PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
5523, 5531, 5539, 5547 & 5555
Fraser Street, Niagara Falls, ON

Project Location:
5523, 5531, 5539, 5547 & 5555
Fraser Street
Niagara Falls, ON

Prepared For:
Sam Visca Electric
5602 George Street
Niagara Falls, ON L2E 3E2

NIAGARA SOILS SOLUTIONS LTD.

Prepared By:
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L2V 4Y6

Date: March 22, 2023
NSSL File No.: NS22123-02

EXCUTIVE SUMMARY

Niagara Soils Solutions Ltd. [NSSL] was retained by Sam Visca Electric to conduct a Phase Two Environmental Site Assessment [ESA] of the commercial properties located at 5523, 5531 and 5539 Fraser Street in conjunction with the adjacent residential properties located at 5547 and 5555 Fraser Street in Niagara Falls, Ontario. A Phase One ESA was completed by NSSL in December 2022 that identified areas of potential environmental concern relating to historic heating oil tanks, the presence of an above ground storage tank and fill material associated with historic residential dwellings on-site.

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}] to support a filing of a Record of Site Condition [RSC] with the Ministry of the Environment, Conservation and Parks.

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

- A total of ten [10] environmental boreholes were advanced across the properties to a maximum depth of 5.18 meters below ground surface.
- Fill material was encountered in all boreholes to a maximum depth of about 2.29 meters below ground surface.
- A total of ten [10] select soil samples from the drilling activities were submitted for laboratory analysis of target parameters Metals by ICP, Benzene, Toluene, Ethylbenzene, and Xylene [BTEX], Polycyclic Aromatic Hydrocarbons [PAHs], Petroleum Hydrocarbons [PHCs] F1-F4, and pH/Sodium Adsorption Rate [SAR]/Electrical Conductivity [EC].
- All soil results were found to meet Ministry of the Environment, Conservation and Parks 2011 Table 3 Full Depth Generic Site Condition Standard, for residential land use in a non-potable groundwater condition, coarse-textured soils.

Based on the soil testing results described herein, Niagara Soils Solutions Ltd. is of the opinion that no further environmental investigations or work is required at this time across the Phase Two ESA property. The lands are considered suitable for a change in land use for residential purposes.

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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APPENDICES

1.0 INTRODUCTION

1.1 Site Description

Niagara Soils Solutions Ltd. [NSSL] was retained by Sam Visca Electric to conduct a Phase Two Environmental Site Assessment [ESA] of the commercial properties located at 5523, 5531 and 5539 Fraser Street in conjunction with the adjacent residential properties located at 5547 and 5555 Fraser Street in Niagara Falls, Ontario [herein referred to as the "Phase Two Property" or the "Site"]. A Phase One ESA was completed by NSSL in December 2022 that identified areas of potential environmental concern relating to historic heating oil tanks, the presence of an above ground storage tank and fill material associated with historic residential dwellings on-site.

Commercial
5523 Fraser Street; LT 24 PL 31 STAMFORD SURFACE ONLY; NIAGARA FALLS. [PIN] 64323-0277 [LT]
5531 Fraser Street; LT 23 PL 31 STAMFORD SURFACE ONLY; NIAGARA FALLS. [PIN] 64323-0298 [LT]
5539 Fraser Street; LT 22 PL 31 STAMFORD SURFACE ONLY; NIAGARA FALLS. [PIN] 64323-0276 [LT]

Residential
5547 Fraser Street; LT 21 PL 31 STAMFORD SURFACE ONLY; NIAGARA FALLS. [PIN] 64323-0275 [LT]
5555 Fraser Street; LT 20 PL 31 STAMFORD SURFACE ONLY; NIAGARA FALLS. [PIN] 64323-0274 (LT).

The size of the five [5] combined parcels of land are approximately 0.28 hectares. Each individual lot is a rectangular shaped parcel of land situated north of Fraser Street starting 75 m west of Stanley Avenue. The adjacent properties to the west and south are residential parcels of land with structures onsite. The north and east adjacent properties are a mixture of commercial and residential properties. The elevation of the subject properties is even, with the landcover for the residential lots characterized as manicured landscaped grass at the front and rear portions of the properties, with the homes facing Fraser Street. Granular aggregate constitutes the landcover for the commercial lots that are open to passage between the Site and the north adjacent property at 5602 George Street [Sam Visca Electric offices]. The commercial properties are currently utilized for parking of business vehicles and storage of supplies for Visca Electric. Access to the subject Sites is via Stanley Avenue to the east with Fraser Street ending at the Queenston-Chippawa Hydro Corridor [100 m west]. Historical documentation shows ownership to be by Private Individuals until 2003 when a numbered Ontario company purchased the properties.

1.2 Property Ownership

The Phase Two Property residential properties are currently owned by Ms. Rita Visca while the commercial lots are jointly owned by Ms. Rita Visca and Mr. Salvatore Visca.

1.3 Current and Proposed Future Uses

The Phase Two ESA would be described as mixed use commercial and residential. Proposed future use of the lots is redevelopment for residential land use purposes.

1.4 Applicable Site Condition Standard

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 following rationales:

Property Use	Proposed redevelopment for residential land use was known, therefore Residential/Parkland/Institutional criteria was applied.
Grain Size	Three [3] grain size analysis were completed across the site which resulted in a fine-medium soil texture classification.
Water Wells	The Study Area is serviced by the municipal drinking water system.
Within 30 m of a Waterbody	In accordance with O. Reg. 153/04, this property does not include land that is within 30 m of a waterbody.
Depth to Bedrock	Bedrock was not encountered across the study site. Therefore, the study site is not considered a shallow soil property.
pH	Soil pH values were reported between 6.94 and 7.18, average 7.04 in the native soil samples.
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.

The site condition standards utilized to evaluate the Phase Two ESA soil and groundwater results were Table 3 Full Depth Generic SCS in a Non-Potable Ground Water Condition for Residential/Parkland/ Institutional property use, medium and fine-textured soils.

2.0 BACKGROUND INFORMATION

2.1 Physical Setting

The ground surface level of the site slopes northwards. Evidence of water pooling was seen within the center portion of the site.

A review of the "Quaternary Geology of Niagara-Welland" Geological Series, Map 2496, shows the Phase Two subject area is located within the Late Wisconsian formation, consisting of Glaciolacustrine nearshore and deltaic sand and silt. The Paleozoic Geology of Southern Ontario, Ontario Division of Mines, Map 2254, reveals that the study area is situated on the Lockport-Amabel Formation consisting of dolomite. Groundwater was reported to be approximately 18–22 metres below ground surface based on a review of local well records. The study area contains the Queenston-Chippawa Hydro Canal, constructed between 1917-1925, for the purpose of transporting water from upstream Niagara River to the Sir Adam Beck Power Generating Station.

Granular material was encountered in boreholes BH1 to BH10. Multiple areas of fill material were attributed to the former residential dwellings and current commercial activities including a granular parking lot for the electric business. Fill material/reworked material of silty clay to silty sand was found between the surface of the property to about 2.29 m below grade. The fill/reworked material was found to be firm in consistency and to contain a trace of silt, gravel, and organic inclusions. A native silty sand / sandy silt was found to underlie the fill materials. The silty sand / sandy silt was found to be layered and to contain a trace of gravel. The silty sand / sandy silt was noted to be loose to compact in consistency in the upper level and become more compact with depth. Bedrock was not encountered in the borings.

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 locates were completed using public [Ontario One Call] and a private locating service [Ontario Utility Locates].
- The Phase Two ESA was completed in general accordance with the requirements of O. Reg. 153/04 as amended.
- Ten [10] environmental boreholes were advanced across the site to a maximum depth of 5.18 metres below ground surface [m bgs].
- Fifty-two [52] total soil samples were collected throughout the drilling activities. Ten [10] select soil samples were submitted for laboratory analysis of Metals, PHC/BTEX, PAHs, and pH/SAR/EC.
- All boreholes were surveyed to a temporary benchmark at the site.

3.2 Media Investigated

Soil was the only medium investigated as part of this Phase Two assessment.

3.3 Deviation from Sampling and Analysis Plan

There were no deviations from NSSL's Sampling and Analysis Plan.

3.4 Impediments

Limited access for the drilling equipment was encountered within the east and west portions of the commercial parking lot due to the prepresence of multiple parked vehicles. For this reason, some of the original planned borehole locations were shifted slightly, but remained within the APEC areas. There were no additional physical impediments or denial of access during the Phase Two ESA.

4.0 INVESTIGATION METHOD

4.1 General

The Phase Two ESA was carried out in accordance with the Sampling and Analysis Plan, and in accordance with NSSL's Standard Operating Procedures. The Phase Two ESA consisted of the advancement of ten [10] boreholes across the study site within the identified areas of environmental concern. Boreholes were drilled to depths of 5.18 m bgs and terminated in native soils.

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 utilities [hydro, gas, water, sewer, and communications] were obtained through public [Ontario One Call] and private service locators [Ontario Utility Locates].

4.3 Drilling

Ten [10] boreholes were advanced across the site by Davis Drilling Ltd. using a CME-55 directional drill rig on March 2nd and 3rd, 2023. Boreholes were drilled to a maximum depth of approximately 5.18 m bgs. The borehole locations are shown in the attached Figure 5. Field borehole logs are located in Appendix A, respectively.

4.4 Soil Sampling

Fifty-two [52] total samples were collected from boreholes BH-1 to BH-10. Recovered soil samples were immediately logged for soil type, moisture, colour, texture and visual evidence of impacts. The samples were then divided into two representative portions: one portion for possible laboratory analysis and one portion for soil headspace combustive gas screening. Samples to be potentially subjected to laboratory

analyses were immediately placed into laboratory supplied sample jars and stored in a cooler with ice. Samples to be used for screening were placed in a sealed bag.

Soil samples intended for VOC and F1 fractions of Petroleum Hydrocarbons analysis were collected using a laboratory-supplied soil core sampler, placed into the vials containing methanol for preservation purposes and sealed using Teflon lined septa lids. All soil samples were placed in clean coolers containing ice prior to and 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 Field Screening Measurements

All soil samples were screened using RKI Instrument, Eagle Potable Multi-gas detector [with Methane Elimination switch], operated in the methane elimination mode. The instrument measures combustible gases in the atmosphere. The monitor has a range of 0 ppm to 50,000 ppm and an accuracy of ± 5%. The instrument was calibrated to hexane standards for both ppm and LEL prior to each use in accordance with the calibration procedures outlined in the instruction manual for the instrument. The instrument is regularly serviced by the supplier, Pine Environmental. Field screening results are reported 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 the 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

There was no excess soil material from the drilling activities, therefore soil disposal drums were not required.

