Phase Two Environmental Site Assessment

236 Plains Road, Burlington, ON



Project Location:
236 Plains Road East
Burlington, ON
L7T 2C3

Prepared For:
Coral Gable Homes Ltd.
4097 McIntosh Place
Burlington, ON
L7L 2E8

NIAGARA SOILS SOLUTIONS LTD.

Prepared By:
Niagara Soils Solutions Ltd.
3300 Merrittville Highway, Unit 4
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L2V 4Y6

Date: August 2nd, 2023
NSSL File No.: NS2357-02

EXCUTIVE SUMMARY

Niagara Soils Solutions Ltd. [NSSL] was retained by Coral Gable Homes Ltd. to conduct a Phase Two Environmental Site Assessment [ESA] of the residential property located at 236 Plains Road, in the City of Burlington, Ontario [herein referred to as the "Phase Two Property" or the "Site"]. The Phase Two ESA was recommended based upon the Phase One ESA report completed by NSSL in June 2023 that identified potentially contaminating activities [PCAs] on-site relating to a heating oil tank and historic use of coal at the property for heating related purposes. The Phase Two ESA was completed in general accordance with Ontario Regulation 153/04, as amended, and has been supervised by a Qualified Person [QP_{ESA}].

The scope of work and summary of findings for the Phase Two ESA investigation are presented as follows:

- A total of four environmental boreholes were advanced at the site to a maximum depth of 5.18 metres below ground surface.
- The boreholes were advanced within the APEC locations.
- Four select soil samples were submitted for laboratory analysis of target contaminants of concern including Metals & Inorganics, Metals by Inductively Coupled Plasma, Polycyclic Aromatic Hydrocarbons, Petroleum Hydrocarbons F1-F4, Benzene, Ethylbenzene, Toluene, and Xylene, and Volatile Organic Compounds.
- All soil test results were found to meet Table 2 Full Depth Generic Site Condition Standards in a Potable Groundwater Condition for Residential/Parkland/Institutional land uses.

The Phase Two ESA was prepared in accordance with Ontario Regulation 153/04 as amended. No impacted soil was identified at the sampled locations. All soil test results met the Ontario Ministry of the Environment, Conservation, and Parks Table 2 Full Depth Generic Site Condition Standards for Use in a Potable Groundwater Condition for Residential/Parkland/Institutional land use, coarse textured grained soils. Therefore, based on the information and results from the Phase Two ESA Niagara Soils Solutions Ltd. is of the opinion that no further environmental investigations or work is required at the Subject Site.

NOTE: This executive summary provides a brief overview of the study findings. It is not intended to be substituted for the complete report, nor does it detail specific issues discussed within the report. This summary is not to be adopted in lieu of reading the complete report.

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ACRONYMS AND ABBREVIATIONS

APECs	
APPROX	Approximately
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
COC	Chain of Custody
ESA	Environmental Site Assessment
ICP	Inductively Coupled Plasma
LEL	Lower Explosive Limit
M&I	Metal and Inorganic
O. Reg.	Ontario Regulation
PAHs	Polycyclic Aromatic Hydrocarbons
PHCs	Petroleum Hydrocarbons
PPM	Part Per Million
SCS	Site Condition Standards
VOCs	Volatile Organic Compounds

1.0 INTRODUCTION

Niagara Soils Solutions Ltd. [NSSL] was retained by Coral Gable Homes Ltd. to conduct a Phase Two Environmental Site Assessment [ESA] of the residential property located at 236 Plains Road, in the City of Burlington, Ontario [herein referred to as the "Phase Two Property" or the "Site"]. The Phase Two ESA was recommended based upon the Phase One ESA report completed by NSSL in June 2023 that identified potentially contaminating activities [PCAs] on-site relating to a heating oil tank and historic use of coal at the property for heating related purposes. The Phase Two ESA was completed in general accordance with Ontario Regulation 153/04, as amended, and has been supervised by a Qualified Person [QP_{ESA}].

1.1 Site Description

The municipal and legal descriptions of the subject property are stated as; 236 Plains Road East and PT LT 5, CON BROKEN FRONT, AS IN 777680; BURLINGTON / E FLAM TWP. The Property Identification Number [PIN] is: 0719-0026 [LT]. The Phase Two ESA subject property measures approximately 0.15 hectares in size and is occupied by a centrally located residential dwelling. The two-storey brick structure has a shingle gambrel-shaped roof covering the main portion of the structure with an attached one-storey room on the west and right sides of the building. An asphaltic concrete driveway extends from the roadway along the west property boundary to the rear of the property where a detached two-car garage is located. The land cover of the Phase Two Property is characterized by manicured grass and mature tree canopy with a fenced rear yard. A historic coal furnace was observed at the time of the Site reconnaissance along with an above-ground fuel oil heating tank situated at the rear of the building. The Phase Two Property is located within a predominantly residential neighbourhood with a plaza northwest of Plains Road and a school situated northeast. A heritage home, 'The Gables', is adjacent to the east, townhomes to the west, and residential properties adjacent to the south. The Site layout is illustrated in Figure 2.

1.2 Property Ownership

The Phase Two property ownership and client are the same: Coral Gable Homes Ltd., 4097 McIntosh Place Burlington, ON, L7L 2E8.

1.3 Current and Proposed Future Uses

The site is currently being used for residential purposes, and according to the property owner, the potential futures use will continue to be for residential purposes.

1.4 Applicable Site Condition Standards

Under O. Reg. 153/04 as amended, the Ministry of the Environment, Conservation and Parks [MECP] has outlined Site Condition Standards [SCS] in the document "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" dated April 15, 2011. The SCS applicable to the Phase Two ESA property has been evaluated based upon the characteristics listed in Table 2 of the SCS document.

TABLE 1: SITE CHARACTERISTICS

Property Use	The current land use is residential and therefore the SCS for Residential/Parkland/Institutional [R/P/I] land use would apply.
Grain Size	As per Niagara Testing & Inspection report available in Appendix C, the grain size for the soil was determined to be Coarse grained.
Water Wells	Domestic water wells were identified within 250 metres [m] of the Phase Two Property.
Within 30 m of a Waterbody	In accordance with O. Reg. 153/04, no land of the Phase Two Property is located within 30 m of a waterbody.
Depth to Bedrock	Based on the borehole results, there is more than 2 metres of soil between the ground surface and the top of the bedrock surface at the site. Therefore, shallow groundwater soils are not applicable.
pH	The pH levels across the site were noted as above 5 and below 9.
Environmentally Sensitive Area	The Phase Two Property has not been identified within an environmentally sensitive area.
Area of Natural Significance	The Phase Two Property is not classified as an environmentally sensitive area under O. Reg. 153/04 as amended, as the Phase Two Property does not include land or is within 30 m of land, that would be classified as an area of natural significance as defined by O. Reg. 153/04 as amended.

Based on the site characteristics outlined above, Table 2: Full Depth Generic Site Condition Standards for Potable Groundwater for Residential/Parkland/Institutional [R/P/I] land use, coarse-textured soils apply.

2.0 BACKGROUND INFORMATION

2.1 Physical Setting

The ground surface level of the site is relatively flat. A paved driveway was identified alongside the residential dwelling with a detached shed in the yard. No water pooling was noted or observed on-site.

A review of the Ministry of Northern Development and Mines, "Quaternary Geology of Ontario", Map 2556, reveals that the Site is situated within Glaciolacustrine deposits: Sand, Gravelly Sand and Gravel, nearshore and beach deposits. Map 2544, showing the "Bedrock Geology of Southern Ontario", shows the Study Area is underlain by Shale, Limestone, Dolostone, Siltstone of the Upper Ordovician Queenston Formation. Depth to ground water is recorded to be approximately 9-10 m below ground surface, based on a review of local well records.

Compact coarse gravel, asphalt and topsoil was encountered in all the boreholes from approximately 50 to 75mm in thickness. A Silty Sand fill and reworked material were present to the depths of 0 to 1.45 m below grade. The reworked material, which potentially extends across the entire site, was found to be in a compact state and contained a trace of gravel and organic inclusions. A native Silty Sand was observed to contain a trace of gravel and was very compact. The Silty Sand was present until borehole termination at a range of 5.18 m and changed in appearance from light brown to dark brown at approx. 2.21 m within the borehole. Bedrock was not encountered in the borings.

2.2 Past Investigations

There were no previous investigations completed for the site.

3.0 SCOPE OF INVESTIGATION

3.1 Overview of Site Investigation

The Phase Two ESA site investigation at the Site consisted of the following components:

- Underground service utility locates were completed using Ontario One Call and a private locating service.
- A total of four environmental boreholes were advanced at the site to a maximum depth of 5.18 m bgs.
- Four geotechnical boreholes were drilled concurrently to a maximum depth of 7.62 m bgs. The geotechnical investigation report will be written and provided under separate cover by Niagara Testing and Inspection Ltd.
- Four select soil samples were submitted for laboratory analysis of target contaminants of concern including Metals & Inorganics [M&I], Metals by Inductively Coupled Plasma [ICP], Polycyclic Aromatic Hydrocarbons [PAHs], Petroleum Hydrocarbons [PHCs] F1-F4, Benzene, Ethylbenzene, Toluene, and Xylene [BTEX], and Volatile Organic Compounds [VOCs].
- Groundwater was not assessed.
- Site survey of each borehole location was measured to a site benchmark.

3.2 Media Investigated

Soil media were investigated as part of this Phase Two assessment.

3.3 Deviation from Sampling and Analysis Plan

There were no deviations from the sampling and analysis plan.

3.4 Impediments

Drilling activities were partially impeded at some of the proposed borehole locations due to the treed canopy. Target locations were shifted to accurately represent the area of potential environmental concern.

4.0 INVESTIGATION METHOD

4.1 Phase Two ESA General Overview

Phase Two ESA was carried out in accordance with the Sampling and Analysis Plan, and in accordance with NSSL's Standard Operating Procedures. Four environmental boreholes were drilled at the site to a maximum depth of 5.18 m below ground surface and four geotechnical boreholes were advanced at the site to a maximum depth of 7.62 m below ground surface.

The sampling and decontamination procedures were conducted in accordance with the "Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario", May 1996, revised December 1996, as amended by O. Reg. 511/09.

Laboratory analytical methods, protocols and procedures were carried out in accordance with the 'Protocol for Analytical Methods Use in the Assessment of Properties under Part XV.1 of the Environmental Protection Act", dated March 9, 2004, amended as of July 1, 2011, in accordance with O. Reg. 511/09 and O. Reg. 269/11.

4.2 Utility Clearance

Prior to the commencement of the subsurface investigation, underground service utility locates were obtained for the Site through Ontario One Call. Additionally, a private underground service locating company, Ontario Utility Locates, located all on-site underground services [hydro, gas, water, sewer, and communications].

4.3 Borehole Drilling

On July 18th, 2023, eight boreholes were drilled across the site by Elements Drilling Ltd. using 150 mm hollow stem augers. A total of four environmental boreholes were advanced at the site to a maximum depth of 5.18 m below ground surface. Four geotechnical boreholes were drilled at the site to a maximum depth of 7.62 m below ground surface. The locations of the field activities are shown in Figure 5.

