PROJECT NO.: SM 301724-E

OCTOBER 7, 2021
REVISED FEBRUARY 10, 2022

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
PROPOSED HIGH RISE DEVELOPMENT
LOT 175, PORTAGE ROAD
NIAGARA FALLS, ONTARIO

PREPARED FOR:

RUDANCO INC.

BY

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

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SOIL-MAT ENGINEERS & CONSULTANTS LTD.

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PROJECT NO.: SM 301724-E

OCTOBER 7, 2021
REVISED: FEBRUARY 10, 2022

RUDANCO INC.
4728 Dorchester Road – Unit 11B, 2nd Floor
Niagara Falls, Ontario
L2E 7H9

Attention: Mr. Jeremia Rudan

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
PROPOSED HIGH RISE DEVELOPMENT
LOT 175, PORTAGE ROAD
NIAGARA FALLS, ONTARIO

Dear Mr. Rudan,

1.0 EXECUTIVE SUMMARY

SOIL-MAT ENGINEERS & CONSULTANTS LTD. [SOIL-MAT ENGINEERS] were retained by RUDANCO INC. to undertake Phase Two ESA activities on the above captioned property. It is noted that the Phase Two activities were completed to support the filing of a Record of Site Condition [RSC] for the property.

The Phase Two activities included the advancement of thirteen [13] boreholes and two [2] hand dug test pits to facilitate the collection and submission of select soil samples for laboratory analytical testing. In addition, a groundwater monitoring well was installed at four [4] of our borehole locations to facilitate the collection and submission of groundwater samples for laboratory analytical testing.

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

- The Phase Two activities carried out by SOIL-MAT ENGINEERS revealed an exceedance for a select metal parameter in an isolated borehole location on the Phase Two Property. Specifically, an elevated level of Cadmium was reported in the soil medium between 2.3 to 2.9 metres below ground surface at our borehole location 'BH101;.
- The laboratory analytical test result for the remaining soil samples all reportedly meet the applicable site condition standards for the select tested contaminants of potential concern, and;
- The laboratory analytical test results for all of the submitted groundwater samples are reportedly below the applicable site condition standard for the select tested contaminants of potential concern.

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

As noted in the preamble above, an isolated 'hotspot' of soil exhibiting an elevated level of Cadmium was identified at our borehole location 'BH101'. The elevated level of Cadmium was encountered between 2.3 to 2.9 metres below ground surface. It is noted that additional intrusive soil sampling is recommended to further delineate the lateral and vertical extent of the isolated 'hot spot' and/or demonstrate that the noted exceedance is anomalous in nature and not representative of the actual soil conditions at this location.

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

SOIL-MAT ENGINEERS & CONSULTANTS LTD. prepared this Report for the account of RUDANCO INC. The material in if reflects SOIL-MAT ENGINEERS' best judgement in light of the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. SOIL-MAT ENGINEERS accepts no responsibility for damages, if any suffered by any third party as a result of decisions made or actions based on this report.

2.0 INTRODUCTION

SOIL-MAT ENGINEERS were retained by RUDANCO INC. to undertake a Phase Two Environmental Site Assessment [ESA] on the above captioned property. It is noted that the Phase Two activities were conducted in accordance with Ontario Regulation 153/04 [as amended] to support the filing of an RSC; pending favourable laboratory analytical test results.

A Phase One Environmental Site Assessment was previously prepared by SOIL-MAT ENGINEERS, and was utilised in determining the rationale for these Phase Two activities [refer to SOIL-MAT ENGINEERS' Report No.: SM 301724-E dated July 7, 2021].

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

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

2.0 (i) SITE DESCRIPTION

The Site is comprised of an irregular shaped parcel of land on the west side of Portage Road between Marineland Parkway and McLeod Road in the City of Niagara Falls, Ontario.

For descriptive purposes Portage Road has been designated as having a north-south alignment.

At the time of this Report, the Site was comprised primarily of areas of overgrown grass and low-lying weeds with some trees along the western perimeter of the Site. In addition, an asphaltic-concrete covered driveway and parking area and a small gravel covered area were observed in the middle portion of the Site.

The Site was bounded to the north by a vacant undeveloped parcel of land and McLeod Road, to the east by Portage Road, to the south by a hydro substation and to the west by a railway line.

The Site did not have a known municipal address at the time of this Report. However, the Site is recognized as part of 'Lot 175 of the Stamford Township in the City of Niagara Falls, Ontario'. The property identification number [PIN] is '64377-0134'.

The area of the Site is 1.2875 hectares.

2.0 (ii) PROPERTY OWNERSHIP

At the time of this report, the Site was owned by Rudanco Inc.

The contact information for the owner is provided below:

1. Contact Name: Mr. Jeremia Rudan
2. Mailing Address: 4728 Dorchester Road – Unit 11B, 2nd Floor, Niagara Falls, Ontario, L2E 7H9
3. Contact e-mail: jeremia@smjrhospitality.com
4. Contact Phone: 289-296-6444

2.0 (iii) CURRENT AND PROPOSED FUTURE USE

Current Use: Industrial
Proposed Use: Residential

Based on the current use and the proposed use of the Site, the proposed development is subject to a mandatory Record of Site Condition 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: Industrial;
- Intended land use: Residential;
- Drinking Water Supply: Non-Potable Ground Water;
- On-site Soil Texture: Medium to Fine Grained Soils;
- Depth to Bedrock: Approximately 28.0 to 34.1 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’. However, to avoid a possible 30 day upper tier municipality non-potable water notification delay the Qualified Person [QP] opted to compare all of the available soil and groundwater analytical test results to the Table 2 Standards for a residential / parkland / institutional [RPI] property use in a potable groundwater condition from the Ministry of the Environment document “Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act, (2011), hereinafter referred to as the ‘Table 2 RPI Standards’.

3.0 BACKGROUND INFORMATION

3.0 (i) PHYSICAL SETTING

The Site is located in an area of mixed industrial, parkland, institutional, commercial, forested and vacant undeveloped lands.

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

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

The topography of the Site is relatively flat and level, with surface water being directed primarily to the east towards a catch basin located at the entrance roadway off Portage Road.

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, Proposed High Rise Development, Lot 175, Portage Road, Niagara Falls, Ontario, dated July 7, 2021: prepared for Rudanco Inc. [Mr. Jeremia Rudan].

The July 7, 2021 Phase One ESA report revealed four [4] potentially contaminating activities [PCAs] on the Phase One Property, including the following:

- Information extrapolated from aerial photographs, including photographs from 1921, 1934, 1954, 1968 and 1995, as well as topographic maps from 1938, 1962 and 1996 revealed four [4] structures were demolished on the Phase One Property. Historically, it was a common practice to utilize residual construction debris and imported fill material of unknown quality to backfill the void of a basement level(s), if present;
- Information extrapolated from aerial photographs, including photographs from 1921, 1934, 1954, 1968 and 1995, revealed the Site has been utilized as an industrial hydro sub-station;
- Information extrapolated from aerial photographs, including photographs from 1968 and 1995 revealed hydro transformers on the Site.
- A 1962 topographic map illustrates two [2] railway spur lines running through the Phase One Property.

The lands in the general vicinity of the Site are comprised of a mixture of industrial, parkland, institutional, commercial, forested and vacant undeveloped lands. The Phase One ESA research revealed five [5] historical PCAs on lands in the Phase One Study Area that are considered a potential environmental liability to the Site, including the following items:

- Information extrapolated from aerial photographs, including photographs from 1921, 1934, 1954, 1968, 1995, 2002 and 2009, as well as topographic maps from 1962 and 1996 revealed a hydro sub station to the west of the Phase One Property.
- Information extrapolated from aerial photographs, including photographs from 1921, 1934, 1954, 1968, 1995, 2002, 2009, 2014 and 2018 revealed a hydro sub station adjacent to the south of the Phase One Property.
- Information extrapolated form all aerial photographs and topographic maps reveal a railway line adjacent to the west of the Phase One Property;
- Information extrapolated from aerial photographs, including photographs from 1954, 1968, 1995, 2002 and 2009, as well as topographic maps from 1962 and 1996 revealed hydro transformers to the west of the Phase One Property.
- Information extrapolated from aerial photographs, including photographs from 1954, 1968, 1995, 2002, 2009, 2014 and 2018 revealed hydro transformers adjacent to the south of the Phase One Property.

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

Areas of Potential Environmental Concern	Location of Areas 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	Throughout the Phase One Property	30. Importation of Fill Material of Unknown Quality	On-Site	Metals, As, Sb, Se, BHWS, CN, Electrical Conductivity, Cr (VI), Hg, SAR, PHCs, and BTEX.	Soil
APEC #2	Throughout the Phase One Property	18. Electricity Generation, Transformation and Power Stations	On-Site	Metals, PCBs, PHCs, VOCs, ABNs, and BTEX	Soil and groundwater
APEC #3	Throughout the Phase One Property	46. Rail Yards, Tracks and Spurs	On-Site	PAHs	Soil and groundwater
APEC #4	The southern portion of the Phase One Property	55. Transformer Manufacturing, Processing and Use	On-Site	Metals, PCBs, PHCs, VOCs, ABNs, and BTEX	Soil and groundwater

Areas of Potential Environmental Concern	Location of Areas of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity	Locations of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC #5	The southern limit of the Phase One Property.	18. Electricity Generation, Transformation and Power Stations	Off-Site	Metals, PCBs, PHCs, VOCs, ABNs, and BTEX	Soil and groundwater
		55. Transformer Manufacturing, Processing and Use	Off-Site	Metals, PCBs, PHCs, VOCs, ABNs, and BTEX	Soil and groundwater
APEC #6	The western limit of the Phase One Property.	46. Rail Yards, Tracks and Spurs	Off-Site	PAHs	Soil and groundwater
		18. Electricity Generation, Transformation and Power Stations	Off-Site	Metals, PCBs, PHCs, VOCs, ABNs, and BTEX	Soil and groundwater
		55. Transformer Manufacturing, Processing and Use	Off-Site	Metals, PCBs, PHCs, VOCs, ABNs, and BTEX	Soil and groundwater

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

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

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

4.0 SCOPE OF THE INVESTIGATION

4.0 (i) OVERVIEW OF SITE INVESTIGATION

The Phase Two activities included the advancement of thirteen [13] boreholes and two [2] hand dug test pits to facilitate the collection and submission of select soil samples for laboratory analytical testing. In addition, a groundwater monitoring well was installed at four [4] of our borehole locations to facilitate the collection and submission of groundwater samples for laboratory analytical testing.

Of note, our Phase Two was activities were completed in conjunction with a geotechnical investigation of the Site by this Office. As such, not all thirteen [13] boreholes were advanced for the purpose of our Phase Two activities.

In addition, it is noted that our Phase One ESA findings revealed nine [9] PCAs that were considered to create six [6] areas of potential environmental concern [APECs] on the Site.

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

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

4.0 (ii) MEDIA INVESTIGATED

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

4.0 (iii) PHASE ONE CONCEPTUAL SITE MODEL

The Phase One ESA property is comprised of an irregular shaped parcel of land on the west side of Portage Road between Marineland Parkway and McLeod Road in the City of Niagara Falls, Ontario.

SOIL-MAT ENGINEERS completed a Phase One ESA on the Site in July of 2021. The information gathered during the completion of the Phase One ESA reports revealed that the Site was first developed between 1906 and 1921 as industrial lands. The first readily available visual aid for the Site is a topographic map from 1906 which illustrates the Site as vacant undeveloped land. Other visual aids, including aerial photographs from 1921, 1934, 1954, 1968, 1995, 2002, 2009, 2014 and 2018 and topographic maps from 1938, 1962, and 1996, confirm the development timeline above.

The neighbouring and nearby lands to the Site are comprised of a mixture of industrial, parkland, institutional, commercial, forested and vacant undeveloped lands. Information

gathered of the adjoining properties during the Phase One ESA revealed four [4] on-site PCAs and five [5] PCAs on lands in the Phase One 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 and associated APECs were identified:

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	Throughout the Phase One Property	30. Importation of Fill Material of Unknown Quality	On-Site	Metals, As, Sb, Se, BHWS, CN, Electrical Conductivity, Cr (VI), Hg, SAR, PHCs, and BTEX.	Soil
APEC #2	Throughout the Phase One Property	18. Electricity Generation, Transformation and Power Stations	On-Site	Metals, PCBs, PHCs, VOCs, ABNs, and BTEX	Soil and groundwater
APEC #3	Throughout the Phase One Property	46. Rail Yards, Tracks and Spurs	On-Site	PAHs	Soil and groundwater
APEC #4	The southern portion of the Phase One Property	55. Transformer Manufacturing, Processing and Use	On-Site	Metals, PCBs, PHCs, VOCs, ABNs, and BTEX	Soil and groundwater
APEC #5	The southern limit of the Phase One Property.	18. Electricity Generation, Transformation and Power Stations	Off-Site	Metals, PCBs, PHCs, VOCs, ABNs, and BTEX	Soil and groundwater
		55. Transformer Manufacturing, Processing and Use	Off-Site	Metals, PCBs, PHCs, VOCs, ABNs, and BTEX	Soil and groundwater

Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity	Locations of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC #6	The western limit of the Phase One Property.	46. Rail Yards, Tracks and Spurs	Off-Site	PAHs	Soil and groundwater
		18. Electricity Generation, Transformation and Power Stations	Off-Site	Metals, PCBs, PHCs, VOCs, ABNs, and BTEX	Soil and groundwater
		55. Transformer Manufacturing, Processing and Use	Off-Site	Metals, PCBs, PHCs, VOCs, ABNs, 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.

SOIL-MAT ENGINEER's Phase One CSM is included in Appendix 'A' of this Report for reference.

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.

Access to the northern portion of the Site was not possible as the area was heavily covered in weeds and trees as well as permission to cross another property to access this point was not granted. As such, the borehole planned for the northern portion of this Site was removed from the proposed scope of work

With the exception of the above noted item, there were no deviations recorded during this Phase Two ESA.

4.0 (v) IMPEDIMENTS

Access to the northern portion of the Site was not possible as the area was heavily covered in weeds and trees as well as permission to cross another property to access this point was not granted. As such, the borehole planned for the northern portion of this Site was removed from the proposed scope of work.

With the exception of the above noted item, there were no impediments to SOIL-MAT ENGINEERS' field work and planned Phase Two activities.

5.0 INVESTIGATION METHODS

5.0 (i) GENERAL

With the exception of a borehole/monitoring well to be advanced at the northern portion of the Site, there were no deviations in SOIL-MAT ENGINEERS' planned Phase Two ESA activities.

5.0 (ii) DRILLING AND EXCAVATING

All of the boreholes, associated with our Phase Two activities, were advanced using a combination of solid stem and hollow stem continuous flight auger equipment on July 6 and July 7, 2021. The physical advancement of the boreholes was performed by Elements GEO, 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.

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

The samples were picked up at our office by AGAT in coolers equipped with ice packs to help maintain a temperature range between the applicable 0^{o}C to 10^{o}C. As reported on the chain of custody for the soil samples, the samples were picked up at our office by AGAT with an average temperature of 6.3^{o}C, and arrived at AGAT's lab in Mississauga, Ontario with a final average temperature of 6.0^{o}C.

5.0 (iv) FIELD SCREENING MEASUREMENTS

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

No hand held field screening units were utilised during the collection of the confirmatory soil samples.

5.0 (v) GROUND WATER: MONITORING WELL INSTALLATION

A 50 millimetre groundwater monitoring well was installed at Borehole Nos.: 'BH101', 'BH104', 'BH106' and 'BH108' upon the completion of drilling activities. In each case, the monitoring wells were installed to a depth of approximately 4.6 m bgs and were constructed with a screened interval in the lower 3.05 metres. The groundwater monitoring wells were installed in accordance with *Ontario Regulation 903 [Water Wells]* under the Ontario Water Resources Act.

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 below.

Monitoring Well	Bottom of Monitoring Well [m bgs]	Bottom of the Borehole Elevation [m]	Screen Length [m]	Screen Interval [m bgs]	Filter Pack [m bgs]	Bentonite Plug [m bgs]	Ground Surface Elevation [m ASL]
MW101	4.6	95.01	3.05	1.55 – 4.6	1.25 – 4.6	0.15 – 1.25	99.61
MW104	4.6	94.97	3.05	1.55 – 4.6	1.25 – 4.6	0.15 – 1.25	99.57
MW106	4.6	95.17	3.05	1.55 – 4.6	1.25 – 4.6	0.15 – 1.25	99.77
MW108	4.3	95.32	3.05	1.25 – 4.3	0.95 – 4.3	0.15 – 0.95	99.62

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. A light non-aqueous phase liquid [LNAPL] layer was not identified in any of the on-site monitoring wells.

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

The groundwater samples were delivered to the AGAT depot in Stoney Creek, Ontario immediately after sampling on ice to begin cooling the samples. It is noted that the average temperature at the time of arrival at the AGAT lab in Stoney Creek is recorded as 18.2 ^{o}C. However, it is noted that the groundwater samples were delivered to AGAT immediately after the sampling events. As such, insufficient time had passed for the samples to cool down to the applicable 0^{o}C to 10^{o}C, however it is noted that it is part of

AGAT's procedures to place the samples on ice to continue the cooling process, or maintain the samples at the applicable temperatures.

5.0 (vii) GROUND WATER: SAMPLING

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

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

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

Professional care was exercised during the retrieval of each sample, the placement of each sample in the appropriate sample 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 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. As the laboratory analytical test results revealed a select exceedance of the applicable SCSs at one sample location, the soil cuttings at this specific location will need to be removed off-site for disposal during future remedial efforts.

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. The top of an on-site manhole, located roughly at the centre of the Site, was used as a temporary benchmark. This temporary benchmark was assigned 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 approximately 50 to 300 millimetres in thickness was encountered at Borehole Nos.: 'BH01A' to 'BH01C', 'BH2', and 'BH103' through 'BH107'. It is noted that the depth of topsoil may vary across the site and from the depths encountered at the borehole locations.
- SAND AND GRAVEL FILL: Sand and gravel fill was encountered at the surface of Borehole Nos.: 'BH101' and 'BH108' and beneath the surficial veneer of topsoil at Borehole Nos.: 'BH01A' to 'BH01C', and Borehole No.: 'BH107'. The sand and gravel fill was generally noted to be in a compact to dense condition, predominately associated with gravel surfaced area just north of the asphalt paved parking areas.
- PAVEMENT STRUCTURE: Borehole Nos.: 'BH102' and 'BH109' were advanced through the existing pavement structure which was noted to consist of approximately 60 to 75 millimetres of asphaltic concrete, overlying approximately 340 to 430 millimetres of compact granular base.
- SILTY SAND / SANDY SILT FILL: A deposit of silty sand/sandy silt fill was encountered beneath the topsoil layer and clayey silt/silty clay fill layer within Borehole Nos.: 'BH2' and 'BH107'. The fill material was noted to be brown in colour, contained trace to some gravel, and was generally noted to be in a loose to dense state. The silty sand/sandy silt fill was proven to depths of up to approximately 1.0 and 3.9 metres, respectively.
- CLAYEY SILT / SILTY CLAY FILL: Clayey silt/silty clay fill was encountered beneath the topsoil layer and sand and gravel fill layer within Borehole Nos.: 'BH2' and 'BH107'. The fill material encountered was brown in colour, contained trace to some sand and gravel, with organic staining and debris in the upper levels in Borehole No.: 'BH107'. The material was generally noted to be soft in consistency. The fill material encountered was proven to depths of up to approximately 2.5 to 2.3 metres.
- CLAYEY SILT / SILTY CLAY: Native clayey silt/silty clay was encountered beneath the surficial topsoil, fill materials, and pavement structure at all of the boreholes. The native cohesive soil is brown to reddish brown in colour, had a 'reworked' appearance in the upper levels within all boreholes, contained trace sand and gravel, and was generally firm to hard in consistency in the upper levels, becoming firm to soft with depth or when approaching the transition to grey. A transition to grey was noted within Borehole Nos.: 'BH01A' to 'BH01C', and 'BH2' at depths of between approximately 6.3 to 7.6 metres. The native clayey silt/silty clay was noted to exhibit intermittent sandy silt/silty sand layers creating a variable and discontinuous soil structure. The clayey silt/silty clay soil was proven to termination to depths of between approximately 1.3 to 12.2 metres below the existing ground surface within Borehole Nos.: 'BH101' to 'BH109'. Within the boreholes that were advanced to bedrock, notably Borehole Nos.: 'BH01A' to 'BH01C' and 'BH2', the native cohesive soil was proven to a depth of between 9.1 and 12.2, and then encountered again at depth of approximately 27.4 metres. This was then proven to termination at a depth of approximately 33.5 metres within Borehole Nos.: 'BH01A' to 'BH01C', and to practical auger refusal on inferred bedrock at a depth of approximately 28 metres below the existing ground surface in Borehole No.: 'BH2'.
- SANDY SILT / SILTY SAND: Native sandy silt/silty sand was encountered beneath the native clayey silt/silty clay in Borehole Nos.: 'BH01A' to 'BH01C', and 'BH2'. The

native fine grained cohesionless soil was brown in colour, contained trace gravel in the lower levels, some clayey inclusions in the upper levels, and was generally compact to very dense. The sandy silt/silty sand was proven to a depth of approximately 27.4 metres within the boreholes. It is noted that a veneer of the sandy silt/silty sand, approximately 100 to 600 millimetres in thickness, was encountered above the limestone bedrock.

- LIMESTONE BEDROCK: Limestone/dolostone bedrock was encountered/inferred from auger refusal at depths of between approximately 28.0 and 34.1 metres below the existing grade at all borehole locations.
- GROUNDWATER: The depth to the groundwater table is anticipated to be approximately 0.5 to 3.0 metres based on groundwater readings from the four [4] monitoring wells installed on the Site. Seasonal fluctuations to this level should be expected. Based on the ground water contours extrapolated from the recorded static ground water levels on the Site the ground water flow direction through the Site is to the west-northwest. In addition, the horizontal hydraulic gradient was estimated as 0.01024.

6.0 (ii) GROUND WATER: ELEVATIONS AND FLOW DIRECTIONS

All boreholes were recorded as open and 'dry' upon completion with the exception of Borehole Nos.: 'BH01A', 'BH01C', and 'BH2', which were noted to be open to depths of between approximately 27.4 and 32.0 metres. Borehole No.: 'BH01C' was noted to be wet upon completion of drilling. It is noted that insufficient time would have passed for the static groundwater level to stabilise in the open boreholes, however, in cohesive soils such as the silty clay encountered, the static groundwater level generally coincides with the transition in colour from brown to grey.

Groundwater monitoring wells were installed in Borehole Nos.: 'BH101', 'BH104', 'BH106', and 'BH108' for future monitoring of the static groundwater level and environmental sampling of the on-site groundwater. The monitoring installation details are summarized in the table below.

TABLE A
SUMMARY OF GROUNDWATER LEVELS

Borehole No.	Surface Elevation (m)	July 22, 2021		August 11, 2021	
		Depth [m]	Elev. [m]	Depth [m]	Elev. [m]
BH-#101	99.61	0.70	98.91	2.77	96.84
BH-#104	99.57	1.06	98.51	1.85	97.72
BH-#106	99.77	0.72	99.05	1.30	98.47
BH-#108	99.62	1.26	98.36	2.39	97.23

Based on the groundwater readings, and based on our experience in the area and observations during drilling, the static groundwater level is estimated to fluctuate between approximately 0.5 and 3.0 metres below the existing pavement surface.

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

The monitoring well locations, groundwater contours, and inferred groundwater flow direction is illustrated on Drawing Nos. 2 in Appendix 'B'.

6.0 (iii) GROUND WATER: HYDRAULIC GRADIENTS

The horizontal hydraulic gradient was calculated based on the groundwater levels recorded during the Phase Two ESA. Based on these recordings, the distance between the monitoring wells and the depth of well installation the horizontal hydraulic gradient is estimated as 0.01024.

6.0 (iv) FINE-MEDIUM SOIL TEXTURE

SOIL-MAT ENGINEERS' performed hydrometers on six [6] retrieved soil samples. The results of the hydrometers indicate that the predominant soil type consists of a silt with some clay, with traces of sand and gravel, increasing in clay content with depth becoming a silt and clay mixture with some sand.

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

6.0 (v) SOIL: FIELD SCREENING

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

6.0 (vi) SOIL QUALITY

In total, twenty-two [22] soil samples, including four [4] duplicate soil samples, were secured from the Site to assess potential adverse impact(s) on the Site as a result of PCAs identified in our Phase One ESA.

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

SUMMARY OF TESTED SOIL SAMPLES

Sample ID	Depth [m bgs]	Laboratory Analysis	Soil Description
BH101-SS2	0.8 – 1.4	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	Clayey Silt / Silty Clay
BH101-SS4	2.3 – 2.9	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	Clayey Silt / Silty Clay
BH102-SS2	0.8 – 1.4	PAHs	Clayey Silt / Silty Clay
BH103-SS2	0.8 – 1.4	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	Clayey Silt / Silty Clay
BH103-SS3	1.5 – 2.1	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	Clayey Silt / Silty Clay
BH104-SS2	0.8 – 1.4	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	Clayey Silt / Silty Clay
BH104-SS3	1.5 – 2.1	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	Clayey Silt / Silty Clay

Sample ID	Depth [m bgs]	Laboratory Analysis	Soil Description
BH105-SS2	0.8 – 1.4	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	Clayey Silt / Silty Clay
BH105-SS4	2.3 – 2.9	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	Clayey Silt / Silty Clay
BH106-SS2	0.8 – 1.4	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	Clayey Silt / Silty Clay
BH106-SS3	1.5 – 2.1	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	Clayey Silt / Silty Clay
BH107-SS2	0.8 – 1.4	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	Clayey Silt / Silty Clay Fill
BH107-SS3	1.5 – 2.1	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	Clayey Silt / Silty Clay Fill
BH108-SS2	0.8 – 1.4	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	Clayey Silt / Silty Clay
BH108-SS3	1.5 – 2.1	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	Clayey Silt / Silty Clay
BH109-SS2	0.8 – 1.4	PAHs	Clayey Silt / Silty Clay
TP1	0.3	PAHs	Clayey Silt / Silty Clay
TP2	0.3	PAHs	Clayey Silt / Silty Clay
Dup1 [BH102-SS2]	0.8 – 1.4	PAHs	Clayey Silt / Silty Clay
Dup2 [BH108-SS2]	0.8 – 1.4	PCBs & ABNs	Clayey Silt / Silty Clay
Dup3 [BH108-SS3]	1.5 – 2.1	Metals, PHCs, VOCs, & BTEX	Clayey Silt / Silty Clay
Dup4 [TP2]	0.3	PAHs	Clayey Silt / Silty Clay

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

SUMMARY OF SOIL SAMPLE TEST RESULTS

Sample ID	Depth [m bgs]	Laboratory Analysis	Soil Description	Table 2 RPI Exceedances
BH101-SS2	0.8 – 1.4	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	Clayey Silt / Silty Clay	No exceedances reported
BH101-SS4	2.3 – 2.9	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	Clayey Silt / Silty Clay	Exceeds the Table 2 RPI SCSs for a select Metal parameter [Cadmium – reported value 1.7ppm vs SCS value of 1.2ppm]
BH102-SS2	0.8 – 1.4	PAHs	Clayey Silt / Silty Clay	No exceedances reported
BH103-SS2	0.8 – 1.4	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	Clayey Silt / Silty Clay	No exceedances reported
BH103-SS3	1.5 – 2.1	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	Clayey Silt / Silty Clay	No exceedances reported
BH104-SS2	0.8 – 1.4	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	Clayey Silt / Silty Clay	No exceedances reported
BH104-SS3	1.5 – 2.1	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	Clayey Silt / Silty Clay	No exceedances reported

Sample ID	Depth [m bgs]	Laboratory Analysis	Soil Description	Table 2 RPI Exceedances
BH105-SS2	0.8 – 1.4	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	Clayey Silt / Silty Clay	No exceedances reported
BH105-SS4	2.3 – 2.9	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	Clayey Silt / Silty Clay	No exceedances reported
BH106-SS2	0.8 – 1.4	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	Clayey Silt / Silty Clay	No exceedances reported
BH106-SS3	1.5 – 2.1	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	Clayey Silt / Silty Clay	No exceedances reported
BH107-SS2	0.8 – 1.4	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	Clayey Silt / Silty Clay Fill	No exceedances reported
BH107-SS3	1.5 – 2.1	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	Clayey Silt / Silty Clay Fill	No exceedances reported
BH108-SS2	0.8 – 1.4	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	Clayey Silt / Silty Clay	No exceedances reported
BH108-SS3	1.5 – 2.1	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	Clayey Silt / Silty Clay	No exceedances reported
BH109-SS2	0.8 – 1.4	PAHs	Clayey Silt / Silty Clay	No exceedances reported
TP1	0.3	PAHs	Clayey Silt / Silty Clay	No exceedances reported
TP2	0.3	PAHs	Clayey Silt / Silty Clay	No exceedances reported
Dup1 [BH102-SS2]	0.8 – 1.4	PAHs	Clayey Silt / Silty Clay	No exceedances reported
Dup2 [BH108-SS2]	0.8 – 1.4	PCBs & ABNs	Clayey Silt / Silty Clay	No exceedances reported
Dup3 [BH108-SS3]	1.5 – 2.1	Metals, PHCs, VOCs, & BTEX	Clayey Silt / Silty Clay	No exceedances reported
Dup4 [TP2]	0.3	PAHs	Clayey Silt / Silty Clay	No exceedances reported

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

The laboratory analytical test results for the submitted soil samples indicate the following Table 2 RPI exceedances:

1. The Phase Two activities carried out by SOIL-MAT ENGINEERS revealed an exceedance for a select metal parameter in an isolated borehole location on the Phase Two Property. Specifically, an elevated level of Cadmium was reported in the soil medium between 2.3 to 2.9 metres below ground surface at our borehole location ‘BH101;.
2. The laboratory analytical test result for the remaining soil samples all reportedly meet the applicable site condition standards for the select tested contaminants of potential concern.

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

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

6.0 (vii) GROUND WATER QUALITY

In total, five [5] groundwater samples, including one duplicate sample, was secured from the Site to assess potential adverse impact(s) on the Site as a result of PCAs identified in our Phase One ESA.

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

Sample ID	Laboratory Analysis
MW101-S1	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX
MW104-S1	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX
MW106-S1	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX
MW108-S1	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX
Dup 1 [MW101]	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX
Notes: Metals = Metals, As, Sb, Se, BHWS, CN, Electrical Conductivity [EC], Cr (VI), Hg and SAR PHCs = Petroleum Hydrocarbons, VOCs = Volatile Organic Compounds, BTEX = Benzene, Toluene, Ethylbenzene, and Xylene Mixture, PCBs = Polychlorinated Biphenyls, ABNs = Acid, Base, and Neutral Extractables, PAHs = Polycyclic Aromatic Hydrocarbons	

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

SUMMARY OF ANALYTICAL TESTING – WATER [TABLE 2 PGW]

Sample ID	Laboratory Analysis	Table 2 PGW Exceedances
MW101-S1	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	No exceedances reported
MW104-S1	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	No exceedances reported
MW106-S1	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	No exceedances reported
MW108-S1	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	No exceedances reported
Dup 1 [MW101]	Metals, PHCs, VOCs, ABNs, PCBs, & BTEX	No exceedances reported
Notes: Metals = Metals, As, Sb, Se, BHWS, CN, Electrical Conductivity [EC], Cr (VI), Hg and SAR, PHCs = Petroleum Hydrocarbons, VOCs = Volatile Organic Compounds, BTEX = Benzene, Toluene, Ethylbenzene, and Xylene Mixture, PCBs = Polychlorinated Biphenyls, ABNs = Acid, Base, and Neutral Extractables, PAHs = Polycyclic Aromatic Hydrocarbons		

The laboratory analytical test results for the submitted groundwater samples are all below the applicable Table 2 PGW 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 activities.

6.0 (ix) QUALITY ASSURANCE AND QUALITY CONTROL RESULTS

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

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

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

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

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

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

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

6.0 (x) PHASE TWO CONCEPTUAL SITE MODEL

SOIL-MAT ENGINEERS has not prepared a Phase Two CSM as part of this Phase Two ESA. However, a Phase Two CSM will be prepared to support the filing of an RSC, once remediation/removal of the isolated 'hot spot' area is completed.

