



SOIL-MAT ENGINEERS & CONSULTANTS LTD.

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PROJECT No.: SM 230477-E

March 1, 2024

RANKIN CONSTRUCTION INC.
20 Corporate Park Drive, Suite 103
St. Catharines, ON
L2S 3W2

Attention: Colin Donovan

**SOIL CHARACTERISATION REPORT
SOUTH NIAGARA HOSPITAL
MONTROSE ROAD & BIGGAR ROAD
NIAGARA FALLS, ONTARIO**

Dear Mr. Donovan,

Further to your authorisation, SOIL-MAT ENGINEERS & CONSULTANTS LTD. [SOIL-MAT ENGINEERS] have completed our soil characterisation program for the above noted project site. Our formal comments with respect to the off-site disposal/re-use of surplus soils on an off-site property are summarised herein.

BACKGROUND

It is understood that the construction of the new hospital facility located at Montrose Road and Biggar Road in Niagara Falls, Ontario is anticipated to generate approximately 82,000 cubic metres of surplus soil to be removed from the site. As such, an environmental soil characterisation program is required to characterise the excess soil to be disposed of/re-used off-site, as outlined by Ontario Regulation 406/19. Representative samples of the material to be generated from the Site were secured for submission for laboratory analytical testing and to provide interpretation of the test results with respect to the off-site disposal/re-use of surplus soil.

It is noted that the site has previously had Phase One and Two Environmental Site Assessments [ESAs] conducted by WSP, and that a Record of Site Condition [RSC] has also been filed on the subject site.

ASSESSMENT OF PAST USES AND SAMPLING AND ANALYSIS PLAN

SOIL-MAT ENGINEERS was provided the following existing reports for the project:

- Phase One ESA, prepared by WSP for Urban & Environmental Management Inc., Project No. 131-13745-01, dated September 30, 2016

- Phase Two ESA, prepared by WSP for Urban & Environmental Management Inc., Project No. 131-13745-01, dated October 1, 2016
- Excess Soil Re-Use Plan Report, prepared by WSP for Niagara Health, Project No. 191-13723-00, dated March 29, 2021

As noted above, it is understood that an RSC has been filed on the site. These reports indicate that the subject site was one utilised as a field landing strip within the 1960s and 1970s, however prior to, and since this time, the site has been used for agricultural purposes. Environmental testing conducting as part of the Phase Two ESA fieldwork, as well as that outlined in the Excess Soil Re-Use Plan Report did not indicate any contamination on the site when compared to the applicable site condition standards, and an RSC has since been filed on the site. Given the previous land use, results of the environmental assessments, and the filing of the RSC, the subject site would be considered a Low Risk site, as outlined in Ontario Regulation 406/19.

Under Section 8 of the Regulation, the site would technically not be required to file a notice in the registry. By extension, there would not be a requirement for the associated 'planning documents', including Assessment of Past Use, Soil Characterisation, etc. However, it is prudent that such documentation is prepared to support the fill movement and acceptance by receiving re-use sites. Given the low-risk status of the property, the scope of sampling and testing need not be as dictated by the Regulation, but rather based on reasonably professional judgement of the QP.

As such, it is considered that the appropriate testing of surplus soil would include analytical testing of forty [40] samples, submitted for a standard panel of Metal and Inorganic parameters, as well as Petroleum Hydrocarbons [PHC] and Benzene Toluene Ethylbenzene and Xylene mixture [BTEX], and seven [7] for SPLP metals.

SITE VISIT AND SOIL SAMPLING

A representative of SOIL-MAT ENGINEERS initially visited the site on June 8, 2023 and recovered a total of forty [40] discrete in-situ samples test excavations at the locations illustrated in the attached Drawing No. 1, Test Pit Location Plan. At the request of the contractor due to requirements of the receiving site, an additional three [3] samples were recovered on February 22, 2024, identified as Samples 101 to 103 on the Test Pit Location Plan. In each case, the samples were secured from between approximately 0.3 to 3 metres below the ground surface via both machine dug and hand dug test pits advanced by representatives of SOIL-MAT ENGINEERS and RANKIN CONSTRUCTION. The recovered soils were noted to consist of brown silty clay/clayey silt.

The soil samples were sealed in pre-cleaned wide mouth, amber glass sample jars and/or vials pre-charged with methanol preservative as supplied 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 cleaned stainless-steel shovel, was used to retrieve each sample before depositing it directly into the lab supplied sample jar.

LABORATORY ANALYTICAL TESTING

The forty-three [43] soil samples secured from the Site were submitted to AGAT Laboratories [AGAT], [an accredited Canadian Environmental Laboratory] for bulk laboratory analytical testing for metals, hydride forming metals [i.e., arsenic, antimony and selenium], Petroleum Hydrocarbons [PHCs] and benzene, toluene, ethylbenzene and xylene mixture [BTEX] and seven [7] for SPLP metals.

The laboratory analytical test results received in our Office were compared with the applicable Excess Soil Quality Standards under Ontario Regulation 406/19: On-Site and Excess Soil Management, outlined as follows:

- **ONTARIO REGULATION 406/19 – TABLE 1:** Full Depth Background Site Condition Standards Residential/Parkland/Institutional, Industrial/Commercial/Community, as well as Agricultural land use.
- **ONTARIO REGULATION 406/19 – TABLE 2.1:** Full Depth Excess Soil Quality Standards Residential/Parkland/Institutional [RPI], Industrial/Commercial/Community [ICC], as well as Agricultural land use in a potable groundwater condition.
- **ONTARIO REGULATION 406/19 – TABLE 3.1:** Full Depth Excess Soil Quality Standards Residential/Parkland/Institutional [RPI] and Industrial/Commercial/Community [ICC] land use in a non-potable groundwater condition.

The results of this laboratory testing are presented in the attached AGAT Certificate of Analysis [AGAT Work Order Numbers 23H033859 and 24H122934].

Based on SOIL-MAT ENGINEERS' field observations and the laboratory analytical test results from AGAT, SOIL-MAT ENGINEERS offer the following comments:

1. The submitted samples were reported to meet Table 1 [AG] Standards for the parameters tested, with the exception of Electrical Conductivity [EC] in sampling locations 'TP1' to 'TP9' and 'TP103', Barium in samples 'TP1-S4' and 'TP5-S1', Nickel in samples 'TP1-S4', 'TP3-S3', 'TP5-S1', 'TP6-S1', 'TP8-S1', 'TP101', 'TP102' and 'TP103', and Cobalt in samples 'TP1-S1', 'TP3-S3', 'TP5-S1', 'TP8-S2', 'TP11' and 'TP103'.
2. The submitted samples were reported to meet Table 1 [RPI/ICC] Standards for the parameters tested, with the exception of Electrical Conductivity [EC] in sampling locations 'TP1' to 'TP9' and 'TP103', and Barium in samples 'TP1-S4' and 'TP5-S1'. However, considering the Statistical Method as outlined in Regulation 406/19, the concentrations of Barium in these samples is below the applicable Ceiling Value for Table 1 [RPI/ICC], and given the number of samples meeting the Standard, the

sampled material is considered to meet the Table 1 [RPI/ICC] Standards for the parameters tested.

3. The submitted samples were reported to meet Table 2.1 [AG] Standards for the parameters tested, with the exception of Electrical Conductivity [EC] in sampling locations 'TP1', 'TP3' to 'TP8' and 'TP103'.
4. The submitted samples were reported to meet Table 2.1 and Table 3.1 Residential/Parkland/Institutional [RPI] Standards for the parameters tested, with the exception of Electrical Conductivity [EC] in sampling locations 'TP1', 'TP3' to 'TP8' and 'TP103'.
5. The submitted samples were reported to meet Table 2.1 and Table 3.1 [ICC] Standards for the parameters tested with the exception of Electrical Conductivity [EC] in samples 'TP3-S2', 'TP3-S3', 'TP3-S3', 'TP5-S1', 'TP5-S2', 'TP5-S3', and 'TP7-S3'.
6. The selected samples subject to SPLP Metals testing were reported to be within Table 1 Standards.
7. There was no obvious notable visual or olfactory evidence of a potential petroleum hydrocarbon impact observed at the time of the sampling events;

SUMMARY OF EXCEEDANCES

Sample	Table 1		Table 2.1			Table 3.1	
	RPI/ICC	AG	RPI	ICC	AG	RPI	ICC
TP1-S1	EC	EC	EC	✓	EC	EC	✓
TP1-S2	EC	EC	✓	✓		✓	✓
TP1-S3	EC	EC	✓	✓		✓	✓
TP1-S4	EC Barium	EC Barium Cobalt Nickel	EC	✓	EC	EC	✓
TP2-S1	✓		✓	✓	✓	✓	✓
TP2-S2	EC	EC	✓	✓	✓	✓	✓
TP2-S3	EC	EC	✓	✓	✓	✓	✓
TP2-S4	EC	✓	✓	✓	✓	✓	✓
TP3-S1	EC	EC	EC	✓	EC	EC	✓
TP3-S2	EC	EC	EC	EC	EC	EC	EC
TP3-S3	EC	EC Cobalt Nickel	EC	EC	EC	EC	EC
TP4-S1	EC	EC	EC	✓	EC	EC	✓
TP4-S2	EC	EC	EC	✓	EC	EC	✓
TP4-S3	EC	EC	EC	✓	EC	EC	✓
TP5-S1	EC Barium	EC Barium Cobalt Nickel	EC	EC	EC	EC	EC
TP5-S2	EC	EC	EC	EC	EC	EC	EC
TP5-S3	EC	EC	EC	EC	EC	EC	EC
TP6-S1	EC	EC Nickel	✓	✓	✓	✓	✓
TP6-S2	EC	EC	EC	✓	EC	EC	✓
TP6-S3	EC	EC	EC	✓	EC	EC	✓
TP7-S1	EC	EC	✓	✓	✓	✓	✓

Sample	Table 1		Table 2.1			Table 3.1	
	RPI/ICC	AG	RPI	ICC	AG	RPI	ICC
TP7-S2	EC	EC	EC	✓	EC	EC	✓
TP7-S3	EC	EC	EC	EC	EC	EC	EC
TP8-S1	EC	Nickel	EC	✓	EC	EC	✓
TP8-S2	EC	EC Cobalt	EC	✓	EC	EC	✓
TP8-S3	EC	EC	EC	✓	EC	EC	✓
TP9-S1	✓	✓	✓	✓	✓	✓	✓
TP9-S2	✓	✓	✓	✓	✓	✓	✓
TP9-S3	✓	EC	✓	✓	✓	✓	✓
TP10	✓	✓	✓	✓	✓	✓	✓
TP11	✓	Cobalt	✓	✓	✓	✓	✓
TP12	✓	✓	✓	✓	✓	✓	✓
TP13	✓	✓	✓	✓	✓	✓	✓
TP14	✓	✓	✓	✓	✓	✓	✓
TP15	✓	✓	✓	✓	✓	✓	✓
TP16	✓	✓	✓	✓	✓	✓	✓
TP17	✓	✓	✓	✓	✓	✓	✓
TP18	✓	✓	✓	✓	✓	✓	✓
TP19	✓	✓	✓	✓	✓	✓	✓
TP20	✓	✓	✓	✓	✓	✓	✓
TP101	✓	Nickel	✓	✓	✓	✓	✓
TP102	✓	Nickel	✓	✓	✓	✓	✓
TP103	EC	Nickel, Cobalt, EC	EC	✓	EC	EC	✓

Notes:
EC = Electrical Conductivity
✓ = Denotes meeting the Standards of listed Table for the parameters tested.