4.8 Elevation Surveying

The elevation of the existing ground surface at the borehole was referenced to a temporary site benchmark, described as the manhole on Fraser Street located at the southern boundary of the property, elevation 100 metres by Niagara Soils Solutions Ltd.

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

The soil stratigraphy for the study site generally consisted of a fill material gravelly sand over Brown Silty Sand and Clayey Silt at depths between about 0 to 2.29 m bgs. Native material was encountered at depths between 1.37 m – 5.18 m bgs in all boreholes and was described as Brown Sandy Silt/Silty Sand with trace gravel. Bedrock was not encountered within any of the boreholes.

5.2 Ground Water Flow Direction

Regional groundwater flow direction is expected to be northeast as indicated by surrounding topographic elevations, water well records, and hydrological features. Groundwater was not sampled as part of the Phase Two ESA investigation.

5.3 Soil Texture

Three [3] samples were submitted to Niagara Testing and Inspection Ltd. for confirmation of grain size. Medium and fine-grained soil is classified as soil that contains more than 50 percent by mass of particles that are 75 micrometres or smaller in mean diameter. One result indicated 89.4% of the soil matrix passed the 75-micron [µm] No. 200 sieve with the other samples resulting in 87.7% and 84.0%. Two samples were taken from the native soil material and one from within the fill material.

Borehole ID	Sample #	Soil Sample Depth [mbgs]	% Passing No. 200 Sieve	Soil Description	Soil Texture
BH2-3	SS3	1.52m – 2.13m	84.0%	Silty Clay; Fill Material	Medium and fine
BH3-3	SS3	1.52m – 2.13m	87.7%	Sandy Silt; Native soil	
BH7-4	SS4	2.29m – 2.90m	89.4%	Sandy Silt; Native soil	

5.4 Soil: Field Screening

Head space vapour screening was recorded for all retrieved soil samples using a combustible gas detector [RKI Eagle] in methane elimination mode, calibrated with hexane and having a minimum detection level of ± 5%. Soil vapour measurements were recorded as non-detect for all soil samples, indicating insignificant combustible gases to be present within the soil samples retrieved from the drilling activities.

5.5 Soil Quality

Ten [10] representative soil samples were obtained from within the fill material and native soils for submission to AGAT Laboratories Ltd. for analysis of Metals, PHC/BTEX, PAHs, and pH/SAR/EC. Sample locations are depicted on Figure 5.

The soil test results met applicable MECP 2011 Site Condition Standards Table 3 Residential/Parkland/ Institutional land use for non-potable, medium and fine-texture soil criteria. Complete soil laboratory test results are provided in Appendix B.

Soil pH

The pH of all sampled borehole soils was found to be in the range between 6.94 to 7.18 with an average of 7.04. These pH values are within the limits for use of the generic criteria in O. Reg. 153/04, as amended.

5.6 Quality Assurance and Quality Control Results

All soil samples submitted as part of this Phase Two ESA investigation were handled in accordance with AGAT laboratory 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 is considered to be sufficient to meet the overall objective of this study.

6.0 CONCLUSIONS

Niagara Soils Solutions Ltd. [NSSL] was retained by Sam Visca Electric to conduct a Phase Two Environmental Site Assessment [ESA] of the commercial properties located at 5523, 5531 and 5539 Fraser Street in conjunction with the adjacent residential properties located at 5547 and 5555 Fraser Street in Niagara Falls, Ontario. The findings from the Phase Two ESA work are summarized as follows

- A total of ten [10] environmental boreholes were advanced across the properties to a maximum depth of 5.18 meters below ground surface.
- Fill material was encountered in all boreholes to a maximum depth of about 2.29 meters below ground surface.
- A total of ten [10] select soil samples from the drilling activities were submitted for laboratory analysis of target parameters Metals by ICP, Benzene, Toluene, Ethylbenzene, and Xylene [BTEX], Polycyclic Aromatic Hydrocarbons [PAHs], Petroleum Hydrocarbons [PHCs] F1-F4, and pH/Sodium Adsorption Rate [SAR]/Electrical Conductivity [EC].
- All soil results were found to meet Ministry of the Environment, Conservation and Parks 2011 Table 3 Full Depth Generic Site Condition Standard, for residential land use in a non-potable groundwater condition, medium and fine-textured soils.

Based on the soil testing results described herein, Niagara Soils Solutions Ltd. is of the opinion that no further environmental investigations or work is required at this time across the Phase Two ESA property. The lands are considered suitable for a change in land use for residential purposes.

7.0 LIMITATIONS

Niagara Soils Solutions Ltd. prepared this Report for the account of Sam Visca Electric and it is intended to provide a Phase Two Environmental Site Assessment on the municipal properties located at 5523, 5531, 5539, 5547 and 5555 Fraser Street in the City of Niagara Falls, 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.

John Monkman, P.Eng., FEC, QP_{ESA}
President

Jodie Glasier, M.MM, PD-EMA, EP
Vice President

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

REFERENCE: BASE MAP PROVIDED BY NIAGARA NAVIGATOR, https://maps-beta.niagararegion.ca/Navigator/
NOTE: FOR ILLUSTRATION PURPOSES ONLY, ALL LOCATIONS APPROXIMATE.

LEGEND

- Phase Two ESA Property Boundary
- 250 m Study Area

NIAGARA SOILS SOLUTIONS LTD.

CLIENT: **Sam Visca Electric**

PROJECT:

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
5523, 5531, 5539, 5555 and 5547 Fraser St, Niagara Falls, Ontario

TITLE:

SITE LOCATION PLAN

DRAWN BY:	DN
CHECKED BY:	JM
DATE:	March 2023
PROJECT NO:	NS22123-02
SCALE:	AS SHOWN
NO:	Figure 1

REFERENCE: BASE MAP PROVIDED BY NIAGARA NAVIGATOR, https://maps-beta.niagararegion.ca/Navigator/
NOTE: FOR ILLUSTRATION PURPOSES ONLY, ALL LOCATIONS APPROXIMATE.

LEGEND

Phase Two ESA Property Boundary

NIAGARA SOILS SOLUTIONS LTD.

CLIENT: **Sam Visca Electric**

PROJECT:

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
5523, 5531, 5539, 5555 and 5547 Fraser St, Niagara Falls, Ontario

TITLE:

SITE LAYOUT & FEATURES

DRAWN BY:	DN
CHECKED BY:	JM
DATE:	March 2023
PROJECT NO:	NS22123-02
SCALE:	AS SHOWN
NO:	Figure 2

POTENTIALLY CONTAMINATING ACTIVITIES

#1	28. Gasoline and Associated Products Storage in Fixed Tanks.
#2	28. Gasoline and Associated Products Storage in Fixed Tanks.
#3	30. Importation of Fill Material of Unknown Quality.
#4	30. Importation of Fill Material of Unknown Quality.
#5	10. Commercial Autobody Shops.
#6	46. Rail Yards, Tracks and Spurs.
#7	28. Gasoline and Associated Products Storage in Fixed Tanks.
#8	52. Storage, Maintenance, Fuelling and Repair of Equipment, Vehicles, and Material Used to Maintain Transportation Systems.
#9	41. Petroleum-derived Gas Refining, Manufacturing, Processing and Bulk Storage.
#10	58. Waste Disposal and Waste Management, including thermal treatment, landfilling and transfer of waste, other than use of biosoils as soil conditioners.
#11	22. Fertilizer Manufacturing, Processing and Bulk Storage.
#12	39. Paints Manufacturing, Processing and Bulk Storage.
#13	10. Commercial Autobody Shops.
#14	10. Commercial Autobody Shops.
#15	39. Paints Manufacturing, Processing and Bulk Storage.
#16	1. Acid and Alkali Manufacturing, Processing and Bulk Storage.
#17	2. Adhesives and Resins Manufacturing, Processing and Bulk Storage.
#18	8. Chemical Manufacturing, Processing and Bulk Storage.
#19	28. Gasoline and Associated Products Storage in Fixed Tanks.
#20	39. Paints Manufacturing, Processing and Bulk Storage.
#21	41. Petroleum-derived Gas Refining, Manufacturing, Processing and Bulk Storage.
#22	46. Rail Yards, Tracks and Spurs.
#23	51. Solvent Manufacturing, Processing and Bulk Storage.

REFERENCE: BASE MAP PROVIDED BY NIAGARA NAVIGATOR, https://maps-beta.niagararegion.ca/Navigator/
NOTE: FOR ILLUSTRATION PURPOSES ONLY, ALL LOCATIONS APPROXIMATE.

LEGEND

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

NIAGARA SOILS SOLUTIONS LTD.

CLIENT: Sam Visca Electric

PROJECT: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
5523, 5531, 5539, 5555 and 5547 Fraser St,
Niagara Falls, Ontario