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. Stephen R. Sears, B. Eng. Mgmt., P. Eng., QP_{ESA}, who is a Qualified Person for the undertaking of ESA activities.

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

- The Phase Two activities carried out by SOIL-MAT ENGINEERS revealed an exceedance for a select metal parameter in an isolated borehole location on the Phase Two Property. Specifically, an elevated level of Cadmium was reported in the soil medium between 2.3 to 2.9 metres below ground surface at our borehole location 'BH101;.
- The laboratory analytical test result for the remaining soil samples all reportedly meet the applicable site condition standards for the select tested contaminants of potential concern, and;
- The laboratory analytical test results for all of the submitted groundwater samples are reportedly below the applicable site condition standard for the select tested contaminants of potential concern.

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

As noted in the preamble above, an isolated 'hotspot' of soil exhibiting an elevated level of Cadmium was identified at our borehole location 'BH101'. The elevated level of Cadmium was encountered between 2.3 to 2.9 metres below ground surface. It is noted that additional intrusive soil sampling is recommended to further delineate the lateral and vertical extent of the isolated 'hot spot' and/or demonstrate that the noted exceedance is anomalous in nature and not representative of the actual soil conditions at this location.

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

SOIL-MAT ENGINEERS & CONSULTANTS LTD. prepared this Report for the account of RUDANCO INC. The material in if reflects SOIL-MAT ENGINEERS' best judgement in light of the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. SOIL-MAT ENGINEERS accepts no responsibility for damages, if any suffered by any third party as a result of decisions made or actions based on this report.

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

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

Peter Markesic, B.Sc.
Project Manager

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

Stephen R. Sears, B. Eng. Mgmt., P. Eng., QP$_{ESA}$
Review Engineer

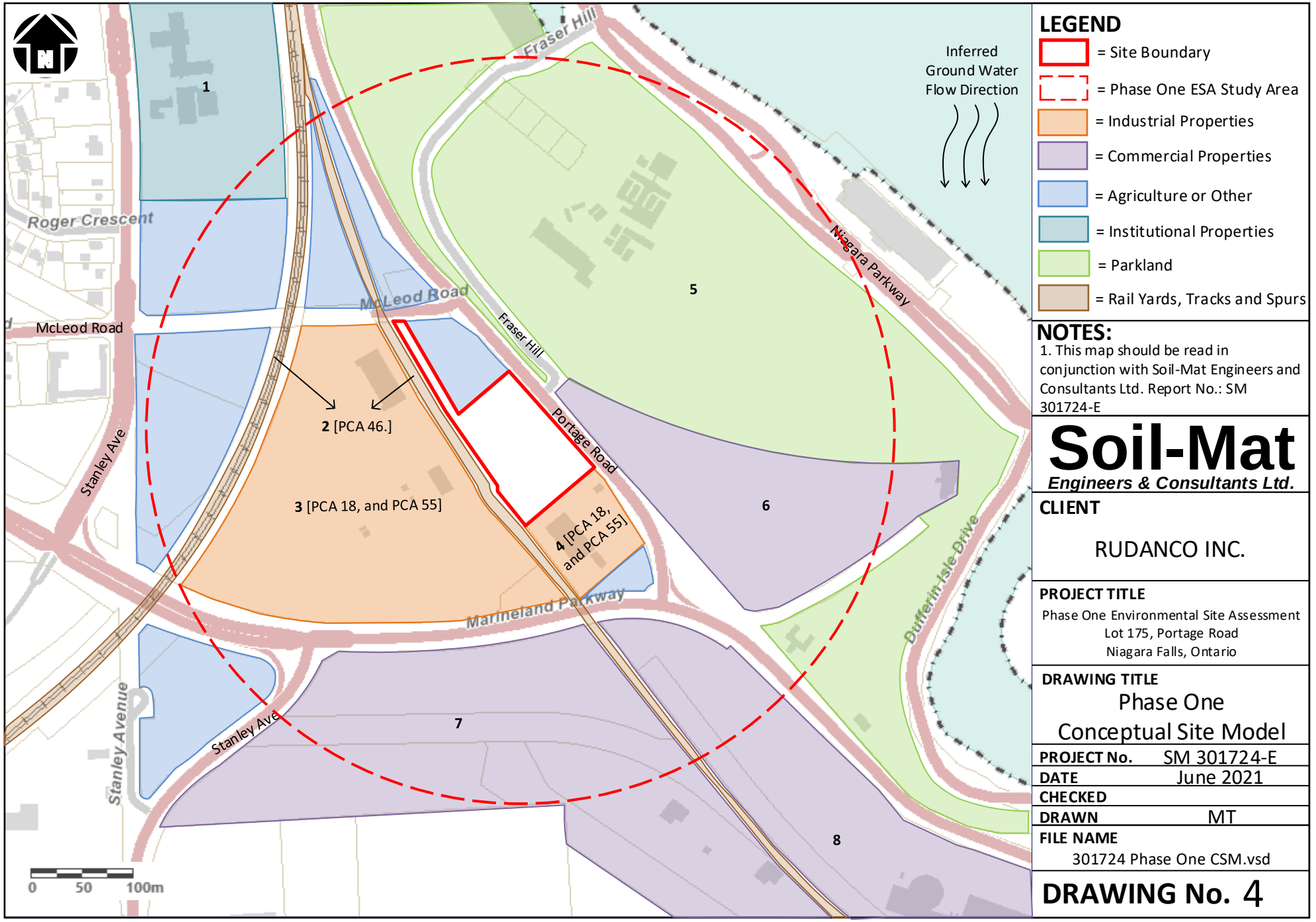
Distribution: RUDANCO INC. [2]

Enclosures:

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

Appendix 'A'

1. Phase One Conceptual Site Model



LEGEND

- = Site Boundary
- = Phase One ESA Study Area
- = Industrial Properties
- = Commercial Properties
- = Agriculture or Other
- = Institutional Properties
- = Parkland
- = Rail Yards, Tracks and Spurs

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301724-E

Soil-Mat
Engineers & Consultants Ltd.

CLIENT

RUDANCO INC.

PROJECT TITLE

Phase One Environmental Site Assessment
Lot 175, Portage Road
Niagara Falls, Ontario

DRAWING TITLE

Phase One
Conceptual Site Model

PROJECT No.	SM 301724-E
DATE	June 2021
CHECKED	
DRAWN	MT
FILE NAME	301724 Phase One CSM.vsd

DRAWING No. 4

Conceptual Site Model Notes

CSM Off-Site Property Number	Current Occupant	Potential Contaminating Activity	Contaminants of Potential Concern	Qualified Person Specific Comments
1	St. Therese Shrine Historic Chapel	None	Not Applicable	Operations are limited to institutional services that are not considered potential contaminating activities.
2	Railway Tracks	Yes	PAHs	This operation is located adjacent to the west of the Site and is located trans-gradient with respect to the inferred regional groundwater flow direction. Based on the above this property is considered a PCA that may result in an APEC on the Property.
3	Former hydro substation	Yes	Metals, PHCs, BTEX, VOCs, ABNs, and PCBs.	Operations on this property includes a former industrial electricity sub station. This operation is located approximately 50 metres west of the Site trans-gradient with respect to the inferred regional groundwater flow direction. Based on the above this this property is considered a PCA that may result in an APEC on the Property.
4	Hydro sub station	Yes	Metals, PHCs, BTEX, VOCs, ABNs, and PCBs.	Operations on this property includes an industrial electricity sub station. This operation is located approximately 20 metres South of the Site and is located down-gradient with respect to the inferred regional groundwater flow direction. Based on the above this this property is considered a PCA that may result in an APEC on the Property.
5	Floral Showhouse Botanical Gardens	None	Not Applicable	Operations are limited to parkland services that are not considered potential contaminating activities.
6	Oak Hall Golf Course	None	Not Applicable	Operations are limited to commercial services that are not considered potential contaminating activities.
7	MarineLand	None	Not Applicable	Operations are limited to commercial services that are not considered potential contaminating activities.
8				

SUPPORTING INFORMATION TO SATISFY TABLE 1, SCHEDULE D, PART VI OF THE RSC REGULATION

1. Based on the findings of the Phase One ESA, four [4] potentially contaminating activity [PCA] was identified on the Phase One Property and five [5] PCAs were identified in the Phase One Study Area that resulted in an area of potential environmental concern [APEC] on the Phase One Property. The remaining properties identified in the Phase One Study Area were not considered significant environmental liabilities to the Phase One Property. The APECs are listed below in Table format. The Phase One Property is illustrated on the attached Drawing No.: 1. The APECs associated with the PCA on the Phase One Property is illustrated on the attached Drawing No.: 4.

Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern in Phase One ESA Study Area	Potentially Contaminating Activity	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC #1	Throughout the Property	30. Importation of Fill Material of Unknown Quality	On-Site	Metals, As, Sb, Se, BHWS, CN, Electrical Conductivity, Cr (VI), Hg, SAR, PHCs, and BTEX.	Soil
APEC #2	Throughout the Site	18. Electricity Generation, Transformation and Power Stations	On-Site	Metals, PCBs, PHCs, VOCs, ABNs, and BTEX	Soil and groundwater
APEC #3	Throughout the Site	46. Rail Yards, Tracks and Spurs	On-Site	PAHs	Soil and groundwater
APEC #4	The Southern Portion of the Site	55. Transformer Manufacturing, Processing and Use	On-Site	Metals, PCBs, PHCs, VOCs, ABNs, and BTEX	Soil and groundwater
APEC #5	The Southern Property Line	18. Electricity Generation, Transformation and Power Stations	Off-Site	Metals, PCBs, PHCs, VOCs, ABNs, and BTEX	Soil and groundwater
		55. Transformer Manufacturing, Processing and Use	Off-Site	Metals, PCBs, PHCs, VOCs, ABNs, and BTEX	Soil and groundwater
APEC #6	The Western Property Lind	46. Rail Yards, Tracks and Spurs	Off-Site	PAHs	Soil and groundwater
		18. Electricity Generation, Transformation and Power Stations	Off-Site	Metals, PCBs, PHCs, VOCs, ABNs, and BTEX	Soil and groundwater
		55. Transformer Manufacturing, Processing and Use	Off-Site	Metals, PCBs, PHCs, VOCs, ABNs, and BTEX	Soil and groundwater

Notes: APEC = area of potential environmental concern, PCA = potentially contaminating activity, COPCs = Contaminants of Potential Concern, SAR = Sodium Adsorption Ratio, PHCs = Petroleum Hydrocarbons
BTEX = Benzene, Toluene, Ethylbenzene, and Xylene Mixture

2. There are no water bodies in whole or in part on the RSC Property or within the Phase One ESA Study Area [250 metre radius from the limits of the RSC property]. The local surface water flow is directed primarily to the east towards a catch basin located at the entrance roadway off Portage Road. The regional groundwater flow is expected to the south towards the Welland River, where it goes east into the Niagara River, and ultimately north toward Lake Ontario.

3. There are no areas of natural significance located in whole or in part on the Phase One Property or in the Phase One Study Area.

4. The reconnaissance of the Site revealed a monitoring well on the west end of the Site. However, a review of the MOE's waterwell records revealed no potable ground water wells or monitoring wells on the Phase One Property. In addition to the above, a review of the MOE's waterwell records revealed no potable ground water wells or monitoring wells withjn the Phase One Study Area.

5. The proposed development on the Phase One Property will be serviced with buried utilities, including storm and sanitary sewers, a municipal water supply, hydro and other soft services. The depth and location of these service trenches are not anticipated to affect, direct or alter the migration of any potential off-site contaminants.

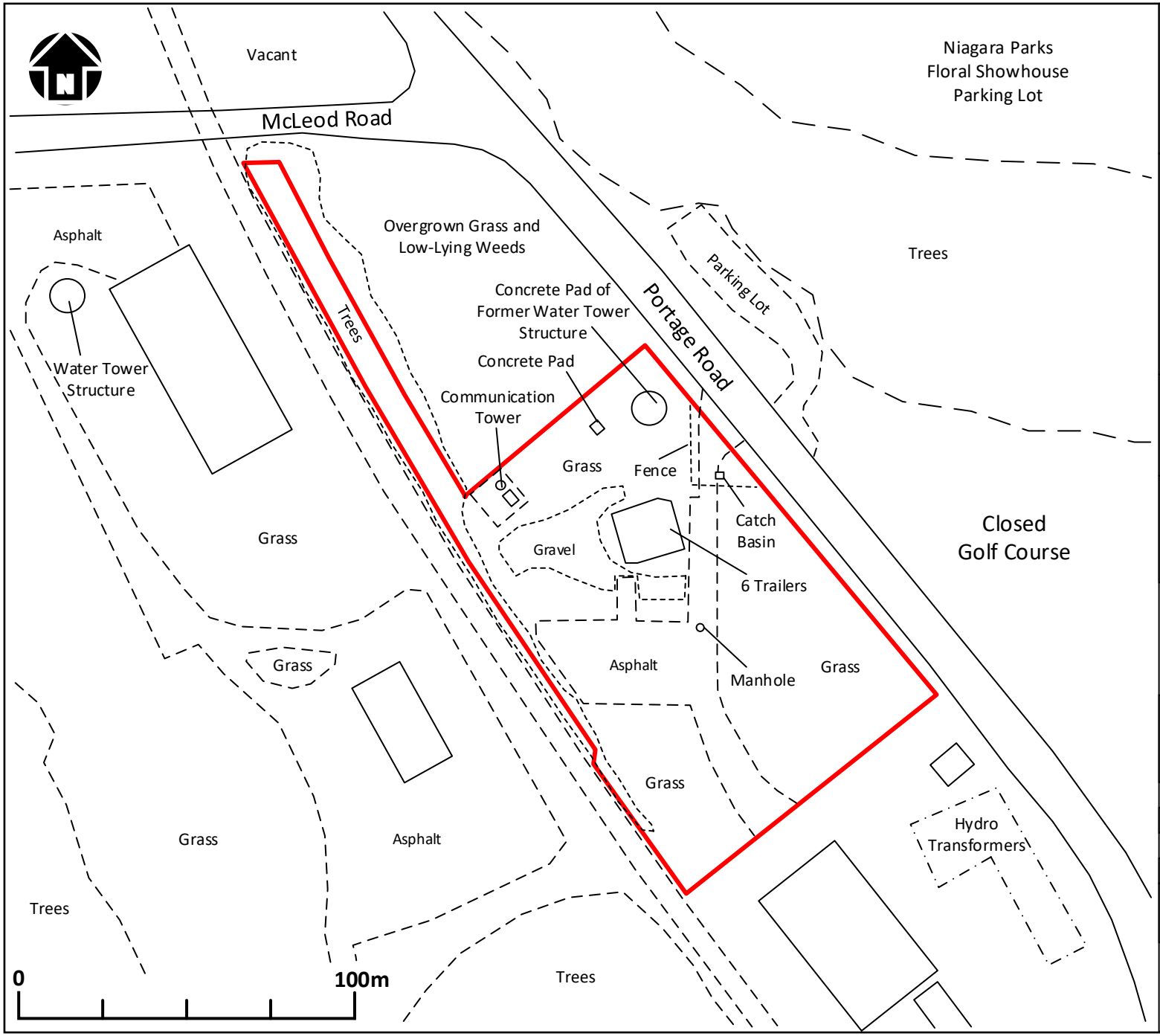
6. SOIL-MAT ENGINEERS & CONSULTANTS LTD. have been retained to undertake a geotechnical report on the Property however, was not complete at the time of this report. A review of the Ministry of Northern Development and Mine's "Quaternary Geology of the Niagara Area, Southern Ontario Sheet Map M2496" and the "Paleozoic Geology of the Niagara Area, Southern Ontario Sheet Map M2344", revealed the Site to be underlain by glaciolacustrine deposits of deeper water clay and slit, in turn, underlain by Middle and Lower Silurian Guelph Formation dolostone bedrock. The depth to bedrock is anticipated to be approximately 27 to 29 metres below ground surface based on information ferreted out from groundwater well records for water wells located outside the Phase One ESA Study Area. The depth to the groundwater table is anticipated to be approximately 2 metres below the ground surface elevation based on a reading taken from the on-site monitoring well.

7. The validity of the CSM may be affected if the future use of the Phase One Property diverts from the current understanding of the proposed development to include the installation of multi-level basements or deep groundwater wells that may artificially alter or redirect local groundwater toward the RSC Property. However, as the Phase One Study did not reveal any PCAs within the Phase One Study Area that would result in an APEC on the Site it is recommended that intrusive soil and/or groundwater sampling and monitoring would not be required in this scenario.

8. Based on the results of the Phase One ESA, it is the opinion of SOIL-MAT ENGINEERS & CONSULTANTS LTD. that a Phase Two ESA is required for the property.

Appendix 'B'

1. Drawing No.: 1: Site Plan;
2. Drawing No.: 1A: APECs;
3. Drawing No.: 2: Groundwater Flow Direction;
4. Drawing No.: 3: Borehole and Test Pit Location Plan;
5. Drawing No.: 3A: Analytical Data Summary [Soil] Metals;
6. Drawing No.: 3B: Analytical Data Summary [Soil] PHCs;
7. Drawing No.: 3C: Analytical Data Summary [Soil] BTEX;
8. Drawing No.: 3D: Analytical Data Summary [Soil] VOCs;
9. Drawing No.: 3E: Analytical Data Summary [Soil] ABNs;
10. Drawing No.: 3F: Analytical Data Summary [Soil] PCBs;
11. Drawing No.: 3G: Analytical Data Summary [Soil] PAHs;
12. Drawing No.: 4A: Analytical Data Summary [Water] Metals;
13. Drawing No.: 4B: Analytical Data Summary [Water] PHCs;
14. Drawing No.: 4C: Analytical Data Summary [Water] BTEX;
15. Drawing No.: 4D: Analytical Data Summary [Water] VOCs;
16. Drawing No.: 4E: Analytical Data Summary [Water] ABNs;
17. Drawing No.: 4F: Analytical Data Summary [Water] PCBs;
18. Borehole Logs



LEGEND

= Site Boundary

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301724-E

2. Base map provided by:
© 2021 Google

Soil-Mat
Engineers & Consultants Ltd.

CLIENT

RUDANCO INC.

PROJECT TITLE

Phase One Environmental Site Assessment
Lot 175, Portage Road
Niagara Falls, Ontario

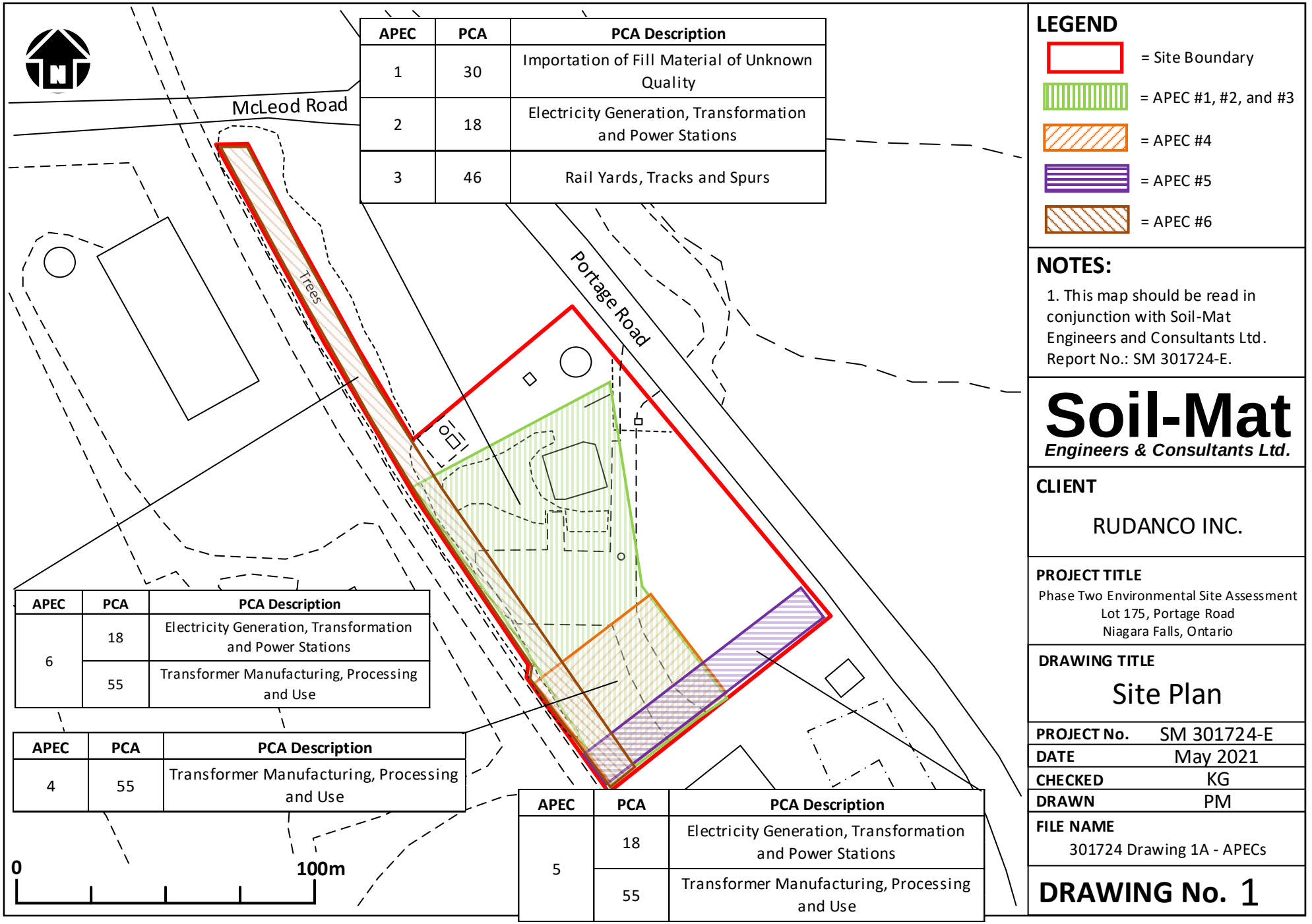
DRAWING TITLE

Site Plan

PROJECT No.	SM 301724-E
DATE	May 2021
CHECKED	PM
DRAWN	MT

FILE NAME
301724 Site Plan .vsd

DRAWING No. 1



APEC	PCA	PCA Description
1	30	Importation of Fill Material of Unknown Quality
2	18	Electricity Generation, Transformation and Power Stations
3	46	Rail Yards, Tracks and Spurs

APEC	PCA	PCA Description
6	18	Electricity Generation, Transformation and Power Stations
	55	Transformer Manufacturing, Processing and Use

APEC	PCA	PCA Description
4	55	Transformer Manufacturing, Processing and Use

APEC	PCA	PCA Description
5	18	Electricity Generation, Transformation and Power Stations
	55	Transformer Manufacturing, Processing and Use

LEGEND

= Site Boundary

= APEC #1, #2, and #3

= APEC #4

= APEC #5

= APEC #6

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301724-E.

Soil-Mat
Engineers & Consultants Ltd.

CLIENT

RUDANCO INC.

PROJECT TITLE

Phase Two Environmental Site Assessment
Lot 175, Portage Road
Niagara Falls, Ontario

DRAWING TITLE

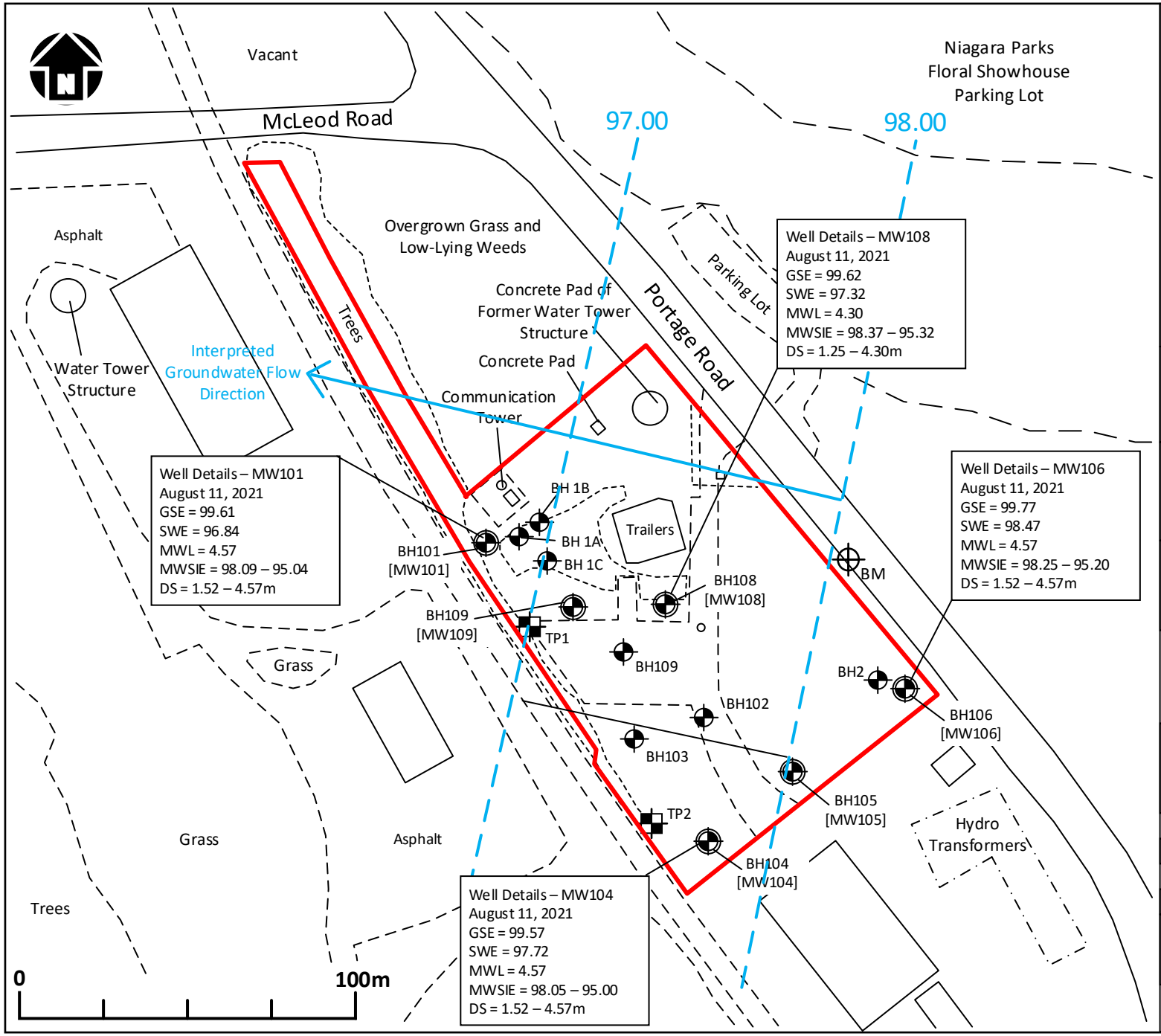
Site Plan

PROJECT No.	SM 301724-E
DATE	May 2021
CHECKED	KG
DRAWN	PM

FILE NAME

301724 Drawing 1A - APECs

DRAWING No. 1



LEGEND

- = Site Boundary
- BH# = Borehole Location
- MW# = Monitoring Well Location
- TP# = Testpit Location
- BM = Benchmark (Top of Manhole. Temporary Elevation of 100.00 metres)

GSE = Monitoring Well Ground Surface Elevation
SWE = Static Water Elevation [taken on Aug. 11, 2021]
MWL = Monitoring Well Length
MWSIE = Monitoring Well Screen Interval Elevation
DS = Depth of Screen

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301724-E.

Soil-Mat
Engineers & Consultants Ltd.

CLIENT

RUDANCO INC.

PROJECT TITLE

Phase Two Environmental Site Assessment
Lot 175, Portage Road
Niagara Falls, Ontario

DRAWING TITLE

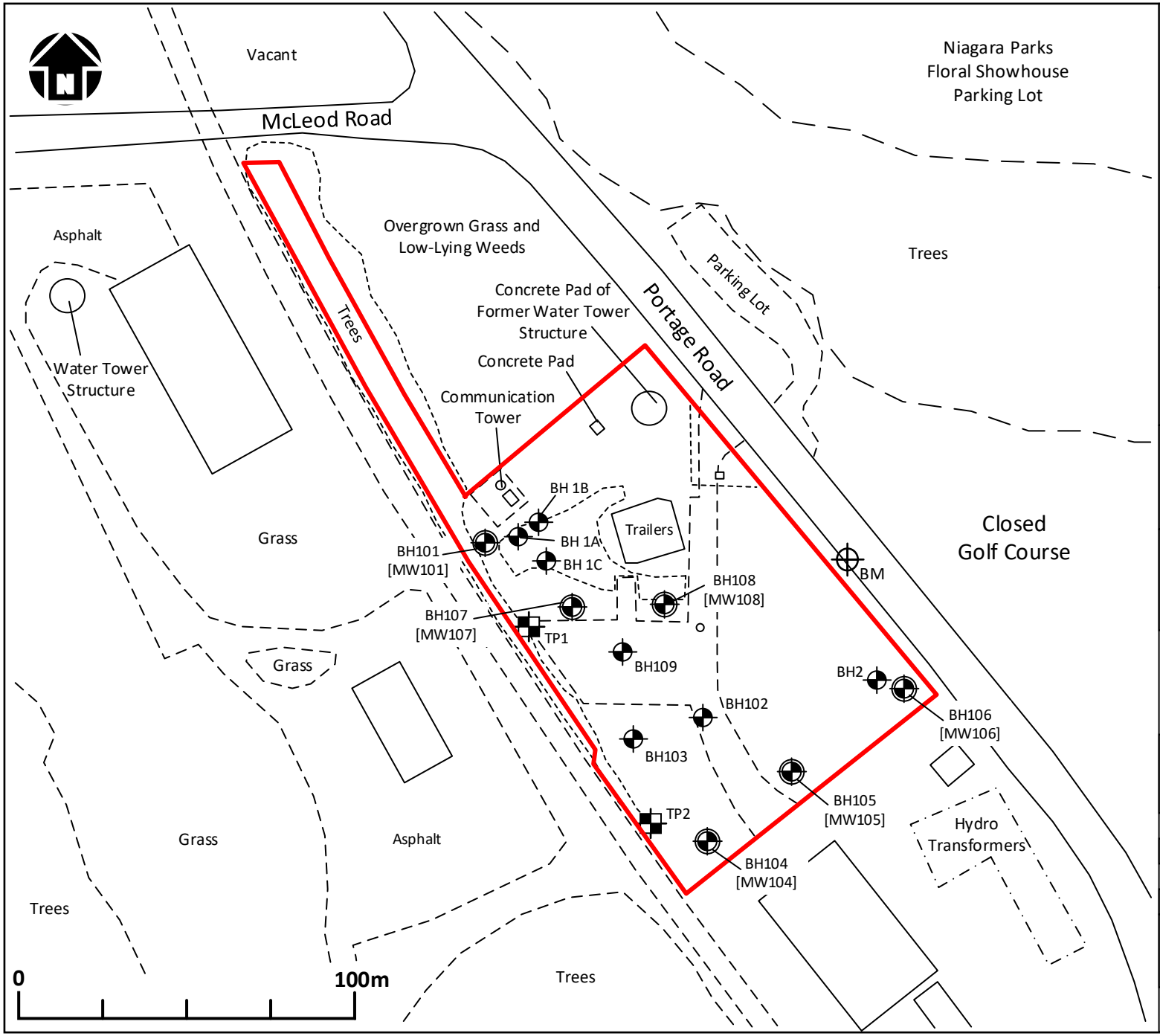
Groundwater Flow

PROJECT No.	SM 301724-E
DATE	August 2021
CHECKED	KG
DRAWN	PM

FILE NAME

301724 Drawing 2 – GW Flow.vsd

DRAWING No. 2



LEGEND

- = Site Boundary
- BH# = Borehole Location
- MW# = Monitoring Well Location
- TP# = Testpit Location
- BM = Benchmark (Top of Manhole. Temporary Elevation of 100.00 metres)

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301724-E.

Soil-Mat
Engineers & Consultants Ltd.

CLIENT

RUDANCO INC.