ENVIRONMENTAL CONSIDERATIONS FOR SOIL REUSE

Given the results of the laboratory analytical testing, the following disposal/re-use options are available under Ontario Regulation 406/19:

- As the tested material has been shown to meet the Table 1 [RPI/ICC], Table 2.1 and 3.1 [RPI and ICC] Standards, with the exception of Electrical Conductivity [EC] only, surplus material may reasonably be accepted at an off-site RPI or ICC property in a potable or non-potable groundwater condition, including that subject to a Record of Site Condition or MECP Certificate of Authorisation, subject to approval of the receiving property owner/Qualified Person [QP].
- As the tested material has been shown to exceed the Table 1 [AG] Standards for Electrical Conductivity [EC], Barium, Nickel, and Cobalt, surplus material may not be accepted at an off-site agricultural property required to meet Table 1 [AG] standards. The need to meet such standard should be confirmed.
 - Material from areas of the site shown to be within the Table 1 [Ag] Standards may be reasonable accepted for reuse on a site subject to the Table 1 [Ag] Standards.
- As the tested material has been shown to exceed the Table 2.1 [AG] Standards for EC only, it may be reasonable to accept surplus material at an off-site agricultural property in a potable groundwater condition, subject to approval of the receiving property owner/QP, and the conditions outlined in Item 5 below.

- Material from areas of the site shown to be within the Table 2.1 [Ag] Standards may be reasonable accepted for reuse on a site subject to the Table 2.1 [Ag] Standards.
4. Surplus soil may be reused on the subject site.
 5. It is noted that elevated levels of EC and SAR are typically associated with the effects of the application of de-icing salt on parking areas and roadways. These are essentially aesthetic parameters that are non-hazardous to human or animal health, rather they tend to render the soil environment less supportive to plant growth and more corrosive to buried pipe. As per Ontario Regulation 406/19 [as amended], excess soil quality standards for EC and SAR in soil resulting solely from the use of a substance for the safety of vehicular or pedestrian traffic applied under conditions of snow or ice or both, are deemed to be met if the following criteria are met:
 - i. The excess soil is finally placed at one of the following locations:
 - where it is reasonable to expect that the soil will be affected by the same chemicals as a result of continued application of a substance for the safety of vehicular or pedestrian traffic under conditions of snow or ice;
 - at an industrial or commercial property use and to which non-potable standards would be applicable;
 - at least 1.5 metres below the surface of the soil
 - ii. The excess soil is not finally placed at one of the following locations:
 - within 30 metres of a waterbody; at an industrial or commercial property use and to which non-potable standards would be applicable;
 - within 100 metres of a potable water well or area with an intended property use that may require a potable water well;
 - a location that will be used for growing crops or pasturing livestock unless the excess soil is placed 1.5 metres or greater below the soil surface.”
 6. The soil samples secured for laboratory analytical testing are believed to be representative of the soil conditions at the sample locations only. If any significant changes are noted, i.e., odours, staining etc., SOIL-MAT ENGINEERS & CONSULTANTS LTD. should be contacted to reassess the environmental characteristics of the soil.
 7. Depending on the volume of surplus soil to be handled, as well as the requirements of the receiving property, additional testing may be required.

GEOTECHNICAL CONSIDERATIONS FOR SOIL REUSE

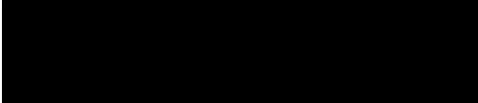
As noted above, the sampled material consisted of brown silty clay/clayey silt. This material is generally considered suitable for use as engineered fill, provided it is free of any significant inclusions of organics or debris, etc., and subject to appropriate moisture conditioning and proper compactive effort based on the specific project requirements where the material is to be reused.

GENERAL COMMENTS

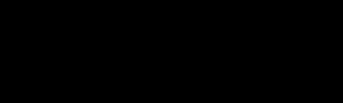
The material in this report reflects SOIL-MAT ENGINEERS' best judgement in light of the information available at the time of preparation. The subsurface descriptions and test pit information are intended to describe conditions at the test pit locations only. Any use which a third party makes of this 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 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.



Alex Lajkosz, B.Sc.
Environmental Technician



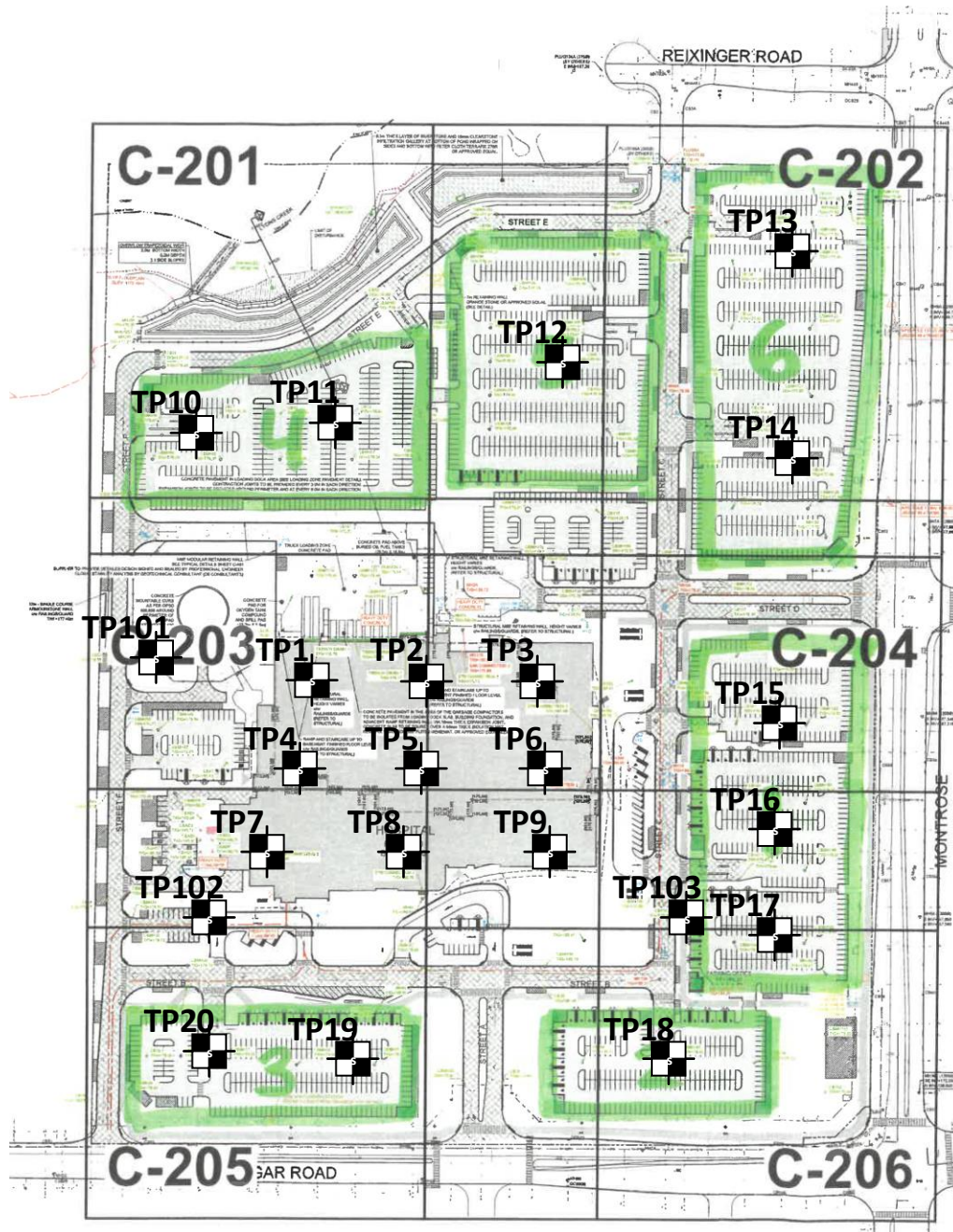
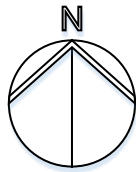
Kyle Richardson, P.Eng., QP_{ESA}
Project Engineer



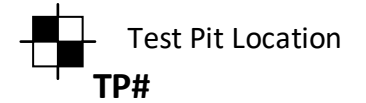
Ian Shaw, P.Eng., QP_{ESA}
Senior Engineer

Enclosures: Drawing No. 1, Sample Location Plan [1 page]
AGAT Certificate of Analysis 23H033859 [28 pages]
AGAT Certificate of Analysis 24H122934 [12 pages]

Distribution: Rankin Construction Inc. [1, plus pdf]



LEGEND



NOTES

1. This drawing should be read in conjunction with Soil-Mat Engineers & Consultants Ltd. Report SM 230477-E
2. Test pit locations are approximate.

SOIL-MAT

ENGINEERS & CONSULTANTS LTD.

Test Pit Location Plan
 Proposed South Niagara Hospital
 Montrose Road and Biggar Road
 Niagara Falls, Ontario

Test Pit Location Plan

Project No. SM 230477-E

Date: February 2024

Drawn: AL

Drawing No. 1



CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
401 GRAYS ROAD
HAMILTON, ON L8E 2Z3
(905) 318-7440

ATTENTION TO: Peter Markesic

PROJECT: 230477

AGAT WORK ORDER: 23H033859

SOIL ANALYSIS REVIEWED BY: Nivine Basily, Inorganics Report Writer

TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist

DATE REPORTED: Jun 15, 2023

PAGES (INCLUDING COVER): 28

VERSION*: 1

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

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.
- For environmental samples in the Province of Quebec: The analysis is performed on and results apply to samples as received. A temperature above 6°C upon receipt, as indicated in the Sample Reception Notification (SRN), could indicate the integrity of the samples has been compromised if the delay between sampling and submission to the laboratory could not be minimized.



Certificate of Analysis

AGAT WORK ORDER: 23H033859

PROJECT: 230477

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

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE: South Niagara Hospital

SAMPLED BY: SD

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

DATE RECEIVED: 2023-06-09

DATE REPORTED: 2023-06-15

Parameter	Unit	SAMPLE DESCRIPTION:		TP1-S1	TP1-S2	TP1-S3	TP1-S4	TP2-S1	TP2-S3	TP2-S4	TP3-S1
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08
		G / S	RDL	5053925	5054040	5054162	5054163	5054164	5054165	5054166	5054167
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	7	6	7	7	6	6	6	6
Barium	µg/g	220	2.0	138	100	128	263	164	118	153	87.0
Beryllium	µg/g	2.5	0.5	0.8	0.6	0.7	0.7	0.8	0.7	0.7	0.6
Boron	µg/g	36	5	10	9	10	15	14	13	14	9
Boron (Hot Water Soluble)	µg/g	NA	0.10	0.11	0.17	0.20	0.37	<0.10	0.23	0.25	<0.10
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	70	5	32	26	28	33	35	32	31	26
Cobalt	µg/g	21	0.8	14.3	14.2	15.7	19.1	14.3	15.8	15.1	11.3
Copper	µg/g	92	1.0	25.5	24.7	26.0	25.1	25.3	24.6	24.9	23.7
Lead	µg/g	120	1	11	9	9	11	12	10	9	8
Molybdenum	µg/g	2	0.5	0.7	0.8	0.7	0.9	<0.5	0.7	0.7	0.5
Nickel	µg/g	82	1	29	29	31	38	32	31	31	25
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	1.00	1.04	1.04	1.06	0.81	1.00	0.98	0.90
Vanadium	µg/g	86	2.0	47.9	36.4	38.9	43.4	49.3	45.5	43.3	38.4
Zinc	µg/g	290	5	72	68	70	83	75	70	72	59
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, WAD	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	1.18	0.661	0.693	0.941	0.458	0.667	0.688	0.778
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	N/A	0.573	0.575	0.599	0.650	0.626	0.751	0.771	0.671
pH, 2:1 CaCl2 Extraction	pH Units		NA	6.90	7.08	7.12	7.16	7.15	7.14	7.15	7.22

Certified By:





Certificate of Analysis

AGAT WORK ORDER: 23H033859

PROJECT: 230477

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

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE: South Niagara Hospital

SAMPLED BY: SD

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

DATE RECEIVED: 2023-06-09

DATE REPORTED: 2023-06-15

Parameter	Unit	SAMPLE DESCRIPTION:		TP3-S2	TP3-S3	TP4-S1	TP4-S2	TP4-S3	TP5-S1	TP5-S2	TP5-S3
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08
		G / S	RDL	5054168	5054169	5054170	5054186	5054187	5054188	5054189	5054190
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	7	6	6	6	7	6	7	6
Barium	µg/g	220	2.0	117	159	99.8	112	125	231	101	148
Beryllium	µg/g	2.5	0.5	0.7	0.7	0.7	0.6	0.6	1.1	0.7	0.7
Boron	µg/g	36	5	11	16	8	11	11	15	11	14
Boron (Hot Water Soluble)	µg/g	NA	0.10	0.25	0.38	0.13	0.20	0.23	0.10	0.15	0.35
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	70	5	29	32	27	28	26	40	30	31
Cobalt	µg/g	21	0.8	13.9	19.4	12.8	14.1	14.8	20.4	14.2	15.3
Copper	µg/g	92	1.0	25.1	25.1	22.4	25.3	27.0	26.6	27.8	26.1
Lead	µg/g	120	1	10	11	12	9	9	15	10	10
Molybdenum	µg/g	2	0.5	0.6	0.9	0.6	0.8	0.7	0.6	0.6	0.7
Nickel	µg/g	82	1	29	38	28	30	29	39	30	32
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	1.09	1.02	0.93	0.99	0.95	1.37	1.17	1.06
Vanadium	µg/g	86	2.0	41.6	45.7	39.6	40.5	38.6	58.7	45.0	44.8
Zinc	µg/g	290	5	68	80	68	67	66	80	66	74
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, WAD	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	2.70	1.47	0.770	1.16	0.995	2.86	1.43	1.41
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	N/A	0.555	0.849	0.496	0.795	0.751	0.747	0.637	0.760
pH, 2:1 CaCl2 Extraction	pH Units		NA	7.16	7.16	7.20	7.19	7.18	7.12	7.23	7.23

Certified By:





Certificate of Analysis

AGAT WORK ORDER: 23H033859

PROJECT: 230477

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CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE: South Niagara Hospital

SAMPLED BY: SD

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

DATE RECEIVED: 2023-06-09

DATE REPORTED: 2023-06-15

Parameter	Unit	SAMPLE DESCRIPTION:		TP6-S1	TP6-S2	TP6-S3	TP7-S1	TP7-S2	TP7-S3	TP8-S1	TP8-S2
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08
		G / S	RDL	5054191	5054192	5054193	5054194	5054195	5054196	5054217	5054218
Antimony	µg/g	1.3	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	1	6	6	7	6	7	5	6	6
Barium	µg/g	220	2.0	208	134	124	142	145	196	204	173
Beryllium	µg/g	2.5	0.5	0.9	0.9	0.6	1.0	0.7	0.9	0.8	0.8
Boron	µg/g	36	5	16	14	10	9	11	17	14	17
Boron (Hot Water Soluble)	µg/g	NA	0.10	<0.10	<0.10	0.22	0.16	0.11	0.23	<0.10	0.23
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	70	5	39	33	27	40	29	33	39	32
Cobalt	µg/g	21	0.8	17.8	16.6	13.9	18.3	15.1	17.1	17.5	19.1
Copper	µg/g	92	1.0	25.6	23.9	25.4	18.1	25.9	24.1	26.3	26.7
Lead	µg/g	120	1	13	12	9	19	10	10	13	11
Molybdenum	µg/g	2	0.5	0.5	0.7	0.7	1.0	0.7	0.8	0.7	0.9
Nickel	µg/g	82	1	38	33	29	33	31	36	39	37
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	1.11	1.01	0.96	0.94	1.12	0.99	1.16	1.06
Vanadium	µg/g	86	2.0	56.5	47.7	40.1	59.3	42.8	46.3	53.3	45.5
Zinc	µg/g	290	5	79	76	65	100	68	79	81	78
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, WAD	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	0.581	0.895	1.02	0.636	1.32	1.44	1.25	1.01
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	N/A	0.792	0.773	0.841	0.261	0.719	1.00	0.857	0.813
pH, 2:1 CaCl2 Extraction	pH Units		NA	7.24	7.24	6.91	6.15	6.69	6.77	6.84	6.99

Certified By:





Certificate of Analysis

AGAT WORK ORDER: 23H033859
PROJECT: 230477

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CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
SAMPLING SITE: South Niagara Hospital

ATTENTION TO: Peter Markesic
SAMPLED BY: SD

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

DATE RECEIVED: 2023-06-09

DATE REPORTED: 2023-06-15

Parameter	Unit	SAMPLE DESCRIPTION:		TP8-S3	TP9-S1	TP9-S2	TP9-S3	TP10	TP11	TP12	TP13
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08
		G / S	RDL	5054219	5054220	5054221	5054222	5054223	5054224	5054225	5054226
Antimony	µg/g	1.3	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	1	6	5	6	5	6	6	6	6
Barium	µg/g	220	2.0	141	164	144	156	134	159	129	136
Beryllium	µg/g	2.5	0.5	0.6	0.9	0.7	0.7	0.9	1.0	0.8	0.9
Boron	µg/g	36	5	12	13	13	16	7	7	7	9
Boron (Hot Water Soluble)	µg/g	NA	0.10	0.21	<0.10	<0.10	0.11	0.23	0.15	0.23	0.36
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	70	5	29	36	32	33	39	45	36	40
Cobalt	µg/g	21	0.8	14.7	13.8	14.9	15.9	16.4	20.4	17.8	16.1
Copper	µg/g	92	1.0	27.3	22.8	25.8	24.6	16.6	18.6	16.9	19.7
Lead	µg/g	120	1	10	13	11	11	23	19	23	24
Molybdenum	µg/g	2	0.5	0.7	0.5	0.6	0.6	1.2	1.0	1.3	1.0
Nickel	µg/g	82	1	30	32	33	32	31	33	29	35
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	1.04	0.75	0.90	0.95	1.20	1.39	1.04	0.99
Vanadium	µg/g	86	2.0	41.7	52.5	45.5	48.3	57.2	63.0	58.2	58.5
Zinc	µg/g	290	5	64	72	69	73	91	89	93	93
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, WAD	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	1.18	0.207	0.203	0.499	0.110	0.166	0.059	0.084
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	N/A	0.867	0.400	0.477	0.477	0.191	0.557	0.235	0.210
pH, 2:1 CaCl2 Extraction	pH Units		NA	7.04	7.04	7.11	7.18	5.10	5.74	4.57	5.89

Certified By:





Certificate of Analysis

AGAT WORK ORDER: 23H033859

PROJECT: 230477

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CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
SAMPLING SITE: South Niagara Hospital

ATTENTION TO: Peter Markesic
SAMPLED BY: SD

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

DATE RECEIVED: 2023-06-09

DATE REPORTED: 2023-06-15

Parameter	Unit	SAMPLE DESCRIPTION:		TP14	TP15	TP16	TP17	TP18	TP19	TP20	TP2-S2
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08
		G / S	RDL	5054227	5054238	5054239	5054240	5054241	5054242	5054243	5054244
Antimony	µg/g	1.3	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	1	6	5	4	6	4	5	5	6
Barium	µg/g	220	2.0	120	95.8	85.6	142	56.4	76.3	85.1	130
Beryllium	µg/g	2.5	0.5	0.9	0.6	0.7	0.8	<0.5	0.6	0.7	<0.5
Boron	µg/g	36	5	8	7	7	13	<5	<5	5	9
Boron (Hot Water Soluble)	µg/g	NA	0.10	0.26	0.30	0.18	0.28	<0.10	0.24	0.18	0.14
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	70	5	39	32	31	38	25	25	30	27
Cobalt	µg/g	21	0.8	17.3	11.2	11.9	15.3	9.3	11.9	12.3	14.1
Copper	µg/g	92	1.0	18.0	11.8	14.8	23.4	10.0	13.0	15.6	24.6
Lead	µg/g	120	1	22	22	13	22	14	18	17	9
Molybdenum	µg/g	2	0.5	1.1	1.0	0.6	0.8	0.8	0.9	0.9	0.6
Nickel	µg/g	82	1	32	25	23	34	20	23	26	29
Selenium	µg/g	1.5	0.8	0.9	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Silver	µg/g	0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Thallium	µg/g	1	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Uranium	µg/g	2.5	0.50	0.95	0.77	0.66	0.83	0.53	0.74	0.72	1.04
Vanadium	µg/g	86	2.0	56.8	48.0	48.0	56.0	42.8	38.5	46.5	39.6
Zinc	µg/g	290	5	97	84	68	91	54	66	70	63
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, WAD	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	0.095	0.071	0.046	0.154	0.103	0.056	0.050	0.615
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	N/A	0.346	0.284	0.216	0.106	0.090	0.244	0.227	0.552
pH, 2:1 CaCl2 Extraction	pH Units		NA	5.02	5.43	5.69	6.53	6.62	5.04	4.87	6.48

Certified By:





AGAT Laboratories

Certificate of Analysis

AGAT WORK ORDER: 23H033859

PROJECT: 230477

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CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE: South Niagara Hospital

SAMPLED BY: SD

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

DATE RECEIVED: 2023-06-09

DATE REPORTED: 2023-06-15

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to O. Reg. 406/19 TABLE 1: Full Depth Background Site Condition - RPIC
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.
5053925-5054244 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:





Certificate of Analysis

AGAT WORK ORDER: 23H033859
PROJECT: 230477

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CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
SAMPLING SITE: South Niagara Hospital

ATTENTION TO: Peter Markesic
SAMPLED BY: SD

O. Reg. 406/19 SPLP Metals

DATE RECEIVED: 2023-06-09

DATE REPORTED: 2023-06-15

Parameter	Unit	SAMPLE DESCRIPTION:		TP1-S1	TP5-S2	TP7-S2	TP12	TP19	TP20	TP2-S2
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08
		G / S	RDL	5053925	5054189	5054195	5054225	5054242	5054243	5054244
Antimony Leachate	µg/L	-	0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Arsenic Leachate	µg/L	-	5	<5	<5	<5	<5	<5	<5	<5
Barium Leachate	µg/L	-	100	<100	<100	<100	<100	<100	<100	<100
Beryllium Leachate	µg/L	-	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Boron Leachate	µg/L	-	500	<500	<500	<500	<500	<500	<500	<500
Cadmium Leachate	µg/L	-	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chromium Leachate	µg/L	-	10	<10	<10	<10	<10	<10	<10	<10
Cobalt Leachate	µg/L	-	0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.4	<0.3
Copper Leachate	µg/L	-	6.9	<6.9	<6.9	<6.9	<6.9	<6.9	<6.9	<6.9
Lead Leachate	µg/L	-	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Molybdenum Leachate	µg/L	23	1.5	<1.5	<1.5	2.4	<1.5	<1.5	<1.5	<1.5
Nickel Leachate	µg/L	-	10	<10	<10	<10	<10	<10	<10	<10
Selenium Leachate	µg/L	-	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Silver Leachate	µg/L	0.3	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Thallium Leachate	µg/L	2	0.5	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Uranium Leachate	µg/L	-	2	<2	<2	<2	<2	<2	<2	<2
Vanadium Leachate	µg/L	-	0.6	1.3	1.1	1.1	1.8	3.4	3.9	1.3
Zinc Leachate	µg/L	-	20	<20	<20	<20	<20	<20	<20	<20

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

5053925-5054244 Leachate for metal testing was prepared in accordance with Ontario MECP Method E9003, which has been modified from SW846-1312 by Ontario MECP. MECP has recommended that Method E9003 be used for leachate testing of soil samples under O'Reg 406/19 by MECP.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:





Certificate of Analysis

AGAT WORK ORDER: 23H033859

PROJECT: 230477

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CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE: South Niagara Hospital