TITLE: POTENTIALLY CONTAMINATING ACTIVITIES

DRAWN BY: DN

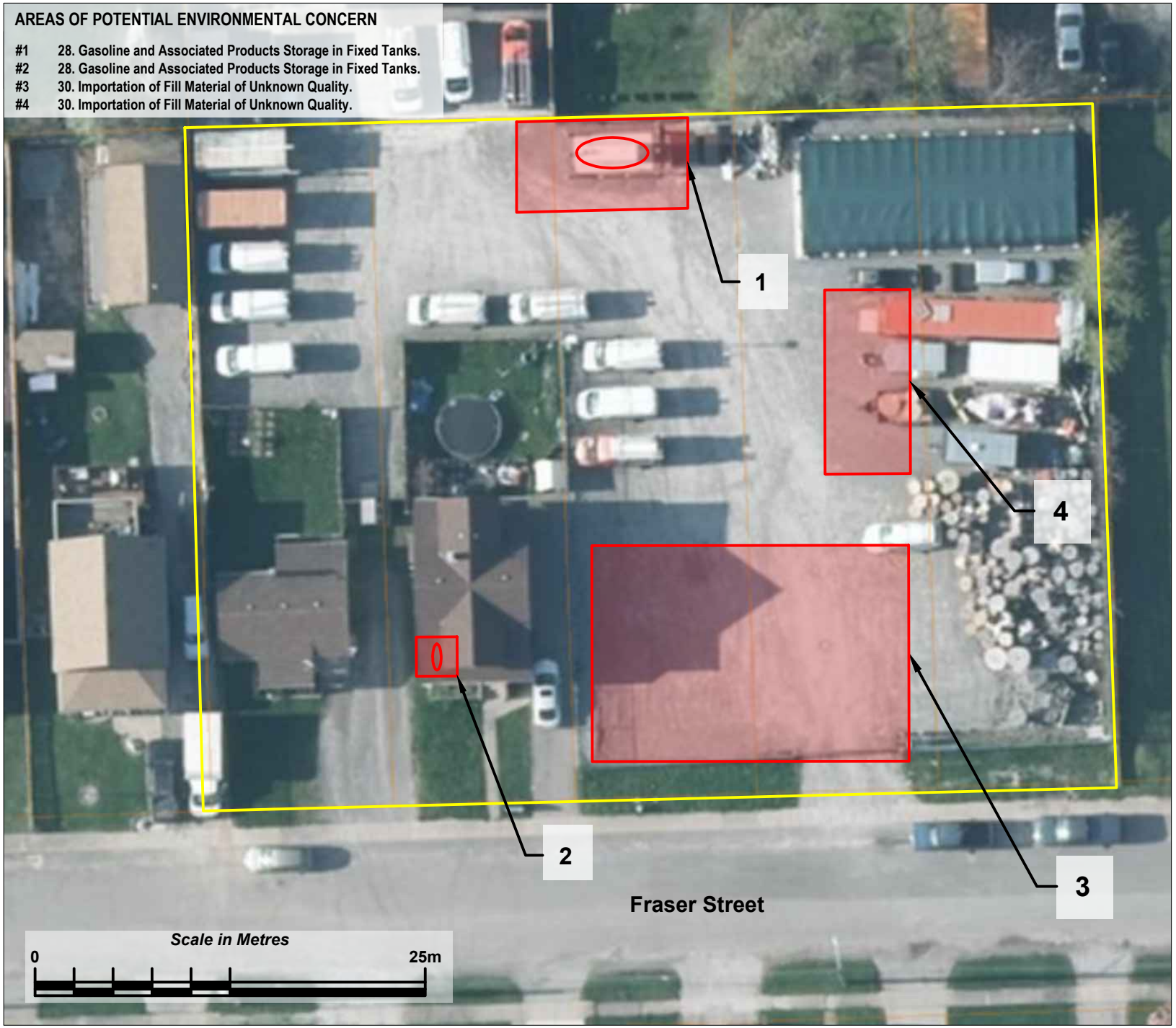
CHECKED BY: JM

DATE: March 2023

PROJECT NO: NS22123-02

SCALE: AS SHOWN

NO: Figure 3



REFERENCE: BASE MAP PROVIDED BY NIAGARA NAVIGATOR, https://maps-beta.niagararegion.ca/Navigator/
NOTE: FOR ILLUSTRATION PURPOSES ONLY, ALL LOCATIONS APPROXIMATE.

LEGEND

- Phase Two ESA Property Boundary
- APEC Areas

NIAGARA SOILS SOLUTIONS LTD.

CLIENT: **Sam Visca Electric**

PROJECT:

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
5523, 5531, 5539, 5555 and 5547 Fraser St, Niagara Falls, Ontario

TITLE:

AREAS OF POTENTIAL ENVIRONMENTAL CONCERN

DRAWN BY:	DN
CHECKED BY:	JM
DATE:	March 2023
PROJECT NO	NS22123-02
SCALE:	AS SHOWN
NO:	Figure 4

REFERENCE: BASE MAP PROVIDED BY NIAGARA NAVIGATOR, https://maps-beta.niagararegion.ca/Navigator/
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LEGEND

- Phase One ESA Property Boundary
- BH 1 — Borehole Location

NIAGARA SOILS SOLUTIONS LTD.

CLIENT:
Sam Visca Electric

PROJECT:
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
5523, 5531, 5539, 5555 and 5547 Fraser St,
Niagara Falls, Ontario

TITLE:
BOREHOLE LOCATIONS

DRAWN BY:	MD
CHECKED BY:	JM
DATE:	March 2023
PROJECT NO:	NS22123-02
SCALE:	AS SHOWN
NO:	Figure 5

REFERENCE: BASE MAP PROVIDED BY NIAGARA NAVIGATOR, https://maps-beta.niagararegion.ca/Navigator/
NOTE: FOR ILLUSTRATION PURPOSES ONLY, ALL LOCATIONS APPROXIMATE.

LEGEND

- Phase One ESA Property Boundary
- Topographic Contour

NIAGARA SOILS SOLUTIONS LTD.

CLIENT: **Sam Visca Electric**

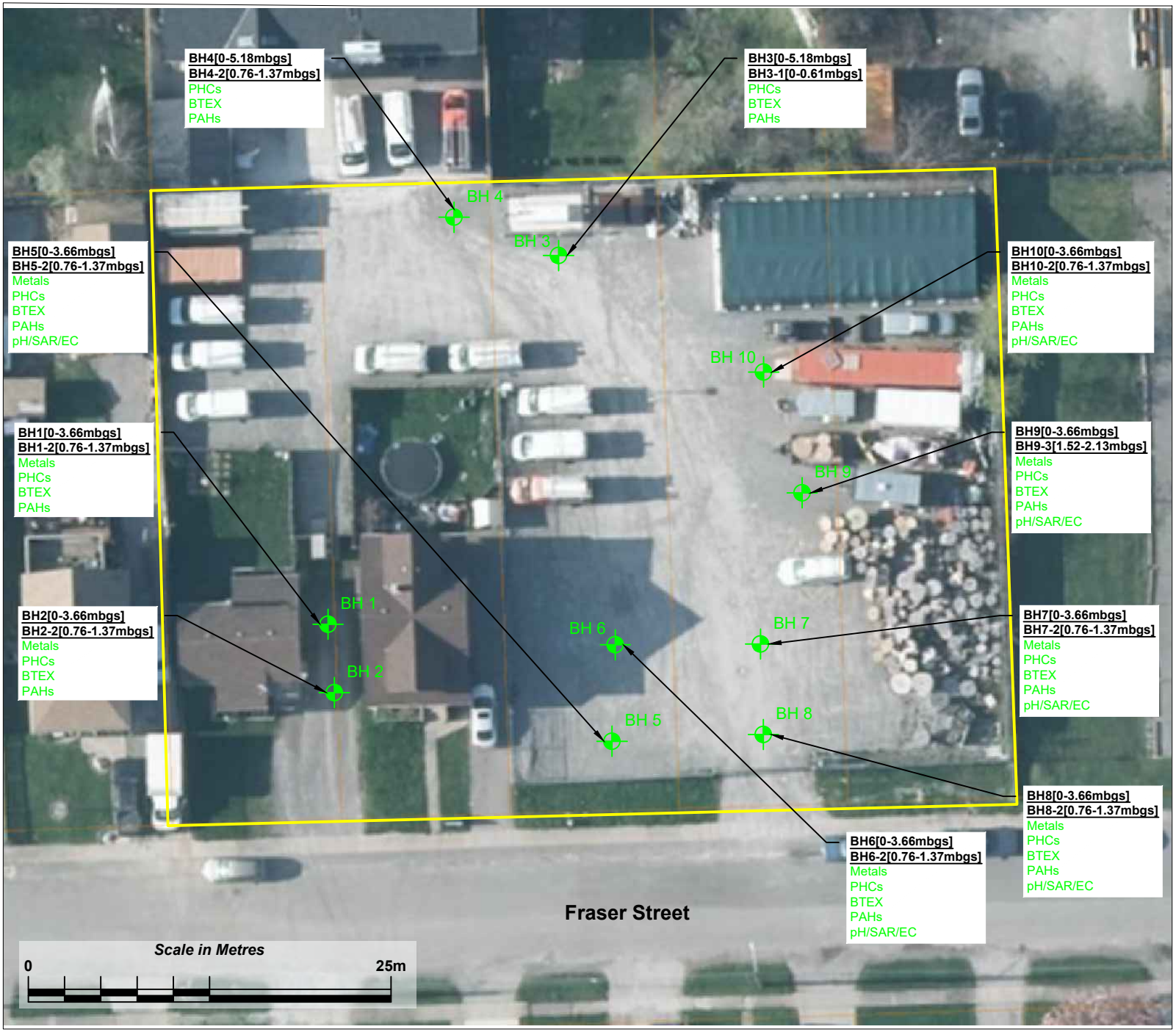
PROJECT:

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
5523, 5531, 5539, 5555 and 5547 Fraser St,
Niagara Falls, Ontario

TITLE:

TOPOGRAPHIC CONTOUR

DRAWN BY:	MD
CHECKED BY:	JM
DATE:	March 2023
PROJECT NO:	NS22123-02
SCALE:	AS SHOWN
NO:	Figure 6



REFERENCE: BASE MAP PROVIDED BY NIAGARA NAVIGATOR, https://maps-beta.niagararegion.ca/Navigator/
NOTE: FOR ILLUSTRATION PURPOSES ONLY, ALL LOCATIONS APPROXIMATE.

LEGEND

- Phase Two ESA Property Boundary
- BH 1 — Borehole Location
- BH 1 — Results Meet Criteria
- BH 1 — Results Exceed Criteria

Results Compared to O.Reg 153/04, Table 3: Residential Non-Potable, Fine

NIAGARA SOILS SOLUTIONS LTD.

CLIENT: **Sam Visca Electric**

PROJECT:

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
5523, 5531, 5539, 5555 and 5547 Fraser St, Niagara Falls, Ontario

TITLE: **SOIL RESULTS**

DRAWN BY: MD

CHECKED BY: JM

DATE: MARCH 2023

PROJECT NO: NS22123-02

SCALE: AS SHOWN

NO:

Figure 7

LEGEND

- Phase Two ESA Property Boundary
- BH 1 — Borehole Location
- X — X' Cross Section

NIAGARA SOILS SOLUTIONS LTD.