PROJECT TITLE

Phase Two Environmental Site Assessment
Lot 175, Portage Road
Niagara Falls, Ontario

DRAWING TITLE

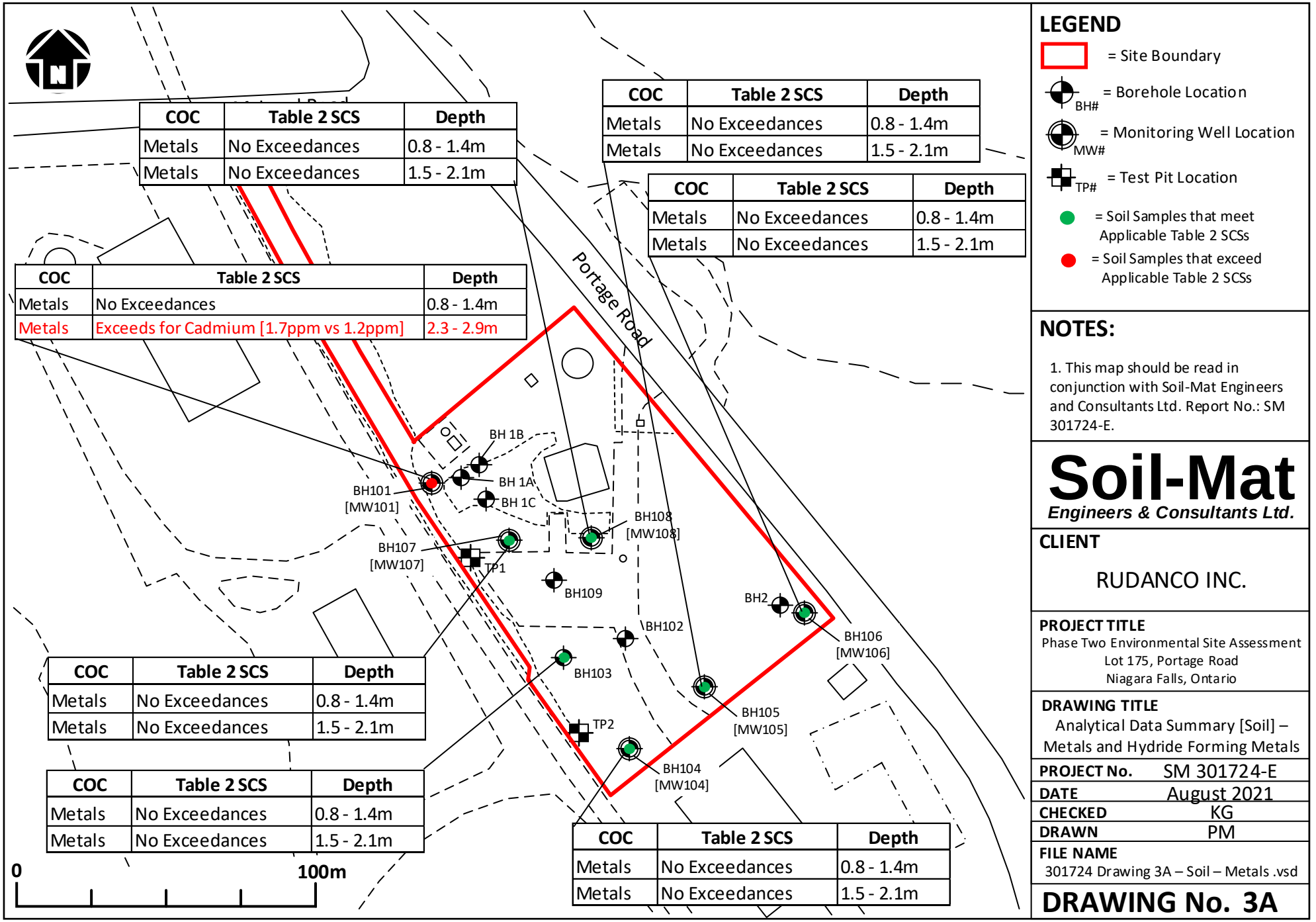
Borehole and Test Pit Location Plan

PROJECT No.	SM 301724-E
DATE	August 2021
CHECKED	KG
DRAWN	PM

FILE NAME

301724 Drawing 3 – BH and TP Location Plan .vsd

DRAWING No. 3



COC	Table 2 SCS	Depth
Metals	No Exceedances	0.8 - 1.4m
Metals	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
Metals	No Exceedances	0.8 - 1.4m
Metals	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
Metals	No Exceedances	0.8 - 1.4m
Metals	Exceeds for Cadmium [1.7ppm vs 1.2ppm]	2.3 - 2.9m

COC	Table 2 SCS	Depth
Metals	No Exceedances	0.8 - 1.4m
Metals	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
Metals	No Exceedances	0.8 - 1.4m
Metals	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
Metals	No Exceedances	0.8 - 1.4m
Metals	No Exceedances	1.5 - 2.1m

LEGEND

= Site Boundary

= Borehole Location (BH#)

= Monitoring Well Location (MW#)

= Test Pit Location (TP#)

= Soil Samples that meet Applicable Table 2 SCSs

= Soil Samples that exceed Applicable Table 2 SCSs

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301724-E.

Soil-Mat
Engineers & Consultants Ltd.

CLIENT

RUDANCO INC.

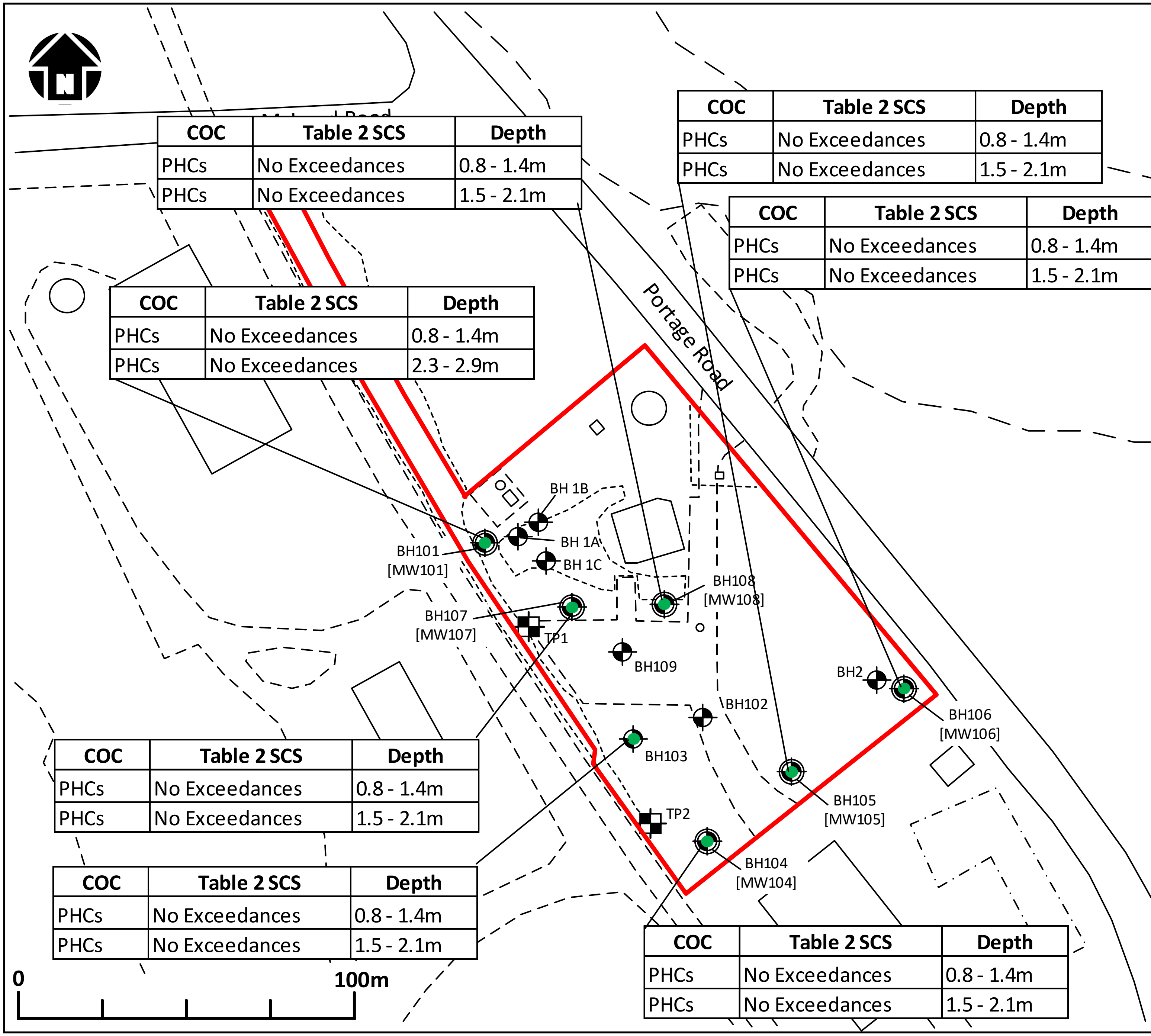
PROJECT TITLE
Phase Two Environmental Site Assessment
Lot 175, Portage Road
Niagara Falls, Ontario

DRAWING TITLE
Analytical Data Summary [Soil] – Metals and Hydride Forming Metals

PROJECT No.	SM 301724-E
DATE	August 2021
CHECKED	KG
DRAWN	PM

FILE NAME
301724 Drawing 3A – Soil – Metals .vsd

DRAWING No. 3A



COC	Table 2 SCS	Depth
PHCs	No Exceedances	0.8 - 1.4m
PHCs	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
PHCs	No Exceedances	0.8 - 1.4m
PHCs	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
PHCs	No Exceedances	0.8 - 1.4m
PHCs	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
PHCs	No Exceedances	0.8 - 1.4m
PHCs	No Exceedances	2.3 - 2.9m

COC	Table 2 SCS	Depth
PHCs	No Exceedances	0.8 - 1.4m
PHCs	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
PHCs	No Exceedances	0.8 - 1.4m
PHCs	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
PHCs	No Exceedances	0.8 - 1.4m
PHCs	No Exceedances	1.5 - 2.1m

LEGEND

- = Site Boundary
- BH# = Borehole Location
- MW# = Monitoring Well Location
- TP# = Testpit Location
- = Soil Samples that meet Applicable Table 2 SCSs
- = Soil Samples that exceed Applicable Table 2 SCSs

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301724-E.

Soil-Mat
Engineers & Consultants Ltd.

CLIENT
RUDANCO INC.

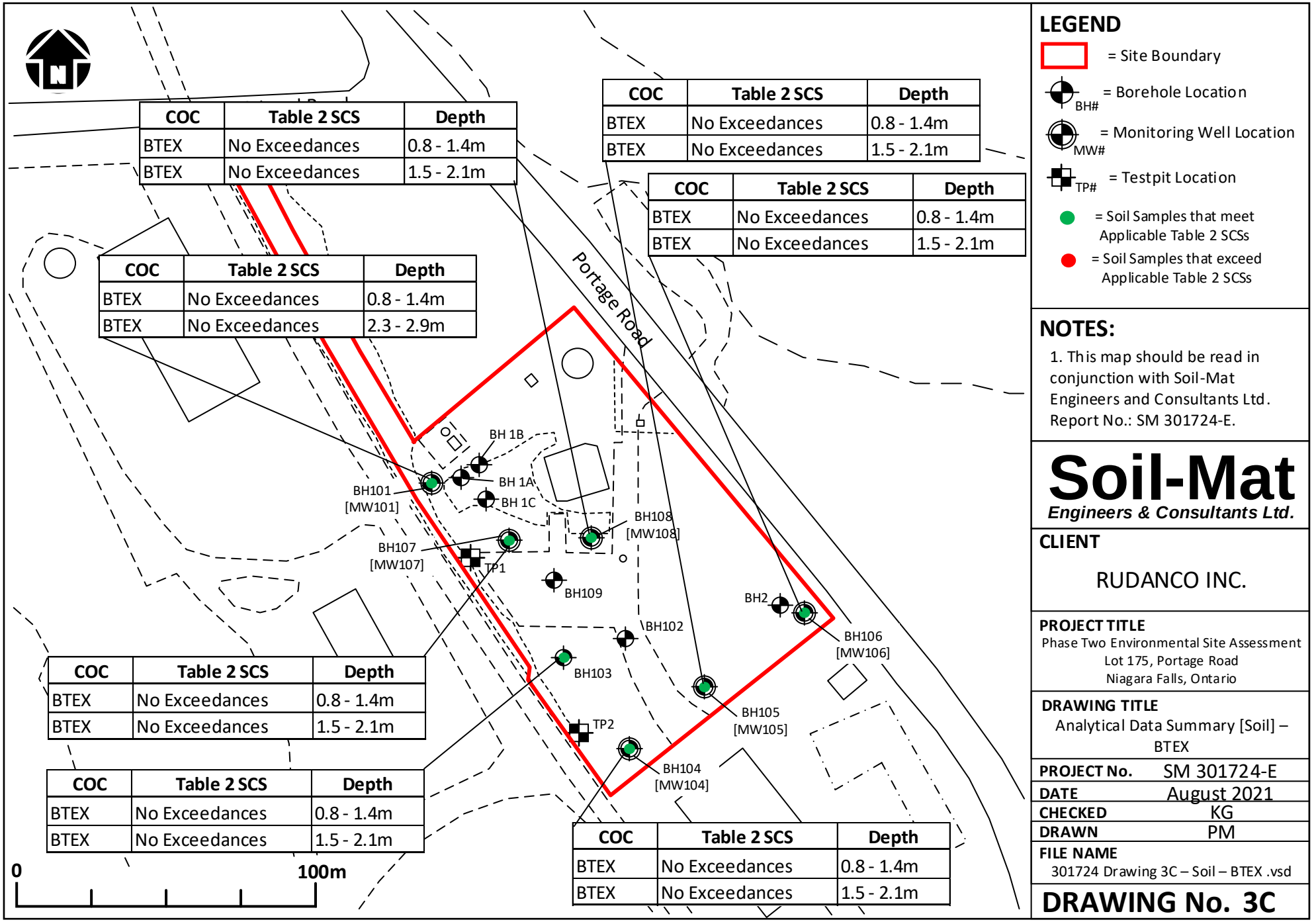
PROJECT TITLE
Phase Two Environmental Site Assessment
Lot 175, Portage Road
Niagara Falls, Ontario

DRAWING TITLE
Analytical Data Summary [Soil] – Petroleum Hydrocarbons [PHCs]

PROJECT No. SM 301724-E
DATE August 2021
CHECKED KG
DRAWN PM

FILE NAME
301724 Drawing 3B – Soil – PHCs .vsd

DRAWING No. 3B



COC	Table 2 SCS	Depth
BTEX	No Exceedances	0.8 - 1.4m
BTEX	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
BTEX	No Exceedances	0.8 - 1.4m
BTEX	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
BTEX	No Exceedances	0.8 - 1.4m
BTEX	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
BTEX	No Exceedances	0.8 - 1.4m
BTEX	No Exceedances	2.3 - 2.9m

COC	Table 2 SCS	Depth
BTEX	No Exceedances	0.8 - 1.4m
BTEX	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
BTEX	No Exceedances	0.8 - 1.4m
BTEX	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
BTEX	No Exceedances	0.8 - 1.4m
BTEX	No Exceedances	1.5 - 2.1m

LEGEND

= Site Boundary

= Borehole Location (BH#)

= Monitoring Well Location (MW#)

= Testpit Location (TP#)

= Soil Samples that meet Applicable Table 2 SCSs

= Soil Samples that exceed Applicable Table 2 SCSs

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301724-E.

Soil-Mat
Engineers & Consultants Ltd.

CLIENT

RUDANCO INC.

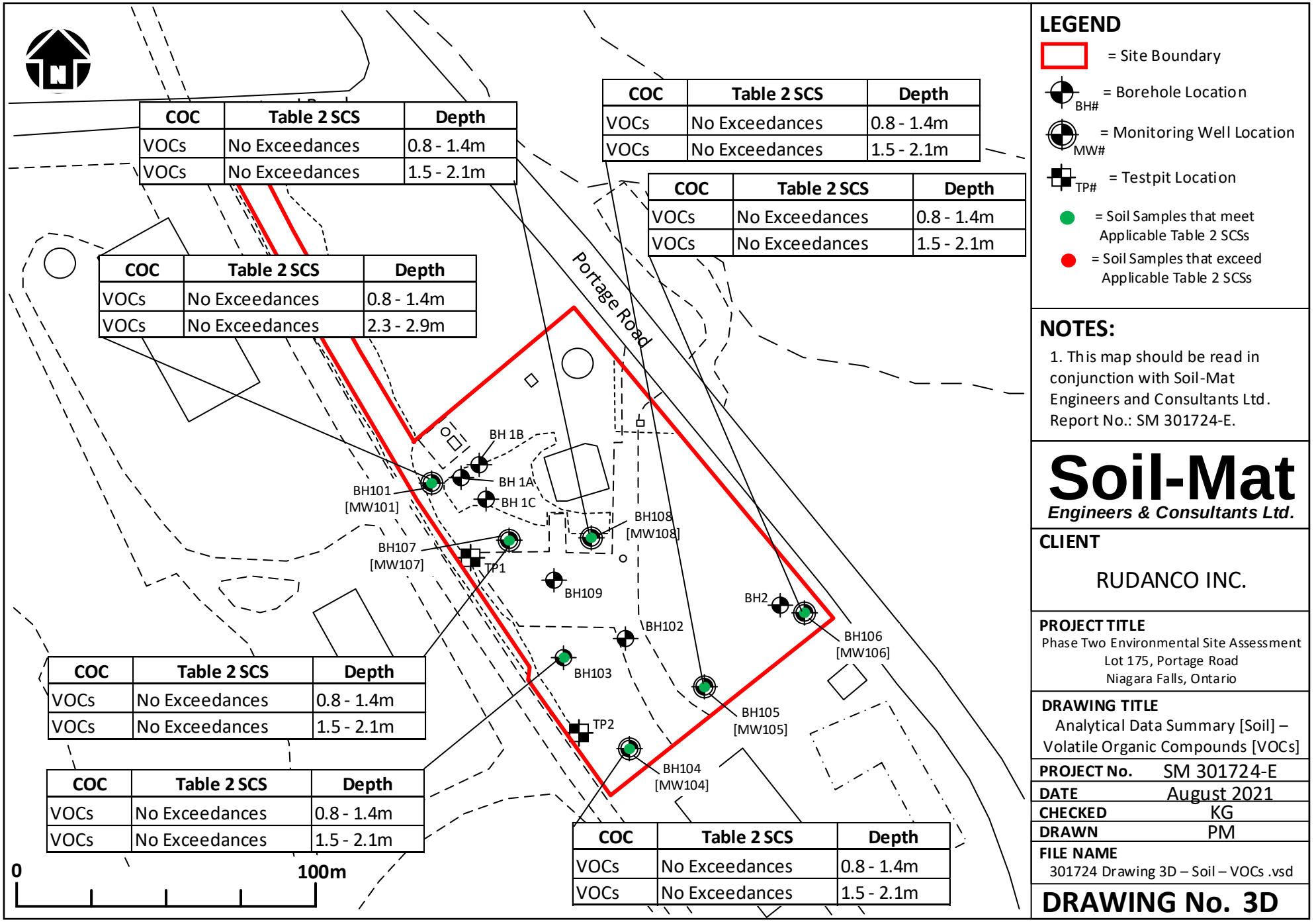
PROJECT TITLE
Phase Two Environmental Site Assessment
Lot 175, Portage Road
Niagara Falls, Ontario

DRAWING TITLE
Analytical Data Summary [Soil] – BTEX

PROJECT No.	SM 301724-E
DATE	August 2021
CHECKED	KG
DRAWN	PM

FILE NAME
301724 Drawing 3C – Soil – BTEX .vsd

DRAWING No. 3C



COC	Table 2 SCS	Depth
VOCs	No Exceedances	0.8 - 1.4m
VOCs	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
VOCs	No Exceedances	0.8 - 1.4m
VOCs	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
VOCs	No Exceedances	0.8 - 1.4m
VOCs	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
VOCs	No Exceedances	0.8 - 1.4m
VOCs	No Exceedances	2.3 - 2.9m

COC	Table 2 SCS	Depth
VOCs	No Exceedances	0.8 - 1.4m
VOCs	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
VOCs	No Exceedances	0.8 - 1.4m
VOCs	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
VOCs	No Exceedances	0.8 - 1.4m
VOCs	No Exceedances	1.5 - 2.1m

LEGEND

- = Site Boundary
- BH# = Borehole Location
- MW# = Monitoring Well Location
- TP# = Testpit Location
- = Soil Samples that meet Applicable Table 2 SCSs
- = Soil Samples that exceed Applicable Table 2 SCSs

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301724-E.

Soil-Mat
Engineers & Consultants Ltd.

CLIENT

RUDANCO INC.

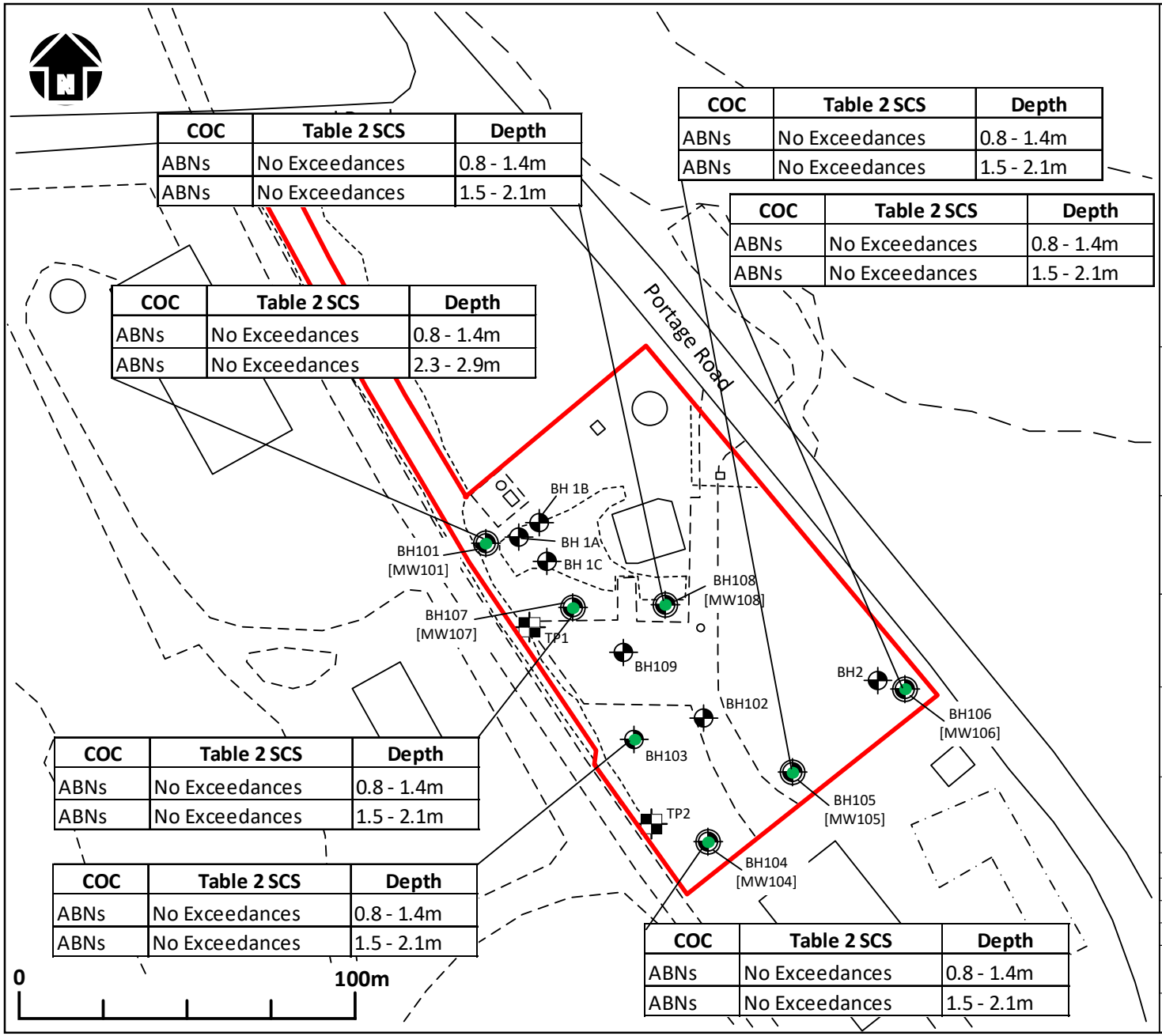
PROJECT TITLE
Phase Two Environmental Site Assessment
Lot 175, Portage Road
Niagara Falls, Ontario

DRAWING TITLE
Analytical Data Summary [Soil] – Volatile Organic Compounds [VOCs]

PROJECT No.	SM 301724-E
DATE	August 2021
CHECKED	KG
DRAWN	PM

FILE NAME
301724 Drawing 3D – Soil – VOCs .vsd

DRAWING No. 3D



COC	Table 2 SCS	Depth
ABNs	No Exceedances	0.8 - 1.4m
ABNs	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
ABNs	No Exceedances	0.8 - 1.4m
ABNs	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
ABNs	No Exceedances	0.8 - 1.4m
ABNs	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
ABNs	No Exceedances	0.8 - 1.4m
ABNs	No Exceedances	2.3 - 2.9m

COC	Table 2 SCS	Depth
ABNs	No Exceedances	0.8 - 1.4m
ABNs	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
ABNs	No Exceedances	0.8 - 1.4m
ABNs	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
ABNs	No Exceedances	0.8 - 1.4m
ABNs	No Exceedances	1.5 - 2.1m

LEGEND

- = Site Boundary
- = Borehole Location (BH#)
- = Monitoring Well Location (MW#)
- = Testpit Location (TP#)
- = Soil Samples that meet Applicable Table 2 SCSs
- = Soil Samples that exceed Applicable Table 2 SCSs

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301724-E.

Soil-Mat
Engineers & Consultants Ltd.

CLIENT
RUDANCO HOSPITALITY CORPORATION

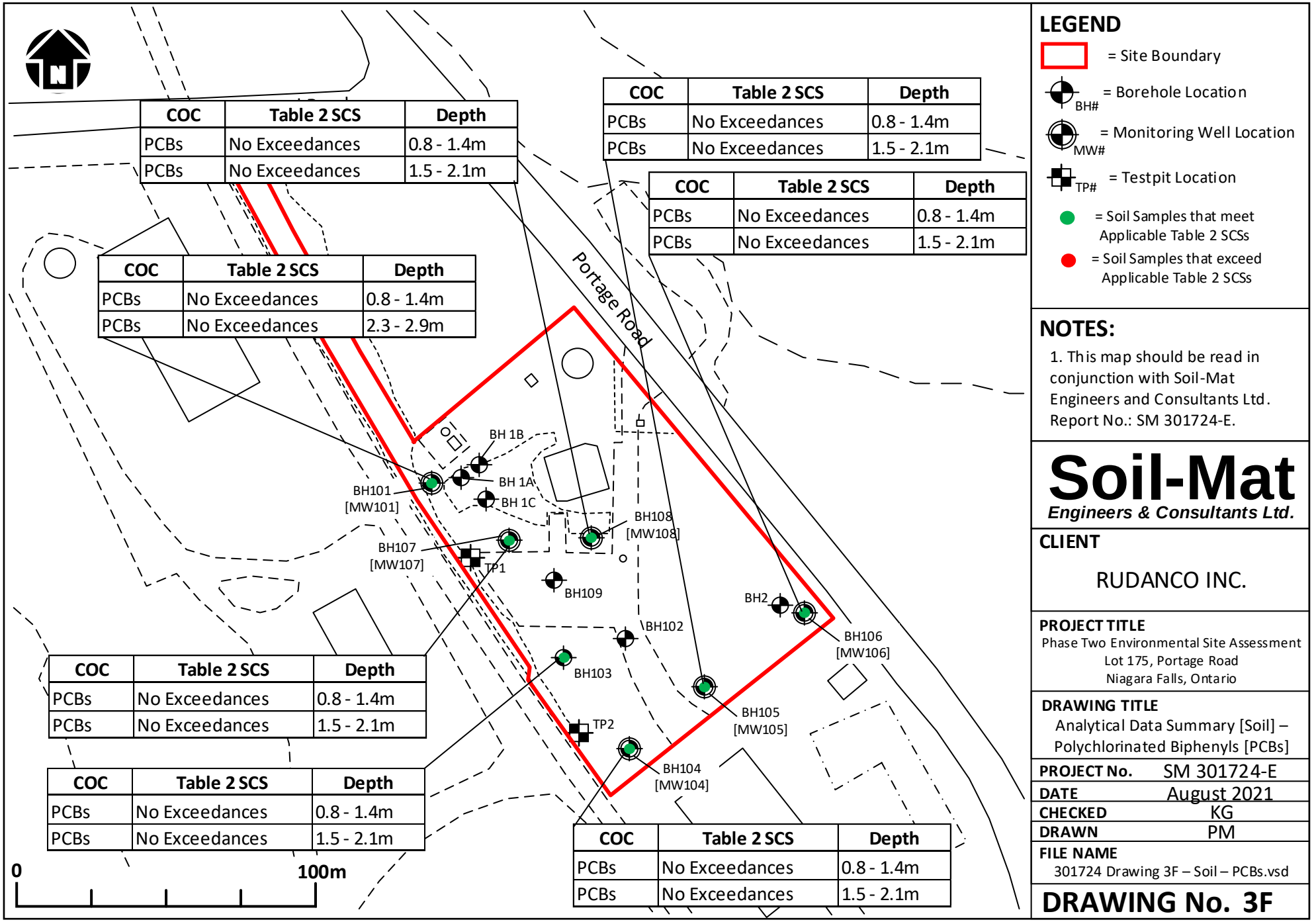
PROJECT TITLE
Phase Two Environmental Site Assessment
Lot 175, Portage Road
Niagara Falls, Ontario

DRAWING TITLE
Analytical Data Summary [Soil] – ABNs [including Chlorphenols]

PROJECT No.	SM 301724-E
DATE	August 2021
CHECKED	KG
DRAWN	PM

FILE NAME
301724 Drawing 3E – Soil – ABNs.vsd

DRAWING No. 3E



COC	Table 2 SCS	Depth
PCBs	No Exceedances	0.8 - 1.4m
PCBs	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
PCBs	No Exceedances	0.8 - 1.4m
PCBs	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
PCBs	No Exceedances	0.8 - 1.4m
PCBs	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
PCBs	No Exceedances	0.8 - 1.4m
PCBs	No Exceedances	2.3 - 2.9m

COC	Table 2 SCS	Depth
PCBs	No Exceedances	0.8 - 1.4m
PCBs	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
PCBs	No Exceedances	0.8 - 1.4m
PCBs	No Exceedances	1.5 - 2.1m

COC	Table 2 SCS	Depth
PCBs	No Exceedances	0.8 - 1.4m
PCBs	No Exceedances	1.5 - 2.1m

LEGEND

= Site Boundary

= Borehole Location (BH#)

= Monitoring Well Location (MW#)

= Testpit Location (TP#)

= Soil Samples that meet Applicable Table 2 SCSs

= Soil Samples that exceed Applicable Table 2 SCSs

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301724-E.

Soil-Mat
Engineers & Consultants Ltd.

CLIENT

RUDANCO INC.