4.4 Soil Sampling

A total of 24 soil samples were collected from boreholes BH3, BH4, BH5 and BH8 for environmental purposes. Recovered soil samples were immediately logged for soil type, moisture, colour, texture and visual evidence of impacts. The samples were then stored for potential laboratory analyses. All soil samples were placed in clean coolers during transportation to the subcontract laboratory, AGAT Laboratories Ltd. in Stoney Creek, Ontario. The samples were transported and submitted to AGAT following Chain of Custody [COC] protocols for chemical analyses.

4.5 Soil: Field Screening Measurements

All soil samples were screened for combustible gases in the atmosphere using a RKI Instrument, Eagle Potable Multi-gas detector [with Methane Elimination switch], operated in the methane elimination mode. The monitor has a range of 0 ppm to 50,000 ppm and an accuracy of ± 5%. The monitor was calibrated to hexane standards prior to field screening for both ppm and LEL in accordance with the calibration products outlined in the instruction manual for the instrument. The instrument is regularly calibrated and tuned by the supplier, Pine Environmental. Each soil sample corresponding to a specific spoon depth was bagged for soil vapour analysis. Head space vapour screening was conducted for all retrieved soil samples and were measured as 0 ppm. Results for each sample are depicted in the borehole logs located in Appendix A.

4.6 Analytical Testing

The soil sample analyses were completed by AGAT Laboratories Ltd., Glover Road, Stoney Creek, ON. AGAT is accredited by Canadian Association for Laboratory Accreditation [CALA] in accordance with ISO/IEC 17025:1999 – "General Requirements for the Competence of Testing and Calibration Laboratories" for all the parameters analyzed during this investigation.

4.7 Residue Management Procedures

Soil material from equipment cleaning was contained and stored on-site in steel drums for future disposal.

4.8 Elevation Surveying

The elevation of the existing ground surface at the sample locations was referenced to a site benchmark, described as the bell box on the north portion of the site with an elevation of 100 m. The topographic contours of the site are found in Figure 6.

4.9 Quality Assurance and Quality Control Measures

All activities completed as part of this Phase Two ESA were conducted as per applicable regulatory requirements.

5.0 REVIEW AND EVALUATION

5.1 Geology

Compact coarse gravel, asphalt and topsoil were encountered in all boreholes from approximately 50 to 75 mm in thickness. Silty Sand FILL and reworked material were present to depths from 0 to 1.45 m below grade. The reworked material was found to be in a compact state and contained a trace of gravel and organic inclusions. It is possible that the reworked material could extend across the entire area on-site. A native Silty Sand was found to contain a trace of gravel and was very compact. The Silty Sand was present throughout the depth of the boreholes [5.18 m]. Colour change was observed from light to dark brown at approximately 2.21 m within the borehole. Bedrock was not encountered in the borings.

5.2 Soil Texture

Grain size analysis was performed by NTIL as Part of the Phase Two ESA and indicated 77.9% [BH1-2], 75.6% [BH4-3] and 46.5% [BH8-5] of the soil matrix passed through No. 200 sieve size, resulting in a Coarse-Grained soil texture. Therefore, the site condition standards for Coarse-Grained soils were used in the assessment. Coarse textured soil is classified as soil that contains less than 50 % by mass of particles that are 75 micrometers or smaller in mean diameter. The reported results are located in Appendix C.

TABLE 2: LIST OF BOREHOLES AND THE RESULTS OF GRAIN SIZE ANALYSIS

Borehole ID	Soil Sample Depth [mbgs]	Soil Type	Percent Passing 75 µm [No. 200] Sieve
BH1-2	0.76 – 1.37	Silty Sand	77.9% - Coarse-Grained
BH4-3	2.29 – 2.90	Silty Sand	75.6% - Coarse-Grained
BH8-5	3.05 – 3.66	Silty Sand	46.5% - Fine/Medium

5.3 Soil Quality

Four select soil samples were obtained from the reworked, and native soil material for submission to AGAT Laboratories Ltd. for M&I, Metals by ICP, PAHs, PHCs: F1-F4, BTEX, and VOCs. All soil test results met applicable O. Reg. 153/04 2011 Site Condition Standards for Table 2 Residential/Parkland/ Institutional land use for coarse textured soils. The complete laboratory results are provided in Appendix B.

pH

The pH levels across the site were noted as above 5 and below 9. The measured pH value within the surface reworked and native materials ranged from 6.84 to 7.08 [average 6.96].

5.4 Quality Assurance and Quality Control Results

All soil samples submitted as part of this Phase Two ESA investigation were handled in accordance with the laboratory's analytical protocols in regard to holding time, preservation method, storage requirements, and container type. A Certificate of Analysis has been received for each sample submitted for analysis, and all Certificates of Analysis are appended to this report. The quality of the field data collected during this Phase Two ESA are considered to be sufficient to meet the overall objective of this study.

6.0 CONCLUSIONS

NSSL was retained by Coral Gable Homes Ltd. to conduct a Phase Two ESA of the commercial property located at 236 Plains Road, Burlington, Ontario. The primary findings of the Phase Two ESA are highlighted below.

- A total of four environmental boreholes were advanced at the site to a maximum depth of 5.18 metres below ground surface.
- The boreholes were advanced within the APEC locations.
- Four select soil samples were submitted for laboratory analysis of target contaminants of concern including M&I, Metals by ICP, PAHs, PHCs F1-F4, BTEX, and VOCs.
- All soil test results were found to meet Table 2 Full Depth Generic Site Condition Standards in a Potable Groundwater Condition for Residential/Parkland/Institutional land uses.

The Phase Two ESA was prepared in accordance with Ontario Regulation 153/04 as amended. No impacted soil was identified at the sampled locations. All soil test results met the Ontario Ministry of the Environment, Conservation, and Parks Table 2 Full Depth Generic Site Condition Standards for Use in a Potable Groundwater Condition for Residential/Parkland/Institutional land use, coarse textured grained soils. Therefore, based on the information and results from the Phase Two ESA Niagara Soils Solutions Ltd. is of the opinion that no further environmental investigations or work is required at the Subject Site.

7.0 LIMITATIONS

Niagara Soils Solutions Ltd. prepared this Report for the account of Coral Gable Homes Ltd., and is intended to provide a Phase Two Environmental Site Assessment on the property located at 236 Plains Road, in the City of Burlington, ON. The material in it reflects Niagara Soils Solutions Ltd.'s best judgement in light of the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Should additional parties require reliance on this report, written authorization from NSSL will be required. With respect to third parties, NSSL has no liability or responsibility for losses of any kind whatsoever, including direct or consequential financial effects on transactions or property values, or requirements for follow-up actions and costs.

The investigation undertaken by NSSL with respect to this report and any conclusions or recommendations made in this report reflect NSSL's judgment based on the site conditions observed at the time of the Site inspection on the date[s] set out in this report and on information available at the time of preparation of this report. This report has been prepared for specific application to this Site and it is based, in part, upon visual observation of the Phase Two Property, subsurface investigation at discrete locations and depths, and specific analysis of specific chemical parameters and materials during a specific time interval, all as described in this report. Unless otherwise stated, the findings cannot be extended to previous or future Site conditions, portions of the Phase Two Property, which were unavailable for direct investigation, subsurface locations, which were not investigated directly, or chemical parameters, materials, or analysis which were not addressed. Niagara Soils Solutions Ltd. has expressed professional judgement in gathering and analysing the information obtained and in the formulation of its conclusions.

NSSL makes no other representation whatsoever, including those concerning the legal significance of its findings, or as to other legal matters touched on in this report, including but not limited to, ownership of any property, or the application of any law to the facts set forth herein. With respect to regulatory compliance issues, regulatory statutes are subject to interpretation and change. Such interpretations and regulatory changes should be reviewed with legal counsel.

Yours very truly,
Niagara Soils Solutions Ltd.

Jodie Glasier, M.MM, PD-EMA, EP
Senior Project Manager, President

Philip Adene, P. Geo, QP ESA
Senior Project Manager

8.0 REFERENCES

The following resources were utilized as references:

- Ontario Division of Mines' "Paleozoic Geology of Southern Ontario, Map 2254".
- Ministry of Natural Resources' "Quaternary Geology, Niagara-Welland, Map P2496.
- Water Wells Ontario site.
- Ontario Oil, Gas, and Salt Resources Library.
- Interactive Map – Niagara Navigator, https://navigator.niagararegion.ca/.
- Ontario Base Mapping.
- Niagara Peninsula Conservation Authority [NPCA] Watershed Explorer.

FIGURES

1. STUDY SITE LOCATION
2. SITE LAYOUT & FEATURES
3. POTENTIALLY CONTAMINATING ACTIVITIES
4. AREAS OF POTENTIAL ENVIRONMENTAL CONCERN
5. BOREHOLE LOCATIONS
6. TOPOGRAPHIC CONTOUR MAP
7. SOIL RESULTS



LEGEND

- Phase Two ESA Property Boundary
- 250 m Study Area

NIAGARA SOILS SOLUTIONS LTD.

CLIENT:
Coral Gable Homes Ltd.

PROJECT:
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
236 Plains Road East, Burlington, ON

TITLE:
SITE LOCATION PLAN

DRAWN BY: DN

CHECKED BY: JG

DATE: July 2023

PROJECT NO: NS2357-02

SCALE: AS SHOWN

NO:

Figure 1

REFERENCE: BASE MAP PROVIDED BY EXPLORE THE CITY OF BURLINGTON, https://burlington.maps.arcgis.com/apps/MapSeries/index.html?appid=1d1783b1e626434f95076cba33a5e540
NOTE: FOR ILLUSTRATION PURPOSES ONLY, ALL LOCATIONS APPROXIMATE.



REFERENCE: BASE MAP PROVIDED BY EXPLORE THE CITY OF BURLINGTON, https://burlington.maps.arcgis.com/apps/MapSeries/index.html?appid=1d1783b1e626434f95076cba33a5e540
NOTE: FOR ILLUSTRATION PURPOSES ONLY, ALL LOCATIONS APPROXIMATE.

LEGEND

Phase Two ESA Property Boundary

NIAGARA SOILS SOLUTIONS LTD

CLIENT:
Coral Gable Homes Ltd.

