Terraprobe

Consulting Geotechnical & Environmental Engineering
Construction Materials Inspection & Testing

UPDATED PHASE TWO ENVIRONMENTAL SITE ASSESSMENT J.J. O'NEILL CATHOLIC ELEMENTARY SCHOOL ADDITION, 240 MARILYN ROAD, NAPANEE, ONTARIO

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TABLE OF CONTENTS

SECTION PAGE

1.0 EXECUTIVE SUMMARY 1

2.0 INTRODUCTION 5
2.1 Site Description 5
2.2 Property Ownership 5
2.3 Current and Proposed Future Uses 6
2.3.1 Current Land Use 6
2.3.2 Future Land Use 6
2.4 Applicable Site Condition Standard 6
2.5 Objectives of Investigation 6

3.0 BACKGROUND INFORMATION 8
3.1 Physical Setting 8
3.1.1 Water Bodies, Wetlands, and Areas of Natural Significance 8
3.1.2 Topography and Surface Water Drainage 9
3.2 Past Investigations 9

4.0 SCOPE OF THE INVESTIGATION 11
4.1 Overview of Site Investigation 11
4.2 Media Investigated 12
4.2.1 The rationale for Inclusion or Exclusion of Media 12
4.2.2 Overview of Field Investigation of Media 12
4.3 Phase One Conceptual Site Model 12
4.4 Deviations from the Sampling and Analysis Plan 12
4.5 Impediments 12

5.0 INVESTIGATION METHOD 13
5.1 General 13
5.2 Drilling 13
5.3 Soil Sampling 13
5.3.1 Equipment Used 13
5.3.2 Geological Description of Soil 13
5.4 Field Screening Measurements 14
5.5 Ground Water Monitoring Well Installation 14
5.6 Field Measurement of Water Quality Parameters Ground Water Sampling 14
5.7 Ground Water Sampling 15
5.8 Sediment Sampling 15
5.9 Analytical Testing 15
5.10 Residue Management Procedures 15
5.10.1 Soil Cuttings 15
5.10.2 Ground Water 15
5.10.3 Fluids from Equipment Cleaning 16
5.11 Elevation Surveying 16
5.12 Quality Assurance and Quality Control Measures 16
5.12.1 Containers, Labelling, Handling, and Chain of Custody 16
5.12.2 Equipment Cleaning Procedures 17
5.12.3 Field Quality Control Measures 17

5.12.4 Deviations in the Quality Assurance and Quality Control Measures 17

6.0 REVIEW AND EVALUATION 18
6.1 Geology 18
6.1.1 Geological Unit Thickness (Estimate) 18
6.1.2 Elevations of Geological Units 18
6.1.3 The Materials in Geological Units 18
6.1.4 Properties of Aquifers and Aquitards 18
6.1.5 The Rationale for Choice of Aquifers and Aquitards Investigated 19
6.2 Ground Water Elevations and Flow Direction 19
6.2.1 The Rationale for Monitoring Well Locations and Screen Intervals 19
6.2.2 Results of Interface Probe Measurements 19
6.2.3 The Thickness of Free Flowing Product 19
6.2.4 Ground Water Elevations 19
6.2.5 Interpreted Direction of Ground Water Flow 19
6.2.6 Assessment of Temporal Variability 20
6.2.7 Influence of Buried Utilities 20
6.3 Ground Water Hydraulic Gradients and Hydraulic Conductivity 20
6.3.1 Hydraulic Conductivity 20
6.3.2 Horizontal Hydraulic Gradients 20
6.3.3 Vertical Hydraulic Gradients 21
6.4 Soil Texture 21
6.4.1 Rationale for Number of Grain Size Samples 21
6.4.2 Results of Grain Size Analysis 21
6.5 Soil Field Screening 22
6.6 Soil Quality 22
6.6.1 Location, Depth, and Soil Sample Results 22
6.6.2 Comparison to Applicable Standards (Soil) 23
6.6.3 Contaminants of Concern (Soil) 24
6.6.4 Chemical or Biological Transformations 24
6.6.5 Contamination Impact On Other Media 25
6.6.6 Presence of Light or Dense Non-Aqueous Phase Liquids (In Soil) 25
6.6.7 Toxicity Characteristic Leaching Procedure (TCLP) 25
6.7 Ground Water Quality 25
6.7.1 Location and Depth of Sample Locations 25
6.7.2 Field Filtering 25
6.7.3 Comparison to Applicable Standards (Ground Water) 26
6.7.4 Contaminants of Concern (Ground Water) 26
6.7.5 Chemical or Biological Transformations 26
6.7.6 Contamination Impact On Other Media 26
6.7.7 Presence of Light or Dense Non-Aqueous Phase Liquids (Ground Water) 26
6.8 Sediment Quality 27
6.8.1 Location and Depth of Sample Locations 27
6.9 Quality Assurance and Quality Control Results 27
6.9.1 Types of Quality Control Samples Collected and Results 27
6.9.2 Samples Not Handled per the Analytical Methods 27
6.9.3 Subsection 47 (3) of the Regulation 28
6.9.4 Results Qualified by Laboratory 28
6.9.5 Overall Quality of Field Data 28

7.0 CONCLUSIONS 29

8.0 SIGNATURES 31

9.0 REFERENCES 32

10.0 LIMITATIONS AND USE OF THE REPORT 33

TABLES:

Table 1 Geological Units
Table 2 Monitoring Well Construction
Table 3 Ground Water Elevations
Table 4 Metals & Inorganics in Soil Result
Table 4.1 Additional Metals Sampling
Table 5 Polycyclic Aromatic Hydrocarbons in Soil Result
Table 6 Petroleum Hydrocarbons in Soil Result
Table 7 Volatile Organic Compounds in Soil Result
Table 8 Polychlorinated Biphenyls in Soil Results
Table 9 Other Regulated Parameters pH in Soil Results
Table 10 Metals in Ground Water Result
Table 11 Petroleum Hydrocarbons in Ground Water Result
Table 12 Benzene, Toluene, Ethylbenzene, Xylenes in Ground Water Result
Table 13 Volatile Organic Compounds in Ground Water Result

FIGURES:

Figure 1 Phase Two Property Location
Figure 2 PCA Locations
Figure 3 APEC Locations and Borehole/Monitoring Well Location Plan
Figure 4 Borehole/Monitoring Well Location Plan
Figure 5 Ground Water Elevations and Flow Direction
Figure 6 Soil Exceedance (Plan View)

APPENDICES:

Appendix A Phase One Conceptual Site Model
Appendix B Sampling and Analysis Plan
Appendix C Standard Operating Procedures
Appendix D Borehole Logs
Appendix E Grain Size Analysis
Appendix F Laboratory Certificates of Analysis

1.0 EXECUTIVE SUMMARY

Ontario Infrastructure and Lands Corporation (IO) retained Terraprobe Inc. (Terraprobe) to complete a Phase Two Environmental Site Assessment (Phase Two ESA) of the Phase Two Property (Property) with municipal address 240 Marilyn Avenue, Napanee, Ontario. The Phase Two ESA was required due to the conclusions of the Phase One ESA, which indicated Areas of Potential Environmental Concern (APECs) were present on the Property. The Phase Two ESA was completed in compliance with Ontario Regulation 153/04 (O. Reg. 153/04), as amended.

The Property is roughly "L" shaped and covers an area of approximately 4.7 ha (11 acres). The Property is currently developed with an elementary school building. Asphaltic parking lots and driveways surround the building that is situated in the northeastern section of the Property. The surrounding properties are predominantly in residential, community, and agricultural or other land use. The Property is currently considered to be in institutional land use, per Ontario Regulation 153/04 (O. Reg. 153/04).

It is understood that the proposed development on the Property will include the construction of an addition to the current school building on the Property and will have a floor area of approximately 0.38 ha (0.94 acres). Under the Ministry of the Environment, Conservation, and Parks (MECP) the Property is currently under institutional land use and the proposed building addition will not result in a change to the land use of the Property, as such, the Property will continue to remain under institutional land use. Since the Property will not be changing to more sensitive land use, the filing of a Record of Site Condition (RSC) with the MECP is not a statutory requirement.

A Phase One ESA was completed for the Property, as per the requirement of O. Reg. 153/04 by Terraprobe Inc. entitled "*Phase One Environmental Site Assessment, J. J. O Neil Catholic School Addition, 240 Marilyn Avenue, Napanee, Ontario"* dated February 2023. The findings of the Phase One ESA are shown below:

Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC 1	Central Portion of Property, Parking lot and Paved Areas	#30 – Importation of Fill Material of Unknown Quality	On-Site	PAHs, PHCs, VOCs, BTEX, Metals, As, Sb, Se, B-HWS, CN-, Hg, Cr(VI), pH, EC, SAR	Soil
APEC 2	240 Marilyn Avenue On Property, East of School Building	Others 1 –Transformer	On-Site	PCBs	Soil

Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC 3	240 Marilyn Avenue On Property, North of Portables	Others 1 –Transformer	On-Site	PCBs	Soil

A Phase Two ESA of the Property was conducted to investigate these concerns.

The conclusions of the Phase Two ESA are presented below:

- A total of thirteen (13) boreholes were advanced on the Property to a depth of approximately 3.5 to 5.4 meters below grade. Five (5) boreholes (BH1, BH2, BH4, BH5, and BH6) were installed with a monitoring well.
- Soil conditions encountered within the boreholes consisted of a layer of topsoil varying in thickness from about 100 mm to 150 mm in Boreholes BH1, 2, 7, 8, 10, 11, and 12. A surficial layer of asphaltic concrete varying in thickness from 65 mm to 80 mm was encountered at Boreholes BH 5, 6, and 13.
- Earth-fill material was encountered at all borehole locations, extending to depths varying from about 0.8 m (BH1, 2, 3, 4, 6, 7, 8, 12) to 1.5 m (BH5) below ground surface. It consisted of clayey silt/silty sand with trace amounts of gravel as well as inorganics.
- Undisturbed native cohesive soil deposit comprising of clayey silt to silty clay was encountered beneath the earth fill layer at all borehole locations and extended to depths varying from about 2.7 m (BH2) to 4.0 m (BH5) below ground surface.
- A total of eight (8) grain size analyses were conducted to determine the on-site soil texture. Six (6) soil samples were identified to be of medium-fine texture and two (2) of coarse texture.
- Ground water depths at the Property varies from 0.5 m (94.7 masl) to 1.4 m (93.9 masl) below ground surface. Based on the groundwater elevation readings and the topography of the area, the groundwater is expected to flow in the south-southeastern direction.
- The applicable Site Condition Standards are the Ministry of the Environment, Conservation and Parks (MECP) Table 2 Standards for Residential, Parkland, Institutional Land Use with medium-fine textured texture soils (Table 2 Standards).
- Select soil samples were analysed for metals (M), including hydride-forming metals (As, Sb, Se), B-HWS, CN-, Hg, Cr(VI), pH, EC, SAR (ORPs), polycyclic aromatic hydrocarbons (PAHs),

polychlorinated biphenyls (PCBs), petroleum hydrocarbons (PHCs), volatile organic compounds (VOCs), benzene, toluene, ethylbenzene and xylene (BTEX).