PROJECT TITLE

Phase Two Environmental Site Assessment
Lot 175, Portage Road
Niagara Falls, Ontario

DRAWING TITLE

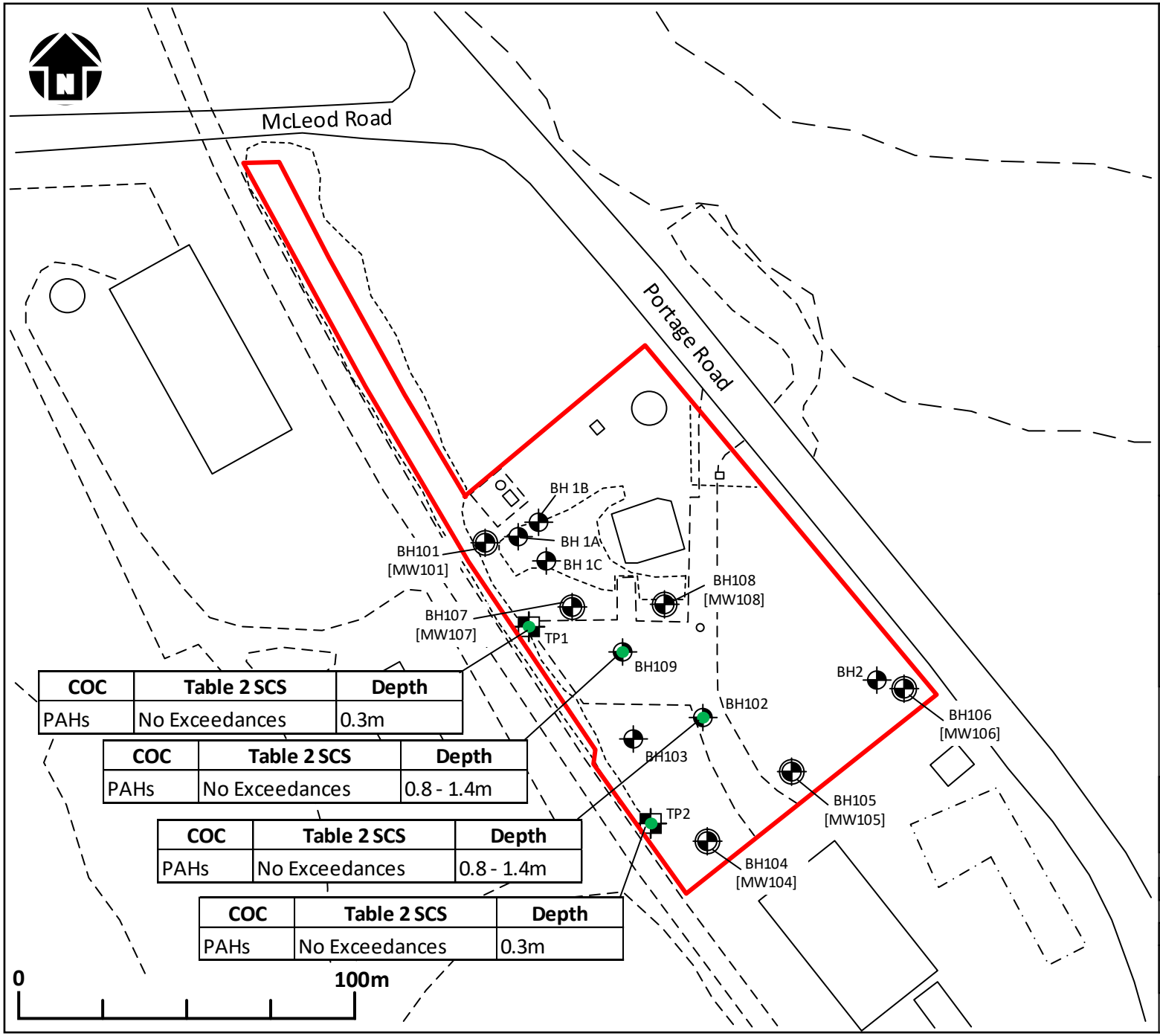
Analytical Data Summary [Soil] – Polychlorinated Biphenyls [PCBs]

PROJECT No.	SM 301724-E
DATE	August 2021
CHECKED	KG
DRAWN	PM

FILE NAME

301724 Drawing 3F – Soil – PCBs.vsd

DRAWING No. 3F



COC	Table 2 SCS	Depth
PAHs	No Exceedances	0.3m

COC	Table 2 SCS	Depth
PAHs	No Exceedances	0.8 - 1.4m

COC	Table 2 SCS	Depth
PAHs	No Exceedances	0.8 - 1.4m

COC	Table 2 SCS	Depth
PAHs	No Exceedances	0.3m

LEGEND

= Site Boundary

= Borehole Location (BH#)

= Monitoring Well Location (MW#)

= Testpit Location (TP#)

= Soil Samples that meet Applicable Table 2 SCSs

= Soil Samples that exceed Applicable Table 2 SCSs

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301724-E.

Soil-Mat
Engineers & Consultants Ltd.

CLIENT

RUDANCO INC.

PROJECT TITLE

Phase Two Environmental Site Assessment
Lot 175, Portage Road
Niagara Falls, Ontario

DRAWING TITLE

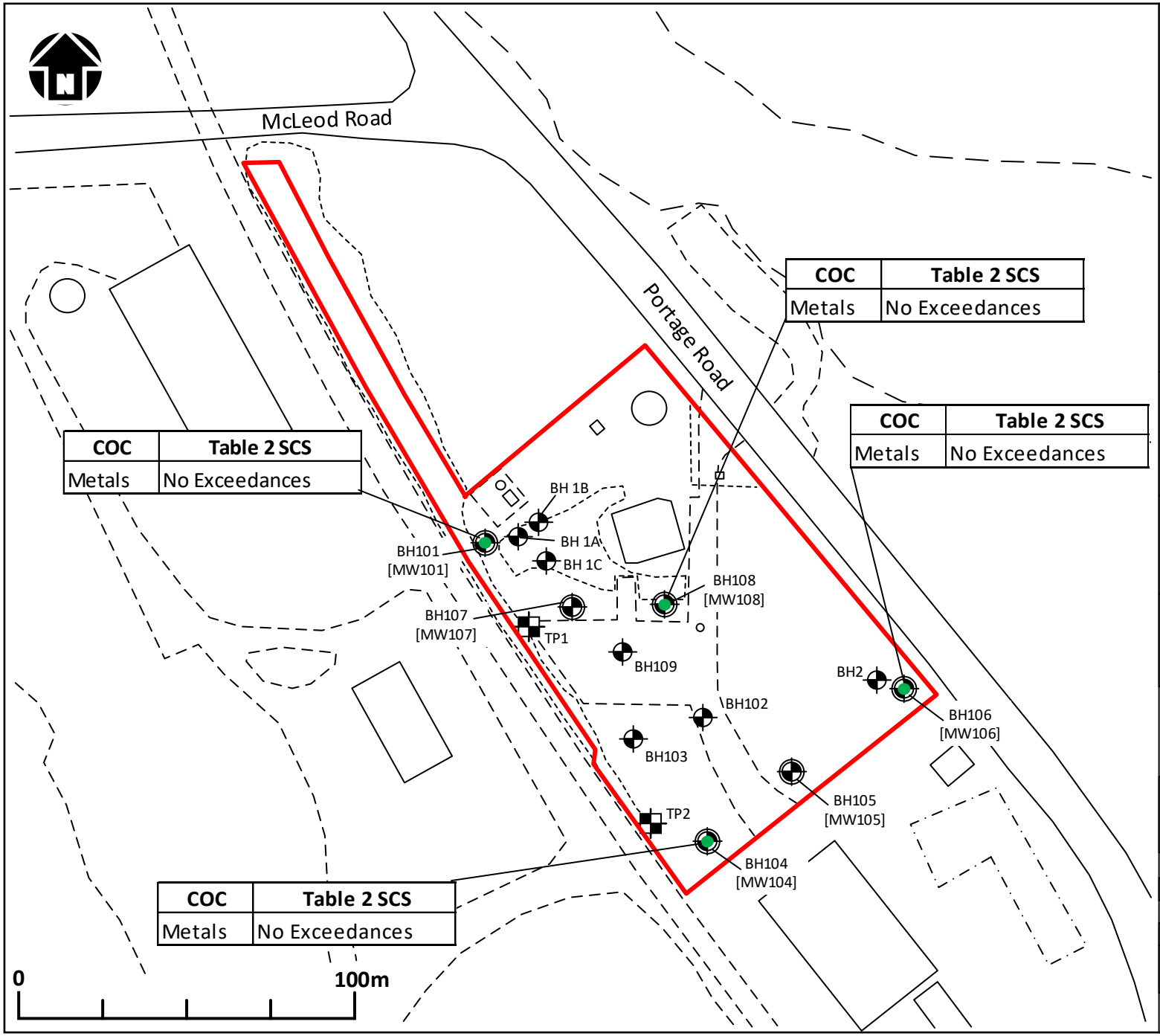
Analytical Data Summary [Soil] – Polycyclic Aromatic Hydrocarbons [PAHs]

PROJECT No.	SM 301724-E
DATE	August 2021
CHECKED	KG
DRAWN	PM

FILE NAME

301724 Drawing 3G – Soil – PAHs.vsd

DRAWING No. 3G



LEGEND

- = Site Boundary
- = Borehole Location (BH#)
- = Monitoring Well Location (MW#)
- = Testpit Location (TP#)
- = Soil Samples that meet Applicable Table 2 SCSs
- = Soil Samples that exceed Applicable Table 2 SCSs

The Metals grouping listed on the drawing includes: Metals, As, Sb, Se, BHWS, CN, Cr(VI), and Hg

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301724-E.

Soil-Mat
Engineers & Consultants Ltd.

CLIENT

RUDANCO INC.

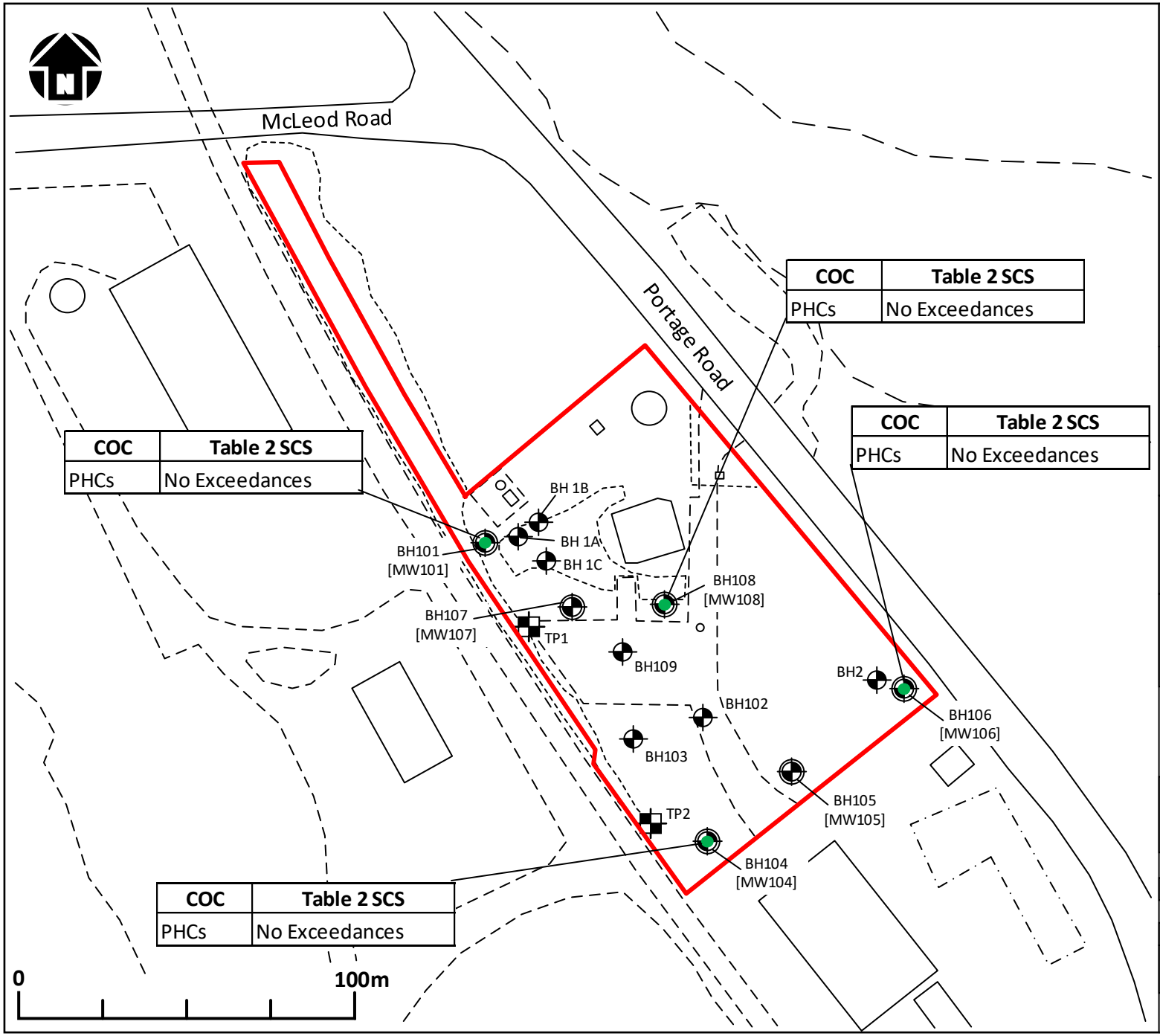
PROJECT TITLE
Phase Two Environmental Site Assessment
Lot 175, Portage Road
Niagara Falls, Ontario

DRAWING TITLE
Analytical Data Summary [Water] – Metals and Hydride Forming Metals

PROJECT No.	SM 301724-E
DATE	August 2021
CHECKED	KG
DRAWN	PM

FILE NAME
301724 Drawing 4A – Water – Metals.vsd

DRAWING No. 4A



LEGEND

- = Site Boundary
- BH# = Borehole Location
- MW# = Monitoring Well Location
- TP# = Testpit Location
- = Soil Samples that meet Applicable Table 2 SCSs
- = Soil Samples that exceed Applicable Table 2 SCSs

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301724-E.

Soil-Mat
Engineers & Consultants Ltd.

CLIENT

RUDANCO INC.

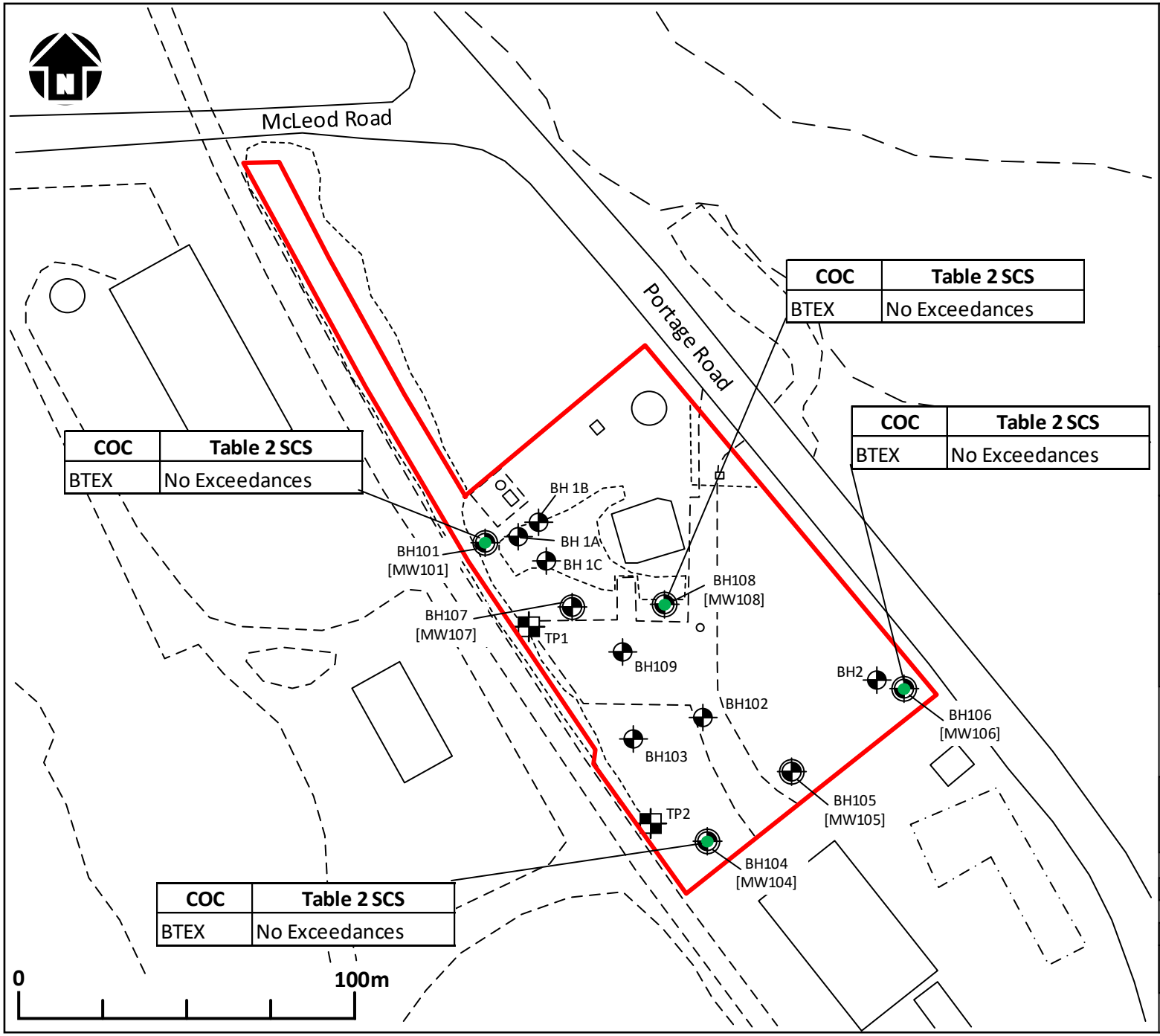
PROJECT TITLE
Phase Two Environmental Site Assessment
Lot 175, Portage Road
Niagara Falls, Ontario

DRAWING TITLE
Analytical Data Summary [Water] – Petroleum Hydrocarbons [PHCs]

PROJECT No.	SM 301724-E
DATE	August 2021
CHECKED	KG
DRAWN	PM

FILE NAME
301724 Drawing 4B – Water – PHCs.vsd

DRAWING No. 4B



LEGEND

- = Site Boundary
- BH# = Borehole Location
- MW# = Monitoring Well Location
- TP# = Testpit Location
- = Soil Samples that meet Applicable Table 2 SCSs
- = Soil Samples that exceed Applicable Table 2 SCSs

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301724-E.

Soil-Mat
Engineers & Consultants Ltd.

CLIENT

RUDANCO INC.

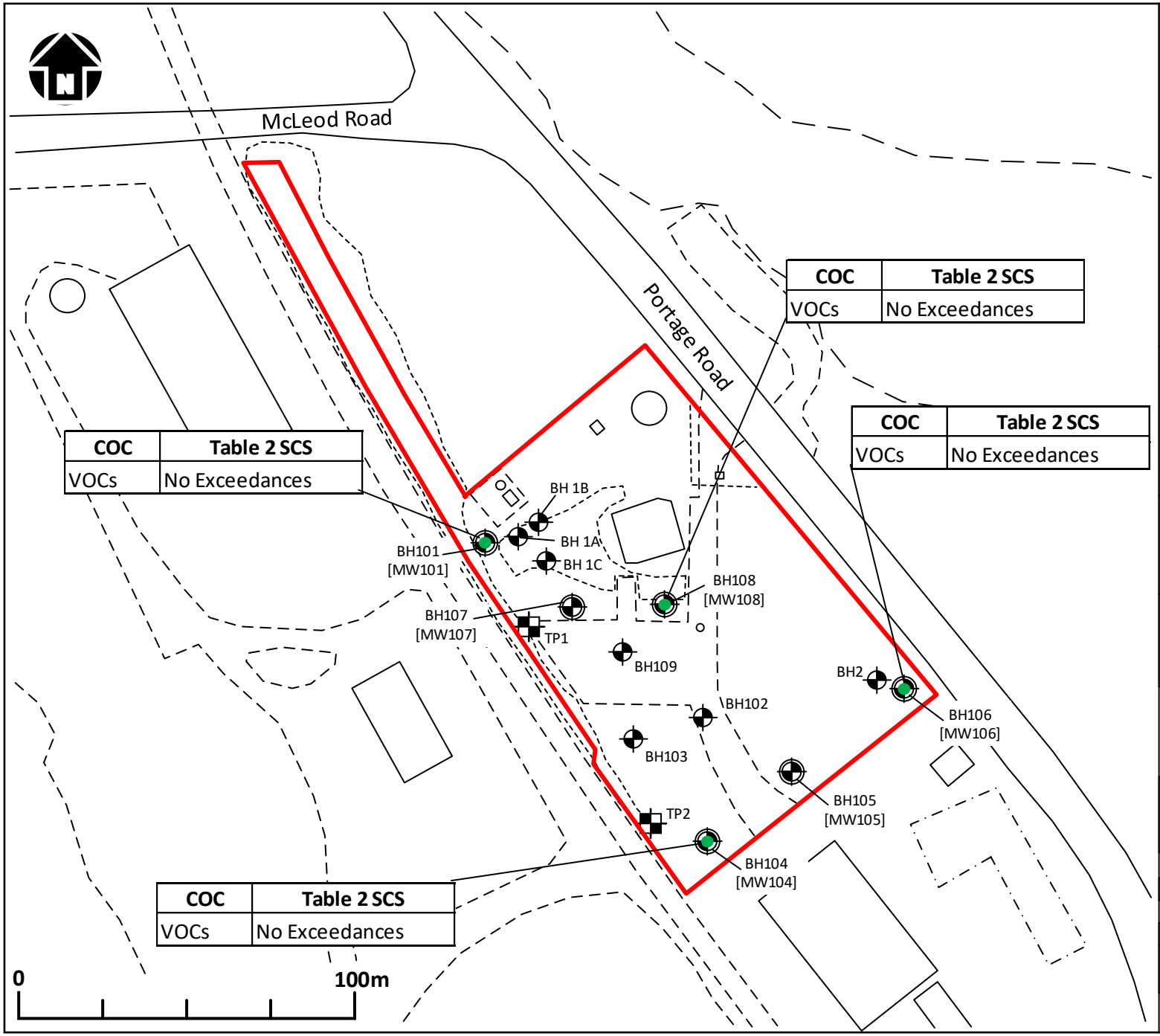
PROJECT TITLE
Phase Two Environmental Site Assessment
Lot 175, Portage Road
Niagara Falls, Ontario

DRAWING TITLE
Analytical Data Summary [Water] – BTEX

PROJECT No.	SM 301724-E
DATE	August 2021
CHECKED	KG
DRAWN	PM

FILE NAME
301724 Drawing 4C – Water – BTEX.vsd

DRAWING No. 4C



LEGEND

- = Site Boundary
- BH# = Borehole Location
- MW# = Monitoring Well Location
- TP# = Testpit Location
- = Soil Samples that meet Applicable Table 2 SCSs
- = Soil Samples that exceed Applicable Table 2 SCSs

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301724-E.

Soil-Mat
Engineers & Consultants Ltd.

CLIENT

RUDANCO INC.

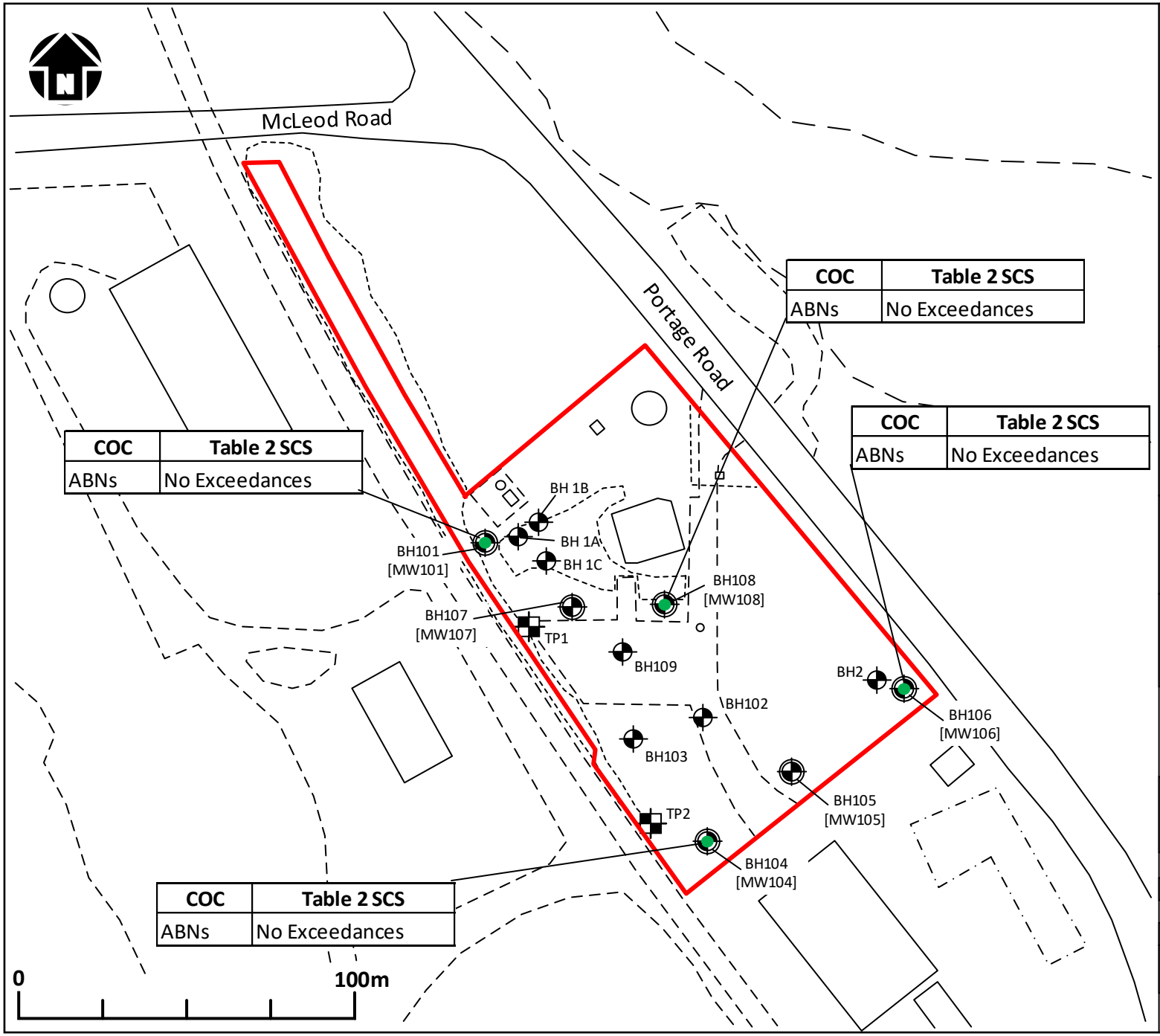
PROJECT TITLE
Phase Two Environmental Site Assessment
Lot 175, Portage Road
Niagara Falls, Ontario

DRAWING TITLE
Analytical Data Summary [Water] – Volatile Organic Compounds [VOCs]

PROJECT No.	SM 301724-E
DATE	August 2021
CHECKED	KG
DRAWN	PM

FILE NAME
301724 Drawing 4D – Water – VOCs.vsd

DRAWING No. 4D



LEGEND

- = Site Boundary
- BH# = Borehole Location
- MW# = Monitoring Well Location
- TP# = Testpit Location
- = Soil Samples that meet Applicable Table 2 SCSs
- = Soil Samples that exceed Applicable Table 2 SCSs

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301724-E.

Soil-Mat
Engineers & Consultants Ltd.

CLIENT

RUDANCO INC.

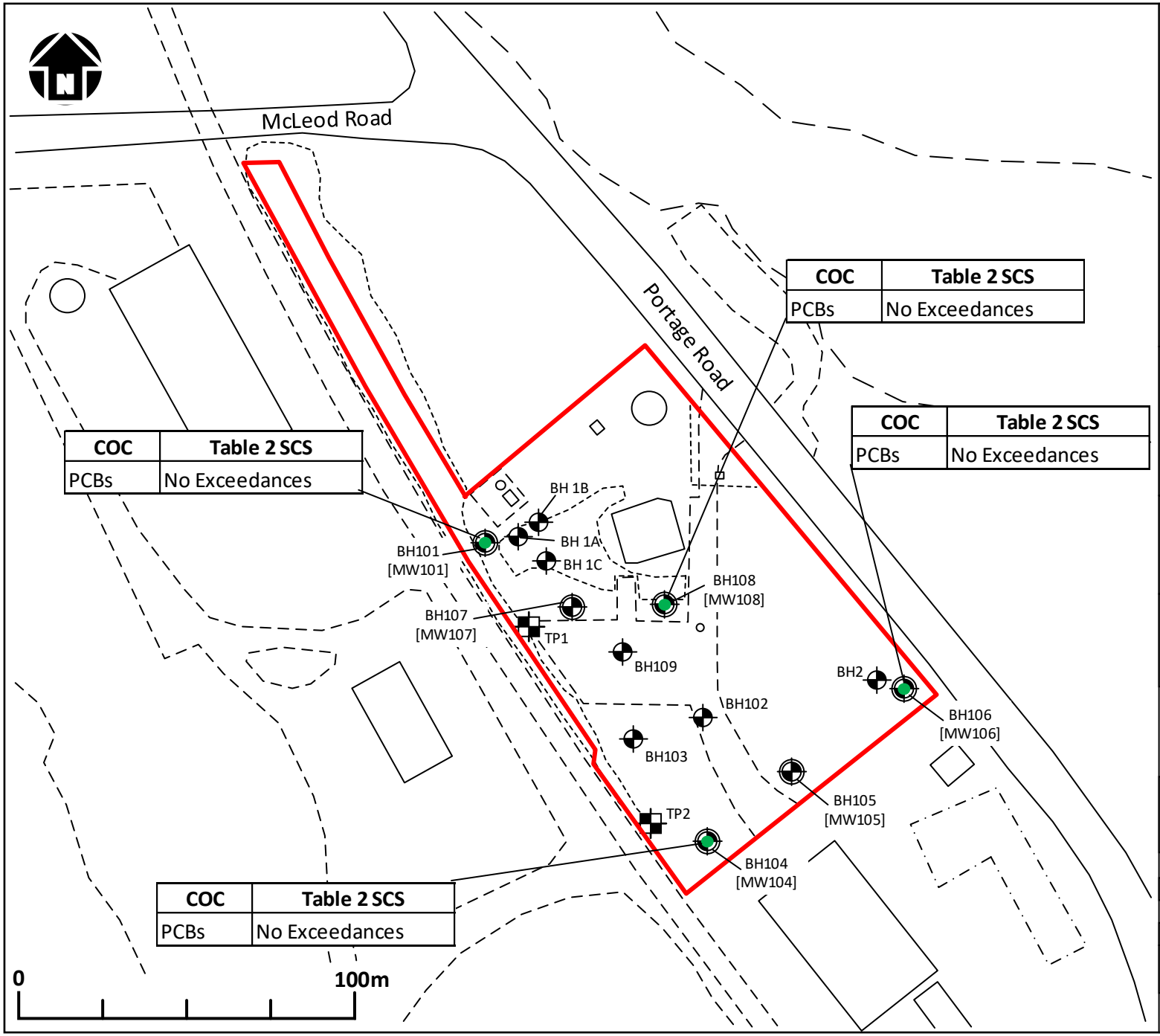
PROJECT TITLE
Phase Two Environmental Site Assessment
Lot 175, Portage Road
Niagara Falls, Ontario

DRAWING TITLE
Analytical Data Summary [Soil] – ABNs [including Chlorphenols]

PROJECT No.	SM 301724-E
DATE	August 2021
CHECKED	KG
DRAWN	PM

FILE NAME
301724 Drawing 4E – Water – ABNs.vsd

DRAWING No. 4E



LEGEND

- = Site Boundary
- BH# = Borehole Location
- MW# = Monitoring Well Location
- TP# = Testpit Location
- = Soil Samples that meet Applicable Table 2 SCSs
- = Soil Samples that exceed Applicable Table 2 SCSs

NOTES:

1. This map should be read in conjunction with Soil-Mat Engineers and Consultants Ltd. Report No.: SM 301724-E.

Soil-Mat
Engineers & Consultants Ltd.

CLIENT

RUDANCO INC.