PROJECT:
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
236 Plains Road East, Burlington, ON

TITLE:
SITE LAYOUT & FEATURES

DRAWN BY: DN

CHECKED BY: JG

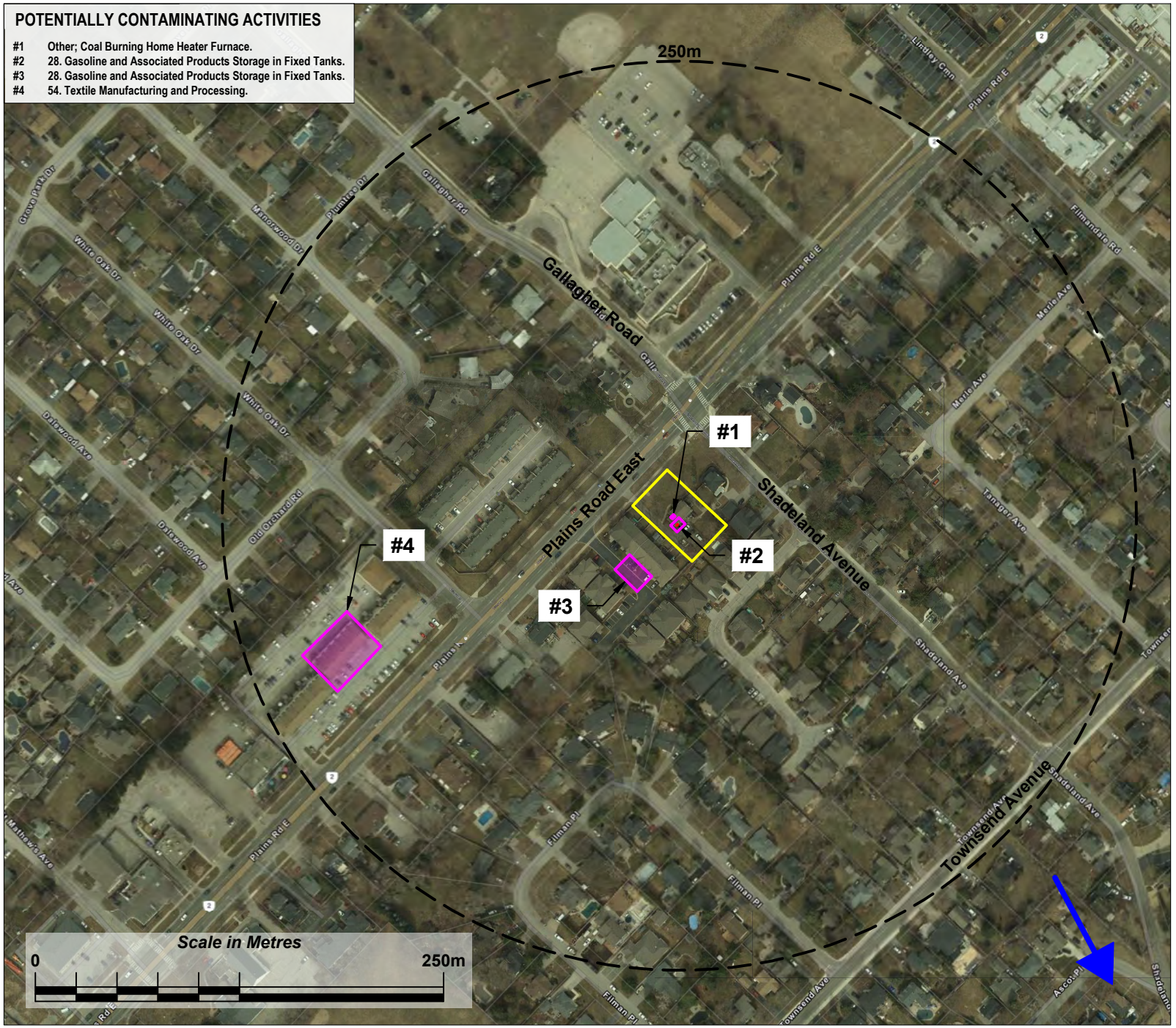
DATE: July 2023

PROJECT NO: NS2357-02

SCALE: AS SHOWN

NO:

Figure 2



LEGEND

- Phase Two ESA Property Boundary
- 250 m Study Area
- PCA Areas
- Aboveground Storage Tanks [AST]
- Inferred Groundwater Flow Direction

NIAGARA SOILS SOLUTIONS LTD.

CLIENT:
Coral Gable Homes Ltd.

PROJECT:
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
236 Plains Road East, Burlington, ON

TITLE:
POTENTIALLY CONTAMINATING ACTIVITIES

DRAWN BY: DN

CHECKED BY: JG

DATE: July 2023

PROJECT NO: NS2357-02

SCALE: AS SHOWN

NO:

Figure 3

REFERENCE: BASE MAP PROVIDED BY EXPLORE THE CITY OF BURLINGTON, https://burlington.maps.arcgis.com/apps/MapSeries/index.html?appid=1d1783b1e626434f95076cba33a5e540
NOTE: FOR ILLUSTRATION PURPOSES ONLY, ALL LOCATIONS APPROXIMATE.



LEGEND

- Phase Two ESA Property Boundary
- APEC Areas
- Aboveground Storage Tanks [AST]

NIAGARA SOILS SOLUTIONS LTD.

CLIENT:
Coral Gable Homes Ltd.

PROJECT:
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
236 Plains Road East, Burlington, ON

TITLE:
AREAS OF POTENTIAL ENVIRONMENTAL CONCERN

DRAWN BY: DN

CHECKED BY: JG

DATE: July 2023

PROJECT NO: NS2357-02

SCALE: AS SHOWN

NO: Figure 4

REFERENCE: BASE MAP PROVIDED BY EXPLORE THE CITY OF BURLINGTON, https://burlington.maps.arcgis.com/apps/MapSeries/index.html?appid=1d1783b1e626434f95076cba33a5e540
NOTE: FOR ILLUSTRATION PURPOSES ONLY, ALL LOCATIONS APPROXIMATE.



LEGEND

Phase Two ESA Property Boundary

BH 1 Environmental Borehole Location

*Geotechnical borehole location

NIAGARA SOILS SOLUTIONS LTD.

CLIENT:
Coral Gable Homes Ltd.

PROJECT:

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
236 Plains Road East, Burlington, ON

TITLE:
BOREHOLE LOCATION PLAN

DRAWN BY: DN

CHECKED BY: JG

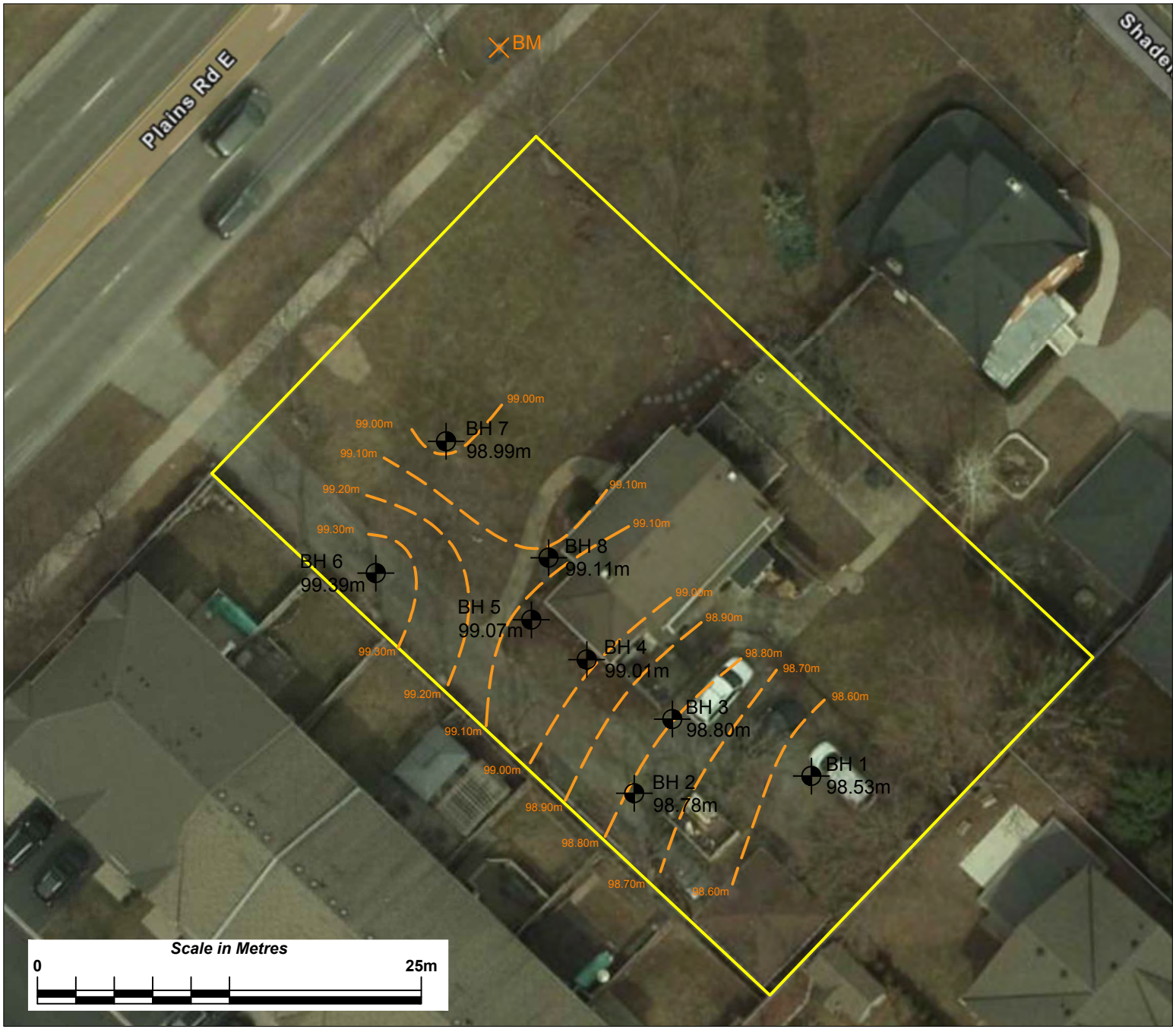
DATE: June 2023

PROJECT NO: NS2357-02

SCALE: AS SHOWN

NO: Figure 5

REFERENCE: BASE MAP PROVIDED BY EXPLORE THE CITY OF BURLINGTON, https://burlington.maps.arcgis.com/apps/MapSeries/index.html?appid=1d1783b1e626434f95076cba33a5e540
NOTE: FOR ILLUSTRATION PURPOSES ONLY, ALL LOCATIONS APPROXIMATE.



LEGEND

- Phase Two ESA Property Boundary
- BH 1 — Borehole Location
- Topographic Contour
- BM — Temporary Benchmark

NIAGARA SOILS SOLUTIONS LTD.

CLIENT:
Coral Gable Homes Ltd.

PROJECT:

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
236 Plains Road East, Burlington, ON

TITLE:

TOPOGRAPHIC CONTOUR MAP

DRAWN BY:	DN
CHECKED BY:	JG
DATE:	June 2023
PROJECT NO:	NS2357-02
SCALE:	AS SHOWN
NO:	Figure 6

REFERENCE: BASE MAP PROVIDED BY EXPLORE THE CITY OF BURLINGTON, https://burlington.maps.arcgis.com/apps/MapSeries/index.html?appid=1d1783b1e626434f95076cba33a5e540
NOTE: FOR ILLUSTRATION PURPOSES ONLY, ALL LOCATIONS APPROXIMATE.



REFERENCE: BASE MAP PROVIDED BY EXPLORE THE CITY OF BURLINGTON, https://burlington.maps.arcgis.com/apps/MapSeries/index.html?appid=1d1783b1e626434f95076cba33a5e540
NOTE: FOR ILLUSTRATION PURPOSES ONLY, ALL LOCATIONS APPROXIMATE.

LEGEND

- Phase Two ESA Property Boundary
- BH 1 — Borehole Location
- BH 1 — Meets Criteria
- BH 1 — Exceeds Criteria
- BH 1 — Not Analyzed

Results Compared to O. Reg. 153/04
Table 2: Residential, Potable, Coarse Criteria

NIAGARA SOILS SOLUTIONS LTD.

CLIENT:
Coral Gable Homes Ltd.

PROJECT:
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
236 Plains Road East, Burlington, ON

TITLE:
SOIL RESULTS

DRAWN BY: DN
CHECKED BY: JG
DATE: June 2023
PROJECT NO: NS2357-02
SCALE: AS SHOWN
NO:

Figure 7

APPENDIX A

BOREHOLE LOGS

RECORD OF BOREHOLE: BH 1

PROJECT NO.: NS2357-02
PROJECT: Proposed Development
LOCATION: 236 Plains Road East, Burlington, ON
CLIENT: Coral Gable Homes Ltd.