- Applicable site condition standards were met for all soils on the Property with the exception of the following exceedances:
  - Cobalt
    - BH11-SS1 (0.0-0.6 m depth): 22.1 ug/g vs 22.0 ug/g MECP Table 2 Standards
    - DUP-2 (BH11-SS1) (0.0-0.6 m depth): 25.0 ug/g vs 22.0 ug/g MECP Table 2 Standards
  - Barium
    - DUP-2 (BH11-SS1) (0.0-0.6 m depth): 411 ug/g vs 390 ug/g MECP Table 2 Standards
  - Vanadium
    - DUP-2 (BH11-SS1) (0.0-0.6 m depth): 89.0 ug/g vs 86.0 ug/g MECP Table 2 Standards
- Additional investigation was carried out on the Property in May 2023. Fifteen (15) hand-auger soil samples (including QA/QC) were collected for the purpose of delineating the lateral and vertical extent of the impacts identified at BH11. The soil samples were submitted for analysis of metals and hydride-forming metals.
  - Applicable site condition standards were met for all additional samples with the exception of the following exceedance:
    - Cobalt
      - AS06 (0.0-0.3 m depth): 30.7 ug/g vs. 22.0 ug/g MECP Table 2 Standards
- The following exceedance was identified based on soil analysis completed as part of the following report: *"Geotechnical Investigation Report, Proposed Addition JJ O'Neil Catholic School, Napanee, ON"*, prepared for Algonquin and Lakeshore Catholic District School Board, prepared by Malroz Engineering Inc. (Malroz), and dated October 17, 2022.
  - Comparing the soil results to the applicable Table 2 RPI MFT Standards, one PHC exceedance is observed at BH110-S01 (0-0.6 m depth) (PHCs F2: 196 ug/g vs. 150 ug/g Table 2 Standards).
- Select groundwater samples were analysed for metals, PHCs, VOCs, and BTEX.
  - Applicable site condition standards were met for groundwater on the Property.

The soil impacts identified at BH11-SS1, DUP 2 (BH11-SS1), AS06 and Malroz BH110-S01 are considered to be localized within the fill material at the Property. Removal of the impacted soil and confirmatory soil sampling would be needed to meet the applicable MECP Table 2 Standards.

All wells installed during the subsurface soil and groundwater investigation are required to be decommissioned under O. Reg. 903 when they are no longer needed for groundwater observation.

2.0 INTRODUCTION

Ontario Infrastructure and Lands Corporation (IO) retained Terraprobe Inc. (Terraprobe) to complete a Phase Two Environmental Site Assessment (Phase Two ESA) of the Phase Two Property (Property) with municipal address 240 Marilyn Avenue, Napanee, Ontario. The Phase Two ESA was required due to the conclusions of the Phase One ESA, which indicated Areas of Potential Environmental Concern (APECs) were present on the Property. The Phase Two ESA was completed in compliance with Ontario Regulation 153/04 (O. Reg. 153/04), as amended.

2.1 Site Description

The Property is roughly "L" shaped and covers an area of approximately 4.7 ha (11 acres). The Property is currently developed with an elementary school building. Asphaltic parking lots and driveways surround the building that is situated in the northeastern section of the Property. The surrounding properties are predominantly in residential, community, and agricultural or other land use. The Property is currently considered to be in institutional land use, per Ontario Regulation 153/04 (O. Reg. 153/04).

It is understood that the proposed development on the Property will include the construction of an addition to the current school building on the Property and will have a floor area of approximately 0.38 ha (0.94 acres). Under the Ministry of the Environment, Conservation, and Parks (MECP) the Property is currently under institutional land use and the proposed building addition will not result in a change to the land use of the Property, as such, the Property will continue to remain under institutional land use. Since the Property will not be changing to more sensitive land use, the filing of a Record of Site Condition (RSC) with the MECP is not a statutory requirement.

The general location of the Property is presented in Figure 1.

2.2 Property Ownership

The Property is currently owned by the Algonquin & Lakeshore Catholic District School Board. Additional information regarding the Property is provided below:

Municipal Address	240 Marilyn Avenue, Napanee, Ontario
Zoning	The Zoning By-Law of the Town of Greater Napanee Map was reviewed; the Property is zoned as Community Facility (CF) under Zoning-By-Law 02-22.
Property Owner Information	Algonquin & Lakeshore Catholic District School Board

2.3 Current and Proposed Future Uses

2.3.1 Current Land Use

The Property is currently developed with a school building. As such, the current land use of the Property under O. Reg. 153/04 is institutional.

2.3.2 Future Land Use

Proposed development on the Property will include the construction of an addition to the current school building on the Property and will have a floor area of approximately 0.38 ha (0.94 acres). As such, the future land use of the Property under O. Reg. 153/04 will remain institutional land use.

2.4 Applicable Site Condition Standard

The applicable soil and ground water Standards for the Property were determined to be those in Table 2 of the April 15, 2011, Ontario Ministry of Environment, Conservation and Parks (MECP) "*Soil, Ground Water and Sediment Standards for use under part XV.1 of the Environmental Protection Act*" for Residential, Parkland, Institutional Land Use in a potable ground water condition for medium-fine textured soil (Table 2 Standards).