SAMPLED BY: SD

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

DATE RECEIVED: 2023-06-09

DATE REPORTED: 2023-06-15

Parameter	Unit	SAMPLE DESCRIPTION:		TP1-S1	TP1-S2	TP1-S3	TP1-S4	TP2-S1	TP2-S3	TP2-S4	TP3-S1
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08
		G / S	RDL	5053925	5054040	5054162	5054163	5054164	5054165	5054166	5054167
Benzene	µg/g	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	µg/g	0.2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
m & p-Xylene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
o-Xylene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
F1 (C6 - C10)	µg/g		5	<5	<5	<5	<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	25	5	<5	<5	<5	<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g	10	10	<10	<10	<10	<10	<10	<10	<10	<10
F3 (C16 to C34)	µg/g	240	50	<50	<50	<50	<50	<50	<50	<50	<50
F4 (C34 to C50)	µg/g	120	50	<50	<50	<50	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g		50	NA	NA	NA	NA	NA	NA	NA	NA
Moisture Content	%		0.1	16.1	18.3	18.9	18.8	14.6	21.1	20.0	21.1
Surrogate	Unit	Acceptable Limits									
Toluene-d8	% Recovery	60-140		92.0	87.0	85.2	88.2	86.2	81.8	87.5	83.8
Terphenyl	%	60-140		106	91	85	100	65	90	87	97

Certified By:





Certificate of Analysis

AGAT WORK ORDER: 23H033859

PROJECT: 230477

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
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CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE: South Niagara Hospital

SAMPLED BY: SD

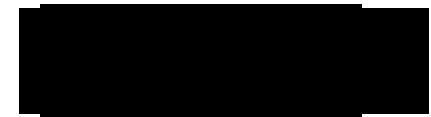
O. Reg. 153(511) - PHCs F1 - F4 (Soil)

DATE RECEIVED: 2023-06-09

DATE REPORTED: 2023-06-15

Parameter	Unit	SAMPLE DESCRIPTION:		TP3-S2	TP3-S3	TP4-S1	TP4-S2	TP4-S3	TP5-S1	TP5-S2	TP5-S3
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08
		G / S	RDL	5054168	5054169	5054170	5054186	5054187	5054188	5054189	5054190
Benzene	µg/g	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	µg/g	0.2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
m & p-Xylene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
o-Xylene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
F1 (C6 - C10)	µg/g		5	<5	<5	<5	<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	25	5	<5	<5	<5	<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g	10	10	<10	<10	<10	<10	<10	<10	<10	<10
F3 (C16 to C34)	µg/g	240	50	<50	<50	<50	<50	<50	<50	<50	<50
F4 (C34 to C50)	µg/g	120	50	<50	<50	<50	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g		50	NA	NA	NA	NA	NA	NA	NA	NA
Moisture Content	%		0.1	16.8	20.0	22.2	21.3	19.2	18.8	16.4	21.0
Surrogate	Unit	Acceptable Limits									
Toluene-d8	% Recovery	60-140		80.5	83.2	83.0	78.5	74.8	112	80.2	78.5
Terphenyl	%	60-140		90	96	101	84	66	65	70	66

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PROJECT: 230477

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

DATE RECEIVED: 2023-06-09

DATE REPORTED: 2023-06-15

Parameter	Unit	SAMPLE DESCRIPTION:		TP6-S1	TP6-S2	TP6-S3	TP7-S1	TP7-S2	TP7-S3	TP8-S1	TP8-S2
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08
		G / S	RDL	5054191	5054192	5054193	5054194	5054195	5054196	5054217	5054218
Benzene	µg/g	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	µg/g	0.2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
m & p-Xylene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
o-Xylene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
F1 (C6 - C10)	µg/g		5	<5	<5	<5	<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	25	5	<5	<5	<5	<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g	10	10	<10	<10	<10	<10	<10	<10	<10	<10
F3 (C16 to C34)	µg/g	240	50	<50	<50	<50	<50	<50	<50	<50	<50
F4 (C34 to C50)	µg/g	120	50	<50	<50	<50	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g		50	NA	NA	NA	NA	NA	NA	NA	NA
Moisture Content	%		0.1	18.7	17.0	18.8	16.0	18.3	19.2	19.1	20.5
Surrogate	Unit	Acceptable Limits									
Toluene-d8	% Recovery	60-140		77.8	80.5	80.2	77.2	110	94.2	102	108
Terphenyl	%	60-140		85	60	71	75	84	70	67	67

Certified By:





Certificate of Analysis

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PROJECT: 230477

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CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
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 SAMPLED BY: SD

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

DATE RECEIVED: 2023-06-09

DATE REPORTED: 2023-06-15

Parameter	Unit	SAMPLE DESCRIPTION:		TP8-S3	TP9-S1	TP9-S2	TP9-S3	TP10	TP11	TP12	TP13
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08
		G / S	RDL	5054219	5054220	5054221	5054222	5054223	5054224	5054225	5054226
Benzene	µg/g	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	µg/g	0.2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
m & p-Xylene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
o-Xylene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
F1 (C6 - C10)	µg/g		5	<5	<5	<5	<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	25	5	<5	<5	<5	<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g	10	10	<10	<10	<10	<10	<10	<10	<10	<10
F3 (C16 to C34)	µg/g	240	50	<50	<50	<50	<50	<50	<50	<50	<50
F4 (C34 to C50)	µg/g	120	50	<50	<50	<50	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g		50	NA	NA	NA	NA	NA	NA	NA	NA
Moisture Content	%		0.1	22.4	18.2	17.6	22.3	13.1	15.8	13.1	13.1
Surrogate	Unit	Acceptable Limits									
Toluene-d8	% Recovery	60-140		109	102	84.0	99.2	86.0	95.0	89.2	77.5
Terphenyl	%	60-140		84	65	77	77	89	82	85	80

Certified By:





Certificate of Analysis

AGAT WORK ORDER: 23H033859

PROJECT: 230477

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CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
 SAMPLING SITE: South Niagara Hospital

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 SAMPLED BY: SD

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

DATE RECEIVED: 2023-06-09

DATE REPORTED: 2023-06-15

Parameter	Unit	SAMPLE DESCRIPTION:		TP14	TP15	TP16	TP17	TP18	TP19	TP20	TP2-S2
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08	2023-06-08
		G / S	RDL	5054227	5054238	5054239	5054240	5054241	5054242	5054243	5054244
Benzene	µg/g	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	µg/g	0.2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
m & p-Xylene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
o-Xylene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
F1 (C6 - C10)	µg/g		5	<5	<5	<5	<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	25	5	<5	<5	<5	<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g	10	10	<10	<10	<10	<10	<10	<10	<10	<10
F3 (C16 to C34)	µg/g	240	50	<50	<50	<50	<50	<50	<50	<50	<50
F4 (C34 to C50)	µg/g	120	50	<50	<50	<50	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g		50	NA	NA	NA	NA	NA	NA	NA	NA
Moisture Content	%		0.1	12.7	14.4	12.0	14.1	12.7	9.6	11.6	19.6
Surrogate	Unit	Acceptable Limits									
Toluene-d8	% Recovery	60-140		106	118	115	79.2	107	104	106	106
Terphenyl	%	60-140		70	79	87	86	96	84	73	93

Certified By:





Certificate of Analysis

AGAT WORK ORDER: 23H033859

PROJECT: 230477

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CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE: South Niagara Hospital

SAMPLED BY: SD

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

DATE RECEIVED: 2023-06-09

DATE REPORTED: 2023-06-15

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

5053925-5054244 Results are based on sample dry weight.
The C6-C10 fraction is calculated using Toluene response factor.
Xylenes is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
C6-C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX contribution.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.
Fractions 1-4 are quantified with the contribution of PAHs. Under Ontario Regulation 153, results are considered valid without determining the PAH contribution if not requested by the client.
Quality Control Data is available upon request.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:





Exceedance Summary

AGAT WORK ORDER: 23H033859

PROJECT: 230477

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SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
5053925	TP1-S1	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	1.18
5054040	TP1-S2	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	0.661
5054162	TP1-S3	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	0.693
5054163	TP1-S4	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Barium	µg/g	220	263
5054163	TP1-S4	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	0.941
5054165	TP2-S3	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	0.667
5054166	TP2-S4	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	0.688
5054167	TP3-S1	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	0.778
5054168	TP3-S2	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	2.70
5054169	TP3-S3	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	1.47
5054170	TP4-S1	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	0.770
5054186	TP4-S2	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	1.16
5054187	TP4-S3	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	0.995
5054188	TP5-S1	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Barium	µg/g	220	231
5054188	TP5-S1	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	2.86
5054189	TP5-S2	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	1.43
5054190	TP5-S3	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	1.41
5054191	TP6-S1	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	0.581
5054192	TP6-S2	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	0.895
5054193	TP6-S3	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	1.02
5054194	TP7-S1	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	0.636
5054195	TP7-S2	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	1.32
5054196	TP7-S3	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	1.44
5054217	TP8-S1	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	1.25
5054218	TP8-S2	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	1.01
5054219	TP8-S3	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	1.18
5054244	TP2-S2	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	0.615

Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
 PROJECT: 230477
 SAMPLING SITE: South Niagara Hospital

AGAT WORK ORDER: 23H033859
 ATTENTION TO: Peter Markesic
 SAMPLED BY: SD

Soil Analysis															
RPT Date: Jun 15, 2023			DUPLICATE				Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE		MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Measured Value		Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper

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

Antimony	5053925	5053925	<0.8	<0.8	NA	< 0.8	135%	70%	130%	102%	80%	120%	104%	70%	130%
Arsenic	5053925	5053925	7	7	3.9%	< 1	117%	70%	130%	104%	80%	120%	102%	70%	130%
Barium	5053925	5053925	138	138	0.4%	< 2.0	109%	70%	130%	104%	80%	120%	97%	70%	130%
Beryllium	5053925	5053925	0.8	0.8	NA	< 0.5	100%	70%	130%	103%	80%	120%	84%	70%	130%
Boron	5053925	5053925	10	11	NA	< 5	82%	70%	130%	101%	80%	120%	84%	70%	130%
Boron (Hot Water Soluble)	5053925	5053925	0.11	0.12	NA	< 0.10	87%	60%	140%	101%	70%	130%	106%	60%	140%
Cadmium	5053925	5053925	<0.5	<0.5	NA	< 0.5	109%	70%	130%	101%	80%	120%	103%	70%	130%
Chromium	5053925	5053925	32	33	1.6%	< 5	110%	70%	130%	112%	80%	120%	107%	70%	130%
Cobalt	5053925	5053925	14.3	14.9	4.2%	< 0.8	114%	70%	130%	104%	80%	120%	103%	70%	130%
Copper	5053925	5053925	25.5	26.3	3.0%	< 1.0	102%	70%	130%	103%	80%	120%	92%	70%	130%
Lead	5053925	5053925	11	11	2.0%	< 1	109%	70%	130%	110%	80%	120%	106%	70%	130%
Molybdenum	5053925	5053925	0.7	0.6	NA	< 0.5	115%	70%	130%	108%	80%	120%	106%	70%	130%
Nickel	5053925	5053925	29	29	0.3%	< 1	106%	70%	130%	102%	80%	120%	95%	70%	130%
Selenium	5053925	5053925	<0.8	<0.8	NA	< 0.8	96%	70%	130%	105%	80%	120%	101%	70%	130%
Silver	5053925	5053925	<0.5	<0.5	NA	< 0.5	103%	70%	130%	101%	80%	120%	95%	70%	130%
Thallium	5053925	5053925	<0.5	<0.5	NA	< 0.5	110%	70%	130%	99%	80%	120%	97%	70%	130%
Uranium	5053925	5053925	1.00	1.03	NA	< 0.50	118%	70%	130%	104%	80%	120%	110%	70%	130%
Vanadium	5053925	5053925	47.9	49.5	3.2%	< 2.0	124%	70%	130%	115%	80%	120%	106%	70%	130%
Zinc	5053925	5053925	72	73	1.8%	< 5	107%	70%	130%	110%	80%	120%	110%	70%	130%
Chromium, Hexavalent	5046838		<0.2	<0.2	NA	< 0.2	106%	70%	130%	94%	80%	120%	81%	70%	130%
Cyanide, WAD	5054193	5054193	<0.040	<0.040	NA	< 0.040	98%	70%	130%	104%	80%	120%	90%	70%	130%
Mercury	5053925	5053925	<0.10	<0.10	NA	< 0.10	104%	70%	130%	93%	80%	120%	98%	70%	130%
Electrical Conductivity (2:1)	5053925	5053925	1.18	1.14	3.1%	< 0.005	84%	80%	120%						
Sodium Adsorption Ratio (2:1) (Calc.)	5053925	5053925	0.573	0.583	1.6%	NA									
pH, 2:1 CaCl2 Extraction	5060261		6.41	6.65	3.7%	NA	102%	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.