PROJECT TITLE
Phase Two Environmental Site Assessment
Lot 175, Portage Road
Niagara Falls, Ontario

DRAWING TITLE
Analytical Data Summary [Soil] – Polychlorinated Biphenyls [PCBs]

PROJECT No.	SM 301724-E
DATE	August 2021
CHECKED	KG
DRAWN	PM

FILE NAME
301724 Drawing 4F – Water – PCBs.vsd

DRAWING No. 4F

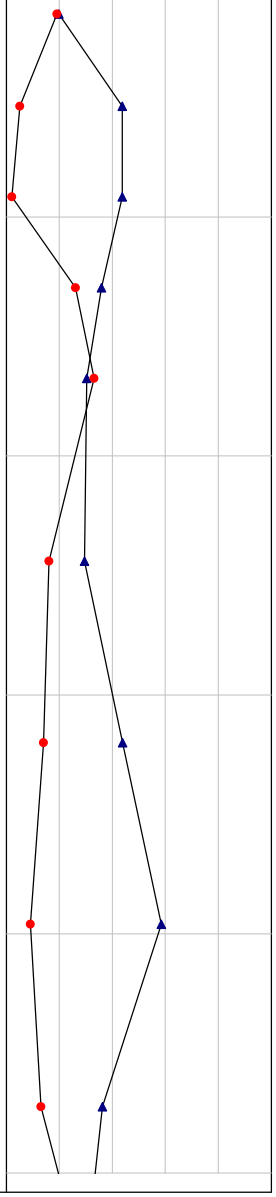
Log of Borehole No. 01A

Project No: SM 301724-G-E
Project: Proposed High Rise Development
Location: Niagara Falls, Ontario
Client: Rudanco Hospitality Corporation

Project Manager: Kyle Richardson, P.Eng
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4770407
E: 656389

Depth (ft / m)	Elevation (m)	Description	Well Data	SAMPLE Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
0 / 0	99.50	Ground Surface								
0–2 / 0–0.6	98.90	**Topsoil** Approximately 100 millimeters of topsoil.		SS	1	12,11,8,9	19			
2–5 / 0.6–1.5		**Sand and Gravel Fill** Brown, loose.		SS	2	2,2,3,2	5			
5–7 / 1.5–2.1		**Clayey Silt/Silty Clay** Reddish brown, trace sand and gravel, trace organics and reworked in the upper levels, larger coarse rocks near transition in colour to grey, sandy silt/silty sand seam inclusions in lower levels, hard to stiff.		SS	3	2,1,1,5	2			
7–10 / 2.1–3.0				SS	4	7,13,13,15	26		2.0	
10–11 / 3.0–3.4				SS	5	15,15,18,15	33		>4.5	
13–16 / 4.0–4.9				SS	6	7,8,8,10	16		2.5	
20–21 / 6.0–6.4	93.20	Transition in colour to grey.		SS	7	7,7,7,10	14		2.0	
26–27 / 8.0–8.2				SS	8	4,4,5,6	9		1.0	
31–33 / 9.4–10.0				SS	9	10,6,7,8	13		1.0	

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



Drill Method: S.S.A./H.S.A./M.R.
Drill Date: June 8, 2021
Hole Size: 250 Millimeters
Drilling Contractor: Elements Geo Drilling

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Sheet: 1 of 4

Log of Borehole No. 01A

Project No: SM 301724-G-E
Project: Proposed High Rise Development
Location: Niagara Falls, Ontario
Client: Rudanco Hospitality Corporation

Project Manager: Kyle Richardson, P.Eng
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4770407
E: 656389

Depth	Elevation (m)	Description	Well Data	SAMPLE Type	SAMPLE Number	SAMPLE Blow Counts	SAMPLE Blows/300mm	SAMPLE Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
40	87.30	**Sandy Silt/Silty Sand** Reddish brown, trace gravel in lower levels, dense to compact.		SS	10	18,21,28,33	49			
50				SS	11	17,18,18,20	36			
60				SS	12	14,17,21,25	38			

Moisture Content w% (10 20 30 40)

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

Drill Method: S.S.A./H.S.A./M.R.
Drill Date: June 8, 2021
Hole Size: 250 Millimeters
Drilling Contractor: Elements Geo Drilling

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Sheet: 2 of 4

Log of Borehole No. 01A

Project No: SM 301724-G-E
Project: Proposed High Rise Development
Location: Niagara Falls, Ontario
Client: Rudanco Hospitality Corporation

Project Manager: Kyle Richardson, P.Eng
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4770407
E: 656389

Depth	Elevation (m)	Description	Well Data	SAMPLE Type	SAMPLE Number	SAMPLE Blow Counts	SAMPLE Blows/300mm	SAMPLE Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
71				SS	13	10,11,10,8	21			
81				SS	14	12,12,14,15	26			
90	72.10	**Clayey Silt/Silty Clay** Brown to grey, trace gravel, hard.								
91				SS	15	20,24,19,20	43			

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

Drill Method: S.S.A./H.S.A./M.R.
Drill Date: June 8, 2021
Hole Size: 250 Millimeters
Drilling Contractor: Elements Geo Drilling

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Sheet: 3 of 4

Log of Borehole No. 01A

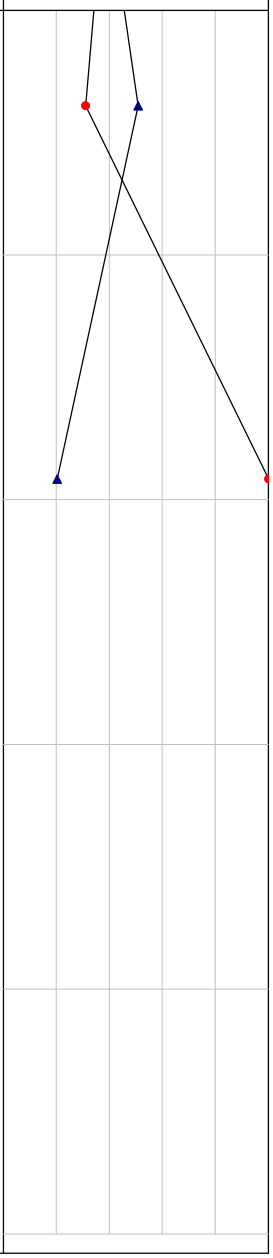
Project No: SM 301724-G-E
Project: Proposed High Rise Development
Location: Niagara Falls, Ontario
Client: Rudanco Hospitality Corporation

Project Manager: Kyle Richardson, P.Eng
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4770407
E: 656389

Depth	Elevation (m)	Description	Well Data	SAMPLE Type	SAMPLE Number	SAMPLE Blow Counts	SAMPLE Blows/300mm	SAMPLE Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
0.00	66.00									
1.00				SS	16	14,12,19,23	31		>4.5	
2.00										
3.00										
4.00										
5.00										
6.00										
7.00										
8.00										
9.00										
10.00	65.40	**Sandy Silt/Silty Sand** Grey, trace gravel and limestone fragments, very dense.		SS	17	37,50/3"	100			
11.00		**Limestone** Grey, highly fractured and weathered in upper levels.								
12.00										
13.00										
14.00										
15.00										
16.00										
17.00										
18.00	63.50	End of Borehole								
19.00										
20.00										
21.00										
22.00										
23.00										
24.00										
25.00										
26.00										
27.00										
28.00										
29.00										
30.00										
31.00										

Moisture Content w% (10 20 30 40)

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



NOTES:

1. Borehole was advanced using solid stem auger and mud rotary equipment on June 8, 2021 and June 9, 2021 to termination at an approximate depth of 36.0 meters.

2.Borehole was recorded as open to a depth of 27.4 meters upon completion and backfilled as per Ontario Regulation 903.

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

Drill Method: S.S.A./H.S.A./M.R.
Drill Date: June 8, 2021
Hole Size: 250 Millimeters
Drilling Contractor: Elements Geo Drilling

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Log of Borehole No. 01B

Project No: SM 301724-G-E
Project: Proposed High Rise Development
Location: Niagara Falls, Ontario
Client: Rudanco Hospitality Corporation

Project Manager: Kyle Richardson, P.Eng
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4770409
E: 656392

Depth (ft / m)	Elevation (m)	Symbol	Description	Well Data	SAMPLE: Type	SAMPLE: Number	SAMPLE: Blow Counts	SAMPLE: Blows/300mm	SAMPLE: Recovery	SAMPLE: PP (kgf/cm2)	SAMPLE: U.Wt.(kN/m3)	Moisture Content w% (10 20 30 40) / Standard Penetration Test blows/300mm (20 40 60 80)
0 ft / 0 m	99.50		Ground Surface									
0	98.90		**Topsoil** Approximately 100 millimeters of topsoil.									
0 – 1			**Sand and Gravel Fill** Brown, loose.									
1 – 6			**Clayey Silt/Silty Clay** Reddish brown, trace sand and gravel, trace organics and reworked in the upper levels, larger coarse rocks near transition in colour to grey, sandy silt/silty sand seam inclusions in lowed levels, hard to stiff.									
6	93.20		Transition in colour to grey.									
6 – 33												

Drill Method: H.S.A./ M.R./C.B.
Drill Date: July 8, 2021
Hole Size: 250 Millimeters
Drilling Contractor: Elements Geo Drilling

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Datum: Temporary Benchmark
Field Logged by: MA
Checked by: KR

Log of Borehole No. 01B

Project No: SM 301724-G-E
Project: Proposed High Rise Development
Location: Niagara Falls, Ontario
Client: Rudanco Hospitality Corporation

Project Manager: Kyle Richardson, P.Eng
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4770409
E: 656392

Depth	Elevation (m)	Symbol	Description	Well Data	SAMPLE Type	SAMPLE Number	SAMPLE Blow Counts	SAMPLE Blows/300mm	SAMPLE Recovery	SAMPLE PP (kgf/cm2)	SAMPLE U.Wt.(kN/m3)	Moisture Content w% (10 20 30 40) / Standard Penetration Test blows/300mm (20 40 60 80)
40	87.30		**Sandy Silt/Silty Sand** Reddish brown, trace gravel in lower levels, dense to compact.									

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Drill Method: H.S.A./ M.R./C.B.
Drill Date: July 8, 2021
Hole Size: 250 Millimeters
Drilling Contractor: Elements Geo Drilling

Datum: Temporary Benchmark
Field Logged by: MA
Checked by: KR
Sheet: 2 of 4

Log of Borehole No. 01B

Project No: SM 301724-G-E
Project: Proposed High Rise Development
Location: Niagara Falls, Ontario
Client: Rudanco Hospitality Corporation

Project Manager: Kyle Richardson, P.Eng
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4770409
E: 656392

Depth	Elevation (m)	Symbol	Description	Well Data	SAMPLE Type	SAMPLE Number	SAMPLE Blow Counts	SAMPLE Blows/300mm	SAMPLE Recovery	SAMPLE PP (kgf/cm2)	SAMPLE U.Wt.(kN/m3)	Moisture Content w% (10 20 30 40) / Standard Penetration Test blows/300mm (20 40 60 80)
66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98	21 22 23 24 25 26 27 28 29											
	72.10		**Clayey Silt/Silty Clay** Brown, to grey, trace gravel, hard.									

Drill Method: H.S.A./ M.R./C.B.
Drill Date: July 8, 2021
Hole Size: 250 Millimeters
Drilling Contractor: Elements Geo Drilling

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Sheet: 3 of 4

Log of Borehole No. 01B

Project No: SM 301724-G-E
Project: Proposed High Rise Development
Location: Niagara Falls, Ontario
Client: Rudanco Hospitality Corporation

Project Manager: Kyle Richardson, P.Eng
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4770409
E: 656392

Depth	Elevation (m)	Description	Well Data	SAMPLE Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)	Moisture Content w% (10 20 30 40) / Standard Penetration Test blows/300mm (20 40 60 80)
0	66.00	**Sandy Silt/Silty Sand** Grey, trace gravel and limestone fragments, very dense.		HQ		52% RQD					
3		**Limestone** Grey, highly fractured and weathered in upper levels.		HQ	1	65% RQD					Lost all water in the borehole at approximately 34 meters. Water continued to drain at a rate greater than the rate of the drill pump for the remainder of the core.
6				HQ	2	46% RQD					Run2 stopped as coring barrel was getting stuck; once freed coring continued.
9				HQ	3	57% RQD					
12				HQ	4	59% RQD					
15	60.99	End of Borehole									

NOTES:

1. Borehole advanced, without sampling, using hollow stem auger and mud rotary equipment on July 5 and 8, 2021 to termination at a depth of 33.6 metres. Bedrock was corred using HQ barrel equipment to a depth of 38.5 metres. Soil structure assumed to be similar to Borehole No. 01A.

2. Core barrel tooling was stuck post coring and was abandoned after attempting to remove from July 8, 2021 to July 13, 2021.

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

Drill Method: H.S.A./ M.R./C.B.
Drill Date: July 8, 2021
Hole Size: 250 Millimeters
Drilling Contractor: Elements Geo Drilling

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Sheet: 4 of 4

Log of Borehole No. 01C

Project No: SM 301724-G-E
Project: Proposed High Rise Development
Location: Niagara Falls, Ontario
Client: Rudanco Hospitality Corporation

Project Manager: Kyle Richardson, P.Eng
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4770402
E: 656389

Depth (ft / m)	Elevation (m)	Description	Well Data	SAMPLE: Type	SAMPLE: Number	SAMPLE: Blow Counts	SAMPLE: Blows/300mm	SAMPLE: Recovery	SAMPLE: PP (kgf/cm2)	SAMPLE: U.Wt.(kN/m3)	Moisture Content w% (10 20 30 40) / Standard Penetration Test blows/300mm (20 40 60 80)
0 / 0	99.50	Ground Surface									
0 – 2 / 0	99.50 – 98.90	**Topsoil** Approximately 100 millimeters of topsoil.									
2 – 20 / 0 – 6	98.90 – 93.20	**Sand and Gravel Fill** Brown, loose.									
2 – 33 / 0 – 9	98.90 –	**Clayey Silt/Silty Clay** Reddish brown, trace sand and gravel, trace organics and reworked in the upper levels, larger coarse rocks near transition in colour to grey, sandy silt/silty sand seam inclusions in lowed levels, hard to stiff.									
20 / 6	93.20	Transition in colour to grey.									

Drill Method: H.S.A./M.R.
Drill Date: July 22, 2021
Hole Size: 200 Millimeters
Drilling Contractor: Elements Geo Drilling

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Datum: Temporary Benchmark
Field Logged by: MA
Checked by: KR
Sheet: 1 of 4

Log of Borehole No. 01C

Project No: SM 301724-G-E
Project: Proposed High Rise Development
Location: Niagara Falls, Ontario
Client: Rudanco Hospitality Corporation

Project Manager: Kyle Richardson, P.Eng
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4770402
E: 656389

Depth	Elevation (m)	Symbol	Description	Well Data	SAMPLE Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)	Moisture Content w% (10 20 30 40) / Standard Penetration Test blows/300mm (20 40 60 80)
34–65	87.30		**Sandy Silt/Silty Sand** Reddish brown, trace gravel in lower levels, dense to compact.									

Drill Method: H.S.A./M.R.
Drill Date: July 22, 2021
Hole Size: 200 Millimeters
Drilling Contractor: Elements Geo Drilling

Soil-Mat Engineers & Consultants Ltd.
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Datum: Temporary Benchmark
Field Logged by: MA
Checked by: KR
Sheet: 2 of 4

Log of Borehole No. 01C

Project No: SM 301724-G-E
Project: Proposed High Rise Development
Location: Niagara Falls, Ontario
Client: Rudanco Hospitality Corporation

Project Manager: Kyle Richardson, P.Eng
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4770402
E: 656389

Depth	Elevation (m)	Symbol	Description	Well Data	SAMPLE Type	SAMPLE Number	SAMPLE Blow Counts	SAMPLE Blows/300mm	SAMPLE Recovery	SAMPLE PP (kgf/cm2)	SAMPLE U.Wt.(kN/m3)	Moisture Content w% (10 20 30 40) / Standard Penetration Test blows/300mm (20 40 60 80)
66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98	72.10		**Clayey Silt/Silty Clay** Brown, to grey, trace gravel, hard.									

Drill Method: H.S.A./M.R.
Drill Date: July 22, 2021
Hole Size: 200 Millimeters
Drilling Contractor: Elements Geo Drilling

Soil-Mat Engineers & Consultants Ltd.
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Datum: Temporary Benchmark
Field Logged by: MA
Checked by: KR
Sheet: 3 of 4

Log of Borehole No. 01C

Project No: SM 301724-G-E
Project: Proposed High Rise Development
Location: Niagara Falls, Ontario
Client: Rudanco Hospitality Corporation

Project Manager: Kyle Richardson, P.Eng
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4770402
E: 656389

Depth	Elevation (m)	Description	Well Data	SAMPLE Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)	Moisture Content w% (10 20 30 40) / Standard Penetration Test blows/300mm (20 40 60 80)
0	66.00	**Sandy Silt/Silty Sand** Grey, trace gravel and limestone fragments, very dense.									
10		**Limestone** Grey, highly fractured and weathered in upper levels.									
26	60.99	End of Borehole									

NOTES:

1. Borehole advanced, without sampling, using hollow stem auger and mud rotary equipment on July 22, 2021 to a termination depth of 31.4 meters. Soil structure assumed similar to Borehole No. 01A and bedrock structure assumed similar to to Borehole No. 01B

2. Borehole was recorded as open to a depth of 31.4 meters and 'wet' upon completion and backfilled as per Ontario Regulation 903.

4. A seismic well was installed to 31.4 meters.

Drill Method: H.S.A./M.R.
Drill Date: July 22, 2021
Hole Size: 200 Millimeters
Drilling Contractor: Elements Geo Drilling

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Datum: Temporary Benchmark
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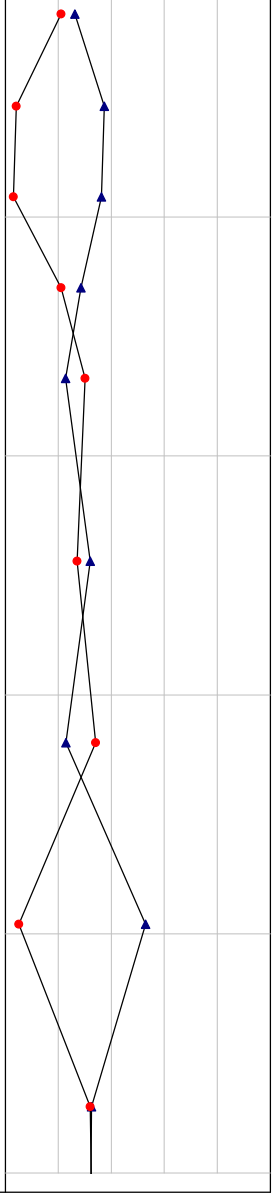
Log of Borehole No. 02

Project No: SM 301724-G-E
Project: Proposed High Rise Development
Location: Niagara Falls, Ontario
Client: Rudanco Hospitality Corporation

Project Manager: Kyle Richardson, P.Eng
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4770370
E: 656499

Depth (ft / m)	Elevation (m)	Description	Well Data	SAMPLE Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
0 / 0	99.82	Ground Surface								
0 / 0	99.52	**Topsoil** Approximately 300 millimetres of topsoil.		SS	1	4,10,11,14	21			
3 / 1	98.80	**Silty Sand/Sandy Silt Fill** Brown, trace to some gravel, loose.		SS	2	3,2,2,1	4			
		Clayey Silt/Silty Clay Fill Brown, trace to some gravel, soft.		SS	3	0,2,1,1	3			
8 / 2	97.30	**Clayey Silt/Silty Clay** Brown, trace sand and gravel, reworked and trace organics in the upper levels, very stiff to hard.		SS	4	4,5,16,19	21			
10 / 3				SS	5	12,15,15,22	30		>4.5	
16 / 5				SS	6	9,11,16,17	27		>4.5	
21 / 6				SS	7	11,16,18,20	34		>4.5	
25 / 7	92.20	Transition in colour to grey.		SS	8	3,2,3,4	5		<1.0	
29 / 9	90.70	**Sandy Silt/Silty Sand** Brown, trace gravel, clayey silt/silty clay inclusions in upper levels, dense to very dense.		SS	9	11,13,19,21	32			
33										

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



Drill Method: S.S.A./H.S.A./M.R.
Drill Date: June 10, 2021
Hole Size: 250 Millimeters
Drilling Contractor: Elements Geo Drilling

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Log of Borehole No. 02

Project No: SM 301724-G-E
Project: Proposed High Rise Development
Location: Niagara Falls, Ontario
Client: Rudanco Hospitality Corporation

Project Manager: Kyle Richardson, P.Eng
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4770370
E: 656499

Depth	Elevation (m)	Symbol	Description	Well Data	SAMPLE Type	SAMPLE Number	SAMPLE Blow Counts	SAMPLE Blows/300mm	SAMPLE Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
34											
35											
36	11										
37											
38											
39	12										
40											
41											
42	13										
43											
44											
45											
46	14										
47											
48											
49	15										
50											
51					SS	10	15,16,20,21	36			
52											
53	16										
54											
55											
56	17										
57											
58											
59	18										
60											
61											
62	19										
63											
64											
65											

Moisture Content w%
10 20 30 40

Standard Penetration Test blows/300mm
20 40 60 80

Drill Method: S.S.A./H.S.A./M.R.
Drill Date: June 10, 2021
Hole Size: 250 Millimeters
Drilling Contractor: Elements Geo Drilling

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Sheet: 2 of 4

Log of Borehole No. 02

Project No: SM 301724-G-E
Project: Proposed High Rise Development
Location: Niagara Falls, Ontario
Client: Rudanco Hospitality Corporation

Project Manager: Kyle Richardson, P.Eng
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4770370
E: 656499

Depth	Elevation (m)	Description	Well Data	SAMPLE Type	SAMPLE Number	SAMPLE Blow Counts	SAMPLE Blows/300mm	SAMPLE Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
71				SS	11	22,24,28,33	52			
72.40	72.40	**Clayey Silt/Silty Clay** Brown trace sand and gravel, hard.								
91	71.80			SS	12	20,24,28,33	52			
		Limestone Grey, highly fractured and weathered in upper levels.								

Moisture Content w% (10 20 30 40)

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

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Drill Method: S.S.A./H.S.A./M.R.
Drill Date: June 10, 2021
Hole Size: 250 Millimeters
Drilling Contractor: Elements Geo Drilling

Datum: Temporary Benchmark
Field Logged by: MA
Checked by: KR
Sheet: 3 of 4

Log of Borehole No. 02

Project No: SM 301724-G-E
Project: Proposed High Rise Development
Location: Niagara Falls, Ontario
Client: Rudanco Hospitality Corporation

Project Manager: Kyle Richardson, P.Eng
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4770370
E: 656499

Depth	Elevation (m)	Symbol	Description	Well Data	SAMPLE Type	SAMPLE Number	SAMPLE Blow Counts	SAMPLE Blows/300mm	SAMPLE Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)	Moisture Content w% (10 20 30 40) / Standard Penetration Test blows/300mm (20 40 60 80)
31												
32												
	67.20				DC	12	100/2"	100				
33			End of Borehole									Stopped mud rotary drilling at approximately 32.6 meters due to water loss (approximately 2500 liters from 30.48 to 32.6 meters), suspected highly fractured
34												
35												
36												
37												
38												
39												

NOTES:

1. Borehole was advanced using solid stem auger and mud rotary equipment on June 10, 2021 and June 11, 2021 to termination at a depth of 32.6 meters.

2. Borehole was recorded as open to a depth of 32.0 meters upon completion and backfilled as per Ontario Regulation 903.

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

Drill Method: S.S.A./H.S.A./M.R.
Drill Date: June 10, 2021
Hole Size: 250 Millimeters
Drilling Contractor: Elements Geo Drilling

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Sheet: 4 of 4

Log of Borehole No. 101

Project No: SM 301724-G-E
Project: Proposed High Rise Development
Location: Niagara Falls, Ontario
Client: Rudanco Hospitality Corporation

Project Manager: Kyle Richardson, P.Eng
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4770406
E: 656381

Depth (ft / m)	Elevation (m)	Description	Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
0 / 0	99.61	Ground Surface							
0 / 0	99.30	**Sand and Gravel Fill** Brown, loose.	SS	1	11,11,5,6	16			
		Clayey Silt/Silty Clay Brown, trace red shale fragments, sand, and gravel, trace to some gravel in lower levels, very stiff to stiff.	SS	2	4,7,9,12	16		>4.5	
			SS	3	5,8,11,14	19		>4.5	
			SS	4	3,8,9,15	17		3.5	
			SS	5	5,10,12,11	22		2.5	
			SS	6	2,3,6,10	9		2.5	
5 / 1.5	94.40		SS	7	6,7,12,11	19		>4.5	
		End of Borehole							

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

NOTES:

1. Borehole was advanced using solid stem auger equipment on July 6, 2021 to termination at a depth of 5.2 meters.

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

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

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

July, 22, 2021 - 0.70 meters

August, 11, 2021 - 2.77 meters

Drill Method: Hollow Stem Augers
Drill Date: July 6, 2021
Hole Size: 250 Millimeters
Drilling Contractor: Elements Geo Drilling

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Sheet: 1 of 1

Log of Borehole No. 102

Project No: SM 301724-G-E
Project: Proposed High Rise Development
Location: Niagara Falls, Ontario
Client: Rudanco Hospitality Corporation

Project Manager: Kyle Richardson, P.Eng
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4770355
E: 656443

Depth (ft / m)	Elevation (m)	Description	Well Data	SAMPLE Type	SAMPLE Number	SAMPLE Blow Counts	SAMPLE Blows/300mm	SAMPLE Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
0 / 0	99.24	Ground Surface								
0–3 / 0–1	98.80	**Pavement Structure** Approximately 60 millimeters of asphaltic concrete over 340 millimeters of compact granular base.		SS	1	8,7,4,4	11			
3–4 / 1	97.90	**Clayey Silt/Silty Clay** Brown, trace sand and gravel, reworked in the upper levels, firm.		SS	2	2,3,4,7	7			
4 / 1		End of Borehole								

Moisture Content w% (10 20 30 40)

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

NOTES:

1. Borehole was advanced using hollow stem auger equipment on July 6, 2021 to termination at a depth of 1.34 meters.

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

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

Drill Method: Hollow Stem Augers
Drill Date: July 6, 2021
Hole Size: 250 Millimeters
Drilling Contractor: Elements Geo Drilling

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Log of Borehole No. 103

Project No: SM 301724-G-E
Project: Proposed High Rise Development
Location: Niagara Falls, Ontario
Client: Rudanco Hospitality Corporation

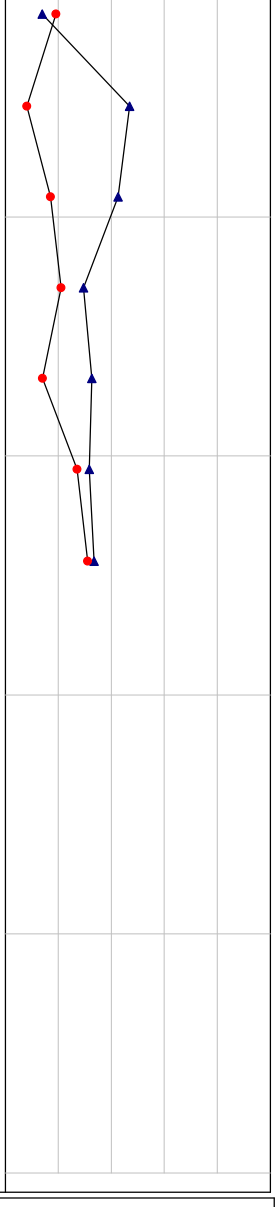
Project Manager: Kyle Richardson, P.Eng
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4770347
E: 656424

Depth (ft / m)	Elevation (m)	Description	Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
0 / 0	99.51	Ground Surface							
0–3 / 0–1		**Topsoil** Approximately 50 millimeters of topsoil.							
		Clayey Silt/Silty Clay Brown, trace gravel, reworked in the upper levels, stiff to hard.	SS	1	5,11,8,12	19			
3–7 / 1–2			SS	2	2,3,5,7	8		>4.5	
7–10 / 2–3			SS	3	4,6,11,13	17		>4.5	
10–13 / 3–4			SS	4	3,9,12,10	21		4.0	
13–16 / 4–5			SS	5	7,5,9,13	14		3.5	
16–17 / 5	94.30		SS	6	7,13,14,20	27		>4.5	
			SS	7	10,15,16,22	31		>4.5	
		End of Borehole							

Well Data

Moisture Content w% (10 20 30 40)

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



NOTES:

1. Borehole was advanced using hollow stem auger equipment on July 6, 2021 to termination at a depth of 5.2 meters.

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

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

Drill Method: Hollow Stem Augers
Drill Date: July 6, 2021
Hole Size: 250 Millimeters
Drilling Contractor: Elements Geo Drilling

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Log of Borehole No. 104

Project No: SM 301724-G-E
Project: Proposed High Rise Development
Location: Niagara Falls, Ontario
Client: Rudanco Hospitality Corporation

Project Manager: Kyle Richardson, P.Eng
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4770316
E: 656447

Depth (ft)	Depth (m)	Elevation (m)	Description	Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
		99.57	Ground Surface							
0	0		**Topsoil** Approximately 100 millimeters of topsoil.							
1			**Clayey Silt/Silty Clay** Brown, trace sand and gravel, reworked and trace organics in the upper levels.	SS	1	3,3,7,5	10			
2	1			SS	2	4,4,6,9	10		>4.5	
3				SS	3	3,5,6,7	11		>4.5	
4	2			SS	4	3,5,10,23	15		>4.5	
5				SS	5	9,12,15,17	27		>4.5	
6	3			SS	6	7,12,15,19	27		>4.5	
7				SS	7	11,12,18,25	30		>4.5	
8	4									
9										
10	5	94.40	End of Borehole							
11										
12	6									
13										
14	7									
15										
16	8									
17										
18	9									
19										
20	10									
21										
22	11									
23										
24	12									
25										
26	13									
27										
28	14									
29										
30	15									
31										
32	16									
33										

Moisture Content w%: 10 20 30 40

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

NOTES:

1. Borehole was advanced using hollow stem auger equipment on July 7, 2021 to termination at a depth of 5.2 meters.

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

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

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

July, 22, 2021 - 1.06 meters

August, 11, 2021 - 1.85 meters

Drill Method: Solid Stem Augers
Drill Date: July 7, 2021
Hole Size: 150 Millimeters
Drilling Contractor: Elements Geo Drilling

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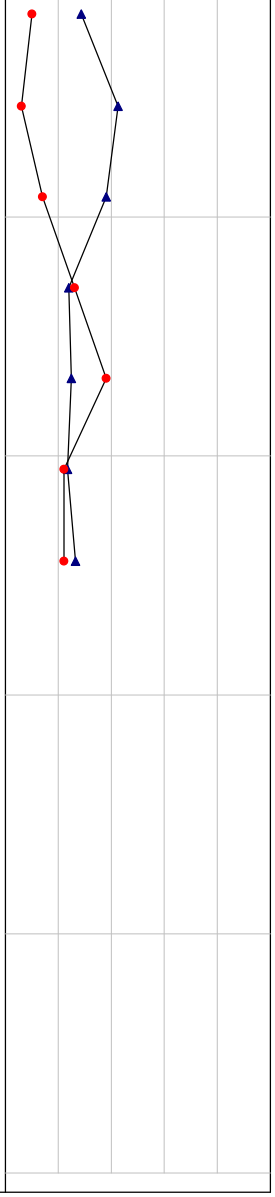
Log of Borehole No. 105

Project No: SM 301724-G-E
Project: Proposed High Rise Development
Location: Niagara Falls, Ontario
Client: Rudanco Hospitality Corporation

Project Manager: Kyle Richardson, P.Eng
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4770339
E: 656470

Depth (ft)	Depth (m)	Elevation (m)	Description	Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
		99.48	Ground Surface							
0	0		**Topsoil** Approximately 50 millimeters of topsoil.							
1			**Clayey Silt/Silty Clay** Brown, trace to sand and gravel, reworked and trace organics in the upper levels, grey inclusions in the lower levels, firm to hard.	SS	1	6,6,4,5	10			
2										
3	1			SS	2	2,3,3,5	6			
4										
5				SS	3	5,4,10,13	14			
6	2									
7				SS	4	8,11,15,19	26		4.0	
8										
9	3			SS	5	11,16,22,23	38		>4.5	
10										
11				SS	6	7,10,12,11	22		>4.5	
12	4									
13				SS	7	6,9,13,15	22		>4.5	
14										
15										
16	5									
17										
18										
19										
20	6									
21										
22										
23	7									
24										
25										
26	8									
27										
28										
29										
30	9									
31										
32										
33										



Drill Method: Solid Stem Augers
Drill Date: July 7, 2021
Hole Size: 150 Millimeters
Drilling Contractor: Elements Geo Drilling

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Log of Borehole No. 105

Project No: SM 301724-G-E
Project: Proposed High Rise Development
Location: Niagara Falls, Ontario
Client: Rudanco Hospitality Corporation

Project Manager: Kyle Richardson, P.Eng
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4770339
E: 656470

Depth	Elevation (m)	Symbol	Description	Well Data	SAMPLE Type	SAMPLE Number	SAMPLE Blow Counts	SAMPLE Blows/300mm	SAMPLE Recovery	SAMPLE PP (kgf/cm2)	SAMPLE U.Wt.(kN/m3)	Moisture Content w% (10 20 30 40) / Standard Penetration Test blows/300mm (20 40 60 80)
11												
12	87.29		End of Borehole									
13												
14												
15												
16												
17												
18												
19												

NOTES:

1. Borehole was advanced using solid stem auger equipment on July 7, 2021 to termination at a depth of 5.2 meters; then advanced without sampling to 12.2 meters to install a monitoring well.