These are considered to be the applicable Standards for the following reasons:

- The Property will be in institutional use.
- A total of eight (8) grain size analyses were conducted to determine the on-site soil texture. Six (6) soil samples were identified to be of medium-fine texture and two (2) of coarse texture.
- Bedrock across the Property is located at a depth of greater than 2 m.
- The site is not located within 30 m of a surface water body.
- The soil pH on the Property was determined to be between 5 and 9.
- Based on the MECP water well records, four (4) private wells are located within 500 m of the Property, as such, potable ground water conditions will apply.

2.5 Objectives of Investigation

The general objectives of the investigation include the following:

- To determine if Contaminants of Potential Concern identified in a Phase One ESA for the Property are found through the course of conducting the Phase Two ESA, in soil, sediment, and/or ground water, as applicable.
- To determine if the concentrations of the potential Contaminants of Concern identified in the investigation met the generic Site Condition Standard.

To ensure that the general objectives of the investigation were met, the Qualified Person (QP) ensured the following:

- That the investigation provided sufficient information to provide an understanding of the geological and hydrogeological conditions at the Phase Two Property; and
- That one or more rounds of field sampling are conducted for all Potential Contaminants of Concern (PCoCs) identified for each Area of Potential Environmental Concern (APEC), as identified in the Sampling and Analysis Plan (Appendix C) of the Phase Two ESA and found through the course of conducting the Phase Two ESA, in soil, sediment, and ground water, as applicable.

3.0 BACKGROUND INFORMATION

3.1 Physical Setting

3.1.1 Water Bodies, Wetlands, and Areas of Natural Significance

Mapping from the Ontario Ministry of Natural Resources and Forestry (MNRF) was reviewed to determine if water bodies were present on the Property and within the Study Area. The Ontario Ministry of Natural Resources National Heritage Information Centre database for listings of Areas of Natural or Scientific Interest (ANSIs) was reviewed. The information is summarized below:

Water Bodies (Property)	• No water bodies were identified on the Property
Water Bodies (Study Area)	• No water body was identified within the Phase One Study Area.
Wetland (Property)	<u>Provincially Significant</u> • No Provincially Significant wetlands were present on the Property. <u>Non- Provincially Significant</u> • No Non- Provincially Significant wetlands were present on the Property. <u>Unevaluated</u> • No Unevaluated wetlands were present on the Property at the north and south ends.
Wetland (Study Area)	<u>Provincially Significant</u> • No Provincially Significant wetlands were present in the Study Area. <u>Non- Provincially Significant</u> • No Non- Provincially Significant wetlands were present in the Study Area. <u>Unevaluated</u> • One (1) Unevaluated wetlands were present in the Study Area, northwest of the Property.
ANSIs (Property)	<u>Provincially Significant Life Science ANSI</u> • No Life Science ANSIs were identified on the Property. <u>Provincially Significant Earth Science ANSI</u> • No Earth Science ANSIs were identified on the Property.

ANSIs **(Study Area)**	<u>Provincially Significant Life Science ANSI</u> • No Life Science ANSIs were identified in the Study Area. <u>Provincially Significant Earth Science ANSI</u> • No Earth Science ANSIs were identified in the Study Area.

3.1.2 Topography and Surface Water Drainage

A topographic map from the Ontario Ministry of Natural Resources and Forestry (MNRF) and the geological mapping produced by the Ontario Ministry of Northern Development and Mines - Ontario Geological Survey was reviewed. The information gleaned from the mapping is summarized below.

Topography	Based on topographic information from the Ministry of Natural Resources topographic map, Toporama, the Subject Property's ground surface elevation is approximately 95 m above mean sea level.
Hydrogeology	There are no surface water bodies or features located on the Property. Ground water and surface water is expected to flow in the south-southeast direction into the Napanee River located approximately 0.9 km south of the Phase One Property.
Geology (overburden)	Based on published geological information for the area, the near-surface overburden on the Property is mainly comprised of predominantly silt and clay with minor sand and gravel. The Property is located in the physiographic region known as the clay Plains within the physiographic landform of Napanee Plain.
Geology (bedrock)	The bedrock on the Property is of the Bobcaygeon Formation, which is comprised of limestone with minor shales in upper part of the bedrock.
Geology (depth to bedrock)	Based on the published information, the depth of bedrock in the vicinity is approximately 4.3 to 6.1 m below ground surface.

3.2 Past Investigations

- A Phase One ESA was completed as per the requirement of O. Reg. 153/04 by Terraprobe Inc. entitled "*Phase One Environmental Site Assessment, J. J. O Neil Catholic School Addition, 240 Marilyn Avenue, Napanee, Ontario"* dated February 2023. The Phase One ESA identified the following areas of potential environmental concern (APECs) on the Property.

Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC 1	Central Portion of Property, Parking	#30 – Importation of Fill Material of Unknown Quality	On-Site	PAHs, PHCs, VOCs, BTEX, Metals, As, Sb,	Soil

Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, soil and/or sediment)
	lot and Paved Areas			Se, B-HWS, CN-, Hg, Cr(VI), pH, EC, SAR	
APEC 2	240 Marilyn Avenue On Property, East of School Building	Others 1 –Transformer	On-Site	PCBs	Soil
APEC 3	240 Marilyn Avenue On Property, North of Portables	Others 1 –Transformer	On-Site	PCBs	Soil

- *"Geotechnical Investigation Report, Proposed Addition JJ O'Neil Catholic School, Napanee, ON"*, prepared for Algonquin and Lakeshore Catholic District School Board, prepared by Malroz Engineering Inc. (Malroz), and dated October 17, 2022.
    - The pertinent environmental information obtained from the report is from Section 6.8. Malroz completed a preliminary soil quality characterization program, which consisted of analytical testing of soil samples obtained from the Property.
    - The results from the analytical testing identified Petroleum Hydrocarbons (PHCs) exceedances compared to Table 1 RPIICC Standards at three sampling locations (BH108-S01, BH109-S01, BH110-S01) within the fill material at the Property.
        - Comparing the soil results to the applicable Table 2 RPI MFT Standards, one PHC exceedance is observed at BH110-S01 (0-0.6 m depth) (PHCs F2: 196 ug/g vs. 150 ug/g Table 2 Standards). Refer to Figure 6 for soil sampling results.
    - Additional samples were submitted to vertically delineate these PHC exceedances. Results from the delineation samples (BH108-S02, BH109-S02, BH110-S03) showed no exceedances.
    - Through its borehole drilling program, Malroz identified fill material across the central portion of the Property.

4.0 SCOPE OF THE INVESTIGATION

4.1 Overview of Site Investigation

Terraprobe conducted the following subsurface work at the Property for the Phase Two ESA:

- Date of Work: December 14, 2022 - January 26, 2023 and May 2023
    - Drilling of thirteen (13) boreholes approximately extending to 3.5 m to 5.4 m below ground surface between December 14th to 15th, 2022.
    - Hand-auger sample collection of fifteen (15) samples approximately extending to 0.3-1.0 m below ground surface in May 2023.
    - Laboratory analysis of selected soil samples for parameters including:
        - Metals
        - Metals, including Hydride Forming Metals (As, Sb, Se) – (Metals-HF)
        - Other Regulated Parameters (ORPs)
            - Boron-Hot Water Soluble (B-HWS)
            - Cyanide (CN-)
            - Mercury (Hg)
            - Chromium (VI) – (Cr VI)
            - pH
            - Electrical Conductivity (EC)
            - Sodium Adsorption Ratio (SAR)
        - Polycyclic Aromatic Hydrocarbons (PAHs)
        - Polychlorinated Biphenyls (PCBs)
        - Petroleum Hydrocarbons (PHCs)
        - Benzene, Toluene, Ethylbenzene, and Xylene (BTEX)
        - Volatile Organic Compounds (VOCs)
    - Installation of five (5) ground water monitoring wells.
    - Survey of all boreholes and monitoring wells to a geodetic benchmark.
    - Measurement of ground water elevations to determine ground water elevation and flow direction.
    - Development and sampling of five (5) monitoring wells.
    - Laboratory analysis of ground water samples for:
        - PHCs
        - BTEX
        - Metals
        - VOCs

4.2 Media Investigated

4.2.1 The rationale for Inclusion or Exclusion of Media

Media	Included or excluded	Rational
Soil	Included	Based upon the Phase One ESA, soil sampling was required on the Property of the identified Potential Contaminants of Concern (PCoCs). Sample locations were selected to investigate all the identified Areas of Potential Environmental Concern (APECs).
Sediment	Excluded	Surface water bodies were not present on the Property. As such, sediment sampling was not conducted during the investigation.
Ground Water	Included	Based upon the Phase One ESA, ground water sampling was required on the Property of the identified PCoCs. Sample locations were selected to investigate all the identified Areas of Potential Environmental Concern (APECs).
Surface Water	Excluded	Surface water bodies were not present on the Property. As such, surface water sampling was not conducted during the investigation.

4.2.2 Overview of Field Investigation of Media

Soil sampling was conducted during the drilling program by the use of split spoon sampling. Groundwater sampling was conducted from monitoring wells installed within the completed boreholes.

4.3 Phase One Conceptual Site Model

The Phase One Conceptual Site Model (CSM) was developed as part of the Phase One ESA for the Property through a review of historical records and a reconnaissance of the area. The Phase One CSM from the Phase One ESA is provided in Appendix A.

4.4 Deviations from the Sampling and Analysis Plan

The sampling and analysis plan is provided in Appendix B. There were no deviations from the sampling and analysis plan.

4.5 Impediments

Impediments were not encountered during the investigation.

5.0 INVESTIGATION METHOD

5.1 General

Public and private utility clearances were undertaken prior to commencing the subsurface investigation. The Phase Two ESA generally followed the methods outlined in the following documents:

- Ontario Ministry of the Environment and Climate Change *"Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario"* (December 1996)

The methods used in the Phase Two ESA investigation did not differ from the associated standard operating procedures. The Standard Operating Procedures is presented in Appendix C.

5.2 Drilling

The drilling information for the Phase Two ESA is provided below:

Borehole	BH1-13
Date of Work	December 14-15, 2022
Name of Contractor	Marathon
Equipment Used	Track Mount Rig
Decontamination Measures	Spoons were cleaned prior to sampling which prevents the potential for cross contamination.
Sampling Frequency	Please refer to the borehole logs in Appendix D for the sampling frequency

5.3 Soil Sampling

5.3.1 Equipment Used

- Laboratory supplied sampling containers
- Nitrile gloves
- Cooler with loose ice
- RKI Instruments EAGLE 2 Monitor.

5.3.2 Geological Description of Soil

Please refer to the borehole logs in Appendix D for the geological description of each soil sample collected.

5.4 Field Screening Measurements

Soil samples were screened in the field using portable hydrocarbon vapour testing equipment and following the procedure outlined in the "*Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario*" published by the Ontario Ministry of the Environment.