DRILLING COMPANY: Elements Drilling
DRILLING METHOD: 150mm Solid Stem Augers
DRILL RIG: Track Mounted CME-55
BOREHOLE COORDINATE (UTM): 593701 E, 4796130 N

SHEET 1 of 1
DATE STARTED: July 18, 2023
DATE COMPLETED: July 18, 2023
DATUM: Benchmark

SOIL PROFILE		SAMPLES				DEPTH SCALE ft / m	ELEVATION (m / mbgs)	FIELD TESTING		LAB TESTING		
LITHOLOGY PLOT	DESCRIPTION	TYPE	NUMBER	SPT 'N' VALUE	RECOVERY (%)			SPT (N) 25 50 75 100	COV (ppm / %LEL)	LAB ANALYSIS	WELL INSTALLATION	COMMENTS
	Ground Surface					ft m	98.53					
	200mm Compact Granular					0.0 0.0	0.00					
	Silty Sand Fill Brown Trace Gravel Dry Loose	SS	1	6, 4, 2, 1		1.0 2.0 3.0 4.0	98.30 0.23 98.07 0.46	6	0			
	Silty Sand Reworked Brown Trace Gravel Compact	SS	2	1, 1, 1, 1		5.0 6.0 7.0 8.0 1.0 2.0		2	0			
	Silty Sand Native Brown/Red Trace Gravel Dry, Water noted at 7.9 m bgs Compact	SS	3	2, 1, 1, 1				2	0			
		SS	4	1, 3, 7, 9		9.0 10.0 11.0 12.0 3.0		10	0			
		SS	5	6, 7, 9, 10		13.0 14.0 15.0 4.0		16	0			
		SS	6	5, 7, 10, 9		16.0 17.0 18.0 19.0 5.0		17	0			
		SS	7	5, 8, 16, 45		20.0 21.0 22.0 23.0 6.0 7.0		24				
		SS	8	13, 27, 42, 30		24.0 25.0 26.0 27.0 8.0		69				
	End of Borehole					28.0 29.0 30.0 9.0	90.30 8.23					

Groundwater Level Upon Completion:
Secondary Groundwater Level:

INITIAL WATER LEVEL: 7.9 mbgs
SECONDARY WATER LEVEL: NA
BOREHOLE CAVE UPON COMPLETION: Open

INITIAL WATER LEVEL DATE: July 18, 2023
SECONDARY WATER LEVEL DATE: NA

LOGGED: JT
COMPILED: DN
CHECKED: JG

Niagara Soils Solutions Ltd.
3300 Merrittville Highway, Unit 5
Thorold, Ontario, L2V 4Y6

Note: This borehole log has been prepared for environmental purposes and does not necessarily contain information suitable for a geotechnical assessment of the subsurface conditions. Borehole details as presented, do not constitute a through understanding of all potential conditions present and require interpretative assistance from a qualified Geotechnical Engineer/Geoscientist.

RECORD OF BOREHOLE: BH 2

PROJECT NO.: NS2357-02
PROJECT: Proposed Development
LOCATION: 236 Plains Road East, Burlington, ON
CLIENT: Coral Gable Homes Ltd.

DRILLING COMPANY: Elements Drilling
DRILLING METHOD: 150mm Solid Stem Augers
DRILL RIG: Track Mounted CME-55
BOREHOLE COORDINATE (UTM): 593692 E, 4796130 N

SHEET 1 of 1
DATE STARTED: July 18, 2023
DATE COMPLETED: July 18, 2023
DATUM: Benchmark

SOIL PROFILE		SAMPLES				DEPTH SCALE ft / m	ELEVATION (m / mbgs)	FIELD TESTING		LAB TESTING		
LITHOLOGY PLOT	DESCRIPTION	TYPE	NUMBER	SPT 'N' VALUE	RECOVERY (%)			SPT (N) 25 50 75 100	COV (ppm / %LEL)	LAB ANALYSIS	WELL INSTALLATION	COMMENTS
	Ground Surface					ft m	98.78					
	50mm Asphaltic Concrete					0.0 0.0	0.00					
	Silty Sand Fill Brown Trace Gravel Dry Loose	SS	1	7, 5, 5, 4		1.0		10				
		SS	2	2, 2, 2, 2		2.0 3.0 1.0 4.0		4				
	Silty Sand Reworked Brown Trace Gravel Compact	SS	3	6, 6, 6, 9		5.0 6.0 2.0 7.0	97.26 1.52	12				
	Silty Sand Native Brown/Red Trace Gravel Dry Compact	SS	4	3, 6, 9, 9		8.0 9.0 10.0 3.0	96.49 2.29	15				
		SS	5	4, 6, 5, 3		11.0		11				
	End of Borehole					12.0 13.0 4.0 14.0 15.0 16.0 5.0 17.0 18.0 19.0 20.0 6.0	95.12 3.66					

Groundwater Level Upon Completion:
Secondary Groundwater Level:

INITIAL WATER LEVEL: Dry
SECONDARY WATER LEVEL: NA
BOREHOLE CAVE UPON COMPLETION: Open

INITIAL WATER LEVEL DATE: July 18, 2023
SECONDARY WATER LEVEL DATE: NA

LOGGED: JT
COMPILED: DN
CHECKED: JG

Niagara Soils Solutions Ltd.
3300 Merrittville Highway, Unit 5
Thorold, Ontario, L2V 4Y6

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RECORD OF BOREHOLE: BH 3

PROJECT NO.: NS2357-02
PROJECT: Proposed Development
LOCATION: 236 Plains Road East, Burlington, ON
CLIENT: Coral Gable Homes Ltd.

DRILLING COMPANY: Elements Drilling
DRILLING METHOD: 150mm Solid Stem Augers
DRILL RIG: Track Mounted CME-55
BOREHOLE COORDINATE (UTM): 4796133 E, 406308 N

SHEET 1 of 1
DATE STARTED: July 18, 2023
DATE COMPLETED: July 18, 2023
DATUM: Benchmark

SOIL PROFILE		SAMPLES				DEPTH SCALE ft / m	ELEVATION (m / mbgs)	FIELD TESTING		LAB TESTING	WELL INSTALLATION	COMMENTS
LITHOLOGY PLOT	DESCRIPTION	TYPE	NUMBER	SPT 'N' VALUE	RECOVERY (%)			SPT (N) 25 50 75 100	COV (ppm / %LEL)	LAB ANALYSIS		
	Ground Surface					ft m	0.00					
	50mm Asphaltic Concrete					0.0 0.0	0.00					
	75mm Compact Granular											
	Silty Sand Fill Brown Trace Gravel Dry Loose	SS	1	4,2,3,5		1.0		5	0			
		SS	2	1,2,3,6		2.0 3.0 1.0		5	0			
	Silty Sand Reworked Brown Trace Gravel Compact					4.0	-1.45 1.45					
		SS	3	3,4,7,7		5.0 6.0 2.0		11	0	Soil: Metals, BTEX/PHCs, PAHs		
	Silty Sand Native Brown/Red Trace Gravel Dry Compact					7.0	-2.21 2.21					
		SS	4	3,5,8,9		8.0 9.0 3.0		13	0			
		SS	5	5,8,8,8		10.0 11.0		16	0			
						12.0 13.0 4.0						
		SS	6	4,6,6,7		14.0 15.0 16.0 5.0		12	0			
	End of Borehole					17.0	-5.18 5.18					
						18.0 19.0 6.0 20.0						

Groundwater Level Upon Completion:
Secondary Groundwater Level:

INITIAL WATER LEVEL: Dry
SECONDARY WATER LEVEL: NA
BOREHOLE CAVE UPON COMPLETION: Open

INITIAL WATER LEVEL DATE: July 18, 2023
SECONDARY WATER LEVEL DATE: NA

LOGGED: JT
COMPILED: DN
CHECKED: JG

Niagara Soils Solutions Ltd.
3300 Merrittville Highway, Unit 5
Thorold, Ontario, L2V 4Y6

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RECORD OF BOREHOLE: BH 4

PROJECT NO.: NS2357-02
PROJECT: Proposed Development
LOCATION: 236 Plains Road East, Burlington, ON
CLIENT: Coral Gable Homes Ltd.

DRILLING COMPANY: Elements Drilling
DRILLING METHOD: 150mm Solid Stem Augers
DRILL RIG: Track Mounted CME-55
BOREHOLE COORDINATE (UTM): 4796135 E, 406313 N

SHEET 1 of 1
DATE STARTED: July 18, 2023
DATE COMPLETED: July 18, 2023
DATUM: Benchmark

SOIL PROFILE		SAMPLES				DEPTH SCALE ft / m	ELEVATION (m / mbgs)	FIELD TESTING		LAB TESTING	WELL INSTALLATION	COMMENTS
LITHOLOGY PLOT	DESCRIPTION	TYPE	NUMBER	SPT 'N' VALUE	RECOVERY (%)			SPT (N) 25 50 75 100	COV (ppm / %LEL)	LAB ANALYSIS		
	Ground Surface					ft m	0.00					
	75mm Topsoil					0.0 0.0	0.00					
	Silty Sand Fill Brown Trace Gravel Dry Loose	SS	1	1,1,2,1		1.0		3	0			
		SS	2	2,3,3,5		2.0 3.0 1.0 4.0		6	0	Soil: Metals, BTEX/PHCs, PAHs		
	Sand Reworked Brown/ Red Trace Gravel Compact						-1.45 1.45					
		SS	3	1,2,2,3		5.0 6.0 2.0 7.0		4	0			
	Sand Native Brown/ Red Trace Gravel Compact						-2.21 2.21					
		SS	4	1,2,1,1		8.0 9.0 3.0 10.0		3	0			
		SS	5	1,2,4,8		11.0 12.0 13.0 4.0 14.0		6	0			
		SS	6	3,4,8,7		15.0 16.0 5.0 17.0		12	0			
	End of Borehole					18.0 19.0 6.0 20.0	-5.18 5.18					

Groundwater Level Upon Completion:
Secondary Groundwater Level:

INITIAL WATER LEVEL: Dry
SECONDARY WATER LEVEL: NA
BOREHOLE CAVE UPON COMPLETION: Open

INITIAL WATER LEVEL DATE: July 18, 2023
SECONDARY WATER LEVEL DATE: NA

LOGGED: JT
COMPILED: DN
CHECKED: JG

Niagara Soils Solutions Ltd.
3300 Merrittville Highway, Unit 5
Thorold, Ontario, L2V 4Y6

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RECORD OF BOREHOLE: BH 5

PROJECT NO.: NS2357-02
PROJECT: Proposed Development
LOCATION: 236 Plains Road East, Burlington, ON
CLIENT: Coral Gable Homes Ltd.