CLIENT: **Sam Visca Electric**

PROJECT:
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
5523, 5531, 5539, 5555 and 5547 Fraser St,
Niagara Falls, Ontario

TITLE:
CROSS SECTION PLAN VIEW; A-A' & B-B'

DRAWN BY: MD

CHECKED BY: JM

DATE: March 2023

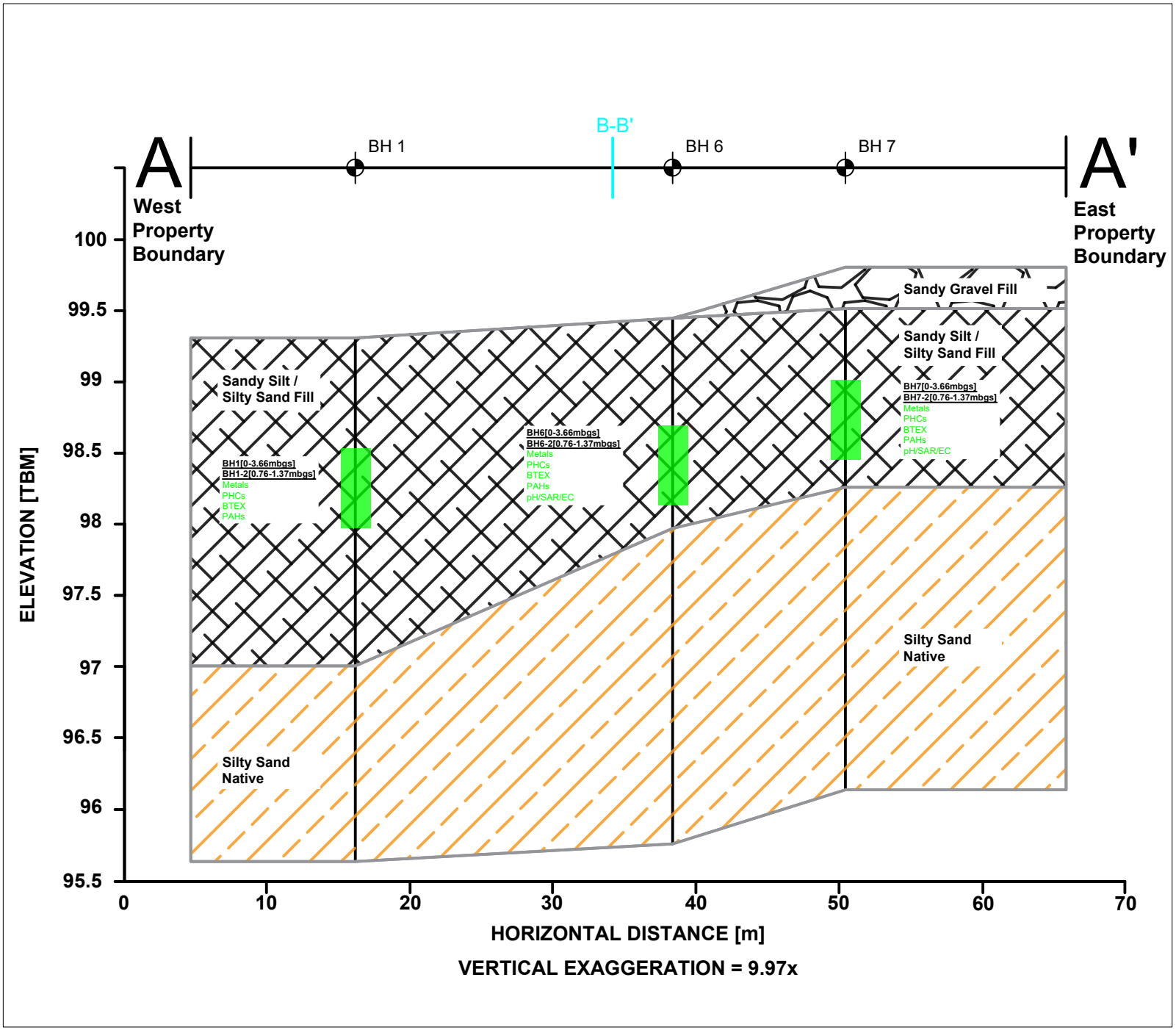
PROJECT NO: NS22123-02

SCALE: AS SHOWN

NO:

Figure 8

REFERENCE: BASE MAP PROVIDED BY NIAGARA NAVIGATOR, https://maps-beta.niagararegion.ca/Navigator/
NOTE: FOR ILLUSTRATION PURPOSES ONLY, ALL LOCATIONS APPROXIMATE.



LEGEND

Sandy Gravel; Fill Material

Sandy Silt/ Silty Sand; Fill Material

Silty Sand; Native Material

Meets Standards

Exceeds Standards

Results Compared to O. Reg. 153/04, Table 3: Residential, Fine Criteria

NIAGARA SOILS SOLUTIONS LTD.

CLIENT: Sam Visca Electric

PROJECT: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
5523, 5531, 5539, 5555 and 5547 Fraser St, Niagara Falls, Ontario

TITLE: CROSS SECTION A-A'

DRAWN BY: MD

CHECKED BY: JM

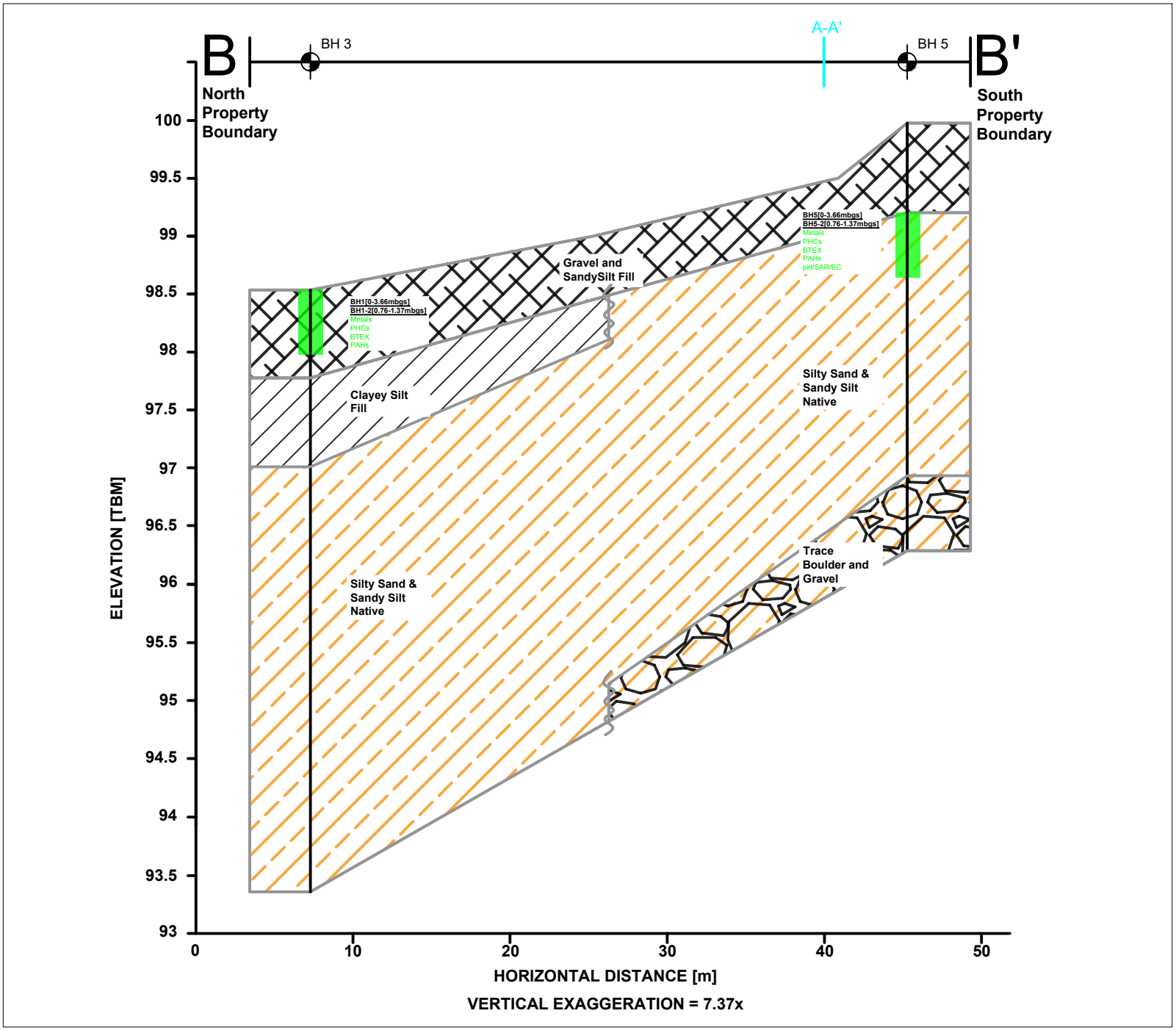
DATE: March 2023

PROJECT NO: NS22123-02

SCALE: AS SHOWN

NO: Figure 9A

NOTE: FOR ILLUSTRATION PURPOSES ONLY, ALL LOCATIONS APPROXIMATE.



LEGEND

- Gravel and Sandy Silt; Fill Material
- Clayey Silt; Fill Material
- Silty Sand & Sandy Silt; Native Material
- Trace Boulder & Gravel
- Meets Standards
- Exceeds Standards

Results Compared to O. Reg. 153/04, Table 3: Residential, Fine Criteria

NIAGARA SOILS SOLUTIONS LTD.

CLIENT: Sam Visca Electric

PROJECT: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
5523, 5531, 5539, 5555 and 5547 Fraser St,
Niagara Falls, Ontario

TITLE: CROSS SECTION B-B'

DRAWN BY: MD

CHECKED BY: JM

DATE: March 2023

PROJECT NO: NS22123-02

SCALE: AS SHOWN

NO: Figure 9B

NOTE: FOR ILLUSTRATION PURPOSES ONLY, ALL LOCATIONS APPROXIMATE.