Samples were screened using an RKI Instruments EAGLE 2 Monitor. The monitor has a range of 0 parts per million (ppm) to 50,000 ppm and an accuracy of +/- 5%. The monitor was calibrated with hexane prior to field screening as per the calibration procedure outlined by RKI Instruments in "*Instruction Manual Eagle Series Portable Multi-Gas Detector 71-0028RK*" released August 8, 2010.

Field screening measurements were used to help select samples for petroleum hydrocarbon and volatile organic compounds laboratory analysis. Complete field screening readings are provided on the borehole logs in Appendix D.

5.5 Ground Water Monitoring Well Installation

Monitoring wells were installed in five (5) boreholes – Boreholes BH1, BH2, BH4, BH5, and BH6, by the drilling sub-contractor on dates noted in Section 5.2, under the supervision of an experienced Terraprobe field technician. The wells were constructed of 50-mm (2-in) ID PVC screens and risers. Filter sand was placed around the well screen to approximately 0.6 m above the top of the screen. The wells were then backfilled with bentonite to approximately 0.3 m below ground surface. The wells were finished with flush mount caps.

As per Ontario Regulation 903 the monitoring wells were tagged with a single water well records. The borehole/monitoring well locations are provided in Figure 4. The monitoring well installation details are provided on the borehole logs in Appendix D.

5.6 Field Measurement of Water Quality Parameters Ground Water Sampling

Field measurements of water quality parameters were measured using a Hanna Instruments portable pH/EC/TDS/Temperature meter (model HI 991301).

Range

- pH 0.00 to 14.00 pH
- EC 0.00 to 20.00 mS/cm
- TDS 0.00 to 10.00 ppt (g/L)
- Temperature 0.0 to 60.0°C

Resolution

- pH 0.01 pH
- EC 0.01 mS/cm
- TDS 0.01 ppt
- Temperature 0.1°C

Accuracy

- pH ±0.01 pH
- EC ±2% F.S.
- TDS ±2% F.S.
- Temperature ±0.5°C

5.7 Ground Water Sampling

The monitoring wells were purged and sampled using inertia pump and tubing. Stabilization of parameters (pH, D.O., conductivity, temperature, etc.) and turbidity of the purged water are monitored before a sample is taken, thus sampling methods facilitate equilibrium with the surrounding formation water and produces samples that are representative of the formation water. One round of ground water sampling was conducted in January 2023.

Stabilization was considered to occur when consecutive readings were within the following:

- Conductivity ± 3%
- Temperature ± 3%
- pH ± 0.1 unit

5.8 Sediment Sampling

No sediment sampling was conducted as part of this investigation.

5.9 Analytical Testing

Analytical testing of soil and groundwater was conducted by AGAT Laboratories. Laboratory Certificates of Analysis were received for all samples submitted for chemical analysis. The soil and ground water samples submitted for chemical analysis are summarized in the Sampling and Analysis Plan presented in Appendix B.

5.10 Residue Management Procedures

5.10.1 Soil Cuttings

Soil cuttings generated during the drilling activities were left on the Property in drums.

5.10.2 Ground Water

The development and purging water generated during the ground water sampling was disposed of to the drums on the Property.

5.10.3 Fluids from Equipment Cleaning

The fluids from cleaning were removed from the Property and disposed of by the driller.

5.11 Elevation Surveying

The elevations of the boreholes on the Property were surveyed by Terraprobe using a Trimble R10 survey system. The Trimble R10 is a differential global positioning system (GPS) which involves the cooperation of two receivers, one that's stationary and another that's roving around making position measurements. The elevation of each borehole on the Property is presented on the borehole logs in Appendix D.

5.12 Quality Assurance and Quality Control Measures

5.12.1 Containers, Labelling, Handling, and Chain of Custody

Containers

Soil Parameters	Container
M&I	250 mL glass jar, Teflon lined lid
BTEX, PHCs (F1), VOCs	40–60 mL glass vial (charged with methanol preservative, pre- weighed) and glass jar (for moisture content)
PHCs (F2–F4), PCBs, PAHs	120 mL glass jar, Teflon lined lid
Ground Water Parameters	**Container**
BTEX, PHCs (F1), VOCs	40–60 mL glass vials (minimum of 2)
PHCs (F2–F4)	2 x 500 mL amber glass bottle, Teflon lined lid
Metals	2 x 500 mL amber glass bottle, Teflon lined lid

Labelling

All sampling containers were identified with laboratory supplied labels. The labels included the following information:

- Unique Sample ID
- Company Name
- Date and Time
- Project Number

Handling

Samples were placed in coolers with loose ice after collection for transportation to the laboratory. Sample hold times were met for all submitted soil and ground water samples.

Chain of Custody

Laboratory supplied Chain of Custody forms were completed for all samples submitted for analysis.

5.12.2 Equipment Cleaning Procedures

All non-dedicated sampling and monitoring equipment must be cleaned following each use. During soil sampling a dedicated sampling device was used for each sample to prevent cross-contamination. During ground water sampling any part of the interface meter which came into contact with the ground water was cleaned between monitoring wells.

Dedicated equipment (nitrile gloves, terra core samplers, tubing) were changed between each sample to avoid cross contamination.

5.12.3 Field Quality Control Measures

- All non-dedicated sampling and monitoring equipment must be cleaned following each use.
- Sufficient field duplicate samples were collected in each medium being sampled so that at least one (1) field duplicate sample can be submitted for laboratory analysis for every ten (10) samples submitted for laboratory analysis
- Calibration checks on field instruments occurred daily before the commencement of sampling

5.12.4 Deviations in the Quality Assurance and Quality Control Measures

No deviations from the quality assurance and quality control measures plan occurred.