DRILLING COMPANY: Elements Drilling
DRILLING METHOD: 150mm Solid Stem Augers
DRILL RIG: Track Mounted CME-55
BOREHOLE COORDINATE (UTM): 4796140 E, 406317 N

SHEET 1 of 1
DATE STARTED: July 18, 2023
DATE COMPLETED: July 18, 2023
DATUM: Benchmark

SOIL PROFILE		SAMPLES				DEPTH SCALE ft / m	ELEVATION (m / mbgs)	FIELD TESTING		LAB TESTING		
LITHOLOGY PLOT	DESCRIPTION	TYPE	NUMBER	SPT 'N' VALUE	RECOVERY (%)			SPT (N) 25 50 75 100	COV (ppm / %LEL)	LAB ANALYSIS	WELL INSTALLATION	COMMENTS
	Ground Surface					ft m	0.00					
	75mm Topsoil					0.0 0.0	0.00					
	Silty Sand Fill Brown Trace Gravel Very Loose	SS	1	1,1,2,2		1.0	-0.08 0.08	3	0	Soil: Metals & Inorganics, PAHs, PHCs/VOCs		
	Silty Sand Brown Some Gravel Loose	SS	2	2,3,2,2		2.0 3.0 1.0	-0.69 0.69	5	0			
		SS	3	2,3,2,2		4.0 5.0 6.0 2.0		5	0			
	End of Borehole					7.0	-2.13 2.13					
						8.0 9.0 10.0 3.0						

Groundwater Level Upon Completion:
Secondary Groundwater Level:

INITIAL WATER LEVEL: Dry
SECONDARY WATER LEVEL: NA
BOREHOLE CAVE UPON COMPLETION: Open

INITIAL WATER LEVEL DATE: July 18, 2023
SECONDARY WATER LEVEL DATE: NA

LOGGED: JT
COMPILED: DN
CHECKED: JG

Niagara Soils Solutions Ltd.
3300 Merrittville Highway, Unit 5
Thorold, Ontario, L2V 4Y6

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RECORD OF BOREHOLE: BH 6

PROJECT NO.: NS2357-02
PROJECT: Proposed Development
LOCATION: 236 Plains Road East, Burlington, ON
CLIENT: Coral Gable Homes Ltd.

DRILLING COMPANY: Elements Drilling
DRILLING METHOD: 150mm Solid Stem Augers
DRILL RIG: Track Mounted CME-55
BOREHOLE COORDINATE (UTM): 5933667 E, 4796149 N

SHEET 1 of 1
DATE STARTED: July 18, 2023
DATE COMPLETED: July 18, 2023
DATUM: Benchmark

LITHOLOGY PLOT	DESCRIPTION	TYPE	NUMBER	SPT 'N' VALUE	RECOVERY (%)	DEPTH SCALE ft / m	ELEVATION (m / mbgs)	FIELD TESTING: SPT (N) 25 50 75 100	COV (ppm / %LEL)	LAB TESTING: LAB ANALYSIS	WELL INSTALLATION	COMMENTS
	Ground Surface					0.0 / 0.0	99.39					
	75mm Asphaltic Concrete						0.00 99.24					
	Silty Sand Fill Brown Trace Gravel Dry Loose	SS	1	6, 6, 7, 6		1.0	0.15	13				
						2.0						
		SS	2	2, 2, 2, 2,		3.0 1.0 4.0		4				
	Silty Sand Reworked Brown Trace Gravel Compact	SS	3	1, 1, 2, 2		5.0	97.87 1.52	3				
						6.0 2.0 7.0						
	Silty Sand Native Brown/Red Trace Gravel Dry Compact	SS	4	6, 7, 8, 8		8.0	97.10 2.29	15				
						9.0						
		SS	5	5, 7, 9, 8		10.0 3.0 11.0		16				
	End of Borehole					12.0	95.73 3.66					
						13.0 4.0 14.0						
						15.0						
						16.0 5.0 17.0						
						18.0						
						19.0 6.0 20.0						

Groundwater Level Upon Completion:
Secondary Groundwater Level:

INITIAL WATER LEVEL: Dry
SECONDARY WATER LEVEL: NA
BOREHOLE CAVE UPON COMPLETION: Open

INITIAL WATER LEVEL DATE: July 18, 2023
SECONDARY WATER LEVEL DATE: NA

LOGGED: JT
COMPILED: DN
CHECKED: JG

Niagara Soils Solutions Ltd.
3300 Merrittville Highway, Unit 5
Thorold, Ontario, L2V 4Y6

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RECORD OF BOREHOLE: BH 7

PROJECT NO.: NS2357-02
PROJECT: Proposed Development
LOCATION: 236 Plains Road East, Burlington, ON
CLIENT: Coral Gable Homes Ltd.

DRILLING COMPANY: Elements Drilling
DRILLING METHOD: 150mm Solid Stem Augers
DRILL RIG: Track Mounted CME-55
BOREHOLE COORDINATE (UTM): 593678E, 4796158 N

SHEET 1 of 1
DATE STARTED: July 18, 2023
DATE COMPLETED: July 18, 2023
DATUM: Benchmark

SOIL PROFILE		SAMPLES				DEPTH SCALE ft / m	ELEVATION (m / mbgs)	FIELD TESTING		LAB TESTING		
LITHOLOGY PLOT	DESCRIPTION	TYPE	NUMBER	SPT 'N' VALUE	RECOVERY (%)			SPT (N) 25 50 75 100	COV (ppm / %LEL)	LAB ANALYSIS	WELL INSTALLATION	COMMENTS
	Ground Surface					ft m	98.99 0.00					
	75mm Topsoil											
	Silty Sand Fill Brown Trace Gravel Dry Loose	SS	1	2, 2, 3, 3				5				
		SS	2	1, 1, 1, 2			98.23 0.76	2				
	Silty Sand Reworked Brown Trace Gravel Compact						97.47 1.52					
	Silty Sand Native Brown/Red Trace Gravel Dry, Water noted at 7.9 mbgs Compact	SS	3	3, 2, 2, 10				4				
		SS	4	3, 4, 7, 7				11				
		SS	5	9, 8, 12, 12				20				
		SS	6	6, 6, 6, 8				12				
		SS	7	6, 4, 8, 30				12				
		SS	8	6, 7, 9, 10				16				
	End of Borehole						90.76 8.23					

Groundwater Level Upon Completion:
Secondary Groundwater Level:

INITIAL WATER LEVEL: 7.9 mbgs
SECONDARY WATER LEVEL: NA
BOREHOLE CAVE UPON COMPLETION: Open

INITIAL WATER LEVEL DATE: July 18, 2023
SECONDARY WATER LEVEL DATE: NA

LOGGED: JT
COMPILED: DN
CHECKED: JG

Niagara Soils Solutions Ltd.
3300 Merrittville Highway, Unit 5
Thorold, Ontario, L2V 4Y6

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RECORD OF BOREHOLE: BH 8

PROJECT NO.: NS2357-02
PROJECT: Proposed Development
LOCATION: 236 Plains Road East, Burlington, ON
CLIENT: Coral Gable Homes Ltd.

DRILLING COMPANY: Elements Drilling
DRILLING METHOD: 150mm Solid Stem Augers
DRILL RIG: Track Mounted CME-55
BOREHOLE COORDINATE (UTM): 4796144 E, 406315 N

SHEET 1 of 1
DATE STARTED: July 18, 2023
DATE COMPLETED: July 18, 2023
DATUM: Benchmark

SOIL PROFILE		SAMPLES				DEPTH SCALE ft / m	ELEVATION (m / mbgs)	FIELD TESTING		LAB TESTING	WELL INSTALLATION	COMMENTS
LITHOLOGY PLOT	DESCRIPTION	TYPE	NUMBER	SPT 'N' VALUE	RECOVERY (%)			SPT (N) 25 50 75 100	COV (ppm / %LEL)	LAB ANALYSIS		
	Ground Surface					ft m 0.0 0.0	0.00					
	75mm Topsoil						0.00					
	Silty Sand Fill Brown Trace Gravel Very Loose	SS	1	1,1,1,2		1.0		2	0			
		SS	2	1,1,1,1		2.0 3.0 1.0		2	0	Soil: Metals & Inorganics, PAHs, PHCs/VOCs		
	Silty Sand Reworked Brown Trace Gravel Loose					4.0	-1.45					
		SS	3	2,2,3,4		5.0 6.0 2.0	1.45	5	0			
	Silty Sand Native Brown Trace Gravel Compact					7.0	-2.21					
		SS	4	5,5,9,9		8.0 9.0	2.21	14	0			
		SS	5	4,8,10,10		10.0 3.0 11.0		18	0			
						12.0 13.0 4.0 14.0						
		SS	6	5,6,8,4		15.0 16.0 5.0		14	0			
	End of Borehole					17.0	-5.18					
						18.0 19.0 6.0 20.0	5.18					

Groundwater Level Upon Completion:
Secondary Groundwater Level:

INITIAL WATER LEVEL: Dry
SECONDARY WATER LEVEL: NA
BOREHOLE CAVE UPON COMPLETION: Open

INITIAL WATER LEVEL DATE: July 18, 2023
SECONDARY WATER LEVEL DATE: NA

LOGGED: JT
COMPILED: DN
CHECKED: JG

Niagara Soils Solutions Ltd.
3300 Merrittville Highway, Unit 5
Thorold, Ontario, L2V 4Y6

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APPENDIX B

CERTIFICATES OF ANALYSIS -SOIL

AGAT Laboratories

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

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD
3300 MERRITTVILLE HIGHWAY
THOROLD, ON L2V 4Y6
905-407-4030

ATTENTION TO: Jodie Glasier

PROJECT: NS2357-02

AGAT WORK ORDER: 23H048818

SOIL ANALYSIS REVIEWED BY: Sukhwinder Randhawa, Lab Team Leader

TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist

DATE REPORTED: Jul 28, 2023

PAGES (INCLUDING COVER): 18

VERSION*: 1

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

Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days 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.

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

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AGAT Laboratories
5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
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http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 23H048818

PROJECT: NS2357-02

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD

ATTENTION TO: Jodie Glasier

SAMPLING SITE:236 Plains Road East

SAMPLED BY:J. Toldi

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

DATE RECEIVED: 2023-07-18

DATE REPORTED: 2023-07-28

		SAMPLE DESCRIPTION:		BH5-1	BH8-2
		SAMPLE TYPE:		Soil	Soil
		DATE SAMPLED:		2023-07-18	2023-07-18
Parameter	Unit	G / S	RDL	5154424	5154425
Antimony	µg/g	7.5	0.8	<0.8	<0.8
Arsenic	µg/g	18	1	18	6
Barium	µg/g	390	2.0	26.1	25.6
Beryllium	µg/g	4	0.5	<0.5	0.6
Boron	µg/g	120	5	6	8
Boron (Hot Water Soluble)	µg/g	1.5	0.10	0.14	<0.10
Cadmium	µg/g	1.2	0.5	<0.5	<0.5
Chromium	µg/g	160	5	7	13
Cobalt	µg/g	22	0.8	3.5	7.3
Copper	µg/g	140	1.0	16.5	31.0
Lead	µg/g	120	1	48	9
Molybdenum	µg/g	6.9	0.5	<0.5	<0.5
Nickel	µg/g	100	1	8	17
Selenium	µg/g	2.4	0.8	<0.8	<0.8
Silver	µg/g	20	0.5	<0.5	<0.5
Thallium	µg/g	1	0.5	<0.5	<0.5
Uranium	µg/g	23	0.50	<0.50	<0.50
Vanadium	µg/g	86	2.0	16.5	24.9
Zinc	µg/g	340	5	35	36
Chromium, Hexavalent	µg/g	8	0.2	<0.2	<0.2
Cyanide, WAD	µg/g	0.051	0.040	<0.040	<0.040
Mercury	µg/g	0.27	0.10	<0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	0.7	0.005	0.102	0.056
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	N/A	0.227	0.143
pH, 2:1 CaCl2 Extraction	pH Units	5.0-9.0	NA	7.08	6.84

Certified By:

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

AGAT Laboratories

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

Certificate of Analysis

AGAT WORK ORDER: 23H048818

PROJECT: NS2357-02

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD

ATTENTION TO: Jodie Glasier

SAMPLING SITE:236 Plains Road East

SAMPLED BY:J. Toldi

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

DATE RECEIVED: 2023-07-18

DATE REPORTED: 2023-07-28

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Coarse Textured Soils **pH range listed applies to surface soil only**
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.