APPENDIX A

FIELD LOGS

RECORD OF BOREHOLE: BH-1

PROJECT NO.: NS22123-02
PROJECT: Residential
LOCATION: 5547 Fraser Street. Niagara Falls, ON
CLIENT: Sam Visca Electric

DRILLING COMPANY: Davis Drilling Ltd
DRILLING METHOD: Track Mounted Solid Stem 100mm
DRILL RIG: CME - 55
BOREHOLE COORDINATE (UTM): 4311256 E, 7908758 N

SHEET 1 of 1
DATE STARTED: March 2, 2023
DATE COMPLETED: March 2, 2023
DATUM: TBM

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 0.0 0.0	99.31 0.00					
	225mm Granular material						99.10 0.21					
	Brown Sandy Silt Fill Trace Gravel and Debris Slight moist	SS	1	6,4,3,2		1.0		7	0			
						2.0	98.55 0.76					
	Brown Fine Sandy Silt Fill Some Clay, Trace Gravel, Loose Compact Dry	SS	2	4,3,3,6		3.0 1.0		6	0	Soil: Metals, PHC, BTEX, PAHs		
		SS	3	6,8,9,10		5.0		16	0			
						6.0 2.0						
						7.0	97.02 2.29					
	Brown Silty Sand Native Trace gravel Compact Dry	SS	4	10,12,13,14		8.0		25	0			
						9.0						
		SS	5	12,15,15,13		10.0 3.0		30	0			
						11.0						
	End of Borehole					12.0	95.65 3.66					
						13.0 4.0						
						14.0						
						15.0						
						16.0 5.0						
						17.0						
						18.0						
						19.0						
						20.0 6.0						

Groundwater Level Upon Completion:
Secondary Groundwater Level:

INITIAL WATER LEVEL: Dry
SECONDARY WATER LEVEL: N/A
BOREHOLE CAVE UPON COMPLETION: N/A

INITIAL WATER LEVEL DATE: March 2, 2023
SECONDARY WATER LEVEL DATE: N/A

LOGGED: JT / DN
COMPILED: MD
CHECKED: JM

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

RECORD OF BOREHOLE: BH-2

PROJECT NO.: NS22123-02
PROJECT: Residential
LOCATION: 5547 Fraser Street. Niagara Falls, ON
CLIENT: Sam Visca Electric

DRILLING COMPANY: Davis Drilling Ltd
DRILLING METHOD: Track Mounted Solid Stem 100mm
DRILL RIG: CME - 55
BOREHOLE COORDINATE (UTM): 4311256 E, 7908758 N

SHEET 1 of 1
DATE STARTED: March 2, 2023
DATE COMPLETED: March 2, 2023
DATUM: TBM

SOIL PROFILE		SAMPLES						FIELD TESTING		LAB TESTING		
LITHOLOGY PLOT	DESCRIPTION	TYPE	NUMBER	SPT 'N' VALUE	RECOVERY (%)	DEPTH SCALE ft / m	ELEVATION (m / mbgs)	SPT (N) 25 50 75 100	COV (ppm / %LEL)	LAB ANALYSIS	WELL INSTALLATION	COMMENTS
	Ground Surface					ft m	99.08					
	125mm Granular material					0.0 0.0	0.00					
	Sandy Silt Fill Trace gravel Loose Slight moist	SS	1	4,1,1,2		1.0 2.0		2	0			
							98.32					
	Brown Clayey Silt Fill Trace Gravel, Trace Sand Firm Dry	SS	2	5,6,9,10		3.0 1.0 4.0	0.76	15	0	Soil: Metals, PHC, BTEX, PAHs		
		SS	3	5,6,10,3		5.0 6.0	97.25	16	0			
	Brown Silty Sand / Sandy Silt Native Trace Gravel Compact Dry					2.0 7.0	1.83					
		SS	4	8,10,15,21		8.0 9.0		25	0			
		SS	5	12,12,15,16		3.0 10.0 11.0		27	0			
	End of Borehole					12.0	95.42 3.66					
						4.0 13.0 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: N/A
BOREHOLE CAVE UPON COMPLETION: N/A

INITIAL WATER LEVEL DATE: March 2, 2023
SECONDARY WATER LEVEL DATE: N/A

LOGGED: JT / DN
COMPILED: MD
CHECKED: JM

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

RECORD OF BOREHOLE: BH-3

PROJECT NO.: NS22123-02
PROJECT: Residential
LOCATION: 5547 Fraser Street. Niagara Falls, ON
CLIENT: Sam Visca Electric

DRILLING COMPANY: Davis Drilling Ltd
DRILLING METHOD: Track Mounted Solid Stem 100mm
DRILL RIG: CME - 55
BOREHOLE COORDINATE (UTM): 4311288 E, 7908748 N

SHEET 1 of 1
DATE STARTED: March 2, 2023
DATE COMPLETED: March 2, 2023
DATUM: TBM

LITHOLOGY PLOT	DESCRIPTION	TYPE	NUMBER	SPT 'N' VALUE	RECOVERY (%)	DEPTH SCALE ft / m	ELEVATION (m / mbgs)	FIELD TESTING: SPT (N)	FIELD TESTING: COV (ppm / %LEL)	LAB TESTING: LAB ANALYSIS	WELL INSTALLATION	COMMENTS
	Ground Surface					ft / m	98.55 / 0.00					
	200mm Granular material						98.34 / 0.21					
	Gravel & Sandy Silt Fill Blackish Stainning Moist	SS	1	11,10,4,3		1.0		14	0	Soil: PHC, BTEX, PAHs		Slight Odor & Staining
						2.0	97.79 / 0.76					
	Brown Clayey Silt Fill Trace Gravel	SS	2	4,6,8,4		3.0 / 1.0		14	0			
						4.0	97.03 / 1.52					
	Silty Sand Native Brown Compacted Dry	SS	3	5,7,9,11		5.0		16	0			
		SS	4	8,8,8,9		6.0 / 2.0		16	0			
		SS	5	7,9,5,5		7.0		14	0			
						8.0						
						9.0						
						10.0 / 3.0						
						11.0						
						12.0						
	Brown Sand Compact Dry	SS	6	10,16,25,28		13.0 / 4.0	93.98 / 4.57	41	0			
						14.0						
						15.0						
	End of Borehole					16.0 / 5.0	93.37 / 5.18					
						17.0						
						18.0						
						19.0						
						20.0 / 6.0						

Groundwater Level Upon Completion:
Secondary Groundwater Level:

INITIAL WATER LEVEL: Dry
SECONDARY WATER LEVEL: N/A
BOREHOLE CAVE UPON COMPLETION: N/A

INITIAL WATER LEVEL DATE: March 2, 2023
SECONDARY WATER LEVEL DATE: N/A

LOGGED: JT / DN
COMPILED: MD
CHECKED: JM

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

RECORD OF BOREHOLE: BH-4

PROJECT NO.: NS22123-02
PROJECT: Residential
LOCATION: 5547 Fraser Street. Niagara Falls, ON
CLIENT: Sam Visca Electric

DRILLING COMPANY: Davis Drilling Ltd
DRILLING METHOD: Track Mounted Solid Stem 100mm
DRILL RIG: CME - 55
BOREHOLE COORDINATE (UTM): 4311284 E, 7908738 N

SHEET 1 of 1
DATE STARTED: March 2, 2023
DATE COMPLETED: March 2, 2023
DATUM: TBM

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 0.0 0.0	98.20 0.00					
	200mm Granular material						97.99 0.21					
	Gravel & Sandy Silt Fill Blackish Stainning Loose Moist	SS	1	2,3,2,3		1.0		5	0			
	Brown Silty Sand Native Trace Gravel Firm Dry	SS	2	4,6,8,11		2.0 1.0	97.44 0.76	14	0	Soil: PHC, BTEX, PAHs		
		SS	3	7,11,11,14		3.0 4.0 5.0 6.0 2.0		22	0			
		SS	4	9,12,15,14		7.0 8.0 9.0 10.0 3.0		27	0			
		SS	5	8,10,12,14		11.0 12.0 13.0 4.0		22	0			
		SS	6	14,18,23,25		14.0 15.0 16.0 5.0		41	0			
	End of Borehole					17.0 18.0 19.0 6.0 20.0	93.02 5.18					

Groundwater Level Upon Completion:
Secondary Groundwater Level:

INITIAL WATER LEVEL: Dry
SECONDARY WATER LEVEL: N/A
BOREHOLE CAVE UPON COMPLETION: N/A

INITIAL WATER LEVEL DATE: March 2, 2023
SECONDARY WATER LEVEL DATE: N/A

LOGGED: JT / DN
COMPILED: MD
CHECKED: JM

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

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RECORD OF BOREHOLE: BH-5

PROJECT NO.: NS22123-02
PROJECT: Residential
LOCATION: 5547 Fraser Street. Niagara Falls, ON
CLIENT: Sam Visca Electric

DRILLING COMPANY: Davis Drilling Ltd
DRILLING METHOD: Track Mounted Solid Stem 100mm
DRILL RIG: CME - 55
BOREHOLE COORDINATE (UTM): 4311266 E, 7908732 N

SHEET 1 of 1
DATE STARTED: March 3, 2023
DATE COMPLETED: March 3, 2023
DATUM: TBM

SOIL PROFILE		SAMPLES						FIELD TESTING		LAB TESTING		
LITHOLOGY PLOT	DESCRIPTION	TYPE	NUMBER	SPT 'N' VALUE	RECOVERY (%)	DEPTH SCALE ft / m	ELEVATION (m / mbgs)	SPT (N) 25 50 75 100	COV (ppm / %LEL)	LAB ANALYSIS	WELL INSTALLATION	COMMENTS
	Ground Surface					ft m	99.96					
	150mm Granular material					0.0 0.0	0.00					
	Gravelly Sandy Fill	SS	1	9,7,3,3		1.0	99.81 0.15	10	0			
	Silty Sand Fill to Reworked Trace Gravel Compact Dry	SS	2	3,3,2,4		2.0 3.0 1.0 4.0	99.20 0.76	5	0	Soil: Metals, PHC/BTEX, PAH, pH/ SAR/ EC		
	Silty Sand Native Trace Gravel Compact Dry	SS	3	2,6,7,10		5.0 6.0 2.0 7.0	98.44 1.52	13	0			
		SS	4	12,17,21,16		8.0 9.0 10.0 3.0		38	0			
	Sandy Silt Trace Boulder and Gravel Compact Dry	SS	5	8,11,13,22		11.0	96.91 3.05	24	0			
	End of Borehole					12.0 13.0 4.0 14.0 15.0 16.0 17.0 5.0 18.0 19.0 20.0 6.0	96.30 3.66					

Groundwater Level Upon Completion:
Secondary Groundwater Level:

INITIAL WATER LEVEL: Dry
SECONDARY WATER LEVEL: N/A
BOREHOLE CAVE UPON COMPLETION: N/A

INITIAL WATER LEVEL DATE: March 3, 2023
SECONDARY WATER LEVEL DATE: N/A

LOGGED: JT / DN
COMPILED: MD
CHECKED: JM

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

RECORD OF BOREHOLE: BH-6

PROJECT NO.: NS22123-02
PROJECT: Residential
LOCATION: 5547 Fraser Street. Niagara Falls, ON
CLIENT: Sam Visca Electric

DRILLING COMPANY: Davis Drilling Ltd
DRILLING METHOD: Track Mounted Solid Stem 100mm
DRILL RIG: CME - 55
BOREHOLE COORDINATE (UTM): 4311266 E, 7908732 N

SHEET 1 of 1
DATE STARTED: March 3, 2023
DATE COMPLETED: March 3, 2023
DATUM: TBM