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

O. Reg. 406/19 SPLP Metals

Antimony Leachate	5056475		<0.6	<0.6	NA	< 0.6	99%	70%	130%	104%	80%	120%	108%	70%	130%
Arsenic Leachate	5056475		<5	<5	NA	< 5	99%	70%	130%	106%	80%	120%	112%	70%	130%
Barium Leachate	5056475		<100	<100	NA	< 100	104%	70%	130%	106%	80%	120%	114%	70%	130%
Beryllium Leachate	5056475		<0.8	<0.8	NA	< 0.8	93%	70%	130%	92%	80%	120%	102%	70%	130%
Boron Leachate	5056475		<500	<500	NA	< 500	99%	70%	130%	101%	80%	120%	107%	70%	130%
Cadmium Leachate	5056475		<0.20	<0.20	NA	< 0.20	100%	70%	130%	106%	80%	120%	112%	70%	130%
Chromium Leachate	5056475		<10	<10	NA	< 10	101%	70%	130%	104%	80%	120%	114%	70%	130%
Cobalt Leachate	5056475		0.3	0.3	NA	< 0.3	103%	70%	130%	109%	80%	120%	116%	70%	130%

Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
 PROJECT: 230477
 SAMPLING SITE: South Niagara Hospital

AGAT WORK ORDER: 23H033859
 ATTENTION TO: Peter Markesic
 SAMPLED BY: SD

Soil Analysis (Continued)

RPT Date: Jun 15, 2023			DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Copper Leachate	5056475		<6.9	<6.9	NA	< 6.9	103%	70%	130%	109%	80%	120%	114%	70%	130%
Lead Leachate	5056475		<1.0	<1.0	NA	< 1.0	111%	70%	130%	115%	80%	120%	120%	70%	130%
Molybdenum Leachate	5056475		3.0	2.8	NA	< 1.5	100%	70%	130%	103%	80%	120%	119%	70%	130%
Nickel Leachate	5056475		<10	<10	NA	< 10	102%	70%	130%	107%	80%	120%	113%	70%	130%
Selenium Leachate	5056475		<5.0	<5.0	NA	< 5.0	97%	70%	130%	98%	80%	120%	108%	70%	130%
Silver Leachate	5056475		<0.10	<0.10	NA	< 0.10	101%	70%	130%	106%	80%	120%	109%	70%	130%
Thallium Leachate	5056475		<0.5	<0.5	NA	< 0.5	103%	70%	130%	101%	80%	120%	103%	70%	130%
Uranium Leachate	5056475		<2	<2	NA	< 2	105%	70%	130%	113%	80%	120%	115%	70%	130%
Vanadium Leachate	5056475		1.6	1.5	NA	2.8	107%	70%	130%	107%	80%	120%	117%	70%	130%
Zinc Leachate	5056475		<20	<20	NA	< 20	106%	70%	130%	110%	80%	120%	113%	70%	130%

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

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

Boron (Hot Water Soluble)	5054194	5054194	0.16	0.15	NA	< 0.10	89%	60%	140%	102%	70%	130%	104%	60%	140%
Chromium, Hexavalent	5054226	5054226	<0.2	<0.2	NA	< 0.2	100%	70%	130%	100%	80%	120%	91%	70%	130%
Cyanide, WAD	5060261		<0.040	<0.040	NA	< 0.040	98%	70%	130%	99%	80%	120%	102%	70%	130%
Electrical Conductivity (2:1)	5054194	5054194	0.636	0.624	1.9%	< 0.005	90%	80%	120%						
Sodium Adsorption Ratio (2:1) (Calc.)	5054194	5054194	0.261	0.260	0.4%	NA									
pH, 2:1 CaCl ₂ Extraction	5054193	5054193	6.91	7.13	3.2%	NA	100%	80%	120%						

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

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

Boron (Hot Water Soluble)	5054242	5054242	0.24	0.23	NA	< 0.10	88%	60%	140%	100%	70%	130%	99%	60%	140%
pH, 2:1 CaCl ₂ Extraction	5054243	5054243	4.87	4.84	0.7%	NA	101%	80%	120%						

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

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

Antimony	5054194	5054194	<0.8	<0.8	NA	< 0.8	127%	70%	130%	101%	80%	120%	103%	70%	130%
Arsenic	5054194	5054194	6	6	1.5%	< 1	115%	70%	130%	101%	80%	120%	102%	70%	130%
Barium	5054194	5054194	142	138	3.2%	< 2.0	111%	70%	130%	105%	80%	120%	106%	70%	130%
Beryllium	5054194	5054194	1.0	0.9	NA	< 0.5	91%	70%	130%	99%	80%	120%	86%	70%	130%
Boron	5054194	5054194	9	8	NA	< 5	83%	70%	130%	105%	80%	120%	77%	70%	130%
Cadmium	5054194	5054194	<0.5	<0.5	NA	< 0.5	97%	70%	130%	103%	80%	120%	106%	70%	130%
Chromium	5054194	5054194	40	39	1.7%	< 5	115%	70%	130%	117%	80%	120%	114%	70%	130%
Cobalt	5054194	5054194	18.3	19.2	4.9%	< 0.8	115%	70%	130%	113%	80%	120%	113%	70%	130%
Copper	5054194	5054194	18.1	18.1	0.1%	< 1.0	102%	70%	130%	106%	80%	120%	101%	70%	130%

Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
 PROJECT: 230477
 SAMPLING SITE: South Niagara Hospital

AGAT WORK ORDER: 23H033859
 ATTENTION TO: Peter Markesic
 SAMPLED BY: SD

Soil Analysis (Continued)																
RPT Date: Jun 15, 2023			DUPLICATE				Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Measured Value		Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits		
								Lower	Upper		Lower	Upper		Lower	Upper	
Lead	5054194	5054194	19	20	2.1%	< 1	113%	70%	130%	113%	80%	120%	114%	70%	130%	
Molybdenum	5054194	5054194	1.0	0.9	NA	< 0.5	110%	70%	130%	105%	80%	120%	109%	70%	130%	
Nickel	5054194	5054194	33	32	0.9%	< 1	110%	70%	130%	107%	80%	120%	102%	70%	130%	
Selenium	5054194	5054194	<0.8	0.8	NA	< 0.8	96%	70%	130%	96%	80%	120%	98%	70%	130%	
Silver	5054194	5054194	<0.5	<0.5	NA	< 0.5	100%	70%	130%	102%	80%	120%	103%	70%	130%	
Thallium	5054194	5054194	<0.5	<0.5	NA	< 0.5	118%	70%	130%	101%	80%	120%	102%	70%	130%	
Uranium	5054194	5054194	0.94	0.92	NA	< 0.50	125%	70%	130%	109%	80%	120%	116%	70%	130%	
Vanadium	5054194	5054194	59.3	57.8	2.6%	< 2.0	115%	70%	130%	118%	80%	120%	113%	70%	130%	
Zinc	5054194	5054194	100	99	1.1%	< 5	108%	70%	130%	111%	80%	120%	109%	70%	130%	
Mercury	5054194	5054194	<0.10	<0.10	NA	< 0.10	108%	70%	130%	99%	80%	120%	103%	70%	130%	

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

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

Antimony	5054242	5054242	<0.8	<0.8	NA	< 0.8	134%	70%	130%	102%	80%	120%	101%	70%	130%
Arsenic	5054242	5054242	5	5	9.8%	< 1	117%	70%	130%	105%	80%	120%	104%	70%	130%
Barium	5054242	5054242	76.3	82.8	8.1%	< 2.0	113%	70%	130%	109%	80%	120%	111%	70%	130%
Beryllium	5054242	5054242	0.6	0.7	NA	< 0.5	90%	70%	130%	100%	80%	120%	93%	70%	130%
Boron	5054242	5054242	<5	6	NA	< 5	77%	70%	130%	98%	80%	120%	86%	70%	130%
Cadmium	5054242	5054242	<0.5	<0.5	NA	< 0.5	101%	70%	130%	103%	80%	120%	107%	70%	130%
Chromium	5054242	5054242	25	29	15.6%	< 5	109%	70%	130%	110%	80%	120%	115%	70%	130%
Cobalt	5054242	5054242	11.9	12.8	7.4%	< 0.8	113%	70%	130%	109%	80%	120%	116%	70%	130%
Copper	5054242	5054242	13.0	14.1	8.0%	< 1.0	103%	70%	130%	109%	80%	120%	105%	70%	130%
Lead	5054242	5054242	18	19	6.2%	< 1	110%	70%	130%	118%	80%	120%	111%	70%	130%
Molybdenum	5054242	5054242	0.9	1.0	NA	< 0.5	112%	70%	130%	109%	80%	120%	111%	70%	130%
Nickel	5054242	5054242	23	25	8.4%	< 1	109%	70%	130%	105%	80%	120%	108%	70%	130%
Selenium	5054242	5054242	<0.8	<0.8	NA	< 0.8	102%	70%	130%	101%	80%	120%	99%	70%	130%
Silver	5054242	5054242	<0.5	<0.5	NA	< 0.5	102%	70%	130%	109%	80%	120%	104%	70%	130%
Thallium	5054242	5054242	<0.5	<0.5	NA	< 0.5	113%	70%	130%	104%	80%	120%	102%	70%	130%
Uranium	5054242	5054242	0.74	0.78	NA	< 0.50	123%	70%	130%	113%	80%	120%	111%	70%	130%
Vanadium	5054242	5054242	38.5	44.8	15.2%	< 2.0	126%	70%	130%	111%	80%	120%	129%	70%	130%
Zinc	5054242	5054242	66	71	6.4%	< 5	108%	70%	130%	113%	80%	120%	114%	70%	130%
Mercury	5054242	5054242	<0.10	<0.10	NA	< 0.10	102%	70%	130%	98%	80%	120%	100%	70%	130%

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

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

Quality Assurance

 CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
 PROJECT: 230477
 SAMPLING SITE: South Niagara Hospital

 AGAT WORK ORDER: 23H033859
 ATTENTION TO: Peter Markesic
 SAMPLED BY: SD

Soil Analysis (Continued)

RPT Date: Jun 15, 2023			DUPLICATE			Method Blank	REFERENCE MATERIAL		METHOD BLANK SPIKE		MATRIX SPIKE				
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper

Certified By: _____



Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
PROJECT: 230477
SAMPLING SITE: South Niagara Hospital

AGAT WORK ORDER: 23H033859
ATTENTION TO: Peter Markesic
SAMPLED BY: SD

Trace Organics Analysis

RPT Date: Jun 15, 2023			DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper

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

Benzene	5054194	5054194	<0.02	<0.02	NA	< 0.02	86%	60%	140%	91%	60%	140%	86%	60%	140%
Toluene	5054194	5054194	<0.05	<0.05	NA	< 0.05	90%	60%	140%	97%	60%	140%	88%	60%	140%
Ethylbenzene	5054194	5054194	<0.05	<0.05	NA	< 0.05	89%	60%	140%	87%	60%	140%	90%	60%	140%
m & p-Xylene	5054194	5054194	<0.05	<0.05	NA	< 0.05	97%	60%	140%	97%	60%	140%	99%	60%	140%
o-Xylene	5054194	5054194	<0.05	<0.05	NA	< 0.05	88%	60%	140%	89%	60%	140%	92%	60%	140%
F1 (C6 - C10)	5054194	5054194	<5	<5	NA	< 5	91%	60%	140%	100%	60%	140%	89%	60%	140%
F2 (C10 to C16)	5054165	5054165	<10	<10	NA	< 10	112%	60%	140%	108%	60%	140%	125%	60%	140%
F3 (C16 to C34)	5054165	5054165	<50	<50	NA	< 50	120%	60%	140%	113%	60%	140%	105%	60%	140%
F4 (C34 to C50)	5054165	5054165	<50	<50	NA	< 50	115%	60%	140%	127%	60%	140%	132%	60%	140%
Moisture Content	5054169	5054169	20.00	22.92	13.6%	< 0.1									