5154424-5154425 EC was determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil). pH was determined on the 0.01M CaCl2 extract prepared at 2:1 ratio. SAR is a calculated parameter.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

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

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 23H048818

PROJECT: NS2357-02

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD

ATTENTION TO: Jodie Glasier

SAMPLING SITE:236 Plains Road East

SAMPLED BY:J. Toldi

O. Reg. 153(511) - Metals (Including Hydrides) (Soil)

DATE RECEIVED: 2023-07-18

DATE REPORTED: 2023-07-28

		SAMPLE DESCRIPTION:		BH3-3	BH4-2
		SAMPLE TYPE:		Soil	Soil
		DATE SAMPLED:		2023-07-18	2023-07-18
Parameter	Unit	G / S	RDL	5154421	5154423
Antimony	µg/g	7.5	0.8	<0.8	<0.8
Arsenic	µg/g	18	1	3	5
Barium	µg/g	390	2.0	12.1	23.3
Beryllium	µg/g	4	0.5	<0.5	<0.5
Boron	µg/g	120	5	7	8
Cadmium	µg/g	1.2	0.5	<0.5	<0.5
Chromium	µg/g	160	5	<5	12
Cobalt	µg/g	22	0.8	2.8	6.7
Copper	µg/g	140	1.0	12.3	26.9
Lead	µg/g	120	1	4	8
Molybdenum	µg/g	6.9	0.5	<0.5	<0.5
Nickel	µg/g	100	1	8	14
Selenium	µg/g	2.4	0.8	<0.8	<0.8
Silver	µg/g	20	0.5	<0.5	<0.5
Thallium	µg/g	1	0.5	<0.5	<0.5
Uranium	µg/g	23	0.50	<0.50	<0.50
Vanadium	µg/g	86	2.0	10.0	22.4
Zinc	µg/g	340	5	15	34

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Coarse Textured Soils **pH range listed applies to surface soil only**
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



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AGAT WORK ORDER: 23H048818

PROJECT: NS2357-02

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD

ATTENTION TO: Jodie Glasier

SAMPLING SITE:236 Plains Road East

SAMPLED BY:J. Toldi

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

DATE RECEIVED: 2023-07-18

DATE REPORTED: 2023-07-28

		SAMPLE DESCRIPTION:		BH3-3	BH4-2	BH5-1	BH8-2
		SAMPLE TYPE:		Soil	Soil	Soil	Soil
		DATE SAMPLED:		2023-07-18	2023-07-18	2023-07-18	2023-07-18
Parameter	Unit	G / S	RDL	5154421	5154423	5154424	5154425
Naphthalene	µg/g	0.6	0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	µg/g	0.15	0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene	µg/g	7.9	0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	µg/g	62	0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	µg/g	6.2	0.05	<0.05	<0.05	0.21	<0.05
Anthracene	µg/g	0.67	0.05	<0.05	<0.05	0.09	<0.05
Fluoranthene	µg/g	0.69	0.05	<0.05	<0.05	0.66	<0.05
Pyrene	µg/g	78	0.05	<0.05	<0.05	0.46	<0.05
Benz(a)anthracene	µg/g	0.5	0.05	<0.05	<0.05	0.14	<0.05
Chrysene	µg/g	7	0.05	<0.05	<0.05	0.11	<0.05
Benzo(b)fluoranthene	µg/g	0.78	0.05	<0.05	<0.05	0.08	<0.05
Benzo(k)fluoranthene	µg/g	0.78	0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g	0.3	0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.38	0.05	<0.05	<0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g	0.1	0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	6.6	0.05	<0.05	<0.05	<0.05	<0.05
1 and 2 Methlynaphthalene	µg/g	0.99	0.05	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	6.0	12.7	12.4	16.6
Surrogate	Unit	Acceptable Limits					
Naphthalene-d8	%	50-140		90	80	95	75
Acridine-d9	%	50-140		115	110	110	110
Terphenyl-d14	%	50-140		110	70	95	100

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Coarse Textured Soils **pH range listed applies to surface soil only**
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.

5154421-5154425 Results are based on the dry weight of the soil.
Note: The result for Benzo(b)Fluoranthene is the total of the Benzo(b)&j)Fluoranthene isomers because the isomers co-elute on the GC column.
2- and 1-Methyl Naphthalene is a calculated parameter. The calculated value is the sum of 2-Methyl Naphthalene and 1-Methyl Naphthalene.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popowkolof

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Certificate of Analysis

AGAT WORK ORDER: 23H048818

PROJECT: NS2357-02

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD

ATTENTION TO: Jodie Glasier

SAMPLING SITE:236 Plains Road East

SAMPLED BY:J. Toldi

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

DATE RECEIVED: 2023-07-18

DATE REPORTED: 2023-07-28

		SAMPLE DESCRIPTION:		BH5-1	BH8-2
		SAMPLE TYPE:		Soil	Soil
		DATE SAMPLED:		2023-07-18	2023-07-18
Parameter	Unit	G / S	RDL	5154424	5154425
F1 (C6 - C10)	µg/g	55	5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	55	5	<5	<5
F2 (C10 to C16)	µg/g	98	10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10	<10
F3 (C16 to C34)	µg/g	300	50	<50	<50
F3 (C16 to C34) minus PAHs	µg/g		50	<50	<50
F4 (C34 to C50)	µg/g	2800	50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	2800	50	NA	NA
Moisture Content	%		0.1	12.4	16.6
Surrogate	Unit	Acceptable Limits			
Toluene-d8	%	50-140		94	94
Terphenyl	%	60-140		62	69

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Coarse Textured Soils **pH range listed applies to surface soil only**
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.

5154424-5154425 Results are based on sample dry weight.
The C6-C10 fraction is calculated using toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX and PAH contributions.
C>10 – C16 (F2- Naphthalene) is a calculated parameter. The calculated value is F2 - Naphthalene.
C>16 - C34 (F3-PAH) is a calculated parameter. The calculated value is F3-PAH (PAH: sum of Phenanthrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Fluoranthene, Dibenzo(a,h)anthracene, Indeno(1,2,3-c,d)pyrene and Pyrene).
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popowkolof

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AGAT WORK ORDER: 23H048818

PROJECT: NS2357-02

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD

ATTENTION TO: Jodie Glasier

SAMPLING SITE:236 Plains Road East

SAMPLED BY:J. Toldi

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

DATE RECEIVED: 2023-07-18

DATE REPORTED: 2023-07-28

		SAMPLE DESCRIPTION:		BH3-3	BH4-2
		SAMPLE TYPE:		Soil	Soil
		DATE SAMPLED:		2023-07-18	2023-07-18
Parameter	Unit	G / S	RDL	5154421	5154423
Benzene	µg/g	0.21	0.02	<0.02	<0.02
Toluene	µg/g	2.3	0.05	<0.05	<0.05
Ethylbenzene	µg/g	1.1	0.05	<0.05	<0.05
m & p-Xylene	µg/g		0.05	<0.05	<0.05
o-Xylene	µg/g		0.05	<0.05	<0.05
Xylenes (Total)	µg/g	3.1	0.05	<0.05	<0.05
F1 (C6 - C10)	µg/g	55	5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	55	5	<5	<5
F2 (C10 to C16)	µg/g	98	10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10	<10
F3 (C16 to C34)	µg/g	300	50	<50	<50
F3 (C16 to C34) minus PAHs	µg/g		50	<50	<50
F4 (C34 to C50)	µg/g	2800	50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	2800	50	NA	NA
Moisture Content	%		0.1	6.0	12.7
Surrogate	Unit	Acceptable Limits			
Toluene-d8	% Recovery	60-140		112	100
Terphenyl	%	60-140		74	76

Certified By:



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Certificate of Analysis

AGAT WORK ORDER: 23H048818

PROJECT: NS2357-02

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD

ATTENTION TO: Jodie Glasier

SAMPLING SITE:236 Plains Road East

SAMPLED BY:J. Toldi

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

DATE RECEIVED: 2023-07-18

DATE REPORTED: 2023-07-28

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Coarse Textured Soils **pH range listed applies to surface soil only**
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.

5154421-5154423 Results are based on sample dry weight.
The C6-C10 fraction is calculated using toluene response factor.
Xylenes total 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 and PAH contributions.
C>10 – C16 (F2- Naphthalene) is a calculated parameter. The calculated value is F2 - Naphthalene.
C>16 - C34 (F3-PAH) is a calculated parameter. The calculated value is F3-PAH (PAH: sum of Phenanthrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Fluoranthene, Dibenzo(a,h)anthracene, Indeno(1,2,3-c,d)pyrene and Pyrene).
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popowkolof

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AGAT WORK ORDER: 23H048818

PROJECT: NS2357-02

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD

ATTENTION TO: Jodie Glasier

SAMPLING SITE:236 Plains Road East

SAMPLED BY:J. Toldi

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

DATE RECEIVED: 2023-07-18

DATE REPORTED: 2023-07-28

		SAMPLE DESCRIPTION:		BH5-1	BH8-2
		SAMPLE TYPE:		Soil	Soil
		DATE SAMPLED:		2023-07-18	2023-07-18
Parameter	Unit	G / S	RDL	5154424	5154425
Dichlorodifluoromethane	µg/g	16	0.05	<0.05	<0.05
Vinyl Chloride	ug/g	0.02	0.02	<0.02	<0.02
Bromomethane	ug/g	0.05	0.05	<0.05	<0.05
Trichlorofluoromethane	ug/g	4	0.05	<0.05	<0.05
Acetone	ug/g	16	0.50	<0.50	<0.50
1,1-Dichloroethylene	ug/g	0.05	0.05	<0.05	<0.05
Methylene Chloride	ug/g	0.1	0.05	<0.05	<0.05
Trans- 1,2-Dichloroethylene	ug/g	0.084	0.05	<0.05	<0.05
Methyl tert-butyl Ether	ug/g	0.75	0.05	<0.05	<0.05
1,1-Dichloroethane	ug/g	0.47	0.02	<0.02	<0.02
Methyl Ethyl Ketone	ug/g	16	0.50	<0.50	<0.50
Cis- 1,2-Dichloroethylene	ug/g	1.9	0.02	<0.02	<0.02
Chloroform	ug/g	0.05	0.04	<0.04	<0.04
1,2-Dichloroethane	ug/g	0.05	0.03	<0.03	<0.03
1,1,1-Trichloroethane	ug/g	0.38	0.05	<0.05	<0.05
Carbon Tetrachloride	ug/g	0.05	0.05	<0.05	<0.05
Benzene	ug/g	0.21	0.02	<0.02	<0.02
1,2-Dichloropropane	ug/g	0.05	0.03	<0.03	<0.03
Trichloroethylene	ug/g	0.061	0.03	<0.03	<0.03
Bromodichloromethane	ug/g	1.5	0.05	<0.05	<0.05
Methyl Isobutyl Ketone	ug/g	1.7	0.50	<0.50	<0.50
1,1,2-Trichloroethane	ug/g	0.05	0.04	<0.04	<0.04
Toluene	ug/g	2.3	0.05	<0.05	<0.05
Dibromochloromethane	ug/g	2.3	0.05	<0.05	<0.05
Ethylene Dibromide	ug/g	0.05	0.04	<0.04	<0.04
Tetrachloroethylene	ug/g	0.28	0.05	<0.05	<0.05
1,1,1,2-Tetrachloroethane	ug/g	0.058	0.04	<0.04	<0.04
Chlorobenzene	ug/g	2.4	0.05	<0.05	<0.05
Ethylbenzene	ug/g	1.1	0.05	<0.05	<0.05
m & p-Xylene	ug/g		0.05	<0.05	<0.05