LITHOLOGY PLOT	DESCRIPTION	TYPE	NUMBER	SPT 'N' VALUE	RECOVERY (%)	DEPTH SCALE ft / m	ELEVATION (m / mbgs)	FIELD TESTING: SPT (N)	FIELD TESTING: COV (ppm / %LEL)	LAB TESTING: LAB ANALYSIS	WELL INSTALLATION	COMMENTS
	Ground Surface					0.0 / 0.0	99.45					
	150mm Granular material						0.00 / 99.30					
	Silty Sandy Fill Some Gravel	SS	1	3,2,3,3		1.0	0.15	10	0			
						2.0	98.69					
	Silty Sand Fill to Reworked Trace Gravel Compact Dry	SS	2	3,5,4,8		3.0 / 1.0	0.76	5	0	Soil: Metals, PHC/BTEX, PAHs, pH/ SAR/ EC		
						4.0	97.93					
	Silty Sand Native Trace Gravel Compact Dry	SS	3	2,4,3,4		5.0	1.52	13	0			
						6.0 / 2.0						
		SS	4	7,13,14,15		7.0		38	0			
						8.0						
						9.0						
						10.0 / 3.0						
		SS	5	12,12,12,28		11.0		24	0			
	End of Borehole					12.0	95.79					
						13.0	3.66					
						14.0						
						15.0						
						16.0						
						17.0						
						18.0						
						19.0						
						20.0 / 6.0						

SPT (N) scale: 25 50 75 100

Groundwater Level Upon Completion:
Secondary Groundwater Level:

INITIAL WATER LEVEL: Dry
SECONDARY WATER LEVEL: N/A
BOREHOLE CAVE UPON COMPLETION: N/A

INITIAL WATER LEVEL DATE: March 3, 2023
SECONDARY WATER LEVEL DATE: N/A

LOGGED: JT / DN
COMPILED: MD
CHECKED: JM

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

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RECORD OF BOREHOLE: BH-7

PROJECT NO.: NS22123-02
PROJECT: Residential
LOCATION: 5547 Fraser Street. Niagara Falls, ON
CLIENT: Sam Visca Electric

DRILLING COMPANY: Davis Drilling Ltd
DRILLING METHOD: Track Mounted Solid Stem 100mm
DRILL RIG: CME - 55
BOREHOLE COORDINATE (UTM): 4311267 E, 7908725 N

SHEET 1 of 1
DATE STARTED: March 3, 2023
DATE COMPLETED: March 3, 2023
DATUM: TBM

SOIL PROFILE		SAMPLES					ELEVATION (m / mbgs)	FIELD TESTING		LAB TESTING		
LITHOLOGY PLOT	DESCRIPTION	TYPE	NUMBER	SPT 'N' VALUE	RECOVERY (%)	DEPTH SCALE ft / m		SPT (N) 25 50 75 100	COV (ppm / %LEL)	LAB ANALYSIS	WELL INSTALLATION	COMMENTS
	Ground Surface					ft m 0.0 0.0	99.80 0.00					
	200mm Granular material						99.59 0.21					
	Sandy Gravel Fill Slightly moist Trace Asphalt Loose	SS	1	6,5,7,3		1.0 2.0		12	0			
							99.04 0.76					
	Brown Silty Sand Fill to Reworked Trace Gravel Firm Dry	SS	2	7,8,10,12		3.0 4.0 1.0		18	0	Soil: Metals, PHC/BTEX, PAHs, pH/ SAR/ EC		
							98.28 1.52					
	Silty Sand Native Trace Gravel / Boulder Hard Dry	SS	3	14,15,12,18		5.0 6.0 2.0		27	0			
		SS	4	7,8,15,17		7.0 8.0 9.0		23	0			
		SS	5	11,20,22,20		10.0 11.0 3.0		42	0			
	End of Borehole					12.0 13.0 4.0	96.14 3.66					
						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: N/A
BOREHOLE CAVE UPON COMPLETION: N/A

INITIAL WATER LEVEL DATE: March 3, 2023
SECONDARY WATER LEVEL DATE: N/A

LOGGED: JT / DN
COMPILED: MD
CHECKED: JM

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

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RECORD OF BOREHOLE: BH-8

PROJECT NO.: NS22123-02
PROJECT: Residential
LOCATION: 5547 Fraser Street. Niagara Falls, ON
CLIENT: Sam Visca Electric

DRILLING COMPANY: Davis Drilling Ltd
DRILLING METHOD: Track Mounted Solid Stem 100mm
DRILL RIG: CME - 55
BOREHOLE COORDINATE (UTM): 4311267 E, 7908725 N

SHEET 1 of 1
DATE STARTED: March 3, 2023
DATE COMPLETED: March 3, 2023
DATUM: TBM

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	99.55 0.00					
	250mm Granular material											
	Gray Gravel Fill	SS	1	2,3,4,3		1.0	99.31 0.24	7	0			
						2.0	98.79 0.76					
	Brown Silty Sand Fill / Reworked Trace Gravel Hard Dry	SS	2	5,7,10,14		3.0 1.0		17	0	Soil: Metals, PHC/BTEX, PAHs, pH/ SAR/ EC		
						4.0						
		SS	3	4,3,8,11		5.0 6.0 2.0		11	0			
	Silty Sand Native Trace Boulder, Gravel Compact Dry					7.0	97.42 2.13					
		SS	4	2,5,10,22		8.0 9.0		15	0			
						10.0 3.0						
		SS	5	5,8,11,12		11.0		19	0			
	End of Borehole					12.0	95.89 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: N/A
BOREHOLE CAVE UPON COMPLETION: N/A

INITIAL WATER LEVEL DATE: March 3, 2023
SECONDARY WATER LEVEL DATE: N/A

LOGGED: JT / DN
COMPILED: MD
CHECKED: JM

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-9

PROJECT NO.: NS22123-02
PROJECT: Residential
LOCATION: 5547 Fraser Street. Niagara Falls, ON
CLIENT: Sam Visca Electric

DRILLING COMPANY: Davis Drilling Ltd
DRILLING METHOD: Track Mounted Solid Stem 100mm
DRILL RIG: CME - 55
BOREHOLE COORDINATE (UTM): 4311288 E, 7908717 N

SHEET 1 of 1
DATE STARTED: March 3, 2023
DATE COMPLETED: March 3, 2023
DATUM: TBM

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					0.0 0.0	99.80					
	200mm Asphaltic Concrete						0.00					
	100mm Granular material						99.56					
	Gravelly Sand Fill Some Gravel Firm Dry	SS	1	3,4,3,2		1.0	0.24	7	0			
						2.0	99.04					
	Silty Sand Fill / Reworked Trace Asphalt Firm Dry	SS	2	2,2,4,9		3.0 1.0	0.76	6	0			
						4.0						
	Clayey Silt Fill Firm Dry	SS	3	4,5,7,10		5.0	98.28 1.52	12	0	Soil: Metals, PHC/BTEX, PAHs, pH/ SAR/ EC		
	Silty Sand Native Trace Clay Gravel Compact Dry					6.0 2.0						
		SS	4	5,10,11,8		7.0	97.67 2.13	21	0			
						8.0						
						9.0						
						10.0 3.0						
		SS	5	4,6,8,9		11.0		14	0			
	End of Borehole					12.0	96.14 3.66					
						13.0 4.0						
						14.0						
						15.0						
						16.0 5.0						
						17.0						
						18.0						
						19.0						
						20.0 6.0						

Groundwater Level Upon Completion:
Secondary Groundwater Level:

INITIAL WATER LEVEL: Dry
SECONDARY WATER LEVEL: N/A
BOREHOLE CAVE UPON COMPLETION: N/A

INITIAL WATER LEVEL DATE: March 3, 2023
SECONDARY WATER LEVEL DATE: N/A

LOGGED: JT / DN
COMPILED: MD
CHECKED: JM

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

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RECORD OF BOREHOLE: BH-10

PROJECT NO.: NS22123-02
PROJECT: Residential
LOCATION: 5547 Fraser Street. Niagara Falls, ON
CLIENT: Sam Visca Electric

DRILLING COMPANY: Davis Drilling Ltd
DRILLING METHOD: Track Mounted Solid Stem 100mm
DRILL RIG: CME - 55
BOREHOLE COORDINATE (UTM): 4311268 E, 7908717 N

SHEET 1 of 1
DATE STARTED: March 3, 2023
DATE COMPLETED: March 3, 2023
DATUM: TBM

SOIL PROFILE		SAMPLES						FIELD TESTING		LAB TESTING		
LITHOLOGY PLOT	DESCRIPTION	TYPE	NUMBER	SPT 'N' VALUE	RECOVERY (%)	DEPTH SCALE ft / m	ELEVATION (m / mbgs)	SPT (N) 25 50 75 100	COV (ppm / %LEL)	LAB ANALYSIS	WELL INSTALLATION	COMMENTS
	Ground Surface					0.0 ft / 0.0 m	99.65					
	225mm Granular material						0.00					
	Sandy Silt Fill Some Gravel Slight moist Loose	SS	1	7,5,3,1		1.0	99.42 0.23	8	0			
	Sandy Silt Fill Trace Gravel Firm Dry	SS	2	3,6,7,9		3.0 / 1.0	98.89 0.76	13	0	Soil: Metals, PHC, BTEX, PAHs, pH/ SAR/ EC		
	Silty Sand Native Trace Clay, Gravel Firm Dry	SS	3	5,7,10,7		5.0 / 2.0	98.13 1.52	17	0			
		SS	4	7,9,13,13		9.0 / 3.0		22	0			
		SS	5	7,8,12,8		11.0		20	0			
	End of Borehole					12.0 / 4.0	95.99 3.66					
						16.0 / 5.0						
						19.0 / 6.0						
						20.0						

Groundwater Level Upon Completion:
Secondary Groundwater Level:

INITIAL WATER LEVEL: Dry
SECONDARY WATER LEVEL: N/A
BOREHOLE CAVE UPON COMPLETION: N/A

INITIAL WATER LEVEL DATE: March 3, 2023
SECONDARY WATER LEVEL DATE: N/A

LOGGED: JT / DN
COMPILED: MD
CHECKED: JM

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.