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

Benzene	5054244		< 0.02	< 0.02	NA	< 0.02	98%	60%	140%	89%	60%	140%	98%	60%	140%
Toluene	5054244		< 0.05	< 0.05	NA	< 0.05	95%	60%	140%	87%	60%	140%	92%	60%	140%
Ethylbenzene	5054244		< 0.05	< 0.05	NA	< 0.05	92%	60%	140%	94%	60%	140%	108%	60%	140%
m & p-Xylene	5054244		< 0.05	< 0.05	NA	< 0.05	104%	60%	140%	99%	60%	140%	101%	60%	140%
o-Xylene	5054244		< 0.05	< 0.05	NA	< 0.05	90%	60%	140%	97%	60%	140%	94%	60%	140%
F1 (C6 - C10)	5054244		< 5	< 5	NA	< 5	83%	60%	140%	94%	60%	140%	96%	60%	140%
F2 (C10 to C16)	5054220	5054220	<10	<10	NA	< 10	112%	60%	140%	108%	60%	140%	107%	60%	140%
F3 (C16 to C34)	5054220	5054220	<50	<50	NA	< 50	120%	60%	140%	113%	60%	140%	105%	60%	140%
F4 (C34 to C50)	5054220	5054220	<50	<50	NA	< 50	115%	60%	140%	127%	60%	140%	132%	60%	140%
Moisture Content	5054224	5054224	15.80	15.54	1.7%	< 0.1									

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: [REDACTED]

QC Exceedance

 CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
 PROJECT: 230477

 AGAT WORK ORDER: 23H033859
 ATTENTION TO: Peter Markesic

RPT Date: Jun 15, 2023		REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Sample Id	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
			Lower	Upper		Lower	Upper		Lower	Upper

O. Reg. 153(511) - Metals & Inorganics (Soil)										
Antimony	5053925	135%	70%	130%	102%	80%	120%	104%	70%	130%

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

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

O. Reg. 153(511) - Metals & Inorganics (Soil)										
Antimony	5054242	134%	70%	130%	102%	80%	120%	101%	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.

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



Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 23H033859

PROJECT: 230477

ATTENTION TO: Peter Markesic

SAMPLING SITE: South Niagara Hospital

SAMPLED BY: SD

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, WAD	INOR-93-6052	modified from ON MOECC E3015, SM 4500-CN- I, G-387	SEGMENTED FLOW ANALYSIS
Mercury	MET-93-6103	modified from EPA 7471B and SM 3112 B	ICP-MS
Electrical Conductivity (2:1)	INOR-93-6075	modified from MSA PART 3, CH 14 and SM 2510 B	PC TITRATE
Sodium Adsorption Ratio (2:1) (Calc.)	INOR-93-6007	modified from EPA 6010D & Analytical Protocol	ICP/OES
pH, 2:1 CaCl ₂ Extraction	INOR-93-6075	modified from EPA 9045D, MCKEAGUE 3.11 E3137	PC TITRATE
Antimony Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B	ICP/MS
Arsenic Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B	ICP/MS
Barium Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B	ICP-MS
Beryllium Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B	ICP-MS
Boron Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B	ICP-MS



Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
 PROJECT: 230477
 SAMPLING SITE: South Niagara Hospital

AGAT WORK ORDER: 23H033859
 ATTENTION TO: Peter Markesic
 SAMPLED BY: SD

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Cadmium Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B ICP-MS	
Chromium Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B ICP-MS	
Cobalt Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B ICP-MS	
Copper Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B ICP-MS	
Lead Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B ICP-MS	
Molybdenum Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B ICP-MS	
Nickel Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B ICP-MS	
Selenium Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B ICP-MS	
Silver Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B ICP-MS	
Thallium Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B ICP-MS	
Uranium Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B ICP-MS	
Vanadium Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B ICP-MS	
Zinc Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B ICP-MS	
Trace Organics Analysis			
Benzene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Toluene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Ethylbenzene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
m & p-Xylene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
o-Xylene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Xylenes (Total)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
F1 (C6 - C10)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	P&T GC/FID
Toluene-d8	VOL-91-5009	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F4 (C34 to C50)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Moisture Content	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Terphenyl	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID



Laboratory Use Only

Work Order #: 23H033859
Cooler Quantity: 2 LG #2484670
Arrival Temperatures: 5.7 | 5.2 | 5.0
See attached
Custody Seal Intact: Yes No N/A
Notes: LOOSE ICE

Chain of Custody Record

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

Report Information:

Company: Soil Mat
Contact: Peter Markesic
Address: _____
Phone: _____ Fax: _____
Reports to be sent to:
1. Email: Pmarkesic@soilmatica
2. Email: Sdlaymi@soilmatica

Regulatory Requirements:

(Please check all applicable boxes)

Regulation 153/04 Regulation 406
Table _____ Indicate One
 Ind/Com
 Res/Park
 Agriculture
Soil Texture (Check One)
 Coarse
 Fine
 Regulation 558
 CCME
 Sewer Use
 Sanitary Storm
Region _____
 Prov. Water Quality Objectives (PWQO)
 Other
Indicate One _____

Project Information:

Project: 230 477
Site Location: South Niagara Hospital
Sampled By: Shad-D
AGAT Quote #: _____ PO: _____
Please note: If quotation number is not provided, client will be billed full price for analysis.

Is this submission for a Record of Site Condition?

Yes No

Report Guideline on Certificate of Analysis

Yes No

Invoice Information:

Bill To Same: Yes No

Company: _____
Contact: _____
Address: _____
Email: _____

Sample Matrix Legend

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	Y/N	Field Filtered - Metals, Hg, CrVI, DOC										Potentially Hazardous or High Concentration (Y/N)		
							Metals & Inorganics	Metals - <input type="checkbox"/> CrVI, <input type="checkbox"/> Hg, <input type="checkbox"/> HWSB	BTEX, F1-F4 PHCs	VOC	PAHs	PCBS	PCBS: Aroclors <input type="checkbox"/>	Landfill Disposal Characterization TCLP: <input type="checkbox"/> M&I <input type="checkbox"/> VOCs <input type="checkbox"/> ABNs <input type="checkbox"/> BAP <input type="checkbox"/> PCBs	Regulation 406 SPLP Rainwater Leach SPLP: <input checked="" type="checkbox"/> Metals <input type="checkbox"/> VOCs <input type="checkbox"/> SVOCs	Regulation 406 Characterization Package pH, IC/PMS Metals, BTEX, F1-F4		Corrosivity: <input type="checkbox"/> Moisture <input type="checkbox"/> Sulphide	
1. TP1-S1	JUN 8	AM	4	S			X	X											
2. TP1-S2		AM	3																
3. TP1-S3		AM	3																
4. TP1-S4		AM	3																
5. TP2-S1		AM																	
6. TP2-S3		AM																	
7. TP2-S4		AM																	
8. TP3-S1		AM																	
9. TP3-S2		AM																	
10. TP3-S3		AM																	
11. TP4-S1		AM																	

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Samples Relinquished By (Print Name and Sign): <u>DTAC</u>	Date	Time	Samples Received By (Print Name and Sign): <u>DTAC</u>	Date	Time
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign): <u>Rhiane Clendenning</u>	Date	Time
	Date	Time		Date	Time

Page 1 of 4
N°: T-143476



Laboratory Use Only

Work Order #: 23H033859
Cooler Quantity: 2 LG #2 4.8 4.6 4.0
Arrival Temperatures: 5.7 5.2 | 5.0
Custody Seal Intact: Yes No N/A
Notes: LOOSE ILE

Chain of Custody Record

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

Report Information:
Company: Soil Mat
Contact: Peter Markesic
Address: _____
Phone: _____ Fax: _____
Reports to be sent to: PMarkesic@Soilmat.ca
1. Email: Sdaymia@Soilmat.ca
2. Email: _____

Regulatory Requirements:
(Please check all applicable boxes)

Regulation 153/04 Regulation 406
 Table _____ Indicate One
 Ind/Com
 Res/Park
 Agriculture
 Regulation 558
 CCME
 Sewer Use
 Sanitary Storm
 Region _____
 Prov. Water Quality Objectives (PWQO)
 Other
 Indicate One _____

Project Information:
Project: 230477
Site Location: South Niagara Hospital
Sampled By: Shaun D.
AGAT Quote #: _____ PO: _____
Please note: If quotation number is not provided, client will be billed full price for analysis.

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

Report Guideline on Certificate of Analysis
 Yes No

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

Sample Matrix Legend

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	Y / N	Field Filtered - Metals, Hg, CrVI, DOC													
							Metals & Inorganics	Metals - <input type="checkbox"/> CrVI, <input type="checkbox"/> Hg, <input type="checkbox"/> HWSB	BTEX, F1-F4 PHCs	VOC	PAHs	PCBs	PCBs: Aroclors <input type="checkbox"/>	Landfill Disposal Characterization TCLP: <input type="checkbox"/> M&I <input type="checkbox"/> VOCs <input type="checkbox"/> ABNs <input type="checkbox"/> B(a)p <input type="checkbox"/> PCBs	Regulation 406 SPLP Rainwater Leach SPLP: <input checked="" type="checkbox"/> Metals <input type="checkbox"/> VOCs <input type="checkbox"/> SVOCs	Regulation 406 Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Corrosivity: <input type="checkbox"/> Moisture <input type="checkbox"/> Sulphide	Potentially Hazardous or High Concentration (Y/N)		
1. TP4-S2	JUN 8	AM	3	S			X	X												
2. TP4-S3		PM	3	S			X	X												
3. TP5-S1		AM	3	S			X	X												
4. TP5-S2		AM	4	S			X	X												
5. TP5-S3		AM	3	S			X	X												
6. TP6-S1		AM	3	S			X	X												
7. TP6-S2		AM	3	S			X	X												
8. TP6-S3		AM	3	S			X	X												
9. TP7-S1		AM	3	S			X	X												
10. TP7-S2		AM	4	S			X	X												
11. TP7-S3		AM	3	S			X	X												

Samples Relinquished By (Print Name and Sign): _____	Date: _____	Time: _____	Samples Received By (Print Name and Sign): <u>DRAC</u>	Date: <u>June 9/23</u>	Time: <u>8:30am</u>
Samples Relinquished By (Print Name and Sign): <u>DRAC</u>	Date: <u>June 9/23</u>	Time: <u>9:30am</u>	Samples Received By (Print Name and Sign): <u>Rhiane Clendenning</u>	Date: <u>June 9</u>	Time: <u>10:15</u>
Samples Relinquished By (Print Name and Sign): _____	Date: _____	Time: _____	Samples Received By (Print Name and Sign): _____	Date: _____	Time: _____

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

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

Have feedback?
Scan here for a quick survey!



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

Laboratory Use Only

Work Order #: 23H033859
Cooler Quantity: 2LB #248 4640
Arrival Temperatures: 5.7 | 5.2 | 5.0
Custody Seal Intact: Yes No N/A
Notes: LOOSE ILS

Chain of Custody Record

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

Report Information:

Company: Soil Mat
Contact: Peter Markesic
Address: _____
Phone: _____ Fax: _____
Reports to be sent to: _____
1. Email: Pmarkesic@soilmatica
2. Email: Sdlaymi@soilmatica

Regulatory Requirements:

(Please check all applicable boxes)

Regulation 153/04 Regulation 406
Table 1 Indicate One
 Ind/Com Res/Park Agriculture
Soil Texture (Check One)
 Coarse Fine
 Sewer Use Sanitary Storm
Region _____
 Regulation 558 CCME
 Prov. Water Quality Objectives (PWQO)
 Other
Indicate One _____

Project Information:

Project: 230477
Site Location: South Niagara Hospital
Sampled By: Shaa D.
AGAT Quote #: _____ PO: _____
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

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

Is this submission for a Record of Site Condition?