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

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

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

July, 22, 2021 - Dry

Drill Method: Solid Stem Augers
Drill Date: July 7, 2021
Hole Size: 150 Millimeters
Drilling Contractor: Elements Geo Drilling

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Sheet: 2 of 2

Log of Borehole No. 106

Project No: SM 301724-G-E
Project: Proposed High Rise Development
Location: Niagara Falls, Ontario
Client: Rudanco Hospitality Corporation

Project Manager: Kyle Richardson, P.Eng
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4770364
E: 656505

Depth (ft)	Depth (m)	Elevation (m)	Description	Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
		99.77	Ground Surface							
0	0		**Topsoil** Approximately 100 millimeters of topsoil.							
1			**Clayey Silt/Silty Clay** Brown, trace sand and gravel, trace organics and reworked in the upper levels, grey inclusions and sandy silt/silty sand inclusions in the mid-levels, stiff to hard.	SS	1	1,3,4,4	7			
2				SS	2	3,4,5,7	9			
3	1			SS	3	5,6,11,11	17			
4				SS	4	10,17,15,18	32		>4.5	
5				SS	5	10,15,17,20	32		>4.5	
6	2			SS	6	13,19,21,25	40		>4.5	
7				SS	7	12,12,16,17	28		>4.5	
8		94.60	End of Borehole							
9	3									
10										
11										
12	4									
13										
14										
15	5									
16										
17										
18	6									
19										
20										
21	7									
22										
23										
24	8									
25										
26										
27	9									
28										
29										
30										
31										
32										
33										

Moisture Content w%
10 20 30 40

Standard Penetration Test blows/300mm
20 40 60 80

NOTES:

1. Borehole was advanced using solid stem auger equipment on July 7, 2021 to termination at a depth of 5.2 meters.

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

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

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

July, 22, 2021 - 0.72 meters

Drill Method: Solid Stem Augers
Drill Date: July 7, 2021
Hole Size: 150 Millimeters
Drilling Contractor: Elements Geo Drilling

Soil-Mat Engineers & Consultants Ltd.
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Datum: Temporary Benchmark
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Log of Borehole No. 107

Project No: SM 301724-G-E
Project: Proposed High Rise Development
Location: Niagara Falls, Ontario
Client: Rudanco Hospitality Corporation

Project Manager: Kyle Richardson, P.Eng
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4770389
E: 656402

Depth (ft / m)	Elevation (m)	Description	Well Data	SAMPLE Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
	99.59	Ground Surface								
0 / 0	99.30	**Topsoil** Approximately 100 millimetres of topsoil.		SS	1	7,5,6,4	11			
3 / 1		**Sand and Gravel Fill** Brown, loose.		SS	2	2,2,3,3	5			
7 / 2	97.30	**Clayey Silt/Silty Clay Fill** Brown, trace sand and gravel, black staining and some black burnt wood in upper levels, soft.		SS	3	5,7,10,13	17			
10 / 3		**Silty Sand/Sandy Silt Fill** Brown, trace gravel, dense.		SS	4	11,18,18,20	36			
				SS	5	21,19,17,18	36			
13 / 4	95.70	**Clayey Silt/Silty Clay** Brown, trace sand and gravel, reworked in the upper levels, very stiff.		SS	6	9,13,15,16	28		>4.5	
16 / 5				SS	7	5,7,13,22	20		>4.5	
20 / 6										
23 / 7										
26 / 8										
29 / 9										
33										

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

Drill Method: Solid Stem Augers
Drill Date: July 7, 2021
Hole Size: 150 Millimeters
Drilling Contractor: Elements Geo Drilling

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Datum: Temporary Benchmark
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Sheet: 1 of 2

Log of Borehole No. 107

Project No: SM 301724-G-E
Project: Proposed High Rise Development
Location: Niagara Falls, Ontario
Client: Rudanco Hospitality Corporation

Project Manager: Kyle Richardson, P.Eng
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4770389
E: 656402

Depth	Elevation (m)	Symbol	Description	Well Data	SAMPLE Type	SAMPLE Number	SAMPLE Blow Counts	SAMPLE Blows/300mm	SAMPLE Recovery	SAMPLE PP (kgf/cm2)	SAMPLE U.Wt.(kN/m3)	Moisture Content w% (10 20 30 40) / Standard Penetration Test blows/300mm (20 40 60 80)
39	87.70		End of Borehole									

NOTES:

1. Borehole was advanced using solid stem auger equipment on July 7, 2021 to termination at a depth of 5.2 meters; then advanced without sampling to 11.9 meters to install a monitoring well.

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

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

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

July, 22, 2021 -Dry

Drill Method: Solid Stem Augers
Drill Date: July 7, 2021
Hole Size: 150 Millimeters
Drilling Contractor: Elements Geo Drilling

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

Datum: Temporary Benchmark
Field Logged by: MA
Checked by: KR
Sheet: 2 of 2

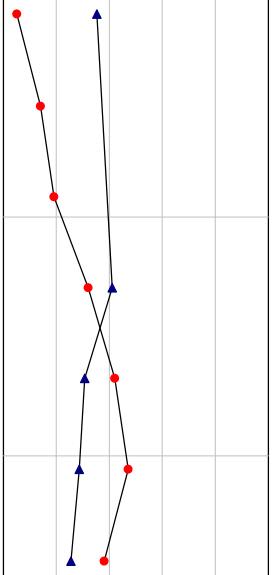
Log of Borehole No. 108

Project No: SM 301724-G-E
Project: Proposed High Rise Development
Location: Niagara Falls, Ontario
Client: Rudanco Hospitality Corporation

Project Manager: Kyle Richardson, P.Eng
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4770395
E: 656430

Depth (ft / m)	Elevation (m)	Description	Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
0 / 0	99.62	Ground Surface							
0–5 / 0–1.5		**Sand and Gravel Fill** Brown, loose.							
5–16 / 1.5–5		**Clayey Silt/Silty Clay** Brown, trace sand and gravel, trace construction debris and reworked in the upper levels, stiff to hard.	SS	1	4,3,2,2	5			
			SS	2	3,7,7,10	14		>4.5	
			SS	3	4,8,11,12	19		>4.5	
			SS	4	10,14,18,25	32		2.0	
			SS	5	17,19,23,30	42		1.75	
			SS	6	12,17,30,32	47		3.25	
			SS	7	16,20,18,29	38			
16 / 5	94.40	End of Borehole							

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



NOTES:

1. Borehole was advanced using solid stem auger equipment on July 7, 2021 to termination at a depth of 5.2 meters.

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

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

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

July, 22, 2021 - 1.26 meters

August, 11, 2021 - 2.39 meters

Drill Method: Solid Stem Augers
Drill Date: July 7, 2021
Hole Size: 150 Millimeters
Drilling Contractor: Elements Geo Drilling

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

Datum: Temporary Benchmark
Field Logged by: MA
Checked by: KR
Sheet: 1 of 1

Log of Borehole No. 109

Project No: SM 301724-G-E
Project: Proposed High Rise Development
Location: Niagara Falls, Ontario
Client: Rudanco Hospitality Corporation

Project Manager: Kyle Richardson, P.Eng
Borehole Location: See Drawing No.1
UTM Coordinates - N: 4770375
E: 656419

Depth (ft / m)	Elevation (m)	Symbol	Description	Well Data	SAMPLE Type	SAMPLE Number	SAMPLE Blow Counts	SAMPLE Blows/300mm	SAMPLE Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
ft / m	99.45		Ground Surface								
0 / 0	98.90		**Pavement Structure** Approximately 75 millimeters of asphaltic concrete over 430 millimeters of compact granular base.		SS	1	4,5,2,1	7			
3 / 1	98.10		**Clayey Silt/Silty Clay** Brown, trace sand and gravel, reworked, firm.		SS	2	5,2,2,2	4			
			End of Borehole								

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

NOTES:

1. Borehole was advanced using solid stem auger equipment on July 7, 2021 to termination at a depth of 1.4 meters.

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

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

Drill Method: Solid Stem Augers
Drill Date: July 7, 2021
Hole Size: 150 Millimeters
Drilling Contractor: Elements Geo Drilling

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

Datum: Temporary Benchmark
Field Logged by: MA
Checked by: KR
Sheet: 1 of 1

Appendix 'C'

1. AGAT Certificate of Analysis – Soil

AGAT Laboratories

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

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

ATTENTION TO: Peter Markesic

PROJECT: 301724-E

AGAT WORK ORDER: 21T773753

SOIL ANALYSIS REVIEWED BY: Jacky Zhu, Spectroscopy Technician

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

DATE REPORTED: Jul 20, 2021

PAGES (INCLUDING COVER): 32

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

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Certificate of Analysis

AGAT WORK ORDER: 21T773753

PROJECT: 301724-E

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

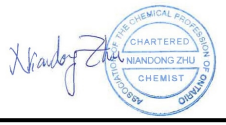
O. Reg. 153(511) - Metals & Inorganics (Soil)

DATE RECEIVED: 2021-07-13

DATE REPORTED: 2021-07-20

		SAMPLE DESCRIPTION:		BH101 SS2	BH101 SS4	BH103 SS2	BH103 SS3	BH104 SS2	BH104 SS3	BH105 SS2	BH105 SS4
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2021-07-06	2021-07-06	2021-07-06	2021-07-06	2021-07-07	2021-07-07	2021-07-07	2021-07-07
Parameter	Unit	G / S	RDL	2729110	2729121	2729124	2729125	2729126	2729127	2729128	2729129
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	5	4	6	5	7	5	5	3
Barium	µg/g	220	2.0	100	66.8	144	135	116	130	120	63.1
Beryllium	µg/g	2.5	0.4	0.6	<0.4	1.0	0.7	0.7	0.8	0.7	<0.4
Boron	µg/g	36	5	11	8	12	13	10	15	12	9
Boron (Hot Water Soluble)	µg/g	NA	0.10	0.16	<0.10	0.34	0.32	0.67	0.30	0.27	<0.10
Cadmium	µg/g	1.2	0.5	<0.5	**1.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	70	5	21	12	28	20	24	24	20	11
Cobalt	µg/g	21	0.5	10.7	8.4	14.3	12.1	13.9	14.0	10.9	7.8
Copper	µg/g	92	1.0	18.0	13.9	23.9	16.7	14.7	19.6	23.9	12.0
Lead	µg/g	120	1	11	24	14	10	20	11	26	23
Molybdenum	µg/g	2	0.5	0.6	<0.5	0.7	0.7	0.9	0.6	0.6	<0.5
Nickel	µg/g	82	1	23	15	34	24	23	31	24	15
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	0.56	<0.50	0.64	0.72	0.74	0.58	0.53	<0.50
Vanadium	µg/g	86	0.4	30.7	20.7	44.7	33.6	41.1	40.1	34.0	21.5
Zinc	µg/g	290	5	62	132	73	56	76	66	101	58
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	0.212	0.154	0.252	0.161	0.223	0.156	0.151	0.100
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	N/A	0.179	0.149	0.421	0.277	0.163	0.215	0.307	0.244
pH, 2:1 CaCl2 Extraction	pH Units		NA	7.75	7.79	7.70	7.79	7.17	7.41	7.52	7.81

Certified By:



AGAT Laboratories

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

Certificate of Analysis

AGAT WORK ORDER: 21T773753

PROJECT: 301724-E

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

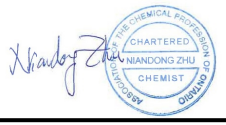
SAMPLED BY:

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

DATE RECEIVED: 2021-07-13 **DATE REPORTED: 2021-07-20**

		SAMPLE DESCRIPTION:		BH106 SS2	BH106 SS3	BH107 SS2	BH107 SS3	BH108 SS2	BH108 SS3	DUP3
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2021-07-07	2021-07-07	2021-07-07	2021-07-07	2021-07-07	2021-07-07	2021-07-07
Parameter	Unit	G / S	RDL	2729130	2729131	2729132	2729133	2729134	2729135	2729226
Antimony	µg/g	1.3	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	1	5	4	6	6	6	5	5
Barium	µg/g	220	2.0	179	68.4	119	59.7	163	102	114
Beryllium	µg/g	2.5	0.4	1.0	<0.4	0.7	<0.4	0.9	0.8	0.9
Boron	µg/g	36	5	12	8	10	7	17	16	18
Boron (Hot Water Soluble)	µg/g	NA	0.10	0.23	<0.10	0.44	<0.10	0.11	0.12	0.12
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	70	5	26	12	23	10	27	25	27
Cobalt	µg/g	21	0.5	13.2	7.0	12.2	8.2	14.7	14.2	15.6
Copper	µg/g	92	1.0	20.0	11.7	24.9	27.6	21.0	19.0	19.9
Lead	µg/g	120	1	21	12	29	6	13	9	10
Molybdenum	µg/g	2	0.5	0.6	<0.5	0.9	0.7	0.8	0.8	0.9
Nickel	µg/g	82	1	31	14	26	13	31	30	34
Selenium	µg/g	1.5	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Silver	µg/g	0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Thallium	µg/g	1	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Uranium	µg/g	2.5	0.50	0.60	0.51	0.59	<0.50	1.13	1.34	1.40
Vanadium	µg/g	86	0.4	43.5	22.7	35.6	19.2	45.7	41.6	45.1
Zinc	µg/g	290	5	59	56	119	32	69	60	66
Chromium, Hexavalent	µg/g	0.66	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Cyanide, Free	µg/g	0.051	0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Mercury	µg/g	0.27	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	0.57	0.005	0.166	0.116	0.211	0.135	0.312	0.284	0.303
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	N/A	0.388	0.326	0.152	0.184	0.640	0.687	0.681
pH, 2:1 CaCl2 Extraction	pH Units		NA	7.63	7.77	7.65	8.05	7.91	7.94	7.93

Certified By:



AGAT Laboratories

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

Certificate of Analysis

AGAT WORK ORDER: 21T773753

PROJECT: 301724-E

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

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

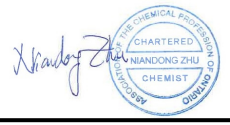
DATE RECEIVED: 2021-07-13 **DATE REPORTED: 2021-07-20**

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.

2729110-2729226 EC was determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil). pH was determined on the 0.01M CaCl2 extract prepared at 2:1 ratio. SAR is a calculated parameter.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 21T773753

PROJECT: 301724-E

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - BNA (full) + PAHs (Soil)

DATE RECEIVED: 2021-07-13

DATE REPORTED: 2021-07-20

		SAMPLE DESCRIPTION:		BH101 SS2	BH101 SS4	BH103 SS2	BH103 SS3	BH104 SS2	BH104 SS3	BH105 SS2	BH105 SS4
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2021-07-06	2021-07-06	2021-07-06	2021-07-06	2021-07-07	2021-07-07	2021-07-07	2021-07-07
Parameter	Unit	G / S	RDL	2729110	2729121	2729124	2729125	2729126	2729127	2729128	2729129
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	<0.05	<0.05	<0.05	<0.05
Anthracene	µg/g	0.16	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	µg/g	0.56	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	µg/g	1	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benz(a)anthracene	µg/g	0.36	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	µg/g	2.8	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.47	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/g	0.48	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g	0.3	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.46	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenzo(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	<0.05	<0.05	<0.05	<0.05
Phenol	µg/g	0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-chloroethyl)ether	µg/g	0.5	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Chlorophenol	µg/g	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o-Cresol	µg/g		0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis(2-chloroisopropyl)ether	µg/g	0.5	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m & p - Cresol	µg/g		0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dimethylphenol	µg/g	0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
2,4-Dichlorophenol	µg/g	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-Trichlorobenzene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
p-Chloroaniline	µg/g	0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
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
2,4,6-Trichlorophenol	µg/g	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4,5-Trichlorophenol	µg/g	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-Biphenyl	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Certified By:

AGAT Laboratories

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

Certificate of Analysis

AGAT WORK ORDER: 21T773753

PROJECT: 301724-E

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - BNA (full) + PAHs (Soil)

DATE RECEIVED: 2021-07-13

DATE REPORTED: 2021-07-20

		SAMPLE DESCRIPTION:		BH101 SS2	BH101 SS4	BH103 SS2	BH103 SS3	BH104 SS2	BH104 SS3	BH105 SS2	BH105 SS4
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2021-07-06	2021-07-06	2021-07-06	2021-07-06	2021-07-07	2021-07-07	2021-07-07	2021-07-07
Parameter	**Unit**	**G / S**	**RDL**	**2729110**	**2729121**	**2729124**	**2729125**	**2729126**	**2729127**	**2729128**	**2729129**
Dimethyl Phthalate	µg/g	0.5	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4 and 2,6-Dinitrotoluene	µg/g	0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diethyl Phthalate	µg/g	0.5	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pentachlorophenol	µg/g	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
3,3'-Dichlorobenzidine	µg/g		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dinitrophenol	µg/g		2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Bis(2-Ethylhexyl)phthalate	µg/g	5	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Moisture Content	%		0.1	14.7	13.6	23.5	19.3	19.2	23.7	19.7	13.8
wet weight BNA	g		0.01	10.41	10.08	10.48	10.50	10.72	10.31	10.54	10.39
Surrogate	**Unit**	**Acceptable Limits**									
phenol-d6 surrogate	%	50-140		75	85	98	99	98	85	88	72
2-Fluorophenol	%	50-140		95	86	88	90	88	74	75	71
2,4,6-Tribromophenol	%	50-140		99	95	86	86	86	75	95	105
Chrysene-d12	%	50-140		74	105	95	105	99	98	77	98

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AGAT WORK ORDER: 21T773753

PROJECT: 301724-E

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - BNA (full) + PAHs (Soil)

DATE RECEIVED: 2021-07-13

DATE REPORTED: 2021-07-20

		SAMPLE DESCRIPTION:		BH106 SS2	BH106 SS3	BH107 SS2	BH107 SS3	BH108 SS2	BH108 SS3	DUP2
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2021-07-07	2021-07-07	2021-07-07	2021-07-07	2021-07-07	2021-07-07	2021-07-07
Parameter	Unit	G / S	RDL	2729130	2729131	2729132	2729133	2729134	2729135	2729224
Naphthalene	µg/g	0.09	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
Acenaphthene	µg/g	0.072	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
Phenanthrene	µg/g	0.69	0.05	<0.05	<0.05	0.07	<0.05	<0.05	<0.05	<0.05
Anthracene	µg/g	0.16	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	µg/g	0.56	0.05	<0.05	<0.05	0.08	<0.05	<0.05	<0.05	<0.05
Pyrene	µg/g	1	0.05	<0.05	<0.05	0.06	<0.05	<0.05	<0.05	<0.05
Benz(a)anthracene	µg/g	0.36	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	µg/g	2.8	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.47	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/g	0.48	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g	0.3	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.46	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenzo(a,h)anthracene	µg/g	0.1	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	<0.05	<0.05	<0.05
Phenol	µg/g	0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-chloroethyl)ether	µg/g	0.5	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Chlorophenol	µg/g	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o-Cresol	µg/g		0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis(2-chloroisopropyl)ether	µg/g	0.5	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m & p - Cresol	µg/g		0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dimethylphenol	µg/g	0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
2,4-Dichlorophenol	µg/g	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-Trichlorobenzene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
p-Chloroaniline	µg/g	0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1 and 2 Methlynaphthalene	µg/g	0.59	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2,4,6-Trichlorophenol	µg/g	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4,5-Trichlorophenol	µg/g	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1-Biphenyl	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

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AGAT WORK ORDER: 21T773753

PROJECT: 301724-E

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - BNA (full) + PAHs (Soil)

DATE RECEIVED: 2021-07-13 **DATE REPORTED: 2021-07-20**

		SAMPLE DESCRIPTION:		BH106 SS2	BH106 SS3	BH107 SS2	BH107 SS3	BH108 SS2	BH108 SS3	DUP2
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2021-07-07	2021-07-07	2021-07-07	2021-07-07	2021-07-07	2021-07-07	2021-07-07
Parameter	**Unit**	**G / S**	**RDL**	**2729130**	**2729131**	**2729132**	**2729133**	**2729134**	**2729135**	**2729224**
Dimethyl Phthalate	µg/g	0.5	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4 and 2,6-Dinitrotoluene	µg/g	0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diethyl Phthalate	µg/g	0.5	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pentachlorophenol	µg/g	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
3,3'-Dichlorobenzidine	µg/g		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dinitrophenol	µg/g		2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Bis(2-Ethylhexyl)phthalate	µg/g	5	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Moisture Content	%		0.1	19.6	13.1	18.9	9.5	16.5	17.6	18.3
wet weight BNA	g		0.01	10.78	10.67	10.52	10.60	10.87	10.19	10.54
Surrogate	**Unit**	**Acceptable Limits**								
phenol-d6 surrogate	%	50-140		88	75	67	75	86	98	88
2-Fluorophenol	%	50-140		75	98	72	105	96	88	98
2,4,6-Tribromophenol	%	50-140		95	77	79	98	92	71	70
Chrysene-d12	%	50-140		74	75	74	88	105	105	99

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

2729110-2729224 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.

Analysis performed at AGAT Toronto (unless marked by *)

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AGAT WORK ORDER: 21T773753

PROJECT: 301724-E

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2021-07-13 **DATE REPORTED: 2021-07-20**

		SAMPLE DESCRIPTION:		BH102 SS2	BH109	TP1	TP2	DUP 1	DUP4
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2021-07-06	2021-07-07	2021-07-07	2021-07-07	2021-07-06	2021-07-07
Parameter	**Unit**	**G / S**	**RDL**	**2729123**	**2729216**	**2729217**	**2729218**	**2729219**	**2729228**
Naphthalene	µg/g	0.09	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
Acenaphthene	µg/g	0.072	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
Phenanthrene	µg/g	0.69	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	µg/g	0.16	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	µg/g	0.56	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	µg/g	1	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benz(a)anthracene	µg/g	0.36	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	µg/g	2.8	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.47	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/g	0.48	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g	0.3	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.46	0.05	<0.05	<0.05	<0.05	<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
Benzo(g,h,i)perylene	µg/g	0.68	0.05	<0.05	<0.05	<0.05	<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
Moisture Content	%		0.1	18.5	19.1	16.7	11.9	18.2	13.5
Surrogate	**Unit**	**Acceptable Limits**							
Naphthalene-d8	%	50-140		102	105	102	101	98	98
Acridine-d9	%	50-140		98	98	98	98	85	85
Terphenyl-d14	%	50-140		94	94	95	95	94	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.

2729123-2729228 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 *)

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AGAT WORK ORDER: 21T773753

PROJECT: 301724-E

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2021-07-13 **DATE REPORTED: 2021-07-20**

		SAMPLE DESCRIPTION:		DUP3
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2021-07-07
Parameter	**Unit**	**G / S**	**RDL**	**2729226**
F1 (C6 - C10)	µg/g	25	5	<5
F1 (C6 to C10) minus BTEX	µg/g	25	5	<5
F2 (C10 to C16)	µg/g	10	10	<10
F3 (C16 to C34)	µg/g	240	50	<50
F4 (C34 to C50)	µg/g	120	50	<50
Gravimetric Heavy Hydrocarbons	µg/g	120	50	NA
Moisture Content	%		0.1	15.1
Surrogate	**Unit**	**Acceptable Limits**		
Toluene-d8	% Recovery	50-140		79
Terphenyl	%	60-140		76

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.

2729226 Results are based on sample dry weight.
The C6-C10 fraction is calculated using toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX contribution.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.
Fractions 1-4 are quantified without the contribution of PAHs. Under Ontario Regulation 153, results are considered valid without determining the PAH contribution if not requested by the client.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

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AGAT WORK ORDER: 21T773753

PROJECT: 301724-E

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2021-07-13 **DATE REPORTED: 2021-07-20**

		SAMPLE DESCRIPTION:		BH101 SS2	BH101 SS4	BH103 SS2	BH103 SS3	BH104 SS2	BH104 SS3	BH105 SS2	BH105 SS4
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2021-07-06	2021-07-06	2021-07-06	2021-07-06	2021-07-07	2021-07-07	2021-07-07	2021-07-07
Parameter	**Unit**	**G / S**	**RDL**	2729110	2729121	2729124	2729125	2729126	2729127	2729128	2729129
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
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
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	14.7	13.6	23.5	19.3	19.2	23.7	19.7	13.8
Surrogate	**Unit**	**Acceptable Limits**									
Toluene-d8	% Recovery	50-140		84	72	80	84	87	80	97	103
Terphenyl	%	60-140		82	87	93	87	88	96	76	98

		SAMPLE DESCRIPTION:		BH106 SS2	BH106 SS3	BH107 SS2	BH107 SS3	BH108 SS2	BH108 SS3
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2021-07-07	2021-07-07	2021-07-07	2021-07-07	2021-07-07	2021-07-07
Parameter	**Unit**	**G / S**	**RDL**	2729130	2729131	2729132	2729133	2729134	2729135
F1 (C6 - C10)	µg/g	25	5	<5	<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	25	5	<5	<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g	10	10	<10	<10	<10	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10	<10	<10	<10	<10	<10
F3 (C16 to C34)	µg/g	240	50	<50	<50	<50	<50	<50	<50
F3 (C16 to C34) minus PAHs	µg/g		50	<50	<50	<50	<50	<50	<50
F4 (C34 to C50)	µg/g	120	50	<50	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	120	50	NA	NA	NA	NA	NA	NA
Moisture Content	%		0.1	19.6	13.1	18.9	9.5	16.5	17.6
Surrogate	**Unit**	**Acceptable Limits**							
Toluene-d8	% Recovery	50-140		95	88	84	72	75	70
Terphenyl	%	60-140		95	91	97	89	86	93

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Certificate of Analysis

AGAT WORK ORDER: 21T773753

PROJECT: 301724-E

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2021-07-13 **DATE REPORTED: 2021-07-20**

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.

2729110-2729135 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:

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 21T773753

PROJECT: 301724-E

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2021-07-13

DATE REPORTED: 2021-07-20

		SAMPLE DESCRIPTION:		BH101 SS2	BH101 SS4	BH103 SS2	BH103 SS3	BH104 SS2	BH104 SS3	BH105 SS2	BH105 SS4
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2021-07-06	2021-07-06	2021-07-06	2021-07-06	2021-07-07	2021-07-07	2021-07-07	2021-07-07
Parameter	Unit	G / S	RDL	2729110	2729121	2729124	2729125	2729126	2729127	2729128	2729129
Dichlorodifluoromethane	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	ug/g	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Bromomethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	ug/g	0.25	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acetone	ug/g	0.5	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trans- 1,2-Dichloroethylene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl tert-butyl Ether	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1-Dichloroethane	ug/g	0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Methyl Ethyl Ketone	ug/g	0.5	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cis- 1,2-Dichloroethylene	ug/g	0.05	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,2-Dichloroethane	ug/g	0.05	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
1,1,1-Trichloroethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzene	ug/g	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-Dichloropropane	ug/g	0.05	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Trichloroethylene	ug/g	0.05	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Bromodichloromethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl Isobutyl Ketone	ug/g	0.5	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Toluene	ug/g	0.2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromochloromethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylene Dibromide	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Tetrachloroethylene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,1,2-Tetrachloroethane	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Chlorobenzene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
m & p-Xylene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 21T773753

PROJECT: 301724-E

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2021-07-13 **DATE REPORTED: 2021-07-20**

		SAMPLE DESCRIPTION:		BH101 SS2	BH101 SS4	BH103 SS2	BH103 SS3	BH104 SS2	BH104 SS3	BH105 SS2	BH105 SS4
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2021-07-06	2021-07-06	2021-07-06	2021-07-06	2021-07-07	2021-07-07	2021-07-07	2021-07-07
Parameter	**Unit**	**G / S**	**RDL**	**2729110**	**2729121**	**2729124**	**2729125**	**2729126**	**2729127**	**2729128**	**2729129**
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	14.7	13.6	23.5	19.3	19.2	23.7	19.7	13.8
Surrogate	**Unit**	**Acceptable Limits**									
Toluene-d8	% Recovery	50-140		82	95	77	100	84	86	84	87
4-Bromofluorobenzene	% Recovery	50-140		76	72	79	72	78	78	77	78

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AGAT WORK ORDER: 21T773753

PROJECT: 301724-E

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2021-07-13

DATE REPORTED: 2021-07-20

		SAMPLE DESCRIPTION:		BH106 SS2	BH106 SS3	BH107 SS2	BH107 SS3	BH108 SS2	BH108 SS3	DUP3
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2021-07-07	2021-07-07	2021-07-07	2021-07-07	2021-07-07	2021-07-07	2021-07-07
Parameter	Unit	G / S	RDL	2729130	2729131	2729132	2729133	2729134	2729135	2729226
Dichlorodifluoromethane	µg/g	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
Bromomethane	ug/g	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
Acetone	ug/g	0.5	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
Methylene Chloride	ug/g	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
Methyl tert-butyl Ether	ug/g	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
Methyl Ethyl Ketone	ug/g	0.5	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
Chloroform	ug/g	0.05	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
1,1,1-Trichloroethane	ug/g	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
Benzene	ug/g	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
Trichloroethylene	ug/g	0.05	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
Methyl Isobutyl Ketone	ug/g	0.5	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
Toluene	ug/g	0.2	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
Ethylene Dibromide	ug/g	0.05	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
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
Chlorobenzene	ug/g	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
m & p-Xylene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

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Certificate of Analysis

AGAT WORK ORDER: 21T773753

PROJECT: 301724-E

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2021-07-13 **DATE REPORTED: 2021-07-20**

		SAMPLE DESCRIPTION:		BH106 SS2	BH106 SS3	BH107 SS2	BH107 SS3	BH108 SS2	BH108 SS3	DUP3
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2021-07-07	2021-07-07	2021-07-07	2021-07-07	2021-07-07	2021-07-07	2021-07-07
Parameter	**Unit**	**G / S**	**RDL**	**2729130**	**2729131**	**2729132**	**2729133**	**2729134**	**2729135**	**2729226**
Bromoform	ug/g	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
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
o-Xylene	ug/g		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
1,4-Dichlorobenzene	ug/g	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
Xylenes (Total)	ug/g	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
n-Hexane	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	19.6	13.1	18.9	9.5	16.5	17.6	15.1
Surrogate	**Unit**	**Acceptable Limits**								
Toluene-d8	% Recovery	50-140		84	112	80	82	90	78	85
4-Bromofluorobenzene	% Recovery	50-140		78	78	78	75	78	78	78

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

2729110-2729226 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:

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 21T773753

PROJECT: 301724-E

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

Total PCBs (soil)

DATE RECEIVED: 2021-07-13 **DATE REPORTED: 2021-07-20**

		SAMPLE DESCRIPTION:		BH101 SS2	BH101 SS4	BH103 SS2	BH103 SS3	BH104 SS2	BH104 SS3	BH105 SS2	BH105 SS4
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2021-07-06	2021-07-06	2021-07-06	2021-07-06	2021-07-07	2021-07-07	2021-07-07	2021-07-07
Parameter	**Unit**	**G / S**	**RDL**	**2729110**	**2729121**	**2729124**	**2729125**	**2729126**	**2729127**	**2729128**	**2729129**
Polychlorinated Biphenyls	µg/g	0.3	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Moisture Content	%		0.1	14.7	13.6	23.5	19.3	19.2	23.7	19.7	13.8
Surrogate	**Unit**	**Acceptable Limits**									
Decachlorobiphenyl	%	60-130		108	104	116	120	96	112	80	116

		SAMPLE DESCRIPTION:		BH106 SS2	BH106 SS3	BH107 SS2	BH107 SS3	BH108 SS2	BH108 SS3	DUP2
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2021-07-07	2021-07-07	2021-07-07	2021-07-07	2021-07-07	2021-07-07	2021-07-07
Parameter	**Unit**	**G / S**	**RDL**	**2729130**	**2729131**	**2729132**	**2729133**	**2729134**	**2729135**	**2729224**
Polychlorinated Biphenyls	µg/g	0.3	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Moisture Content	%		0.1	19.6	13.1	18.9	9.5	16.5	17.6	18.3
Surrogate	**Unit**	**Acceptable Limits**								
Decachlorobiphenyl	%	60-130		108	96	100	96	104	100	104

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.