APPENDIX B

CERTIFICATES OF ANALYSIS – SOIL

AGAT Laboratories

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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: NS22123-02
AGAT WORK ORDER: 23H003052
SOIL ANALYSIS REVIEWED BY: Nivine Basily, Inorganics Report Writer
TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist
DATE REPORTED: Mar 14, 2023
PAGES (INCLUDING COVER): 15
VERSION*: 1

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

Notes

Disclaimer:

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

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Certificate of Analysis

AGAT WORK ORDER: 23H003052

PROJECT: NS22123-02

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD

ATTENTION TO: Jodie Glasier

SAMPLING SITE:

SAMPLED BY:

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

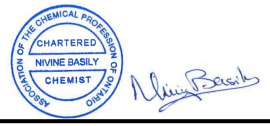
DATE RECEIVED: 2023-03-06 **DATE REPORTED: 2023-03-14**

		SAMPLE DESCRIPTION:		BH1-2	BH2-2	BH5-2	BH6-2	BH7-2	BH8-2	BH9-3	BH10-2
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2023-03-02	2023-03-02	2023-03-03	2023-03-03	2023-03-03	2023-03-03	2023-03-03	2023-03-03
Parameter	Unit	G / S	RDL	4829490	4829491	4829494	4829495	4829496	4829497	4829498	4829499
Antimony	µg/g	7.5	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	1	5	7	4	3	6	5	4	7
Barium	µg/g	390	2.0	179	260	180	96.1	152	115	111	88.0
Beryllium	µg/g	4	0.4	0.5	0.8	0.5	<0.4	0.5	0.6	0.5	0.6
Boron	µg/g	120	5	8	12	6	5	8	11	10	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	160	5	16	26	16	12	17	19	17	18
Cobalt	µg/g	22	0.5	9.4	14.1	7.8	6.4	10.1	10.4	9.5	9.8
Copper	µg/g	140	1.0	14.3	23.4	14.4	8.5	17.9	17.4	15.3	15.6
Lead	µg/g	120	1	6	10	5	4	10	6	5	6
Molybdenum	µg/g	6.9	0.5	0.7	0.7	<0.5	<0.5	0.6	0.5	0.6	<0.5
Nickel	µg/g	100	1	20	30	18	13	22	23	21	21
Selenium	µg/g	2.4	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Silver	µg/g	20	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	23	0.50	0.53	0.71	0.88	<0.50	0.68	0.67	0.66	0.69
Vanadium	µg/g	86	0.4	27.1	39.0	25.6	18.4	28.8	29.2	26.4	29.1
Zinc	µg/g	340	5	43	61	37	31	49	44	42	43

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Coarse Textured Soils
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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http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 23H003052

PROJECT: NS22123-02

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD

ATTENTION TO: Jodie Glasier

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2023-03-06 **DATE REPORTED: 2023-03-14**

		SAMPLE DESCRIPTION:		BH5-2	BH6-2	BH7-2	BH8-2	BH9-3	BH10-2
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2023-03-03	2023-03-03	2023-03-03	2023-03-03	2023-03-03	2023-03-03
Parameter	Unit	G / S	RDL	4829494	4829495	4829496	4829497	4829498	4829499
Electrical Conductivity (2:1)	mS/cm	0.7	0.005	0.610	0.614	0.339	0.182	0.665	0.283
pH, 2:1 CaCl2 Extraction	pH Units	5.0-9.0	NA	6.97	6.94	7.07	7.14	7.15	7.18
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	N/A	3.49	0.810	0.618	0.317	0.897	2.12

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Coarse Textured Soils
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.

4829494-4829499 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 obtained from 2:1 leaching procedure (2 parts extraction fluid:1 part wet soil). SAR is a calculated parameter.

Analysis performed at AGAT Toronto (unless marked by *)

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Certificate of Analysis

AGAT WORK ORDER: 23H003052

PROJECT: NS22123-02

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD

ATTENTION TO: Jodie Glasier

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2023-03-06

DATE REPORTED: 2023-03-14

		SAMPLE DESCRIPTION:		BH1-2	BH2-2	BH3-1	BH4-2	BH5-2	BH6-2	BH7-2	BH8-2
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2023-03-02	2023-03-02	2023-03-02	2023-03-02	2023-03-03	2023-03-03	2023-03-03	2023-03-03
Parameter	**Unit**	**G / S**	**RDL**	**4829490**	**4829491**	**4829492**	**4829493**	**4829494**	**4829495**	**4829496**	**4829497**
Naphthalene	µg/g	0.6	0.05	<0.05	<0.05	<0.05	<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	<0.05	<0.05	<0.05	<0.05
Acenaphthene	µg/g	7.9	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	µg/g	62	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	µg/g	6.2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	µg/g	0.67	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	µg/g	0.69	0.05	<0.05	<0.05	0.09	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	µg/g	78	0.05	<0.05	<0.05	0.08	<0.05	<0.05	<0.05	<0.05	<0.05
Benz(a)anthracene	µg/g	0.5	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	µg/g	7	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.78	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/g	0.78	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g	0.3	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.38	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g	0.1	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	6.6	0.05	<0.05	<0.05	<0.05	<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	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	19.2	19.7	8.7	13.8	16.1	15.6	14.2	13.6
Surrogate	**Unit**	**Acceptable Limits**									
Naphthalene-d8	%	50-140		75	75	70	80	70	90	90	95
Acridine-d9	%	50-140		85	75	85	105	110	80	90	105
Terphenyl-d14	%	50-140		80	90	75	105	75	80	80	90

Certified By: NPopowich

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 23H003052

PROJECT: NS22123-02

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD

ATTENTION TO: Jodie Glasier

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2023-03-06

DATE REPORTED: 2023-03-14

		SAMPLE DESCRIPTION:		BH9-3	BH10-2
		SAMPLE TYPE:		Soil	Soil
		DATE SAMPLED:		2023-03-03	2023-03-03
Parameter	**Unit**	**G / S**	**RDL**	**4829498**	**4829499**
Naphthalene	µg/g	0.6	0.05	<0.05	<0.05
Acenaphthylene	µg/g	0.15	0.05	<0.05	<0.05
Acenaphthene	µg/g	7.9	0.05	<0.05	<0.05
Fluorene	µg/g	62	0.05	<0.05	<0.05
Phenanthrene	µg/g	6.2	0.05	<0.05	<0.05
Anthracene	µg/g	0.67	0.05	<0.05	<0.05
Fluoranthene	µg/g	0.69	0.05	<0.05	<0.05
Pyrene	µg/g	78	0.05	<0.05	<0.05
Benz(a)anthracene	µg/g	0.5	0.05	<0.05	<0.05
Chrysene	µg/g	7	0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.78	0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/g	0.78	0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g	0.3	0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.38	0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g	0.1	0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	6.6	0.05	<0.05	<0.05
1 and 2 Methlynaphthalene	µg/g	0.99	0.05	<0.05	<0.05
Moisture Content	%		0.1	18.4	16.8
Surrogate	**Unit**	**Acceptable Limits**			
Naphthalene-d8	%	50-140		85	75
Acridine-d9	%	50-140		80	85
Terphenyl-d14	%	50-140		75	90

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Coarse Textured Soils
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.

4829490-4829499 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 Popnikolof

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Certificate of Analysis

AGAT WORK ORDER: 23H003052

PROJECT: NS22123-02

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD

ATTENTION TO: Jodie Glasier

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2023-03-06 **DATE REPORTED: 2023-03-14**

		SAMPLE DESCRIPTION:		BH1-2	BH2-2	BH3-1	BH4-2	BH5-2	BH6-2	BH7-2	BH8-2
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2023-03-02	2023-03-02	2023-03-02	2023-03-02	2023-03-03	2023-03-03	2023-03-03	2023-03-03
Parameter	**Unit**	**G / S**	**RDL**	**4829490**	**4829491**	**4829492**	**4829493**	**4829494**	**4829495**	**4829496**	**4829497**
Benzene	µg/g	0.21	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	µg/g	2.3	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	µg/g	2	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	3.1	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
F1 (C6 - C10)	µg/g	55	5	<5	<5	<5	<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	55	5	<5	<5	<5	<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g	98	10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10	<10	<10	<10	<10	<10	<10	<10
F3 (C16 to C34)	µg/g	300	50	<50	<50	173	<50	<50	<50	<50	<50
F3 (C16 to C34) minus PAHs	µg/g		50	<50	<50	173	<50	<50	<50	<50	<50
F4 (C34 to C50)	µg/g	2800	50	<50	<50	<50	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	2800	50	NA	NA	NA	NA	NA	NA	NA	NA
Moisture Content	%		0.1	19.2	19.7	8.7	13.8	16.1	15.6	14.2	13.6
Surrogate	**Unit**	**Acceptable Limits**									
Toluene-d8	% Recovery	60-140		102	96	93	100	107	85	110	86
Terphenyl	%	60-140		66	66	66	75	72	72	89	85

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 23H003052

PROJECT: NS22123-02

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD

ATTENTION TO: Jodie Glasier

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2023-03-06 **DATE REPORTED: 2023-03-14**

		SAMPLE DESCRIPTION:		BH9-3	BH10-2
		SAMPLE TYPE:		Soil	Soil
		DATE SAMPLED:		2023-03-03	2023-03-03
Parameter	**Unit**	**G / S**	**RDL**	**4829498**	**4829499**
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	2	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	18.4	16.8
Surrogate	**Unit**	**Acceptable Limits**			
Toluene-d8	% Recovery	60-140		80	119
Terphenyl	%	60-140		84	83

Certified By: N Popnikolof

AGAT Laboratories

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AGAT WORK ORDER: 23H003052

PROJECT: NS22123-02

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD

ATTENTION TO: Jodie Glasier

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2023-03-06 **DATE REPORTED: 2023-03-14**

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Coarse Textured Soils
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.