Certified By: N Popowkolof

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AGAT WORK ORDER: 23H048818

PROJECT: NS2357-02

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD

ATTENTION TO: Jodie Glasier

SAMPLING SITE:236 Plains Road East

SAMPLED BY:J. Toldi

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

DATE RECEIVED: 2023-07-18

DATE REPORTED: 2023-07-28

		SAMPLE DESCRIPTION:		BH5-1	BH8-2
		SAMPLE TYPE:		Soil	Soil
		DATE SAMPLED:		2023-07-18	2023-07-18
Parameter	Unit	G / S	RDL	5154424	5154425
Bromoform	ug/g	0.27	0.05	<0.05	<0.05
Styrene	ug/g	0.7	0.05	<0.05	<0.05
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.05	<0.05	<0.05
o-Xylene	ug/g		0.05	<0.05	<0.05
1,3-Dichlorobenzene	ug/g	4.8	0.05	<0.05	<0.05
1,4-Dichlorobenzene	ug/g	0.083	0.05	<0.05	<0.05
1,2-Dichlorobenzene	ug/g	1.2	0.05	<0.05	<0.05
Xylenes (Total)	ug/g	3.1	0.05	<0.05	<0.05
1,3-Dichloropropene (Cis + Trans)	µg/g	0.05	0.05	<0.05	<0.05
n-Hexane	µg/g	2.8	0.05	<0.05	<0.05
Moisture Content	%		0.1	12.4	16.6
Surrogate	Unit	Acceptable Limits			
Toluene-d8	% Recovery	50-140		94	94
4-Bromofluorobenzene	% Recovery	50-140		85	83

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Coarse Textured Soils **pH range listed applies to surface soil only**
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.

5154424-5154425 The sample was analyzed using the high level technique. The sample was extracted using methanol, a small amount of the methanol extract was diluted in water and the purge & trap GC/MS analysis was performed. Results are based on the dry weight of the soil.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene + o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popowkolof

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

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Quality Assurance

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD
AGAT WORK ORDER: 23H048818
PROJECT: NS2357-02
ATTENTION TO: Jodie Glasier
SAMPLING SITE:236 Plains Road East
SAMPLED BY:J. Toldi

Soil Analysis

RPT Date: Jul 28, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals & Inorganics (Soil)															
Antimony	5159949	5154421	<0.8	<0.8	NA	< 0.8	129%	70%	130%	102%	80%	120%	86%	70%	130%
Arsenic	5159949	5154421	3	3	NA	< 1	115%	70%	130%	104%	80%	120%	111%	70%	130%
Barium	5159949	5154421	54.1	54.2	0.2%	< 2.0	101%	70%	130%	99%	80%	120%	103%	70%	130%
Beryllium	5159949	5154421	<0.5	<0.5	NA	< 0.5	75%	70%	130%	95%	80%	120%	103%	70%	130%
Boron	5159949	5154421	8	8	NA	< 5	89%	70%	130%	112%	80%	120%	108%	70%	130%
Boron (Hot Water Soluble)	5154424	5154424	0.14	0.16	NA	< 0.10	100%	60%	140%	98%	70%	130%	104%	60%	140%
Cadmium	5159949	5154421	<0.5	<0.5	NA	< 0.5	110%	70%	130%	101%	80%	120%	108%	70%	130%
Chromium	5159949	5154421	15	15	NA	< 5	100%	70%	130%	103%	80%	120%	101%	70%	130%
Cobalt	5159949	5154421	5.4	5.4	0.0%	< 0.8	95%	70%	130%	98%	80%	120%	95%	70%	130%
Copper	5159949	5154421	11.4	10.6	7.3%	< 1.0	87%	70%	130%	103%	80%	120%	88%	70%	130%
Lead	5159949	5154421	9	9	0.0%	< 1	104%	70%	130%	96%	80%	120%	97%	70%	130%
Molybdenum	5159949	5154421	<0.5	<0.5	NA	< 0.5	116%	70%	130%	106%	80%	120%	118%	70%	130%
Nickel	5159949	5154421	13	13	0.0%	< 1	97%	70%	130%	105%	80%	120%	99%	70%	130%
Selenium	5159949	5154421	<0.8	<0.8	NA	< 0.8	94%	70%	130%	103%	80%	120%	106%	70%	130%
Silver	5159949	5154421	<0.5	<0.5	NA	< 0.5	105%	70%	130%	102%	80%	120%	99%	70%	130%
Thallium	5159949	5154421	<0.5	<0.5	NA	< 0.5	126%	70%	130%	106%	80%	120%	112%	70%	130%
Uranium	5159949	5154421	0.53	0.61	NA	< 0.50	126%	70%	130%	99%	80%	120%	110%	70%	130%
Vanadium	5159949	5154421	26.9	26.8	0.4%	< 2.0	113%	70%	130%	112%	80%	120%	107%	70%	130%
Zinc	5159949	5154421	39	41	5.0%	< 5	102%	70%	130%	104%	80%	120%	105%	70%	130%
Chromium, Hexavalent	5157150		<0.2	<0.2	NA	< 0.2	96%	70%	130%	98%	80%	120%	91%	70%	130%
Cyanide, WAD	5149549		<0.040	<0.040	NA	< 0.040	92%	70%	130%	102%	80%	120%	99%	70%	130%
Mercury	5159949	5154421	<0.10	<0.10	NA	< 0.10	122%	70%	130%	100%	80%	120%	101%	70%	130%
Electrical Conductivity (2:1)	5162859		0.190	0.169	11.7%	< 0.005	91%	80%	120%						
Sodium Adsorption Ratio (2:1) (Calc.)	5162859		0.444	0.444	0.0%	NA									
pH, 2:1 CaCl2 Extraction	5160023		6.30	6.59	4.5%	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.

Certified By:



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Quality Assurance

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD

AGAT WORK ORDER: 23H048818

PROJECT: NS2357-02

ATTENTION TO: Jodie Glasier

SAMPLING SITE:236 Plains Road East

SAMPLED BY:J. Toldi

Trace Organics Analysis

RPT Date: Jul 28, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)															
Benzene	5152643		<0.02	<0.02	NA	< 0.02	112%	60%	140%	95%	60%	140%	99%	60%	140%
Toluene	5152643		<0.05	<0.05	NA	< 0.05	94%	60%	140%	97%	60%	140%	109%	60%	140%
Ethylbenzene	5152643		<0.05	<0.05	NA	< 0.05	91%	60%	140%	97%	60%	140%	108%	60%	140%
m & p-Xylene	5152643		<0.05	<0.05	NA	< 0.05	91%	60%	140%	97%	60%	140%	101%	60%	140%
o-Xylene	5152643		<0.05	<0.05	NA	< 0.05	87%	60%	140%	98%	60%	140%	101%	60%	140%
F1 (C6 - C10)	5152643		<5	<5	NA	< 5	101%	60%	140%	105%	60%	140%	101%	60%	140%
F2 (C10 to C16)	5149563		< 10	< 10	NA	< 10	112%	60%	140%	78%	60%	140%	85%	60%	140%
F3 (C16 to C34)	5149563		< 50	< 50	NA	< 50	121%	60%	140%	71%	60%	140%	76%	60%	140%
F4 (C34 to C50)	5149563		< 50	< 50	NA	< 50	114%	60%	140%	97%	60%	140%	106%	60%	140%
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	5151732		<0.05	<0.05	NA	< 0.05	99%	50%	140%	95%	50%	140%	73%	50%	140%
Acenaphthylene	5151732		<0.05	<0.05	NA	< 0.05	72%	50%	140%	75%	50%	140%	78%	50%	140%
Acenaphthene	5151732		<0.05	<0.05	NA	< 0.05	111%	50%	140%	83%	50%	140%	88%	50%	140%
Fluorene	5151732		<0.05	<0.05	NA	< 0.05	112%	50%	140%	93%	50%	140%	88%	50%	140%
Phenanthrene	5151732		<0.05	<0.05	NA	< 0.05	110%	50%	140%	78%	50%	140%	93%	50%	140%
Anthracene	5151732		<0.05	<0.05	NA	< 0.05	100%	50%	140%	105%	50%	140%	93%	50%	140%
Fluoranthene	5151732		<0.05	<0.05	NA	< 0.05	92%	50%	140%	105%	50%	140%	85%	50%	140%
Pyrene	5151732		<0.05	<0.05	NA	< 0.05	90%	50%	140%	103%	50%	140%	98%	50%	140%
Benz(a)anthracene	5151732		<0.05	<0.05	NA	< 0.05	83%	50%	140%	108%	50%	140%	113%	50%	140%
Chrysene	5151732		<0.05	<0.05	NA	< 0.05	114%	50%	140%	88%	50%	140%	105%	50%	140%
Benzo(b)fluoranthene	5151732		<0.05	<0.05	NA	< 0.05	93%	50%	140%	108%	50%	140%	88%	50%	140%
Benzo(k)fluoranthene	5151732		<0.05	<0.05	NA	< 0.05	118%	50%	140%	88%	50%	140%	80%	50%	140%
Benzo(a)pyrene	5151732		<0.05	<0.05	NA	< 0.05	104%	50%	140%	88%	50%	140%	88%	50%	140%
Indeno(1,2,3-cd)pyrene	5151732		<0.05	<0.05	NA	< 0.05	73%	50%	140%	78%	50%	140%	100%	50%	140%
Dibenz(a,h)anthracene	5151732		<0.05	<0.05	NA	< 0.05	69%	50%	140%	78%	50%	140%	80%	50%	140%
Benzo(g,h,i)perylene	5151732		<0.05	<0.05	NA	< 0.05	64%	50%	140%	93%	50%	140%	98%	50%	140%
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)															
F1 (C6 - C10)	5152034		<5	<5	NA	< 5	99%	60%	140%	95%	60%	140%	79%	60%	140%
O. Reg. 153(511) - VOCs (with PHC) (Soil)															
Dichlorodifluoromethane	5152034		<0.05	<0.05	NA	< 0.05	77%	50%	140%	76%	50%	140%	71%	50%	140%
Vinyl Chloride	5152034		<0.02	<0.02	NA	< 0.02	101%	50%	140%	109%	50%	140%	88%	50%	140%
Bromomethane	5152034		<0.05	<0.05	NA	< 0.05	115%	50%	140%	109%	50%	140%	79%	50%	140%
Trichlorofluoromethane	5152034		<0.05	<0.05	NA	< 0.05	104%	50%	140%	122%	50%	140%	117%	50%	140%
Acetone	5152034		<0.50	<0.50	NA	< 0.50	101%	50%	140%	87%	50%	140%	85%	50%	140%
1,1-Dichloroethylene	5152034		<0.05	<0.05	NA	< 0.05	80%	50%	140%	88%	60%	130%	87%	50%	140%
Methylene Chloride	5152034		<0.05	<0.05	NA	< 0.05	102%	50%	140%	112%	60%	130%	119%	50%	140%
Trans- 1,2-Dichloroethylene	5152034		<0.05	<0.05	NA	< 0.05	101%	50%	140%	103%	60%	130%	97%	50%	140%
Methyl tert-butyl Ether	5152034		<0.05	<0.05	NA	< 0.05	107%	50%	140%	102%	60%	130%	104%	50%	140%