Yes No

Report Guideline on Certificate of Analysis

Yes No

Sample Matrix Legend

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

Turnaround Time (TAT) Required:

Regular TAT 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

3 Business Days 2 Business Days Next Business Day

OR Date Required (Rush Surcharges May Apply): _____

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

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Y/N	Field Filtered - Metals, Hg, CrVI, DOC	0. Reg 153	0. Reg 406	Potentially Hazardous or High Concentration (Y/N)									
							Metals & Inorganics	Metals - <input type="checkbox"/> CrVI, <input type="checkbox"/> Hg, <input type="checkbox"/> HWSB	BTEX, F1-F4 PHCs	VOC	PAHs	PCBs	POBS: Aroclors <input type="checkbox"/>	Landfill Disposal Characterization TCLP: <input type="checkbox"/> M&I <input type="checkbox"/> VOCs <input type="checkbox"/> AENs <input type="checkbox"/> B(a)P <input type="checkbox"/> PCBs	Regulation 406 SPLP Rainwater Leach	SPLP: <input checked="" type="checkbox"/> Metals <input type="checkbox"/> VOCs <input type="checkbox"/> SVOCs	Regulation 406 Characterization Package pH, IC/PMS Metals, BTEX, F1-F4	Corrosivity: <input type="checkbox"/> Moisture <input type="checkbox"/> Sulphide	
1. TP8-S1	JUN 8	AM	3	S			X	X											
2. TP8-S2		AM																	
3. TP8-S3		AM																	
4. TP9-S1		AM																	
5. TP9-S2		AM																	
6. TP9-S3		AM																	
7. TP10		AM																	
8. TP11		AM																	
9. TP12		AM	4																
10. TP13		AM	3																
11. TP14		AM	3																

Samples Relinquished By (Print Name and Sign): _____	Date: _____	Time: _____	Samples Received By (Print Name and Sign): <u>DTAC Bm</u>	Date: <u>June 9/23</u>	Time: <u>8:30am</u>
Samples Relinquished By (Print Name and Sign): <u>DTAC</u>	Date: <u>June 9/23</u>	Time: <u>8:30am</u>	Samples Received By (Print Name and Sign): <u>Rhiana Clendinning</u>	Date: <u>June 9</u>	Time: <u>(OHS)</u>
Samples Relinquished By (Print Name and Sign): _____	Date: _____	Time: _____	Samples Received By (Print Name and Sign): _____	Date: _____	Time: _____



Laboratory Use Only

Work Order #: 23H033859
Cooler Quantity: 2LG #2 4.8 4.6 4.0
Arrival Temperatures: 5.7 | 5.2 | 5.0
Custody Seal Intact: Yes No N/A
Notes: LOOSE ILE

Chain of Custody Record

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

Report Information:
Company: Soil Mat
Contact: Peter Markesic
Address: _____
Phone: _____ Fax: _____
Reports to be sent to: Pmarkesic@soilmat.ca
1. Email: Sdaymi@soilmat.ca
2. Email: _____

Regulatory Requirements:

(Please check all applicable boxes)

Regulation 153/04 Regulation 406 Sewer Use
 Sanitary Storm
Table Indicate One Table Indicate One Region _____
 Ind/Com Res/Park Agriculture Regulation 558 Prov. Water Quality Objectives (PWQO)
Soil Texture (Check One) CCME Other
 Coarse Fine Indicate One _____

Turnaround Time (TAT) Required:

Regular TAT 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

3 Business Days 2 Business Days Next Business Day

OR Date Required (Rush Surcharges May Apply): _____

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

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

Project Information:
Project: 230477
Site Location: South Niagara Hospital
Sampled By: Shaa D.
AGAT Quote #: _____ PO: _____
Please note: If quotation number is not provided, client will be billed full price for analysis.

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

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

Report Guideline on Certificate of Analysis
 Yes No

Sample Matrix Legend

- 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	Y/N	Field Filtered - Metals, Hg, CrVI, DOC	Metals & Inorganics	Metals - <input type="checkbox"/> CrVI, <input type="checkbox"/> Hg, <input type="checkbox"/> HWSB	BTEX, F1-F4 PHCs	VOC	PAHs	PCBs	PCBs: Aroclors <input type="checkbox"/>	Landfill Disposal Characterization TCLP: <input type="checkbox"/> M&I <input type="checkbox"/> VOCs <input type="checkbox"/> IABNs <input type="checkbox"/> E1a/P <input type="checkbox"/> PCBs	Regulation 406 SPLP Rainwater Leach <input checked="" type="checkbox"/> Metals <input type="checkbox"/> VOCs <input type="checkbox"/> SVOCs	Regulation 406 Characterization Package pH, ICP/MS Metals, BTEX, F1-F4	Corrosivity: <input type="checkbox"/> Moisture <input type="checkbox"/> Sulphide	Potentially Hazardous or High Concentration (Y/N)
1. TP15	Jn 8	AM	3	S				X	X										
2. TP16		AM	3	S				X	X										
3. TP17		AM	3	S				X	X										
4. TP18		AM	3	S				X	X										
5. TP19		AM	4	S				X	X										
6. TP20		AM	4	S				X	X										
7. TP2-S2		AM	4	S				X	X										
8.		AM																	
9.		AM																	
10.		AM																	
11.		AM																	

Samples Relinquished By (Print Name and Sign): _____	Date: _____	Time: _____	Samples Received By (Print Name and Sign): <u>DTAC</u>	Date: <u>June 9/23</u>	Time: <u>8:30am</u>
Samples Relinquished By (Print Name and Sign): <u>DTAC</u>	Date: <u>June 9/23</u>	Time: <u>9:30am</u>	Samples Received By (Print Name and Sign): <u>Rhiana Clendinning</u>	Date: <u>June 9/23</u>	Time: <u>10:45</u>
Samples Relinquished By (Print Name and Sign): _____	Date: _____	Time: _____	Samples Received By (Print Name and Sign): _____	Date: _____	Time: _____



Sample Temperature Log

Client: Soil mat

COC# or Work Order #: 23H033859

of Coolers: 2 coolers

of Submissions: _____

Arrival Temperatures - Branch/Driver

Arrival Temperatures - Laboratory

Cooler #1: 2.1 / 2.5 / 2.9

Cooler #1: _____ / _____ / _____

Cooler #2: 4.6 / 4.2 / 4.4

Cooler #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: _____

IR Gun ID: _____

Taken By: Rhiana Clendenning

Taken By: _____

Date (yyyy/mm/dd): June 9 2023 Time: 10:45 AM / PM

Date (yyyy/mm/dd): _____ Time: _____: _____ 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)



CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
401 GRAYS ROAD
HAMILTON, ON L8E 2Z3
(905) 318-7440

ATTENTION TO: Alex Lajkosz

PROJECT: 230477

AGAT WORK ORDER: 24H122934

SOIL ANALYSIS REVIEWED BY: Sukhwinder Randhawa, Inorganic Team Lead

TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist

DATE REPORTED: Feb 28, 2024

PAGES (INCLUDING COVER): 12

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.
- For environmental samples in the Province of Quebec: The analysis is performed on and results apply to samples as received. A temperature above 6°C upon receipt, as indicated in the Sample Reception Notification (SRN), could indicate the integrity of the samples has been compromised if the delay between sampling and submission to the laboratory could not be minimized.



Certificate of Analysis

AGAT WORK ORDER: 24H122934

PROJECT: 230477

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

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Alex Lajkosz

SAMPLING SITE: Mountrose/Biggar, NF

SAMPLED BY: AL

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

DATE RECEIVED: 2024-02-22

DATE REPORTED: 2024-02-28

Parameter	Unit	SAMPLE DESCRIPTION:		TP101	TP102	TP103
		SAMPLE TYPE:		Soil	Soil	Soil
		DATE SAMPLED:		2024-02-22	2024-02-22	2024-02-22
		G / S	RDL	5668983	5668984	5668985
Antimony	µg/g	1.3	0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	1	5	7	7
Barium	µg/g	220	2.0	173	193	186
Beryllium	µg/g	2.5	0.5	1.3	1.2	1.1
Boron	µg/g	36	5	19	15	17
Boron (Hot Water Soluble)	µg/g	NA	0.10	0.15	<0.10	0.18
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5
Chromium	µg/g	70	5	40	38	36
Cobalt	µg/g	21	0.8	18.2	18.4	19.1
Copper	µg/g	92	1.0	26.9	30.4	30.5
Lead	µg/g	120	1	12	16	10
Molybdenum	µg/g	2	0.5	0.6	0.7	0.7
Nickel	µg/g	82	1	40	39	39
Selenium	µg/g	1.5	0.8	<0.8	<0.8	<0.8
Silver	µg/g	0.5	0.5	<0.5	<0.5	<0.5
Thallium	µg/g	1	0.5	<0.5	<0.5	<0.5
Uranium	µg/g	2.5	0.50	1.09	0.68	1.22
Vanadium	µg/g	86	2.0	51.9	51.8	47.7
Zinc	µg/g	290	5	86	76	82
Chromium, Hexavalent	µg/g	0.66	0.2	<0.2	<0.2	<0.2
Cyanide, WAD	µg/g	0.051	0.040	<0.040	<0.040	<0.040
Mercury	µg/g	0.27	0.10	<0.10	<0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	0.57	0.005	0.435	0.309	1.06
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	2.4	N/A	0.905	0.594	0.704
pH, 2:1 CaCl2 Extraction	pH Units		NA	7.16	7.15	7.23

Certified By:





AGAT Laboratories

Certificate of Analysis

AGAT WORK ORDER: 24H122934

PROJECT: 230477

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

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Alex Lajkosz

SAMPLING SITE: Mountrose/Biggar, NF

SAMPLED BY: AL

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

DATE RECEIVED: 2024-02-22

DATE REPORTED: 2024-02-28

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to O. Reg. 406/19 TABLE 1: Full Depth Background Site Condition - RPIC
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.
5668983-5668985 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:





Certificate of Analysis

AGAT WORK ORDER: 24H122934

PROJECT: 230477

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

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Alex Lajkosz

SAMPLING SITE: Mountrose/Biggar, NF

SAMPLED BY: AL

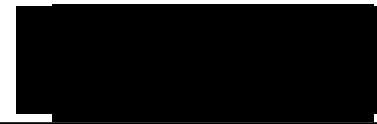
O. Reg. 153(511) - PHCs F1 - F4 (Soil)

DATE RECEIVED: 2024-02-22

DATE REPORTED: 2024-02-28

Parameter	Unit	SAMPLE DESCRIPTION:				
		TP101		TP102		TP103
		G / S	RDL	G / S	RDL	G / S
				5668983	5668984	5668985
Benzene	µg/g	0.02	0.02	<0.02	<0.02	<0.02
Toluene	µg/g	0.2	0.05	<0.05	<0.05	<0.05
Ethylbenzene	µg/g	0.05	0.05	<0.05	<0.05	<0.05
m & p-Xylene	µg/g		0.05	<0.05	<0.05	<0.05
o-Xylene	µg/g		0.05	<0.05	<0.05	<0.05
Xylenes (Total)	µg/g	0.05	0.05	<0.05	<0.05	<0.05
F1 (C6 to C10)	µg/g		5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	25	5	<5	<5	<5
F2 (C10 to C16)	µg/g	10	10	<10	<10	<10
F3 (C16 to C34)	µg/g	240	50	<50	<50	<50
F4 (C34 to C50)	µg/g	120	50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g		50	NA	NA	NA
Moisture Content	%		0.1	20.0	20.4	19.9
Surrogate	Unit	Acceptable Limits				
Toluene-d8	% Recovery	60-140		86.5	84.8	82.0
Terphenyl	%	60-140		87	79	83

Certified By:





Certificate of Analysis

AGAT WORK ORDER: 24H122934

PROJECT: 230477

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CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