6.0 REVIEW AND EVALUATION

6.1 Geology

Detailed geological information for the Property is presented on the borehole logs in Appendix D. The geology at the Property is summarized below.

6.1.1 Geological Unit Thickness (Estimate)

The geological unit thicknesses are presented in Table 1.

6.1.2 Elevations of Geological Units

The geological unit elevations are presented in Table 1.

6.1.3 The Materials in Geological Units

Surficial Materials

Soil conditions encountered within the boreholes consisted of a layer of topsoil varying in thickness from about 100 mm to 150 mm in Boreholes BH1, 2, 7, 8, 10, 11, and 12. A surficial layer of asphaltic concrete varying in thickness from 65 mm to 80 mm was encountered at Boreholes BH 5, 6, and 13.

Earth Fill

Earth-fill material was encountered at all borehole locations, extending to depths varying from about 0.8 m (BH1, 2, 3, 4, 6, 7, 8, 12) to 1.5 m (BH5) below ground surface. It consisted of clayey silt/silty sand with trace amounts of gravel as well as inorganics.

Native Soil

Undisturbed native cohesive soil deposit comprising of clayey silt to silty clay was encountered beneath the earth fill layer at all borehole locations and extended to depths varying from about 2.7 m (BH2) to 4.0 m (BH5) below ground surface.

Bedrock

Bedrock was not encountered during the investigation.

6.1.4 Properties of Aquifers and Aquitards

Earth Fill

The earth-fill on the Property is an unconfined and drained aquifer. The ground water table on the Property is located below the fill. The fill is hydraulically interconnected to the native soils. Any water within the fill material is expected to migrate downwards into the native soils.

Native Soil

Based on field observations and monitoring of ground water levels, the native clayey silt to silty clay layer behaves as an aquifer. Recharge into the aquifer will be primarily through rainfall events.

6.1.5 The Rationale for Choice of Aquifers and Aquitards Investigated

The native soils were chosen for investigation. This was chosen for investigation because:

- The likelihood of vertical migration of water from surficial infiltration of precipitation water.
- Possibility of free ground water present through recharge from larger area and up-gradient tributaries.

6.2 Ground Water Elevations and Flow Direction

6.2.1 The Rationale for Monitoring Well Locations and Screen Intervals

Monitoring wells were located across the Property in order to provide full site coverage. The monitoring wells were screened within the native soil unit across the Property to allow for the collection of ground water samples within the water bearing aquifer.

6.2.2 Results of Interface Probe Measurements

Interface probe measurements indicated that only water was present on the Property. No light non-aqueous phase liquids (LNAPL) or dense non-aqueous phase liquids (DNAPL) were detected.

6.2.3 The Thickness of Free Flowing Product

No free-flowing product was encountered on the Property.

6.2.4 Ground Water Elevations

Groundwater elevations are presented in Table 3.

6.2.5 Interpreted Direction of Ground Water Flow

Based on the ground water elevations, ground water appears to flow to the south-southeast of the Property. Based on topography of the area, the inferred ground water direction is expected to be south-southeast towards the Napanee River. Ground water flow direction and ground water elevations are presented in Figure 5.

6.2.6 Assessment of Temporal Variability

Two (2) ground water level measurements were collected on the Property. However, additional rounds of ground water level measurements are required to comment on the temporal variability of ground water at the Property.

6.2.7 Influence of Buried Utilities

Subsurface structures and buried utilities may have affected ground water flow on the Property.

6.3 Ground Water Hydraulic Gradients and Hydraulic Conductivity

6.3.1 Hydraulic Conductivity

The hydraulic conductivity of the subsurface soils was assessed based on grain size analysis completed on eight (8) select soil samples. In addition, hydraulic conductivity estimates were obtained based on published data. The results are summarized below.

		Hydraulic Conductivity (m/s)	
Monitoring Well/ Soil Sample	**Strata Screen / Soil Description**	**Grain Size**	**Published Data**
BH1/SS3	Silty clay, trace sand trave gravel	4.8E-8	10^{-6} to 10^{-9}
BH2/SS5	Sand, some silt some gravel some clay	2.3E -6	10^{-2} to 10^{-6}
BH3/SS4	Clayey silt, trace sand	3.6E-7	10^{-6} to 10^{-9}
BH4/SS5	Sand, some silt some gravel some clay	2.56E-6	10^{-2} to 10^{-6}
BH5/SS5	Clayey silt, trace sand	2.5E-7	10^{-6} to 10^{-9}
BH7/SS2	Silty clay, trace gravel	2.3E-8	10^{-6} to 10^{-9}
BH9/SS3	Silty clay, trace sand	2.3E-8	10^{-6} to 10^{-9}
BH11/SS2	Silty clay, trace gravel	9E-8	10^{-6} to 10^{-9}

The hydraulic conductivity value of the native clayey silt to silty clay layer based on the grain size analysis is approximately on the order of 10^{-7} to 10^{-8} m/s. This is comparable to the hydraulic conductivity in published data for the soil types identified at the Property.