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Quality Assurance

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD

AGAT WORK ORDER: 23H048818

PROJECT: NS2357-02

ATTENTION TO: Jodie Glasier

SAMPLING SITE:236 Plains Road East

SAMPLED BY:J. Toldi

Trace Organics Analysis (Continued)

RPT Date: Jul 28, 2023			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
1,1-Dichloroethane	5152034		<0.02	<0.02	NA	< 0.02	102%	50%	140%	105%	60%	130%	101%	50%	140%
Methyl Ethyl Ketone	5152034		<0.50	<0.50	NA	< 0.50	113%	50%	140%	85%	50%	140%	91%	50%	140%
Cis- 1,2-Dichloroethylene	5152034		<0.02	<0.02	NA	< 0.02	100%	50%	140%	100%	60%	130%	100%	50%	140%
Chloroform	5152034		<0.04	<0.04	NA	< 0.04	112%	50%	140%	110%	60%	130%	107%	50%	140%
1,2-Dichloroethane	5152034		<0.03	<0.03	NA	< 0.03	100%	50%	140%	97%	60%	130%	87%	50%	140%
1,1,1-Trichloroethane	5152034		<0.05	<0.05	NA	< 0.05	111%	50%	140%	110%	60%	130%	105%	50%	140%
Carbon Tetrachloride	5152034		<0.05	<0.05	NA	< 0.05	115%	50%	140%	117%	60%	130%	108%	50%	140%
Benzene	5152034		<0.02	<0.02	NA	< 0.02	103%	50%	140%	101%	60%	130%	99%	50%	140%
1,2-Dichloropropane	5152034		<0.03	<0.03	NA	< 0.03	98%	50%	140%	93%	60%	130%	93%	50%	140%
Trichloroethylene	5152034		<0.03	<0.03	NA	< 0.03	109%	50%	140%	107%	60%	130%	113%	50%	140%
Bromodichloromethane	5152034		<0.05	<0.05	NA	< 0.05	107%	50%	140%	109%	60%	130%	108%	50%	140%
Methyl Isobutyl Ketone	5152034		<0.50	<0.50	NA	< 0.50	95%	50%	140%	83%	50%	140%	88%	50%	140%
1,1,2-Trichloroethane	5152034		<0.04	<0.04	NA	< 0.04	111%	50%	140%	111%	60%	130%	112%	50%	140%
Toluene	5152034		<0.05	<0.05	NA	< 0.05	113%	50%	140%	114%	60%	130%	111%	50%	140%
Dibromochloromethane	5152034		<0.05	<0.05	NA	< 0.05	98%	50%	140%	109%	60%	130%	105%	50%	140%
Ethylene Dibromide	5152034		<0.04	<0.04	NA	< 0.04	105%	50%	140%	101%	60%	130%	100%	50%	140%
Tetrachloroethylene	5152034		<0.05	<0.05	NA	< 0.05	81%	50%	140%	75%	60%	130%	83%	50%	140%
1,1,1,2-Tetrachloroethane	5152034		<0.04	<0.04	NA	< 0.04	85%	50%	140%	77%	60%	130%	74%	50%	140%
Chlorobenzene	5152034		<0.05	<0.05	NA	< 0.05	111%	50%	140%	113%	60%	130%	110%	50%	140%
Ethylbenzene	5152034		<0.05	<0.05	NA	< 0.05	100%	50%	140%	102%	60%	130%	97%	50%	140%
m & p-Xylene	5152034		<0.05	<0.05	NA	< 0.05	106%	50%	140%	108%	60%	130%	105%	50%	140%
Bromoform	5152034		<0.05	<0.05	NA	< 0.05	109%	50%	140%	109%	60%	130%	115%	50%	140%
Styrene	5152034		<0.05	<0.05	NA	< 0.05	85%	50%	140%	82%	60%	130%	78%	50%	140%
1,1,2,2-Tetrachloroethane	5152034		<0.05	<0.05	NA	< 0.05	107%	50%	140%	108%	60%	130%	75%	50%	140%
o-Xylene	5152034		<0.05	<0.05	NA	< 0.05	108%	50%	140%	110%	60%	130%	107%	50%	140%
1,3-Dichlorobenzene	5152034		<0.05	<0.05	NA	< 0.05	106%	50%	140%	105%	60%	130%	101%	50%	140%
1,4-Dichlorobenzene	5152034		<0.05	<0.05	NA	< 0.05	114%	50%	140%	113%	60%	130%	110%	50%	140%
1,2-Dichlorobenzene	5152034		<0.05	<0.05	NA	< 0.05	110%	50%	140%	109%	60%	130%	108%	50%	140%
n-Hexane	5152034		<0.05	<0.05	NA	< 0.05	81%	50%	140%	102%	60%	130%	75%	50%	140%

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

Certified By: N Popowkolof

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Method Summary

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD

AGAT WORK ORDER: 23H048818

PROJECT: NS2357-02

ATTENTION TO: Jodie Glasier

SAMPLING SITE:236 Plains Road East

SAMPLED BY:J. Toldi

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 CaCl2 Extraction	INOR-93-6075	modified from EPA 9045D, MCKEAGUE 3.11 E3137	PC TITRATE

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Method Summary

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD

AGAT WORK ORDER: 23H048818

PROJECT: NS2357-02

ATTENTION TO: Jodie Glasier

SAMPLING SITE:236 Plains Road East

SAMPLED BY:J. Toldi

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluorene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benz(a)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Chrysene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
1 and 2 Methlynaphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Moisture Content	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
F1 (C6 - C10)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	P&T GC/FID
Toluene-d8	VOL-91- 5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34) minus PAHs	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F4 (C34 to C50)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Terphenyl	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Benzene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Toluene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS

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

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

Method Summary

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD

AGAT WORK ORDER: 23H048818

PROJECT: NS2357-02

ATTENTION TO: Jodie Glasier

SAMPLING SITE:236 Plains Road East

SAMPLED BY:J. Toldi

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
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
Toluene-d8	VOL-91-5009	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
Dichlorodifluoromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Vinyl Chloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trans- 1,2-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl tert-butyl Ether	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Cis- 1,2-Dichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Toluene	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5002	modified from EPA 5035A and EPA 8260D	(P&T)GC/MS

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ATTENTION TO: Jodie Glasier

SAMPLING SITE:236 Plains Road East

SAMPLED BY:J. Toldi

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

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

AGAT Laboratories

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

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: NSSL
Contact: Jodie Glaister
Address: 3300 Merritville Highway Unit 4
Thorold, ON L2V 4Y6
Phone: 289-407-6341 Fax:
Reports to be sent to:
1. Email: Jglaister@nssl.ca
2. Email:

Project Information:

Project: NS2357-02
Site Location: 236 Plains Road East
Sampled By: J. Toldi
AGAT Quote #: 76396 EB PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

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

Regulatory Requirements:

(Please check all applicable boxes)

☒ Regulation 153/04 — Table 2 (Indicate One) — ☐ Ind/Com ☒ Res/Park ☐ Agriculture
Soil Texture (Check One): ☒ Coarse ☐ Fine
☐ Regulation 406 — Table (Indicate One)
☐ Regulation 558
☐ CCME
☐ Sewer Use ☐ Sanitary ☐ Storm — Region
☐ Prov. Water Quality Objectives (PWQO)
☐ Other — Indicate One

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

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

Sample Matrix Legend

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

Laboratory Use Only

Work Order #: 23H048818
Cooler Quantity: LG COOLER
Arrival Temperatures: 14.9 | 14.8 | 14.5 / 9.3 | 8.9 | 9.1
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes: BAGGED ICE

Turnaround Time (TAT) Required:

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC Y/N	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs	O. Reg 153: VOC	O. Reg 153: PAHs	O. Reg 153: PCBs	O. Reg 153: PCBs: Aroclors ☐	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Regulation 406 SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Regulation 406 Characterization Package ICPMS Metals, BTEX, F1-F4	Corrosivity: ☐ Moisture ☐ Sulphide	PHC/VOC						Potentially Hazardous or High Concentration (Y/N)
1. BH3-3	07/18/23	AM/PM	3	S				X	+		X													
2. BH4-2	↓	AM/PM	3	S				X	+		X													
3. BH5-1		AM/PM	3	S			X				X							X						
4. BH8-2		AM/PM					X				X							X						
5.		AM/PM																						
6.		AM/PM																						
7.		AM/PM																						
8.		AM/PM																						
9.		AM/PM																						
10.		AM/PM																						
11.		AM/PM																						

Samples Relinquished By (Print Name and Sign): Jacob Toldi	Date 07/18/23	Time	Samples Received By (Print Name and Sign): DJ AIC	Date July 18/23 Time 4:30pm
Samples Relinquished By (Print Name and Sign): DJ AIC	Date July 19/23	Time 3pm	Samples Received By (Print Name and Sign):	Date July 19 Time 4:25pm
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date Time

Page 1 of 1
N°: T-144360

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

Document ID: DIV 78 1511.022
Any and all products and/or services provided by AGAT Labs are pursuant to the terms and conditions as set forth at www.agatlabs.com/termsandconditions unless otherwise agreed in a current written contractual document.
Date Issued: May 20, 2023

APPENDIX C

GRAIN SIZE ANALYSIS

Project No.: NT23136 July 26, 2023

Niagara Soils Solutions Ltd.
3300 Merrittville Highway, Unit 5
Thorold, Ontario
L2V 4Y6

Attention: Ms. Jodie Glasier, Vice President

RE: Laboratory Analysis for Soil Texture Classification
Niagara Soils Solutions Ltd. Project No. NS2357-02
236 Plains Road East, Burlington, Ontario

Dear Ms. Glasier:

As requested, Niagara Testing and Inspection Ltd. [NTIL] was retained to perform laboratory analysis on soil samples for soil texture classification [i.e., fine/medium or coarse grain soil determination] as defined in Ontario Regulation 153/04 [as amended].

On Thursday July 20th, 2023, three [3] soil samples were delivered by Niagara Soils Solutions Ltd. to NTIL soils laboratory for 75-micron [µm] [#200] single-sieve grain size analysis. Results for the analysis are summarized in the table below.

Sample I.D.	*Percent Passing 75 µm [#200] Sieve*	*Percent Retained on 75 µm [#200] Sieve*	*Soil Texture*
BH 1-2	22.1 %	77.9 %	Coarse Grained
BH 4-3	24.4 %	75.6 %	Coarse Grained
BH 8-5	53.5 %	46.5 %	Fine/Medium Grained

We trust that this information is satisfactory for your purposes. Should you have any queries please do not hesitate to contact the undersigned.

Regards:

Niagara Testing and Inspection Ltd.

Prepared by:

Dwayne Neill, P.Eng.
Project Engineer

LICENSED PROFESSIONAL ENGINEER
July 26, 2023
D. H. NEILL
100217552
PROVINCE OF ONTARIO

Distribution:
Jodie Glasier – jglasier@nssl.ca