2729110-2729224 Results are based on the dry weight of soil extracted.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

AGAT Laboratories

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Exceedance Summary

AGAT WORK ORDER: 21T773753

PROJECT: 301724-E

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
2729121	BH101 SS4	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Cadmium	µg/g	1.2	1.7

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Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21T773753

PROJECT: 301724-E

ATTENTION TO: Peter Markesic

SAMPLING SITE:

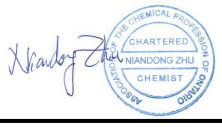
SAMPLED BY:

Soil Analysis

RPT Date: Jul 20, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals & Inorganics (Soil)															
Antimony	2729110	2729110	<0.8	<0.8	NA	< 0.8	139%	70%	130%	99%	80%	120%	99%	70%	130%
Arsenic	2729110	2729110	5	5	0.0%	< 1	118%	70%	130%	102%	80%	120%	102%	70%	130%
Barium	2729110	2729110	100	101	1.0%	< 2.0	111%	70%	130%	102%	80%	120%	103%	70%	130%
Beryllium	2729110	2729110	0.6	0.6	NA	< 0.4	96%	70%	130%	86%	80%	120%	92%	70%	130%
Boron	2729110	2729110	11	11	NA	< 5	95%	70%	130%	102%	80%	120%	97%	70%	130%
Boron (Hot Water Soluble)	2729110	2729110	0.16	0.15	NA	< 0.10	96%	60%	140%	98%	70%	130%	103%	60%	140%
Cadmium	2729110	2729110	<0.5	<0.5	NA	< 0.5	114%	70%	130%	100%	80%	120%	99%	70%	130%
Chromium	2729110	2729110	21	21	NA	< 5	109%	70%	130%	103%	80%	120%	99%	70%	130%
Cobalt	2729110	2729110	10.7	10.8	0.9%	< 0.5	105%	70%	130%	105%	80%	120%	98%	70%	130%
Copper	2729110	2729110	18.0	18.4	2.2%	< 1.0	94%	70%	130%	98%	80%	120%	98%	70%	130%
Lead	2729110	2729110	11	12	8.7%	< 1	107%	70%	130%	109%	80%	120%	101%	70%	130%
Molybdenum	2729110	2729110	0.6	0.6	NA	< 0.5	120%	70%	130%	107%	80%	120%	112%	70%	130%
Nickel	2729110	2729110	23	23	0.0%	< 1	102%	70%	130%	106%	80%	120%	98%	70%	130%
Selenium	2729110	2729110	<0.8	<0.8	NA	< 0.8	87%	70%	130%	96%	80%	120%	95%	70%	130%
Silver	2729110	2729110	<0.5	<0.5	NA	< 0.5	107%	70%	130%	112%	80%	120%	107%	70%	130%
Thallium	2729110	2729110	<0.5	<0.5	NA	< 0.5	120%	70%	130%	100%	80%	120%	96%	70%	130%
Uranium	2729110	2729110	0.56	0.58	NA	< 0.50	121%	70%	130%	108%	80%	120%	107%	70%	130%
Vanadium	2729110	2729110	30.7	31.0	1.0%	< 0.4	112%	70%	130%	105%	80%	120%	107%	70%	130%
Zinc	2729110	2729110	62	66	6.3%	< 5	92%	70%	130%	100%	80%	120%	106%	70%	130%
Chromium, Hexavalent	2729124	2729124	<0.2	<0.2	NA	< 0.2	104%	70%	130%	84%	80%	120%	75%	70%	130%
Cyanide, Free	2729133	2729133	<0.040	<0.040	NA	< 0.040	101%	70%	130%	110%	80%	120%	110%	70%	130%
Mercury	2729110	2729110	<0.10	<0.10	NA	< 0.10	100%	70%	130%	94%	80%	120%	91%	70%	130%
Electrical Conductivity (2:1)	2729110	2729110	0.212	0.198	6.8%	< 0.005	112%	80%	120%						
Sodium Adsorption Ratio (2:1) (Calc.)	2729110	2729110	0.179	0.169	5.7%	NA									
pH, 2:1 CaCl2 Extraction	2729135	2729135	7.94	8.07	1.6%	NA	100%	80%	120%						

Comments: NA signifies Not Applicable.
pH duplicates QA acceptance criteria was met relative as stated in Table 5-15 of Analytical Protocol document.
Duplicate NA: results are under 5X the RDL and will not be calculated.
For a multi-element scan for lab control standards and matrix spikes, up to 10% of analytes may exceed the quoted limits by up to 10% absolute and it is considered acceptable.

Certified By:



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PROJECT: 301724-E

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SAMPLING SITE:

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Trace Organics Analysis

RPT Date: Jul 20, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)															
F2 (C10 to C16)	2726395		< 10	< 10	NA	< 10	112%	60%	140%	101%	60%	140%	114%	60%	140%
F3 (C16 to C34)	2726395		60	53	NA	< 50	113%	60%	140%	92%	60%	140%	110%	60%	140%
F4 (C34 to C50)	2726395		< 50	< 50	NA	< 50	92%	60%	140%	65%	60%	140%	104%	60%	140%
O. Reg. 153(511) - BNA (full) + PAHs (Soil)															
Naphthalene	2729124	2729124	< 0.05	< 0.05	NA	< 0.05	96%	50%	140%	96%	50%	140%	106%	50%	140%
Acenaphthylene	2729124	2729124	< 0.05	< 0.05	NA	< 0.05	91%	50%	140%	79%	50%	140%	119%	50%	140%
Acenaphthene	2729124	2729124	< 0.05	< 0.05	NA	< 0.05	90%	50%	140%	81%	50%	140%	132%	50%	140%
Fluorene	2729124	2729124	< 0.05	< 0.05	NA	< 0.05	117%	50%	140%	109%	50%	140%	132%	50%	140%
Phenanthrene	2729124	2729124	< 0.05	< 0.05	NA	< 0.05	99%	50%	140%	104%	50%	140%	120%	50%	140%
Anthracene	2729124	2729124	< 0.05	< 0.05	NA	< 0.05	115%	50%	140%	112%	50%	140%	108%	50%	140%
Fluoranthene	2729124	2729124	< 0.05	< 0.05	NA	< 0.05	89%	50%	140%	87%	50%	140%	105%	50%	140%
Pyrene	2729124	2729124	< 0.05	< 0.05	NA	< 0.05	89%	50%	140%	90%	50%	140%	102%	50%	140%
Benz(a)anthracene	2729124	2729124	< 0.05	< 0.05	NA	< 0.05	83%	50%	140%	78%	50%	140%	109%	50%	140%
Chrysene	2729124	2729124	< 0.05	< 0.05	NA	< 0.05	133%	50%	140%	83%	50%	140%	101%	50%	140%
Benzo(b)fluoranthene	2729124	2729124	< 0.05	< 0.05	NA	< 0.05	102%	50%	140%	68%	50%	140%	102%	50%	140%
Benzo(k)fluoranthene	2729124	2729124	< 0.05	< 0.05	NA	< 0.05	101%	50%	140%	93%	50%	140%	107%	50%	140%
Benzo(a)pyrene	2729124	2729124	< 0.05	< 0.05	NA	< 0.05	92%	50%	140%	92%	50%	140%	137%	50%	140%
Indeno(1,2,3-cd)pyrene	2729124	2729124	< 0.05	< 0.05	NA	< 0.05	82%	50%	140%	67%	50%	140%	126%	50%	140%
Dibenzo(a,h)anthracene	2729124	2729124	< 0.05	< 0.05	NA	< 0.05	81%	50%	140%	70%	50%	140%	120%	50%	140%
Benzo(g,h,i)perylene	2729124	2729124	< 0.05	< 0.05	NA	< 0.05	76%	50%	140%	79%	50%	140%	123%	50%	140%
Phenol	2729124	2729124	< 0.5	< 0.5	NA	< 0.5	103%	30%	130%	72%	30%	130%	105%	30%	130%
Bis(2-chloroethyl)ether	2729124	2729124	< 0.1	< 0.1	NA	< 0.1	110%	50%	140%	73%	50%	140%	106%	50%	140%
2-Chlorophenol	2729124	2729124	< 0.1	< 0.1	NA	< 0.1	84%	50%	140%	67%	50%	140%	107%	50%	140%
o-Cresol	2729124	2729124	< 0.1	< 0.1	NA	< 0.1	97%	50%	140%	75%	50%	140%	96%	50%	140%
Bis(2-chloroisopropyl)ether	2729124	2729124	< 0.1	< 0.1	NA	< 0.1	108%	50%	140%	104%	50%	140%	90%	50%	140%
m & p - Cresol	2729124	2729124	< 0.1	< 0.1	NA	< 0.1	111%	50%	140%	89%	50%	140%	86%	50%	140%
2,4-Dimethylphenol	2729124	2729124	< 0.2	< 0.2	NA	< 0.2	95%	30%	130%	83%	30%	130%	99%	30%	130%
2,4-Dichlorophenol	2729124	2729124	< 0.1	< 0.1	NA	< 0.1	84%	50%	140%	78%	50%	140%	86%	50%	140%
1,2,4-Trichlorobenzene	2729124	2729124	< 0.05	< 0.05	NA	< 0.05	84%	50%	140%	87%	50%	140%	105%	50%	140%
p-Chloroaniline	2729124	2729124	< 0.5	< 0.5	NA	< 0.5	81%	30%	130%	69%	30%	130%	98%	30%	130%
2,4,6-Trichlorophenol	2729124	2729124	< 0.1	< 0.1	NA	< 0.1	96%	50%	140%	78%	50%	140%	106%	50%	140%
2,4,5-Trichlorophenol	2729124	2729124	< 0.1	< 0.1	NA	< 0.1	95%	50%	140%	74%	50%	140%	134%	50%	140%
1,1-Biphenyl	2729124	2729124	< 0.05	< 0.05	NA	< 0.05	NA	50%	140%	83%	50%	140%	105%	50%	140%
Dimethyl Phthalate	2729124	2729124	< 0.1	< 0.1	NA	< 0.1	90%	50%	140%	78%	50%	140%	124%	50%	140%
Diethyl Phthalate	2729124	2729124	< 0.1	< 0.1	NA	< 0.1	101%	50%	140%	103%	50%	140%	124%	50%	140%
Pentachlorophenol	2729124	2729124	< 0.1	< 0.1	NA	< 0.1	102%	50%	140%	75%	50%	140%	109%	50%	140%
3,3'-Dichlorobenzidine	2729124	2729124	< 0.5	< 0.5	NA	< 0.5	85%	30%	130%	74%	30%	130%	127%	30%	130%
2,4-Dinitrophenol	2729124	2729124	< 2.0	< 2.0	NA	< 2.0	103%	30%	130%	41%	30%	130%	108%	30%	130%

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PROJECT: 301724-E

ATTENTION TO: Peter Markesic

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Trace Organics Analysis (Continued)

RPT Date: Jul 20, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Bis(2-Ethylhexyl)phthalate	2729124	2729124	< 0.2	< 0.2	NA	< 0.2	111%	50%	140%	94%	50%	140%	105%	50%	140%
Total PCBs (soil)															
Polychlorinated Biphenyls	2729125	2729125	< 0.1	< 0.1	NA	< 0.1	98%	60%	140%	91%	60%	140%	92%	60%	140%
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)															
F1 (C6 - C10)	2726191		<5	<5	NA	< 5	110%	60%	140%	112%	60%	140%	105%	60%	140%
F2 (C10 to C16)	2734266		< 10	< 10	NA	< 10	110%	60%	140%	110%	60%	140%	82%	60%	140%
F3 (C16 to C34)	2734266		< 50	< 50	NA	< 50	106%	60%	140%	82%	60%	140%	60%	60%	140%
F4 (C34 to C50)	2734266		< 50	< 50	NA	< 50	90%	60%	140%	105%	60%	140%	92%	60%	140%
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)															
F2 (C10 to C16)	2729131	2729131	< 10	< 10	NA	< 10	115%	60%	140%	108%	60%	140%	67%	60%	140%
F3 (C16 to C34)	2729131	2729131	< 50	< 50	NA	< 50	116%	60%	140%	97%	60%	140%	61%	60%	140%
F4 (C34 to C50)	2729131	2729131	< 50	< 50	NA	< 50	104%	60%	140%	78%	60%	140%	71%	60%	140%
O. Reg. 153(511) - VOCs (Soil)															
Dichlorodifluoromethane	2729226	2729226	<0.05	<0.05	NA	< 0.05	84%	50%	140%	110%	50%	140%	75%	50%	140%
Vinyl Chloride	2729226	2729226	<0.02	<0.02	NA	< 0.02	107%	50%	140%	94%	50%	140%	92%	50%	140%
Bromomethane	2729226	2729226	<0.05	<0.05	NA	< 0.05	110%	50%	140%	113%	50%	140%	109%	50%	140%
Trichlorofluoromethane	2729226	2729226	<0.05	<0.05	NA	< 0.05	112%	50%	140%	116%	50%	140%	83%	50%	140%
Acetone	2729226	2729226	<0.50	<0.50	NA	< 0.50	94%	50%	140%	99%	50%	140%	101%	50%	140%
1,1-Dichloroethylene	2729226	2729226	<0.05	<0.05	NA	< 0.05	108%	50%	140%	80%	60%	130%	72%	50%	140%
Methylene Chloride	2729226	2729226	<0.05	<0.05	NA	< 0.05	106%	50%	140%	99%	60%	130%	89%	50%	140%
Trans- 1,2-Dichloroethylene	2729226	2729226	<0.05	<0.05	NA	< 0.05	115%	50%	140%	105%	60%	130%	94%	50%	140%
Methyl tert-butyl Ether	2729226	2729226	<0.05	<0.05	NA	< 0.05	94%	50%	140%	110%	60%	130%	78%	50%	140%
1,1-Dichloroethane	2729226	2729226	<0.02	<0.02	NA	< 0.02	96%	50%	140%	112%	60%	130%	106%	50%	140%
Methyl Ethyl Ketone	2729226	2729226	<0.50	<0.50	NA	< 0.50	76%	50%	140%	85%	50%	140%	88%	50%	140%
Cis- 1,2-Dichloroethylene	2729226	2729226	<0.02	<0.02	NA	< 0.02	111%	50%	140%	111%	60%	130%	101%	50%	140%
Chloroform	2729226	2729226	<0.04	<0.04	NA	< 0.04	115%	50%	140%	113%	60%	130%	98%	50%	140%
1,2-Dichloroethane	2729226	2729226	<0.03	<0.03	NA	< 0.03	108%	50%	140%	91%	60%	130%	115%	50%	140%
1,1,1-Trichloroethane	2729226	2729226	<0.05	<0.05	NA	< 0.05	104%	50%	140%	108%	60%	130%	117%	50%	140%
Carbon Tetrachloride	2729226	2729226	<0.05	<0.05	NA	< 0.05	108%	50%	140%	97%	60%	130%	106%	50%	140%
Benzene	2729226	2729226	<0.02	<0.02	NA	< 0.02	109%	50%	140%	100%	60%	130%	79%	50%	140%
1,2-Dichloropropane	2729226	2729226	<0.03	<0.03	NA	< 0.03	82%	50%	140%	99%	60%	130%	92%	50%	140%
Trichloroethylene	2729226	2729226	<0.03	<0.03	NA	< 0.03	102%	50%	140%	103%	60%	130%	104%	50%	140%
Bromodichloromethane	2729226	2729226	<0.05	<0.05	NA	< 0.05	104%	50%	140%	108%	60%	130%	97%	50%	140%
Methyl Isobutyl Ketone	2729226	2729226	<0.50	<0.50	NA	< 0.50	84%	50%	140%	91%	50%	140%	88%	50%	140%
1,1,2-Trichloroethane	2729226	2729226	<0.04	<0.04	NA	< 0.04	99%	50%	140%	106%	60%	130%	97%	50%	140%
Toluene	2729226	2729226	<0.05	<0.05	NA	< 0.05	79%	50%	140%	101%	60%	130%	104%	50%	140%
Dibromochloromethane	2729226	2729226	<0.05	<0.05	NA	< 0.05	97%	50%	140%	101%	60%	130%	96%	50%	140%
Ethylene Dibromide	2729226	2729226	<0.04	<0.04	NA	< 0.04	99%	50%	140%	94%	60%	130%	87%	50%	140%

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Trace Organics Analysis (Continued)

RPT Date: Jul 20, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Tetrachloroethylene	2729226		<0.05	<0.05	NA	< 0.05	106%	50%	140%	110%	60%	130%	92%	50%	140%
1,1,1,2-Tetrachloroethane	2729226	2729226	<0.04	<0.04	NA	< 0.04	93%	50%	140%	114%	60%	130%	95%	50%	140%
Chlorobenzene	2729226	2729226	<0.05	<0.05	NA	< 0.05	101%	50%	140%	102%	60%	130%	83%	50%	140%
Ethylbenzene	2729226	2729226	<0.05	<0.05	NA	< 0.05	86%	50%	140%	101%	60%	130%	106%	50%	140%
m & p-Xylene	2729226	2729226	<0.05	<0.05	NA	< 0.05	100%	50%	140%	108%	60%	130%	83%	50%	140%
Bromoform	2729226	2729226	<0.05	<0.05	NA	< 0.05	78%	50%	140%	92%	60%	130%	95%	50%	140%
Styrene	2729226	2729226	<0.05	<0.05	NA	< 0.05	72%	50%	140%	85%	60%	130%	109%	50%	140%
1,1,2,2-Tetrachloroethane	2729226	2729226	<0.05	<0.05	NA	< 0.05	96%	50%	140%	103%	60%	130%	81%	50%	140%
o-Xylene	2729226	2729226	<0.05	<0.05	NA	< 0.05	97%	50%	140%	102%	60%	130%	102%	50%	140%
1,3-Dichlorobenzene	2729226	2729226	<0.05	<0.05	NA	< 0.05	105%	50%	140%	109%	60%	130%	99%	50%	140%
1,4-Dichlorobenzene	2729226	2729226	<0.05	<0.05	NA	< 0.05	107%	50%	140%	90%	60%	130%	91%	50%	140%
1,2-Dichlorobenzene	2729226	2729226	<0.05	<0.05	NA	< 0.05	104%	50%	140%	110%	60%	130%	93%	50%	140%
n-Hexane	2729226	2729226	<0.05	<0.05	NA	< 0.05	93%	50%	140%	92%	60%	130%	76%	50%	140%
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	2687085		< 0.05	< 0.05	NA	< 0.05	89%	50%	140%	99%	50%	140%	96%	50%	140%
Acenaphthylene	2687085		< 0.05	< 0.05	NA	< 0.05	96%	50%	140%	95%	50%	140%	95%	50%	140%
Acenaphthene	2687085		< 0.05	< 0.05	NA	< 0.05	95%	50%	140%	96%	50%	140%	99%	50%	140%
Fluorene	2687085		< 0.05	< 0.05	NA	< 0.05	96%	50%	140%	86%	50%	140%	96%	50%	140%
Phenanthrene	2687085		< 0.05	< 0.05	NA	< 0.05	101%	50%	140%	96%	50%	140%	96%	50%	140%
Anthracene	2687085		< 0.05	< 0.05	NA	< 0.05	96%	50%	140%	95%	50%	140%	101%	50%	140%
Fluoranthene	2687085		< 0.05	< 0.05	NA	< 0.05	99%	50%	140%	96%	50%	140%	96%	50%	140%
Pyrene	2687085		< 0.05	< 0.05	NA	< 0.05	95%	50%	140%	95%	50%	140%	98%	50%	140%
Benz(a)anthracene	2687085		< 0.05	< 0.05	NA	< 0.05	96%	50%	140%	85%	50%	140%	99%	50%	140%
Chrysene	2687085		< 0.05	< 0.05	NA	< 0.05	96%	50%	140%	96%	50%	140%	96%	50%	140%
Benzo(b)fluoranthene	2687085		< 0.05	< 0.05	NA	< 0.05	101%	50%	140%	99%	50%	140%	98%	50%	140%
Benzo(k)fluoranthene	2687085		< 0.05	< 0.05	NA	< 0.05	96%	50%	140%	96%	50%	140%	101%	50%	140%
Benzo(a)pyrene	2687085		< 0.05	< 0.05	NA	< 0.05	98%	50%	140%	95%	50%	140%	96%	50%	140%
Indeno(1,2,3-cd)pyrene	2687085		< 0.05	< 0.05	NA	< 0.05	86%	50%	140%	99%	50%	140%	98%	50%	140%
Dibenz(a,h)anthracene	2687085		< 0.05	< 0.05	NA	< 0.05	94%	50%	140%	86%	50%	140%	101%	50%	140%
Benzo(g,h,i)perylene	2687085		< 0.05	< 0.05	NA	< 0.05	95%	50%	140%	96%	50%	140%	96%	50%	140%

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

O. Reg. 153(511) - PHCs F1 - F4 (-BTEX) (Soil)															
F1 (C6 - C10)	2726191		<5	<5	NA	< 5	110%	60%	140%	112%	60%	140%	105%	60%	140%

Certified By:

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QA Violation

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21T773753

PROJECT: 301724-E

ATTENTION TO: Peter Markesic

RPT Date: Jul 20, 2021

PARAMETER	Sample Id	Sample Description	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
			Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
				Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals & Inorganics (Soil)											
Antimony	2729110	BH101 SS2	139%	70%	130%	99%	80%	120%	99%	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.
For a multi-element scan for lab control standards and matrix spikes, up to 10% of analytes may exceed the quoted limits by up to 10% absolute and it is considered acceptable.

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Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21T773753

PROJECT: 301724-E

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

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

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Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21T773753

PROJECT: 301724-E

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Acenaphthylene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Acenaphthene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Fluorene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Phenanthrene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Anthracene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Fluoranthene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Pyrene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Benz(a)anthracene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Chrysene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Benzo(b)fluoranthene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Benzo(k)fluoranthene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Benzo(a)pyrene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Dibenzo(a,h)anthracene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Benzo(g,h,i)perylene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Phenol	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Bis(2-chloroethyl)ether	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
2-Chlorophenol	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
o-Cresol	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Bis(2-chloroisopropyl)ether	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
m & p - Cresol	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
2,4-Dimethylphenol	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
2,4-Dichlorophenol	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
1,2,4-Trichlorobenzene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
p-Chloroaniline	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
1 and 2 Methlynaphthalene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	CALCULATION

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Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21T773753

PROJECT: 301724-E

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
2,4,6-Trichlorophenol	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
2,4,5-Trichlorophenol	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
1,1-Biphenyl	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Dimethyl Phthalate	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
2,4 and 2,6-Dinitrotoluene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	CALCULATION
Diethyl Phthalate	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Pentachlorophenol	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
3,3'-Dichlorobenzidine	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
2,4-Dinitrophenol	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Bis(2-Ethylhexyl)phthalate	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
phenol-d6 surrogate	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
2-Fluorophenol	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
2,4,6-Tribromophenol	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Chrysene-d12	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Moisture Content	ORG-91-5009	CCME Tier 1 Method	BALANCE
wet weight BNA	ORG-91-5114		BALANCE
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

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Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21T773753

PROJECT: 301724-E

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
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
F1 (C6 - C10)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
Toluene-d8	VOL-91-5009	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F4 (C34 to C50)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Terphenyl	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	P&T GC/FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34) minus PAHs	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Dichlorodifluoromethane	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Vinyl Chloride	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Trans- 1,2-Dichloroethylene	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Methyl tert-butyl Ether	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Cis- 1,2-Dichloroethylene	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5002	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21T773753

PROJECT: 301724-E

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

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

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Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21T773753

PROJECT: 301724-E

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Polychlorinated Biphenyls	ORG-91-5113	modified from EPA SW-846 3541 & 8082	GC/ECD
Decachlorobiphenyl	ORG-91-5113	modified from EPA SW-846 3541 & 8082	GC/ECD

AGAT Laboratories

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Chain of Custody Record

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

Laboratory Use Only

Work Order #: 21T 773753

Cooler Quantity:

Arrival Temperatures: 6.2 | 6.2 | 6.4 | 6.1 | 6.6 | 1.0

Custody Seal Intact: ☐ Yes ☐ No ☐ N/A

Notes: ice pack

Report Information:

Company: SOIL-MAT ENGINEERS
Contact: PETER MARKESIC
Address: 130 LANING DR
HAMILTON, ONT, L8W 3A1
Phone: 905-318-7440 Fax:
Reports to be sent to:
1. Email: pmarkesic@soilmat.ca
2. Email: MACLEITOVE@SOILMAT.CA

Regulatory Requirements:

(Please check all applicable boxes)

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

☐ Excess Soils R406
Table _____ *Indicate One*

☐ Regulation 558

☐ CCME

☐ Sewer Use
☐ Sanitary ☐ Storm
_____ *Region*

☐ Prov. Water Quality Objectives (PWQO)

☐ Other
_____ *Indicate One*

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

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

Turnaround Time (TAT) Required:

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

Rush TAT (Rush Surcharges Apply)

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

OR Date Required (Rush Surcharges May Apply):

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

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

Project Information:

Project: 301724-E
Site Location: LOT 175 PORTAGE
Sampled By: MA
AGAT ID #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☐ No ☐

Company:
Contact:
Address:
Email:

Sample Matrix Legend

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC Y/N	O. Reg 153: Metals & Inorganics	Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	BTEX, F1-F4 PHCs Analyze F4G if required ☐ Yes ☐ No	PAHs	Total PCBs ☐ Aroclor	VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	ABNs	PCBs						Potentially Hazardous or High Concentration (Y/N)
BH101 SS2	JULY 6/21	AM PM	5	S			X		X			X					X	X						
BH101 SS4		AM PM	5				X		X			X					X	X						
BH102 SS2		AM PM	1							X														
BH103 ~~SS1~~ SS2		AM PM	5				X		X			X					X	X						
BH103 SS3		AM PM	5				X		X			X					X	X						
BH104 SS2	JULY 7/21	AM PM	5				X		X			X					X	X						
BH 104 SS3		AM PM	5				X		X			X					X	X						
BH 105 SS2		AM PM	5				X		X			X					X	X						
BH 105 SS4		AM PM	5				X		X			X					X	X						
BH 106 SS2		AM PM	5				X		X			X					X	X						
BH 106 SS3		AM PM	5				X		X			X					X	X						

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
PETER MARKESIC	Jul 13/21	12:30 pm			
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign): John Chypyha	Date Jul 13	Time 2:20
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign): John Chypyha	Date Jul 13	Time 5:02

Page 1 of 2

№: T 120015

AGAT Laboratories

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

Chain of Custody Record

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

Report Information:

Company: SOIL-MAT ENGINEERS
Contact: PETER MARKESIC
Address: 130 LANCING DR
HAMILTON, ONT L8W 3A1
Phone: 905-318-7440 Fax:
Reports to be sent to:
1. Email: PMARKESIC@SOILMAT.CA
2. Email: MACLETTONE@SOILMAT.CA

Project Information:

Project: 301724-E
Site Location: LOT 175 PORTAGE MA
Sampled By:
AGAT ID #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

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

Regulatory Requirements:

(Please check all applicable boxes)

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

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

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

Sample Matrix Legend

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

Laboratory Use Only

Work Order #: 21773753

Cooler Quantity:
Arrival Temperatures: 6.2 6.2 6.4 / 6.1 6.1 6.1
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes: ice packs

Turnaround Time (TAT) Required:

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

Rush TAT (Rush Surcharges Apply)

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

OR Date Required (Rush Surcharges May Apply):

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

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	BTEX, F1-F4 PHCs Analyze F4G if required ☐ Yes ☐ No	PAHs	Total PCBs ☐ Aroclor	VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ vOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach ☐ Metals ☐ VOCs ☐ SVOCs	Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	ABNs	PCBs						Potentially Hazardous or High Concentration (Y/N)
BH 107	July 7/21	AM/PM	5	S			X		X			X					X	X						
BH 107	↓	AM/PM	5	↓			X		X			X					X	X						
BH 108		AM/PM	5				X		X			X					X	X						
BH 108		AM/PM	5				X		X			X					X	X						
BH 109		AM/PM	1							X														
TP1		AM/PM	1							X														
TP 2	↓	AM/PM	1							X														
Dup 1	July 6/21	AM/PM	1							X														
Dup 2	July 7/21	AM/PM	2														X	X						
Dup 3	↓	AM/PM	3				X		X			X												
Dup 4	↓	AM/PM	1	↓						X														

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
PETER MARKESIC	July 13/21	12:30 PM			
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
			John Chypyha	Jul 13	2:26
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
			John Chypyha	Jul 13	5:02

Page 2 of 2

Nº: T 120016

AGAT Laboratories

Sample Temperature Log

Client: Soilmat

COC# or Work Order #:

# of Coolers: 2

# of Submissions:

Arrival Temperatures - Branch/Driver				Arrival Temperatures - Laboratory			
Cooler #1:	6.7	6.7	6.4	Cooler #1:	6	Co	6
Cooler #2:	6.4	6.4	6.4	Cooler #2:	6.2	Co	6.2
Cooler #3:				Cooler #3:			
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:

Taken By: John Chypyha

Date (yyyy/mm/dd): Jul 13 **Time:** 2:20 AM / PM

IR Gun ID:

Taken By: John Chypyha

Date (yyyy/mm/dd): Jul 13 **Time:** 5:00 AM / PM

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

Appendix 'D'

1. AGAT Certificate of Analysis – Water

AGAT Laboratories

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

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

ATTENTION TO: Peter Markesic

PROJECT: 301724

AGAT WORK ORDER: 21H787043

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

WATER ANALYSIS REVIEWED BY: Yris Verastegui, Report Reviewer

DATE REPORTED: Aug 18, 2021

PAGES (INCLUDING COVER): 19

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

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

Certificate of Analysis

AGAT WORK ORDER: 21H787043

PROJECT: 301724

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - BNA (full) + PAHs (Water)

DATE RECEIVED: 2021-08-12

DATE REPORTED: 2021-08-18

SAMPLE DESCRIPTION:				MW 101	MW 104	MW 106	MW 108	DUP1
SAMPLE TYPE:				Water	Water	Water	Water	Water
DATE SAMPLED:				2021-08-11	2021-08-11	2021-08-11	2021-08-11	2021-08-11
Parameter	Unit	G / S	RDL	2844702	2844716	2844717	2844718	2844719
Naphthalene	µg/L	7	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Acenaphthylene	µg/L	1	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Acenaphthene	µg/L	4.1	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Fluorene	µg/L	120	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Phenanthrene	µg/L	0.1	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Anthracene	µg/L	0.1	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Fluoranthene	µg/L	0.4	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Pyrene	µg/L	0.2	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Benzo(a)anthracene	µg/L	0.2	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chrysene	µg/L	0.1	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(b)fluoranthene	µg/L	0.1	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(k)fluoranthene	µg/L	0.1	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Benzo(a)pyrene	µg/L	0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	µg/L	0.2	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dibenz(a,h)anthracene	µg/L	0.2	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Benzo(g,h,i)perylene	µg/L	0.2	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Phenol	µg/L	5	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bis(2-chloroethyl)ether	µg/L	5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	µg/L	8.9	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
o-Cresol	µg/L		0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-chloroisopropyl)ether	µg/L	120	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
m&p-Cresol	µg/L		0.6	<0.6	<0.6	<0.6	<0.6	<0.6
2,4-Dimethylphenol	µg/L	10	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	µg/L	20	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
1,2,4-Trichlorobenzene	µg/L		0.5	<0.5	<0.5	<0.5	<0.5	<0.5
p-Chloroaniline	µg/L	10	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-and 1-methyl Naphthalene	µg/L	2	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
2,4,6-Trichlorophenol	µg/L	0.2	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
2,4,5-Trichlorophenol	µg/L	0.2	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1'-Biphenyl	µg/L	0.5	0.50	<0.50	<0.50	<0.50	<0.50	<0.50

Certified By:

AGAT Laboratories

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

Certificate of Analysis

AGAT WORK ORDER: 21H787043

PROJECT: 301724

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - BNA (full) + PAHs (Water)

DATE RECEIVED: 2021-08-12

DATE REPORTED: 2021-08-18

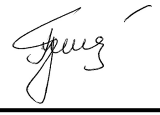
		SAMPLE DESCRIPTION:		MW 101	MW 104	MW 106	MW 108	DUP1
		SAMPLE TYPE:		Water	Water	Water	Water	Water
		DATE SAMPLED:		2021-08-11	2021-08-11	2021-08-11	2021-08-11	2021-08-11
Parameter	Unit	G / S	RDL	2844702	2844716	2844717	2844718	2844719
Dimethyl phthalate	µg/L	30	0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2,4 and 2,6-Dinitrotoluene	µg/L	5	0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Diethyl phthalate	µg/L	30	0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Pentachlorophenol	µg/L	0.5	0.50	<0.50	<0.50	<0.50	<0.50	<0.50
3,3'-dichlorobenzidine	µg/L	0.5	0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bis(2-Ethylhexyl)phthalate	µg/L	10	0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2,4-Dinitrophenol	µg/L	10	10	<10	<10	<10	<10	<10
Sediment				No	No	No	No	No
Surrogate	Unit	Acceptable Limits						
2-Fluorophenol	%	50-140		86	93	104	74	73
phenol-d6 surrogate	%	50-140		74	97	86	83	92
2,4,6-Tribromophenol	%	50-140		70	85	95	90	95
Chrysene-d12	%	50-140		105	96	88	99	98

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.