4829490-4829499 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 Popowich

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Quality Assurance

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD

AGAT WORK ORDER: 23H003052

PROJECT: NS22123-02

ATTENTION TO: Jodie Glasier

SAMPLING SITE:

SAMPLED BY:

Soil Analysis

RPT Date: Mar 14, 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 (Including Hydrides) (Soil)															
Antimony	4828826		<0.8	<0.8	NA	< 0.8	118%	70%	130%	86%	80%	120%	85%	70%	130%
Arsenic	4828826		7	6	15.4%	< 1	122%	70%	130%	104%	80%	120%	106%	70%	130%
Barium	4828826		67.3	64.3	4.6%	< 2.0	110%	70%	130%	104%	80%	120%	110%	70%	130%
Beryllium	4828826		0.4	0.4	NA	< 0.4	97%	70%	130%	104%	80%	120%	107%	70%	130%
Boron	4828826		7	6	NA	< 5	92%	70%	130%	105%	80%	120%	97%	70%	130%
Cadmium	4828826		<0.5	<0.5	NA	< 0.5	99%	70%	130%	105%	80%	120%	113%	70%	130%
Chromium	4828826		16	15	NA	< 5	100%	70%	130%	106%	80%	120%	102%	70%	130%
Cobalt	4828826		5.0	4.9	2.0%	< 0.5	107%	70%	130%	107%	80%	120%	105%	70%	130%
Copper	4828826		17.0	16.0	6.1%	< 1.0	100%	70%	130%	106%	80%	120%	99%	70%	130%
Lead	4828826		39	38	2.6%	< 1	110%	70%	130%	108%	80%	120%	101%	70%	130%
Molybdenum	4828826		0.5	0.5	NA	< 0.5	115%	70%	130%	112%	80%	120%	116%	70%	130%
Nickel	4828826		10	10	0.0%	< 1	107%	70%	130%	108%	80%	120%	103%	70%	130%
Selenium	4828826		<0.8	<0.8	NA	< 0.8	139%	70%	130%	108%	80%	120%	112%	70%	130%
Silver	4828826		<0.5	<0.5	NA	< 0.5	109%	70%	130%	105%	80%	120%	99%	70%	130%
Thallium	4828826		<0.5	<0.5	NA	< 0.5	116%	70%	130%	109%	80%	120%	106%	70%	130%
Uranium	4828826		<0.50	<0.50	NA	< 0.50	112%	70%	130%	105%	80%	120%	104%	70%	130%
Vanadium	4828826		28.1	25.8	8.5%	< 0.4	112%	70%	130%	111%	80%	120%	109%	70%	130%
Zinc	4828826		104	102	1.9%	< 5	106%	70%	130%	101%	80%	120%	103%	70%	130%

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

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

O. Reg. 153(511) - ORPs (Soil)									
Electrical Conductivity (2:1)	4839373	0.158	0.140	12.3%	< 0.005	96%	80%	120%
pH, 2:1 CaCl2 Extraction	4836753	6.69	6.93	3.5%	NA	93%	80%	120%
Sodium Adsorption Ratio (2:1) (Calc.)	4839373	0.185	0.185	0.4%	NA			

Comments: NA signifies Not Applicable.
pH duplicates QA acceptance criteria was met relative as stated in Table 5-15 of Analytical Protocol document.

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

Certified By:

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Quality Assurance

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD

AGAT WORK ORDER: 23H003052

PROJECT: NS22123-02

ATTENTION TO: Jodie Glasier

SAMPLING SITE:

SAMPLED BY:

Trace Organics Analysis

RPT Date: Mar 14, 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	4829475		<0.02	<0.02	NA	< 0.02	100%	60%	140%	92%	60%	140%	104%	60%	140%
Toluene	4829475		<0.05	<0.05	NA	< 0.05	92%	60%	140%	96%	60%	140%	93%	60%	140%
Ethylbenzene	4829475		<0.05	<0.05	NA	< 0.05	111%	60%	140%	102%	60%	140%	104%	60%	140%
m & p-Xylene	4829475		<0.05	<0.05	NA	< 0.05	104%	60%	140%	99%	60%	140%	102%	60%	140%
o-Xylene	4829475		<0.05	<0.05	NA	< 0.05	105%	60%	140%	104%	60%	140%	107%	60%	140%
F1 (C6 - C10)	4829475		<5	<5	NA	< 5	96%	60%	140%	109%	60%	140%	107%	60%	140%
F2 (C10 to C16)	4828830		<10	<10	NA	< 10	107%	60%	140%	116%	60%	140%	118%	60%	140%
F3 (C16 to C34)	4828830		<50	<50	NA	< 50	116%	60%	140%	112%	60%	140%	112%	60%	140%
F4 (C34 to C50)	4828830		<50	<50	NA	< 50	102%	60%	140%	108%	60%	140%	111%	60%	140%
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	4829497	4829497	<0.05	<0.05	NA	< 0.05	106%	50%	140%	88%	50%	140%	103%	50%	140%
Acenaphthylene	4829497	4829497	<0.05	<0.05	NA	< 0.05	94%	50%	140%	78%	50%	140%	78%	50%	140%
Acenaphthene	4829497	4829497	<0.05	<0.05	NA	< 0.05	79%	50%	140%	90%	50%	140%	95%	50%	140%
Fluorene	4829497	4829497	<0.05	<0.05	NA	< 0.05	82%	50%	140%	108%	50%	140%	85%	50%	140%
Phenanthrene	4829497	4829497	<0.05	<0.05	NA	< 0.05	100%	50%	140%	75%	50%	140%	98%	50%	140%
Anthracene	4829497	4829497	<0.05	<0.05	NA	< 0.05	70%	50%	140%	90%	50%	140%	80%	50%	140%
Fluoranthene	4829497	4829497	<0.05	<0.05	NA	< 0.05	66%	50%	140%	83%	50%	140%	88%	50%	140%
Pyrene	4829497	4829497	<0.05	<0.05	NA	< 0.05	82%	50%	140%	75%	50%	140%	78%	50%	140%
Benz(a)anthracene	4829497	4829497	<0.05	<0.05	NA	< 0.05	86%	50%	140%	78%	50%	140%	75%	50%	140%
Chrysene	4829497	4829497	<0.05	<0.05	NA	< 0.05	82%	50%	140%	105%	50%	140%	88%	50%	140%
Benzo(b)fluoranthene	4829497	4829497	<0.05	<0.05	NA	< 0.05	83%	50%	140%	118%	50%	140%	95%	50%	140%
Benzo(k)fluoranthene	4829497	4829497	<0.05	<0.05	NA	< 0.05	84%	50%	140%	118%	50%	140%	83%	50%	140%
Benzo(a)pyrene	4829497	4829497	<0.05	<0.05	NA	< 0.05	68%	50%	140%	95%	50%	140%	73%	50%	140%
Indeno(1,2,3-cd)pyrene	4829497	4829497	<0.05	<0.05	NA	< 0.05	113%	50%	140%	85%	50%	140%	85%	50%	140%
Dibenz(a,h)anthracene	4829497	4829497	<0.05	<0.05	NA	< 0.05	73%	50%	140%	80%	50%	140%	80%	50%	140%
Benzo(g,h,i)perylene	4829497	4829497	<0.05	<0.05	NA	< 0.05	119%	50%	140%	98%	50%	140%	83%	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 Popnikolof

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QC Exceedance

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD

AGAT WORK ORDER: 23H003052

PROJECT: NS22123-02

ATTENTION TO: Jodie Glasier

RPT Date: Mar 14, 2023

PARAMETER	Sample Id	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
			Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals (Including Hydrides) (Soil)										
Selenium		139%	70%	130%	108%	80%	120%	112%	70%	130%

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

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

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Method Summary

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD

AGAT WORK ORDER: 23H003052

PROJECT: NS22123-02

ATTENTION TO: Jodie Glasier

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Antimony	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Arsenic	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Barium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Beryllium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
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
Electrical Conductivity (2:1)	INOR-93-6075	modified from MSA PART 3, CH 14 and SM 2510 B	PC TITRATE
pH, 2:1 CaCl2 Extraction	INOR-93-6075	modified from EPA 9045D, MCKEAGUE 3.11 E3137	PC TITRATE
Sodium Adsorption Ratio (2:1) (Calc.)	INOR-93-6007	modified from EPA 6010D & Analytical Protocol	ICP/OES

AGAT Laboratories

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Method Summary

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD

AGAT WORK ORDER: 23H003052

PROJECT: NS22123-02

ATTENTION TO: Jodie Glasier

SAMPLING SITE:

SAMPLED BY:

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

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Method Summary

CLIENT NAME: NIAGARA SOIL SOLUTIONS LTD

AGAT WORK ORDER: 23H003052

PROJECT: NS22123-02

ATTENTION TO: Jodie Glasier

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
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

AGAT Laboratories

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Chain of Custody Record

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

Report Information:

Company: NSSL
Contact: Jodie Glasier
Address: 3300 Merritville Hwy Unit #5
Thorold L2V 4Y6
Phone: 289-407-6341 Fax:
Reports to be sent to:
1. Email: Jglasier@nssl.ca
2. Email:

Project Information:

Project: NS221123-02
Site Location: Niagara Falls.
Sampled By: JT / DN
AGAT Quote #: 76376 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 3 *Indicate One*
☐ Ind/Com
☑ Res/Park
☐ Agriculture
Soil Texture *(Check One)*
☑ Coarse
☐ Fine

☐ Excess Soils R406
Table *Indicate One*

☐ Regulation 558

☐ CCME

☐ Sewer Use
☐ Sanitary ☐ Storm
Region

☐ Prov. Water Quality Objectives (PWQO)

☐ Other
Indicate One

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

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

Sample Matrix Legend

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

Laboratory Use Only

Work Order #: 23H003052
Cooler Quantity: 1 & 2 COOLER
Arrival Temperatures: 19.1 | 18.9 | 18.7
7.9 | 8.2 | 8.5
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes: NO 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: PAHs	O. Reg 153: PCBs	O. Reg 153: VOC	O. Reg 153: Aroclors	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Corrosivity: Include Moisture ☐ Sulphide ☐	pH / SAR / EC						Potentially Hazardous or High Concentration (Y/N)
BH1-2	3-2	AM/PM	3	S				X	X	X								X						
BH2-2	↓	AM/PM	↓	↓				X	X	X														
BH3-1		AM/PM							X	X														
BH4-2	↓	AM/PM							X	X														
BH5-2	3-3	AM/PM						X	X	X								X						
BH6-2		AM/PM						X	X	X								X						
BH7-2		AM/PM						X	X	X								X						
BH8-2		AM/PM						X	X	X								X						
BH9-3		AM/PM						X	X	X								X						
BH10-2	↓	AM/PM	↓	↓				X	X	X								X						
		AM/PM																						

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Dawn Nyland				Mar 6/23	2:45pm
	Mar 6/23	3pm		Mar 6/23	4:30 PM

Page 1 of 1

N°: T - 139567

APPENDIX C

GRAIN SIZE ANALYSIS

Project No.: NT23045 March 10, 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. NS22123-02
5523, 5531, 5539, 5547, and 5555 Fraser Street, Niagara Falls, Ontario

Dear Ms. Glasier:

As requested, Niagara Testing & 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 Friday March 3rd, 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 2-3	84.0 %	16.0 %	Fine/Medium Grained
BH 3-3	87.7 %	12.3 %	Fine/Medium Grained
BH 7-4	89.4 %	10.6 %	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 & Inspection Ltd.

Prepared by:

Dwayne Neill, P.Eng.
Geotechnical Engineer

Reviewed by:

John Monkman, P.Eng.
Project Engineer

LICENSED PROFESSIONAL ENGINEER
J. D. MONKMAN
PROVINCE OF ONTARIO
Mar 10, 2023

Distribution:
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