)	3563500		< 50	< 50	NA	< 50	109%	60%	140%	67%	60%	140%	86%	60%	140%
O. Reg. 153(511) - PCBs (Water)															
Polychlorinated Biphenyls	3552319		< 0.1	< 0.1	NA	< 0.1	96%	50%	140%	82%	50%	140%	78%	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:

NPopukoli

AGAT QUALITY ASSURANCE REPORT (V1)

Page 5 of 7

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Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

PROJECT: 302519

SAMPLING SITE:

AGAT WORK ORDER: 22H869437

ATTENTION TO: Peter Markesic

PARAMETER	AGAT S.O.P	AGAT S.O.P LITERATURE REFERENCE						
Trace Organics Analysis	L	·						
Polychlorinated Biphenyls	ORG-91-5112	modified from EPA SW-846 3510 & 8082A	GC/ECD					
Decachlorobiphenyl	ORG-91-5112	modified from EPA SW-846 3510 & 8082A	GC/ECD					
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					
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 - 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					
Moisture Content	VOL-91-5009	CCME Tier 1 Method	BALANCE					
Terphenyl	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID					

Chain of Custody Record If this is a Drinking W	.aborato	Dries	Ph: 90	Mis: 95.712 vater co	58 sissaug 2.5100 wet	335 Co ga, Ont Fax: 9 bearth. I by hum	opers Av ario L42 05 712. agatlabs nans)	enue 1 1Y2 5122 com	_	Labe Work Coole Arriva	Order # order # r Quan	tity:	se Or	11y 22t 7.05	186°	943 600 (1	7-3 6-6	
Report Information: Soil-Mat Company: Soil-Mat Contact: Peter Markesic Address: 130 Lancing pr Hamilton Fax: Reports to be sent to: Phone: 1. Email: Photophic Soil mat.ccs 2. Email: Molton Gasoil mat.cci		Regulatory Requirements: (Please check all applicable boxes) Regulation 153/04 Table Ind/Com Res/Park Agriculture Soil Texture (check One) Coarse Fine			Sewer Use Sanitary Storm Region Prov. Water Quality Objectives (PWQO) Other Indicate One					Custody Seal Intact: Yes No N/A Notes: CC PKS Turnaround Time (TAT) Required: Regular TAT 5 to 7 Business Days Rush TAT (Rush Surcharges Apply) 3 Business 2 Business Days Days Next Business OR Date Required (Rush Surcharges May Apply):								ess
Project Information: Project: 302.519 Site Location: 12894 Main St Sampled By: MT AGAT Quote #: PO: Please note: If guotation number is not provided, client will be billed full p Invoice Information: Bill To Same	e: Yes No	Record of Site C Yes [Sample Matrix L B Biota GW Ground Water O Oil	ondition?] No egend	Cert	Yes	Reg 153	Analys	is 0			P *TAT i Same 0. Reg 0. Reg	tion Package b s excluse Day' : 406 406	orovide usive of analysis	prior not weekend	ification Is and st contac	for rush tatutory l t your A0	TAT holidays GAT CPM	Concentration (Y/N)
Company: Contact: Address: Email: Sample Identification Date Sampled Sampled	e # of S led Containers	P Paint S Soil SD Sediment SW Surface Water	mments/ al Instructions	 Field Filtered - Metal 	Metals & Inorganics	Metals - CrVI, CHg, CH	Analyze F4G if required C	PCBs	VOC	Landfill Disposal Characteriz TCLP: DM&I DVOCs DABNs	Excess Soils SPLP Rainwa SPLP: Metals VOCs	Excess Soils Characterizat pH, ICPMS Metals, BTEX, I	Salt - EC/SAR					Potentially Hazardous or High
Mar. 2 SI Mar. 2/22 4pr DUP I MWS	m AM 2 AM 2	S SW						×										
Samples Belinguished By (Print Name and Sign)	AM AM AM AM AM AM AM AM AM AM	43pm Samples Received I Samples Received I Samples Received I Samples Received I	y (Print Name and Parts) The Constraint of Sign by (Print Name and Sign): By (Print Name and Sign):	72	2	~	~	Date A Date	14	2/2	Time Time Time	445 203	Pn Pn	P; №: Т	age _1 13(of	1- 2 2	202*

Document ID: DIV 711 11:10.001

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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

Peter Markesic, B.Sc.

Environmental Project Manager

Mr. Markesic has over ten years of experience in conducting Phase I ESA research and Phase II ESA fieldwork, including soil and groundwater sampling. Mr. Markesic has also been a key project member on a number of Phase III Environmental Site Assessment projects, including the decommissioning of underground fuel storage tanks and both insitu and ex-situ remediation projects.

lan Shaw, P. Eng.

[Director/ Senior Professional]

Mr. Shaw has over fourteen years of experience in the geotechnical and geoenvironmental fields. Mr. Shaw has supervised the geotechnical investigations for the replacement/rehabilitation of bridge/culvert structures located within the Haldimand County, numerous residential and industrial subdivision projects, slope stability assignments associated with Hamilton Conservation Authority and Conservation Halton requirements, and several high rise developments in Hamilton, Burlington, Oakville, Brantford, St. Catharines, and Niagara Falls. Mr. Shaw has also been involved in numerous hydrogeological investigations, primarily within the City of Hamilton, associated with the development of residential and commercial subdivision projects. Some of Mr. Shaw's projects have included the decommissioning of underground and above ground fuel oil storage tanks, the implementation of in-situ and ex-situ remediation programmes 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.

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