2844702-2844719 To meet the MOE Reporting limits the sample extract was analysed using two separate GC/MS methods. The full scan BNA method is capable of detecting most of the compounds at the RDLs except for several PAHs. The PAHs were analysed using a SIM mode GC/MS method.
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.
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:



AGAT Laboratories

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

Certificate of Analysis

AGAT WORK ORDER: 21H787043

PROJECT: 301724

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2021-08-12

DATE REPORTED: 2021-08-18

				SAMPLE DESCRIPTION:	MW 101	MW 104	MW 106	MW 108	DUP1
				SAMPLE TYPE:	Water	Water	Water	Water	Water
				DATE SAMPLED:	2021-08-11	2021-08-11	2021-08-11	2021-08-11	2021-08-11
Parameter	Unit	G / S	RDL		2844702	2844716	2844717	2844718	2844719
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
F2 (C10 to C16) minus Naphthalene	µg/L		100		<100	<100	<100	<100	<100
F3 (C16 to C34)	µg/L	500	100		<100	<100	<100	<100	<100
F3 (C16 to C34) minus PAHs	µg/L		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					No	No	No	No	No
Surrogate	Unit	Acceptable Limits							
Toluene-d8	% Recovery	50-140			114	107	116	110	106
Terphenyl	% Recovery	60-140			95	78	93	85	82

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.

2844702-2844719 The C6-C10 fraction is calculated using toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX and PAH contributions.
C>10 – C16 (F2- Naphthalene) is a calculated parameter. The calculated value is F2 - Naphthalene.
C>16 - C34 (F3-PAH) is a calculated parameter. The calculated value is F3-PAH (PAH: sum of Phenanthrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Fluoranthene, Dibenzo(a,h)anthracene, Indeno(1,2,3-c,d)pyrene and Pyrene).
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.

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

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

AGAT Laboratories

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

Certificate of Analysis

AGAT WORK ORDER: 21H787043

PROJECT: 301724

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2021-08-12

DATE REPORTED: 2021-08-18

SAMPLE DESCRIPTION:				MW 101	MW 104	MW 106	MW 108	DUP1
SAMPLE TYPE:				Water	Water	Water	Water	Water
DATE SAMPLED:				2021-08-11	2021-08-11	2021-08-11	2021-08-11	2021-08-11
Parameter	Unit	G / S	RDL	2844702	2844716	2844717	2844718	2844719
Dichlorodifluoromethane	µg/L	590	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Vinyl Chloride	µg/L	0.5	0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Bromomethane	µg/L	0.89	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L	150	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
1,1-Dichloroethylene	µg/L	0.5	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
trans- 1,2-Dichloroethylene	µg/L	1.6	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
1,1-Dichloroethane	µg/L	0.5	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
cis- 1,2-Dichloroethylene	µg/L	1.6	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
1,2-Dichloroethane	µg/L	0.5	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
Carbon Tetrachloride	µg/L	0.2	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
1,2-Dichloropropane	µg/L	0.5	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
Bromodichloromethane	µg/L	2	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
1,1,2-Trichloroethane	µg/L	0.5	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
Dibromochloromethane	µg/L	2	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ethylene Dibromide	µg/L	0.2	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Tetrachloroethylene	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chlorobenzene	µg/L	0.5	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ethylbenzene	µg/L	0.5	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
m & p-Xylene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 21H787043

PROJECT: 301724

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2021-08-12

DATE REPORTED: 2021-08-18

		SAMPLE DESCRIPTION:		MW 101	MW 104	MW 106	MW 108	DUP1
		SAMPLE TYPE:		Water	Water	Water	Water	Water
		DATE SAMPLED:		2021-08-11	2021-08-11	2021-08-11	2021-08-11	2021-08-11
Parameter	Unit	G / S	RDL	2844702	2844716	2844717	2844718	2844719
Bromoform	µg/L	5	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
1,1,2,2-Tetrachloroethane	µg/L	0.5	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
1,3-Dichlorobenzene	µg/L	0.5	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
1,2-Dichlorobenzene	µg/L	0.5	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
Xylenes (Total)	µg/L	72	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
Surrogate	Unit	Acceptable Limits						
Toluene-d8	% Recovery	50-140		95	96	96	99	102
4-Bromofluorobenzene	% Recovery	50-140		100	104	108	104	107

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.

2844702-2844719 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 21H787043

PROJECT: 301724

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

Total PCBs (water)

DATE RECEIVED: 2021-08-12

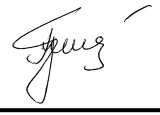
DATE REPORTED: 2021-08-18

				SAMPLE DESCRIPTION:	MW 101	MW 104	MW 106	MW 108	DUP1
				SAMPLE TYPE:	Water	Water	Water	Water	Water
				DATE SAMPLED:	2021-08-11	2021-08-11	2021-08-11	2021-08-11	2021-08-11
Parameter		Unit	G / S	RDL	2844702	2844716	2844717	2844718	2844719
PCBs		µg/L	0.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate		Unit	Acceptable Limits						
Decachlorobiphenyl		%	60-130		91	81	81	91	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.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



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Certificate of Analysis

AGAT WORK ORDER: 21H787043

PROJECT: 301724

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2021-08-12

DATE REPORTED: 2021-08-18

		SAMPLE DESCRIPTION:		MW 101		MW 104		MW 106	MW 108	DUP1
		SAMPLE TYPE:		Water		Water		Water	Water	Water
		DATE SAMPLED:		2021-08-11		2021-08-11		2021-08-11	2021-08-11	2021-08-11
Parameter	Unit	G / S	RDL	2844702	RDL	2844716	RDL	2844717	2844718	2844719
Dissolved Antimony	µg/L	1.5	1.0	<1.0	1.0	<1.0	1.0	1.6	<1.0	<1.0
Dissolved Arsenic	µg/L	13	1.0	<1.0	1.0	<1.0	1.0	2.6	<1.0	<1.0
Dissolved Barium	µg/L	610	2.0	43.5	2.0	126	2.0	78.3	33.2	45.0
Dissolved Beryllium	µg/L	0.5	0.50	<0.50	0.50	<0.50	0.50	<0.50	<0.50	<0.50
Dissolved Boron	µg/L	1700	10.0	104	10.0	266	10.0	112	194	110
Dissolved Cadmium	µg/L	0.5	0.20	<0.20	0.20	<0.20	0.20	<0.20	<0.20	<0.20
Dissolved Chromium	µg/L	11	2.0	<2.0	2.0	<2.0	2.0	<2.0	<2.0	<2.0
Dissolved Cobalt	µg/L	3.8	0.50	0.97	0.50	<0.50	0.50	<0.50	<0.50	0.85
Dissolved Copper	µg/L	5	1.0	<1.0	1.0	1.6	1.0	1.1	1.2	<1.0
Dissolved Lead	µg/L	1.9	0.50	<0.50	0.50	<0.50	0.50	<0.50	<0.50	<0.50
Dissolved Molybdenum	µg/L	23	0.50	3.02	0.50	2.98	0.50	29.5	4.74	3.56
Dissolved Nickel	µg/L	14	3.0	<3.0	3.0	<3.0	3.0	<3.0	3.7	<3.0
Dissolved Selenium	µg/L	5	1.0	2.5	1.0	1.2	1.0	<1.0	1.1	<1.0
Dissolved Silver	µg/L	0.3	0.20	<0.20	0.20	<0.20	0.20	<0.20	<0.20	<0.20
Dissolved Thallium	µg/L	0.5	0.30	<0.30	0.30	<0.30	0.30	<0.30	<0.30	<0.30
Dissolved Uranium	µg/L	8.9	0.50	4.62	0.50	2.45	0.50	12.4	7.22	4.79
Dissolved Vanadium	µg/L	3.9	0.40	0.96	0.40	1.36	0.40	0.66	0.66	1.18
Dissolved Zinc	µg/L	160	5.0	<5.0	5.0	<5.0	5.0	<5.0	<5.0	<5.0
Mercury	µg/L	0.1	0.02	<0.02	0.02	<0.02	0.02	<0.02	<0.02	<0.02
Chromium VI	µg/L	25	2.000	<2.000	2.000	<2.000	2.000	<2.000	<2.000	<2.000
Cyanide, Free	µg/L	5	2	<2	2	<2	2	<2	<2	<2
Dissolved Sodium	µg/L	490000	250	14400	100	12300	250	139000	39600	14300
Chloride	µg/L	790000	100	11000	100	8050	100	111000	13900	10900
Electrical Conductivity	uS/cm	NA	2	1130	2	979	2	1150	1150	1140
pH	pH Units		NA	7.73	NA	7.73	NA	7.79	7.84	7.82

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.

2844702-2844719 Metals analysis completed on a filtered sample.
Dilution required, RDL has been increased accordingly.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: Iris Verástegui

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Exceedance Summary

AGAT WORK ORDER: 21H787043

PROJECT: 301724

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
2844717	MW 106	ON T1 GW	O. Reg. 153(511) - Metals & Inorganics (Water)	Dissolved Antimony	µg/L	1.5	1.6
2844717	MW 106	ON T1 GW	O. Reg. 153(511) - Metals & Inorganics (Water)	Dissolved Molybdenum	µg/L	23	29.5
2844717	MW 106	ON T1 GW	O. Reg. 153(511) - Metals & Inorganics (Water)	Dissolved Uranium	µg/L	8.9	12.4

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Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
AGAT WORK ORDER: 21H787043
PROJECT: 301724
ATTENTION TO: Peter Markesic
SAMPLING SITE:
SAMPLED BY:

Trace Organics Analysis

RPT Date: Aug 18, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Water)															
F1 (C6-C10)	2851966		26	28	NA	< 25	92%	60%	140%	91%	60%	140%	99%	60%	140%
F2 (C10 to C16)	2844718	2844718	< 100	< 100	NA	< 100	110%	60%	140%	70%	60%	140%	70%	60%	140%
F3 (C16 to C34)	2844718	2844718	< 100	< 100	NA	< 100	116%	60%	140%	78%	60%	140%	78%	60%	140%
F4 (C34 to C50)	2844718	2844718	< 100	< 100	NA	< 100	118%	60%	140%	88%	60%	140%	80%	60%	140%
Total PCBs (water)															
PCBs	2844718	2844718	< 0.1	< 0.1	NA	< 0.1	102%	50%	140%	98%	50%	140%	92%	50%	140%
O. Reg. 153(511) - VOCs (Water)															
Dichlorodifluoromethane	2846285		<0.20	<0.20	NA	< 0.20	87%	50%	140%	94%	50%	140%	81%	50%	140%
Vinyl Chloride	2846285		<0.17	<0.17	NA	< 0.17	85%	50%	140%	87%	50%	140%	84%	50%	140%
Bromomethane	2846285		<0.20	<0.20	NA	< 0.20	87%	50%	140%	87%	50%	140%	82%	50%	140%
Trichlorofluoromethane	2846285		<0.40	<0.40	NA	< 0.40	85%	50%	140%	107%	50%	140%	89%	50%	140%
Acetone	2846285		<1.0	<1.0	NA	< 1.0	111%	50%	140%	117%	50%	140%	88%	50%	140%
1,1-Dichloroethylene	2846285		<0.30	<0.30	NA	< 0.30	100%	50%	140%	93%	60%	130%	98%	50%	140%
Methylene Chloride	2846285		<0.30	<0.30	NA	< 0.30	90%	50%	140%	115%	60%	130%	112%	50%	140%
trans- 1,2-Dichloroethylene	2846285		<0.20	<0.20	NA	< 0.20	104%	50%	140%	91%	60%	130%	105%	50%	140%
Methyl tert-butyl ether	2846285		<0.20	<0.20	NA	< 0.20	87%	50%	140%	97%	60%	130%	83%	50%	140%
1,1-Dichloroethane	2846285		<0.30	<0.30	NA	< 0.30	86%	50%	140%	94%	60%	130%	94%	50%	140%
Methyl Ethyl Ketone	2846285		<1.0	<1.0	NA	< 1.0	93%	50%	140%	83%	50%	140%	92%	50%	140%
cis- 1,2-Dichloroethylene	2846285		<0.20	<0.20	NA	< 0.20	92%	50%	140%	106%	60%	130%	100%	50%	140%
Chloroform	2846285		<0.20	<0.20	NA	< 0.20	100%	50%	140%	108%	60%	130%	97%	50%	140%
1,2-Dichloroethane	2846285		<0.20	<0.20	NA	< 0.20	96%	50%	140%	103%	60%	130%	94%	50%	140%
1,1,1-Trichloroethane	2846285		<0.30	<0.30	NA	< 0.30	87%	50%	140%	112%	60%	130%	104%	50%	140%
Carbon Tetrachloride	2846285		<0.20	<0.20	NA	< 0.20	86%	50%	140%	81%	60%	130%	94%	50%	140%
Benzene	2846285		<0.20	<0.20	NA	< 0.20	105%	50%	140%	113%	60%	130%	118%	50%	140%
1,2-Dichloropropane	2846285		<0.20	<0.20	NA	< 0.20	99%	50%	140%	98%	60%	130%	109%	50%	140%
Trichloroethylene	2846285		<0.20	<0.20	NA	< 0.20	99%	50%	140%	108%	60%	130%	98%	50%	140%
Bromodichloromethane	2846285		<0.20	<0.20	NA	< 0.20	94%	50%	140%	85%	60%	130%	107%	50%	140%
Methyl Isobutyl Ketone	2846285		<1.0	<1.0	NA	< 1.0	95%	50%	140%	98%	50%	140%	88%	50%	140%
1,1,2-Trichloroethane	2846285		<0.20	<0.20	NA	< 0.20	106%	50%	140%	111%	60%	130%	102%	50%	140%
Toluene	2846285		<0.20	<0.20	NA	< 0.20	91%	50%	140%	106%	60%	130%	99%	50%	140%
Dibromochloromethane	2846285		<0.10	<0.10	NA	< 0.10	116%	50%	140%	91%	60%	130%	103%	50%	140%
Ethylene Dibromide	2846285		<0.10	<0.10	NA	< 0.10	87%	50%	140%	115%	60%	130%	105%	50%	140%
Tetrachloroethylene	2846285		<0.20	<0.20	NA	< 0.20	96%	50%	140%	87%	60%	130%	82%	50%	140%
1,1,1,2-Tetrachloroethane	2846285		<0.10	<0.10	NA	< 0.10	116%	50%	140%	87%	60%	130%	90%	50%	140%
Chlorobenzene	2846285		<0.10	<0.10	NA	< 0.10	102%	50%	140%	116%	60%	130%	115%	50%	140%
Ethylbenzene	2846285		<0.10	<0.10	NA	< 0.10	105%	50%	140%	94%	60%	130%	87%	50%	140%
m & p-Xylene	2846285		<0.20	<0.20	NA	< 0.20	96%	50%	140%	94%	60%	130%	91%	50%	140%
Bromoform	2846285		<0.10	<0.10	NA	< 0.10	81%	50%	140%	99%	60%	130%	101%	50%	140%

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Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21H787043

PROJECT: 301724

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

Trace Organics Analysis (Continued)

RPT Date: Aug 18, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Styrene	2846285		<0.10	<0.10	NA	< 0.10	84%	50%	140%	99%	60%	130%	101%	50%	140%
1,1,2,2-Tetrachloroethane	2846285		<0.10	<0.10	NA	< 0.10	91%	50%	140%	107%	60%	130%	98%	50%	140%
o-Xylene	2846285		<0.10	<0.10	NA	< 0.10	92%	50%	140%	107%	60%	130%	92%	50%	140%
1,3-Dichlorobenzene	2846285		<0.10	<0.10	NA	< 0.10	112%	50%	140%	97%	60%	130%	101%	50%	140%
1,4-Dichlorobenzene	2846285		<0.10	<0.10	NA	< 0.10	106%	50%	140%	98%	60%	130%	99%	50%	140%
1,2-Dichlorobenzene	2846285		<0.10	<0.10	NA	< 0.10	95%	50%	140%	99%	60%	130%	102%	50%	140%
n-Hexane	2846285		<0.20	<0.20	NA	< 0.20	80%	50%	140%	86%	60%	130%	97%	50%	140%
O. Reg. 153(511) - BNA (full) + PAHs (Water)															
Naphthalene	2836010		< 0.20	< 0.20	NA	< 0.20	86%	50%	140%	83%	50%	140%	76%	50%	140%
Acenaphthylene	2836010		< 0.20	< 0.20	NA	< 0.20	105%	50%	140%	95%	50%	140%	105%	50%	140%
Acenaphthene	2836010		< 0.20	< 0.20	NA	< 0.20	98%	50%	140%	97%	50%	140%	98%	50%	140%
Fluorene	2836010		< 0.20	< 0.20	NA	< 0.20	88%	50%	140%	98%	50%	140%	96%	50%	140%
Phenanthrene	2836010		< 0.10	< 0.10	NA	< 0.10	76%	50%	140%	86%	50%	140%	93%	50%	140%
Anthracene	2836010		< 0.10	< 0.10	NA	< 0.10	72%	50%	140%	93%	50%	140%	94%	50%	140%
Fluoranthene	2836010		< 0.20	< 0.20	NA	< 0.20	105%	50%	140%	105%	50%	140%	98%	50%	140%
Pyrene	2836010		< 0.20	< 0.20	NA	< 0.20	98%	50%	140%	86%	50%	140%	79%	50%	140%
Benzo(a)anthracene	2836010		< 0.20	< 0.20	NA	< 0.20	86%	50%	140%	95%	50%	140%	86%	50%	140%
Chrysene	2836010		< 0.10	< 0.10	NA	< 0.10	99%	50%	140%	97%	50%	140%	98%	50%	140%
Benzo(b)fluoranthene	2836010		< 0.10	< 0.10	NA	< 0.10	93%	50%	140%	86%	50%	140%	88%	50%	140%
Benzo(k)fluoranthene	2836010		< 0.10	< 0.10	NA	< 0.10	95%	50%	140%	99%	50%	140%	70%	50%	140%
Benzo(a)pyrene	2836010		< 0.01	< 0.01	NA	< 0.01	98%	50%	140%	86%	50%	140%	95%	50%	140%
Indeno(1,2,3-cd)pyrene	2836010		< 0.20	< 0.20	NA	< 0.20	86%	50%	140%	95%	50%	140%	98%	50%	140%
Dibenz(a,h)anthracene	2836010		< 0.20	< 0.20	NA	< 0.20	96%	50%	140%	105%	50%	140%	65%	50%	140%
Benzo(g,h,i)perylene	2836010		< 0.20	< 0.20	NA	< 0.20	105%	50%	140%	86%	50%	140%	98%	50%	140%
Phenol	2836010		< 1.0	< 1.0	NA	< 1.0	88%	30%	130%	99%	30%	130%	68%	30%	130%
Bis(2-chloroethyl)ether	2836010		< 0.5	< 0.5	NA	< 0.5	86%	50%	140%	97%	50%	140%	105%	50%	140%
2-Chlorophenol	2836010		< 0.5	< 0.5	NA	< 0.5	95%	50%	140%	83%	50%	140%	98%	50%	140%
o-Cresol	2836010		< 0.5	< 0.5	NA	< 0.5	98%	50%	140%	95%	50%	140%	86%	50%	140%
Bis(2-chloroisopropyl)ether	2836010		< 0.5	< 0.5	NA	< 0.5	86%	50%	140%	105%	50%	140%	99%	50%	140%
m&p-Cresol	2836010		< 0.6	< 0.6	NA	< 0.6	93%	50%	140%	98%	50%	140%	78%	50%	140%
2,4-Dimethylphenol	2836010		< 0.5	< 0.5	NA	< 0.5	95%	30%	130%	88%	30%	130%	86%	30%	130%
2,4-Dichlorophenol	2836010		< 0.3	< 0.3	NA	< 0.3	86%	50%	140%	86%	50%	140%	96%	50%	140%
1,2,4-Trichlorobenzene	2836010		< 0.5	< 0.5	NA	< 0.5	93%	50%	140%	94%	50%	140%	94%	50%	140%
p-Chloroaniline	2836010		< 1.0	< 1.0	NA	< 1.0	105%	30%	130%	83%	30%	130%	86%	30%	130%
2,4,6-Trichlorophenol	2836010		< 0.20	< 0.20	NA	< 0.20	86%	50%	140%	98%	50%	140%	98%	50%	140%
2,4,5-Trichlorophenol	2836010		< 0.20	< 0.20	NA	< 0.20	90%	50%	140%	86%	50%	140%	77%	50%	140%
1,1'-Biphenyl	2836010		< 0.50	< 0.50	NA	< 0.50	86%	50%	140%	95%	50%	140%	78%	50%	140%
Dimethyl phthalate	2836010		< 0.50	< 0.50	NA	< 0.50	88%	50%	140%	105%	50%	140%	72%	50%	140%
Diethyl phthalate	2836010		< 0.50	< 0.50	NA	< 0.50	86%	50%	140%	88%	50%	140%	105%	50%	140%

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Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
AGAT WORK ORDER: 21H787043
PROJECT: 301724
ATTENTION TO: Peter Markesic
SAMPLING SITE:
SAMPLED BY:

Trace Organics Analysis (Continued)

RPT Date: Aug 18, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Pentachlorophenol	2836010		< 0.50	< 0.50	NA	< 0.50	105%	50%	140%	90%	50%	140%	98%	50%	140%
3,3'-dichlorobenzidine	2836010		< 0.50	< 0.50	NA	< 0.50	98%	30%	130%	98%	30%	130%	88%	30%	130%
Bis(2-Ethylhexyl)phthalate	2836010		< 0.50	< 0.50	NA	< 0.50	88%	50%	140%	99%	50%	140%	86%	50%	140%
2,4-Dinitrophenol	2836010		< 10	< 10	NA	< 10	86%	30%	130%	86%	30%	130%	88%	30%	130%

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

Certified By:

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PROJECT: 301724

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SAMPLING SITE:

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Water Analysis

RPT Date: Aug 18, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals & Inorganics (Water)															
Dissolved Antimony	2844702	2844702	<1.0	<1.0	NA	< 1.0	101%	70%	130%	95%	80%	120%	98%	70%	130%
Dissolved Arsenic	2844702	2844702	<1.0	<1.0	NA	< 1.0	93%	70%	130%	103%	80%	120%	106%	70%	130%
Dissolved Barium	2844702	2844702	43.5	46.9	7.5%	< 2.0	100%	70%	130%	104%	80%	120%	98%	70%	130%
Dissolved Beryllium	2844702	2844702	<0.50	<0.50	NA	< 0.50	104%	70%	130%	107%	80%	120%	113%	70%	130%
Dissolved Boron	2844702	2844702	104	115	10.0%	< 10.0	102%	70%	130%	108%	80%	120%	111%	70%	130%
Dissolved Cadmium	2844702	2844702	<0.20	<0.20	NA	< 0.20	100%	70%	130%	102%	80%	120%	101%	70%	130%
Dissolved Chromium	2844702	2844702	<2.0	<2.0	NA	< 2.0	99%	70%	130%	101%	80%	120%	101%	70%	130%
Dissolved Cobalt	2844702	2844702	0.97	0.92	NA	< 0.50	99%	70%	130%	101%	80%	120%	100%	70%	130%
Dissolved Copper	2844702	2844702	<1.0	1.4	NA	< 1.0	100%	70%	130%	100%	80%	120%	99%	70%	130%
Dissolved Lead	2844702	2844702	<0.50	<0.50	NA	< 0.50	100%	70%	130%	103%	80%	120%	95%	70%	130%
Dissolved Molybdenum	2844702	2844702	3.02	3.11	2.9%	< 0.50	100%	70%	130%	103%	80%	120%	103%	70%	130%
Dissolved Nickel	2844702	2844702	<3.0	<3.0	NA	< 3.0	99%	70%	130%	101%	80%	120%	98%	70%	130%
Dissolved Selenium	2844702	2844702	2.5	3.3	NA	< 1.0	96%	70%	130%	101%	80%	120%	100%	70%	130%
Dissolved Silver	2844702	2844702	<0.20	<0.20	NA	< 0.20	99%	70%	130%	100%	80%	120%	97%	70%	130%
Dissolved Thallium	2844702	2844702	<0.30	<0.30	NA	< 0.30	101%	70%	130%	104%	80%	120%	99%	70%	130%
Dissolved Uranium	2844702	2844702	4.62	5.02	8.3%	< 0.50	94%	70%	130%	106%	80%	120%	102%	70%	130%
Dissolved Vanadium	2844702	2844702	0.96	0.86	NA	< 0.40	100%	70%	130%	102%	80%	120%	103%	70%	130%
Dissolved Zinc	2844702	2844702	<5.0	<5.0	NA	< 5.0	99%	70%	130%	99%	80%	120%	100%	70%	130%
Mercury	2837131		<0.02	<0.02	NA	< 0.02	101%	70%	130%	102%	80%	120%	96%	70%	130%
Chromium VI	2844095		<2.000	<2.000	NA	< 2	100%	70%	130%	106%	80%	120%	108%	70%	130%
Cyanide, Free	2844702	2844702	<2	<2	NA	< 2	104%	70%	130%	97%	80%	120%	98%	70%	130%
Dissolved Sodium	2833543		2650	2680	1.1%	< 50	96%	70%	130%	97%	80%	120%	111%	70%	130%
Chloride	2844718	2844718	13900	13600	2.2%	< 100	92%	70%	130%	100%	80%	120%	103%	70%	130%
Electrical Conductivity	2843202		150	150	0.0%	< 2	101%	90%	110%						
pH	2843202		7.44	7.52	1.1%	NA	104%	90%	110%						

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

Certified By: Iris Verástegui

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Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 21H787043

PROJECT: 301724

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Acenaphthylene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Acenaphthene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Fluorene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Phenanthrene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Anthracene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Fluoranthene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Pyrene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Benzo(a)anthracene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Chrysene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Benzo(b)fluoranthene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Benzo(k)fluoranthene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Benzo(a)pyrene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Dibenz(a,h)anthracene	ORG-91-5114	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Phenol	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Bis(2-chloroethyl)ether	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
2-Chlorophenol	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
o-Cresol	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Bis(2-chloroisopropyl)ether	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
m&p-Cresol	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
2,4-Dimethylphenol	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
2,4-Dichlorophenol	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
1,2,4-Trichlorobenzene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
p-Chloroaniline	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
2-and 1-methyl Naphthalene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	CALCULATION

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SAMPLING SITE:

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PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
2,4,6-Trichlorophenol	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
2,4,5-Trichlorophenol	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
1,1'-Biphenyl	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Dimethyl phthalate	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
2,4 and 2,6-Dinitrotoluene	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	CALCULATION
Diethyl phthalate	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Pentachlorophenol	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
3,3'-dichlorobenzidine	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Bis(2-Ethylhexyl)phthalate	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
2,4-Dinitrophenol	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
2-Fluorophenol	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
phenol-d6 surrogate	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
2,4,6-Tribromophenol	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Chrysene-d12	ORG-91-5114	modified from EPA 3510C, 8270E & ON MOECC E3265	GC/MS
Sediment			
F1 (C6-C10)	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	modified from MOE PHC-E3421	P&T GC/FID
Toluene-d8	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F3 (C16 to C34)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F3 (C16 to C34) minus PAHs	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F4 (C34 to C50)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	modified from MOE PHC-E3421	BALANCE
Terphenyl	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Dichlorodifluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
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

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Method Summary

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

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PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
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
PCBs	ORG-91-5112	EPA SW-846 3510 & 8082	GC/ECD
Decachlorobiphenyl	ORG-91-5112	EPA SW-846 3510 & 8082	GC/ECD

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

#2 17.9 18.0 15.2 #3 18.2 18.5 18.0

AGAT Laboratories

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

Chain of Custody Record

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

Laboratory Use Only

Work Order #: 21H787043

Cooler Quantity: 3 LG COOLERS

Arrival Temperatures: 18.1 | 18.0 | 18.3
12.6 | 13.4 | 10.9

Custody Seal Intact: ☐ Yes ☐ No ☐ N/A

Notes: ICE PKS

Report Information:

Company: SOLMAT
Contact: Peter Markesic
Address:
Phone: Fax:
Reports to be sent to:
1. Email: pmarkesic@solmat.ca
2. Email: bolds@sirinhub.ca

Regulatory Requirements:

(Please check all applicable boxes)

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

☐ Excess Soils R406
Table _____ (Indicate One)

☐ Regulation 558

☐ CCME

☐ Sewer Use ☐ Sanitary ☐ Storm
_____ (Region)

☐ Prov. Water Quality Objectives (PWQO)

☐ Other
_____ (Indicate One)

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

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

Turnaround Time (TAT) Required:

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

Rush TAT (Rush Surcharges Apply) ☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply): _____

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

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

Project Information:

Project: 301724
Site Location: Lot 175 Portage Rd
Sampled By: BO
AGAT ID #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☐ No ☐

Company:
Contact:
Address:
Email:

Sample Matrix Legend

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs; Analyze F4G if required ☐ Yes ☐ No	O. Reg 153: PAHs	O. Reg 153: Total PCBs ☐ Arocior	O. Reg 153: VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	BNAs	Potentially Hazardous or High Concentration (Y/N)
MW 101	Aug 11/21	AM	18	GW			X		X		X	X					X	
MW 104	↓	↓	↓	↓			X		X		X	X					X	
MW 106							X		X		X	X					X	
MW 108							X		X		X	X					X	
DUP1					3 coolers		X		X		X	X					X	

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
[illegible]	Aug 11/21	5:15	DJMC	Aug 12/21	8am
DJMC	Aug 12/21	3pm			
[illegible]	12/12/21	4:20			

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Nº: T122542

Appendix ‘E’

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.
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 in-situ and ex-situ remediation projects.

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

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

Keith Gleadall, B.A., EA Dipl.

Vice-President [Senior Professional]

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

Appendix 'F'

1. Statement of Limitations

REPORT LIMITATIONS

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

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

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

SOIL-MAT ENGINEERS & CONSULTANTS LTD. prepared this Report for the account of the RUDANCO INC. The material in it reflects SOIL-MAT ENGINEERS best judgement in light of the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. SOIL-MAT ENGINEERS accepts no responsibility for damages, if any suffered by any third party as a result of decisions made or actions based on this report.