SAMPLING SITE: Mountrose/Biggar, NF

ATTENTION TO: Alex Lajkosz

SAMPLED BY: AL

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

DATE RECEIVED: 2024-02-22

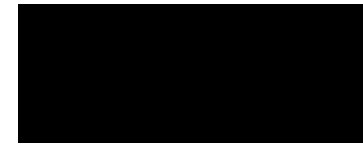
DATE REPORTED: 2024-02-28

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

5668983-5668985 Results are based on sample dry weight.
The C6-C10 fraction is calculated using Toluene response factor.
Xylenes is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
C6-C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX contribution.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.
Fractions 1-4 are quantified with the contribution of PAHs. Under Ontario Regulation 153, results are considered valid without determining the PAH contribution if not requested by the client.
Quality Control Data is available upon request.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:





Exceedance Summary

AGAT WORK ORDER: 24H122934

PROJECT: 230477

5835 COOPERS AVENUE
 MISSISSAUGA, ONTARIO
 CANADA L4Z 1Y2
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<http://www.agatlabs.com>

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Alex Lajkosz

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
5668985	TP103	ON 406/19 T1 RPIC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity (2:1)	mS/cm	0.57	1.06

Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
 PROJECT: 230477
 SAMPLING SITE: Moutrose/Biggar, NF

AGAT WORK ORDER: 24H122934
 ATTENTION TO: Alex Lajkosz
 SAMPLED BY: AL

Soil Analysis															
RPT Date: Feb 28, 2024			DUPLICATE				Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE		MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Measured Value		Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper

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

Antimony	5666560		<0.8	<0.8	NA	< 0.8	100%	70%	130%	99%	80%	120%	83%	70%	130%
Arsenic	5666560		3	3	NA	< 1	116%	70%	130%	98%	80%	120%	103%	70%	130%
Barium	5666560		71.6	74.2	3.6%	< 2.0	108%	70%	130%	100%	80%	120%	98%	70%	130%
Beryllium	5666560		<0.5	<0.5	NA	< 0.5	113%	70%	130%	103%	80%	120%	111%	70%	130%
Boron	5666560		9	11	NA	< 5	89%	70%	130%	102%	80%	120%	113%	70%	130%
Boron (Hot Water Soluble)	5663705		2.45	2.67	8.6%	< 0.10	104%	60%	140%	96%	70%	130%	NA	60%	140%
Cadmium	5666560		<0.5	<0.5	NA	< 0.5	101%	70%	130%	100%	80%	120%	98%	70%	130%
Chromium	5666560		25	27	7.7%	< 5	115%	70%	130%	106%	80%	120%	93%	70%	130%
Cobalt	5666560		4.5	4.5	0.0%	< 0.8	110%	70%	130%	99%	80%	120%	100%	70%	130%
Copper	5666560		7.4	7.9	6.5%	< 1.0	100%	70%	130%	101%	80%	120%	90%	70%	130%
Lead	5666560		4	4	NA	< 1	110%	70%	130%	101%	80%	120%	95%	70%	130%
Molybdenum	5666560		<0.5	<0.5	NA	< 0.5	121%	70%	130%	115%	80%	120%	124%	70%	130%
Nickel	5666560		11	11	0.0%	< 1	108%	70%	130%	98%	80%	120%	97%	70%	130%
Selenium	5666560		<0.8	<0.8	NA	< 0.8	135%	70%	130%	98%	80%	120%	97%	70%	130%
Silver	5666560		<0.5	<0.5	NA	< 0.5	112%	70%	130%	101%	80%	120%	93%	70%	130%
Thallium	5666560		<0.5	<0.5	NA	< 0.5	118%	70%	130%	95%	80%	120%	94%	70%	130%
Uranium	5666560		<0.50	0.51	NA	< 0.50	128%	70%	130%	109%	80%	120%	110%	70%	130%
Vanadium	5666560		21.0	22.2	5.6%	< 2.0	118%	70%	130%	102%	80%	120%	105%	70%	130%
Zinc	5666560		32	33	3.1%	< 5	112%	70%	130%	101%	80%	120%	111%	70%	130%
Chromium, Hexavalent	5670206		<0.2	<0.2	NA	< 0.2	88%	70%	130%	97%	80%	120%	72%	70%	130%
Cyanide, WAD	5670191		<0.040	<0.040	NA	< 0.040	107%	70%	130%	102%	80%	120%	110%	70%	130%
Mercury	5666560		<0.10	<0.10	NA	< 0.10	117%	70%	130%	101%	80%	120%	102%	70%	130%
Electrical Conductivity (2:1)	5663705		1.97	1.97	0.0%	< 0.005	107%	80%	120%						
Sodium Adsorption Ratio (2:1) (Calc.)	5663705		11.6	12.0	3.4%	NA									
pH, 2:1 CaCl2 Extraction	5670191		6.65	6.86	3.1%	NA	97%	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.

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

Certified By: _____



Quality Assurance

 CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
 PROJECT: 230477
 SAMPLING SITE: Mountrose/Biggar, NF

 AGAT WORK ORDER: 24H122934
 ATTENTION TO: Alex Lajkosz
 SAMPLED BY: AL

Trace Organics Analysis

RPT Date: Feb 28, 2024			DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (Soil)															
Benzene	5672279		<0.02	<0.02	NA	< 0.02	107%	60%	140%	112%	60%	140%	96%	60%	140%
Toluene	5672279		<0.05	<0.05	NA	< 0.05	92%	60%	140%	97%	60%	140%	81%	60%	140%
Ethylbenzene	5672279		<0.05	<0.05	NA	< 0.05	105%	60%	140%	93%	60%	140%	80%	60%	140%
m & p-Xylene	5672279		<0.05	<0.05	NA	< 0.05	101%	60%	140%	95%	60%	140%	81%	60%	140%
o-Xylene	5672279		<0.05	<0.05	NA	< 0.05	104%	60%	140%	95%	60%	140%	84%	60%	140%
F1 (C6 to C10)	5672279		<5	<5	NA	< 5	98%	60%	140%	101%	60%	140%	99%	60%	140%
F2 (C10 to C16)	5672485		< 10	< 10	NA	< 10	113%	60%	140%	90%	60%	140%	97%	60%	140%
F3 (C16 to C34)	5672485		< 50	< 50	NA	< 50	109%	60%	140%	115%	60%	140%	114%	60%	140%
F4 (C34 to C50)	5672485		< 50	< 50	NA	< 50	90%	60%	140%	96%	60%	140%	112%	60%	140%

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

Certified By: 

QC Exceedance

 CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
 PROJECT: 230477

 AGAT WORK ORDER: 24H122934
 ATTENTION TO: Alex Lajkosz

RPT Date: Feb 28, 2024		REFERENCE MATERIAL		METHOD BLANK SPIKE		MATRIX SPIKE				
PARAMETER	Sample Id	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
			Lower	Upper		Lower	Upper		Lower	Upper

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

Selenium	135%	70%	130%	98%	80%	120%	97%	70%	130%
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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.

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



Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
PROJECT: 230477
SAMPLING SITE: Mountrose/Biggar, NF

AGAT WORK ORDER: 24H122934
ATTENTION TO: Alex Lajkosz
SAMPLED BY: AL

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, WAD	INOR-93-6052	modified from ON MOECC E3015, SM 4500-CN- I, G-387	SEGMENTED FLOW ANALYSIS
Mercury	MET-93-6103	modified from EPA 7471B and SM 3112 B	ICP-MS
Electrical Conductivity (2:1)	INOR-93-6075	modified from MSA PART 3, CH 14 and SM 2510 B	PC TITRATE
Sodium Adsorption Ratio (2:1) (Calc.)	INOR-93-6007	modified from EPA 6010D & Analytical Protocol	ICP/OES
pH, 2:1 CaCl ₂ Extraction	INOR-93-6075	modified from EPA 9045D, MCKEAGUE 3.11 E3137	PC TITRATE



Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
 PROJECT: 230477
 SAMPLING SITE: Mountrose/Biggar, NF

AGAT WORK ORDER: 24H122934
 ATTENTION TO: Alex Lajkosz
 SAMPLED BY: AL

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Benzene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Toluene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Ethylbenzene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
m & p-Xylene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
o-Xylene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Xylenes (Total)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
F1 (C6 to C10)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	P&T GC/FID
Toluene-d8	VOL-91-5009	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F4 (C34 to C50)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Moisture Content	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Terphenyl	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID

Have feedback?
Scan here for a quick survey!



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

Laboratory Use Only

Work Order #: 24H122934
Cooler Quantity: MD COOLER
Arrival Temperatures: 3-3 | 3-4 | 3-5
2-1 | 2-4 | 2-3
Custody Seal Intact: Yes No N/A
Notes: LOOSE LEE

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: SoilMat
Contact: Alex Cajkosz
Address: 401 Grays Rd
Hamilton
cos 518 7440
Phone: 7440
Reports to be sent to:
1. Email: acajkosz@soilmat.ca
2. Email: richardson@soilmat.ca

Regulatory Requirements:

(Please check all applicable boxes)

Regulation 153/04 Regulation 406
Table Indicate One Table Indicate One
 Ind/Com Sewer Use
 Res/Park Sanitary Storm
 Agriculture Regulation 558 Prov. Water Quality Objectives (PWQO)
Soil Texture (Check One) CCME Other
 Coarse Fine Indicate One

Project Information:

Project: 230477
Site Location: Montrose Bypass, NF
Sampled By: AL
AGAT Quote #: _____ PO: _____
Please note: If quotation number is not provided, client will be billed full price for analysis.

Is this submission for a Record of Site Condition?

Yes No

Report Guideline on Certificate of Analysis

Yes No

Turnaround Time (TAT) Required:

Regular TAT 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

3 Business Days 2 Business Days Next Business Day

OR Date Required (Rush Surcharges May Apply): _____

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

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

Invoice Information:

Bill To Same: Yes No

Company: _____
Contact: _____
Address: _____
Email: _____

Sample Matrix Legend

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	Y / N	Field Filtered - Metals, Hg, CrVI, DOC	O. Reg 153	O. Reg 406	Potentially Hazardous or High Concentration (Y/N)
1. <u>TPB</u>	<u>2/22</u>	<u>10 PM</u>	<u>3</u>	<u>S</u>				Metals & Inorganics Metals - <input type="checkbox"/> CrVI, <input type="checkbox"/> Hg, <input type="checkbox"/> HWSB BTEX, F1-F4 PHCs VOC PAHS PCBs	PCBs: Aroclors <input type="checkbox"/> Landfill Disposal Characterization TCLP: <input type="checkbox"/> M&I <input type="checkbox"/> VOCs <input type="checkbox"/> ABNs <input type="checkbox"/> B(a)p <input type="checkbox"/> PCBs Regulation 406 SPLP Rainwater Leach SPLP: <input type="checkbox"/> Metals <input type="checkbox"/> VOCs <input type="checkbox"/> SVOCs Regulation 406 Characterization Package pH, ICPMs Metals, BTEX, F1-F4 Corrosivity: <input type="checkbox"/> Moisture <input type="checkbox"/> Sulphide	
2. <u>TP2</u>										
3. <u>TP3</u>										
4.										
5.										
6.										
7.										
8.										
9.										
10.										
11.										

Samples Relinquished By (Print Name and Sign): <u>Alex Cajkosz</u>	Date: <u>2/22/24</u>	Time: <u>10:44</u>	Samples Received By (Print Name and Sign): <u>DJAC Bjm</u>	Date: <u>Feb 22/24</u>	Time: <u>10:45am</u>
Samples Relinquished By (Print Name and Sign): <u>DJAC</u>	Date: <u>Feb 22/24</u>	Time: <u>3pm</u>	Samples Received By (Print Name and Sign): <u>T. H.</u>	Date: <u>Feb 22</u>	Time: <u>3:30pm</u>
Samples Relinquished By (Print Name and Sign): _____	Date: _____	Time: _____	Samples Received By (Print Name and Sign): _____	Date: _____	Time: _____

Page 1 of 1
Nº: **T-146889**

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