6.3.2 Horizontal Hydraulic Gradients

The groundwater table investigation for the Property was within the overburden soil layer. Based on the measured groundwater levels, the horizontal hydraulic gradient of groundwater within the overburden at the Property from BH6 to BH5 was determined to be approximately 0.00599 m/m in the southeastern direction. The following calculation was used to determine the horizontal hydraulic gradient.

$$Horizontal\ Hydraulic\ Gradient = \frac{change\ in\ water\ level}{distance\ between\ the\ wells}$$

$$Horizontal\ Hydraulic\ Gradient = \frac{\Delta h}{L} = \frac{BH6 - BH5}{L} = \frac{94.45m - 94.33m}{13.5m} = 0.00889\ \boldsymbol{m/m}$$

6.3.3 Vertical Hydraulic Gradients

The vertical hydraulic gradient was not calculated for the soil on the Property due to insufficient data.

6.4 Soil Texture

6.4.1 Rationale for Number of Grain Size Samples

Eight (8) soil samples were analyzed for grain size distribution (ASTM D422). Given the area of Phase Two Property it was determined by the Qualified Person that eight samples would provide adequate representative samples to determine soil texture. The grain size analysis is presented in Appendix E.

6.4.2 Results of Grain Size Analysis

The results of the grain size analyses are provided in Appendix E and noted on the borehole logs at respective sampling depths. A summary of the grain size analysis results is presented below:

Borehole No. Sample No.	Sampling Depth below Grade	Percentage				Description (MIT System)	Sample Soil Texture
		Gravel	Sand	Silt	Clay		
BH1/SS3	1.5-1.98 m	1	6	24	69	Silty clay, trace sand trave gravel	Medium Fine
BH2/SS5	3.05-3.5 m	14	57	18	11	Sand, some silt some gravel some clay	Coarse
BH3/SS4	2.3-2.7 m	0	2	76	22	Clayey silt, trace sand	Medium Fine
BH4/SS5	3.05-3.5 m	18	53	18	11	Sand, some silt some gravel some clay	Coarse
BH5/SS5	3.05-3.5 m	1	4	74	21	Clayey silt, trace sand	Medium Fine
BH7/SS2	0.76-1.37 m	0	3	28	69	Silty clay, trace gravel	Medium Fine
BH9/SS3	1.5-1.98 m	0	7	33	60	Silty clay, trace sand	Medium Fine
BH11/SS2	0.76-1.37 m	0	3	27	70	Silty clay, trace gravel	Medium Fine

According to O.Reg.153/04, a soil is considered coarse textured if at least 50 percent by weight of the particles are larger than 75 µm (0.075 mm), and a soil is considered medium-fine textured if at least 50 percent by weight of the particles are smaller than 75 µm (0.075 mm). Of the eight (8) grain size analyses conducted, six (6) soil samples were identified to be of medium-fine texture and two (2) of coarse texture.

The grain size curves are presented in Appendix E.

6.5 Soil Field Screening

All recovered soil samples were screened in the field using portable hydrocarbon vapour testing equipment and following the procedure outlined in the "*Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario*" published by the Ontario Ministry of the Environment.

There were no visual or olfactory observations that would suggest possible impact to the soil. Field screening for soil vapour did not indicate presence of any concentration of volatile compounds. No headspace reading was detected for any of the soil samples. Complete field screening readings are provided on the borehole logs in Appendix D.

6.6 Soil Quality

6.6.1 Location, Depth, and Soil Sample Results

The soil sampling and analysis is summarized below:

Sample Identification	Sample Depth		Chemical Analysis													
	mbgs	masl	Metals	Metals – HF	CR (VI)	Hg	B-HWS	CN-	EC	SAR	pH	PAHs	PCBs	PHCs	BTEX	VOCs
BH1																
SS1	0-0.61	95.5-94.89	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SS4	2.23-2.9	93.27-92.6	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-
BH2																
SS1	0-0.61	95.5-94.89	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓
SS3	1.52-2.13	93.98-93.37	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-
BH3																
SS1	0-0.61	95.1-94.49	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SS3	1.52-2.13	93.58-92.97	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-
BH4																
SS1	0-0.61	95.1-94.49	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
BH5																
SS1	0-0.61	95.3-94.69	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SS3	1.52-2.13	93.78-93.17	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-
BH6																
SS1	0-0.61	95.2-94.59	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SS4	2.23-2.9	92.97-92.3	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-
BH7																
SS1	0-0.61	94.9-94.29	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DUP-1	0-0.61	94.9-94.29	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
BH8																
SS1	0-0.61	94.5-93.89	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
BH10																
SS1	3.05-3.66	94.5-93.89	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Sample Identification	Sample Depth		Chemical Analysis													
	mbgs	masl	Metals	Metals – HF	CR (VI)	Hg	B-HWS	CN-	EC	SAR	pH	PAHs	PCBs	PHCs	BTEX	VOCs
BH11																
SS1	0-0.61	94.3-93.69	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓
DUP-2	0-0.61	94.3-93.69	X	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-
Additional Investigation May 2023																
Hand Auger Samples																
AS01	0.0-0.3	94.3-94.0	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
DUP1	0.0-0.3	94.3-94.0	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
AS02	0.0-0.3	94.3-94.0	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
AS03	0.0-0.3	94.3-94.0	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
AS04	0.0-0.3	94.3-94.0	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
AS05	0.7-1.0	93.6-93.3	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
DUP2	0.7-1.0	93.6-93.3	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
AS06	0.0-0.3	94.3-94.0	X	✓	-	-	-	-	-	-	-	-	-	-	-	-
AS07	0.0-0.3	94.3-94.0	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
AS08	0.0-0.3	94.3-94.0	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
AS09	0.0-0.3	94.3-94.0	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
AS10	0.0-0.3	94.3-94.0	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
AS11	0.0-0.3	94.3-94.0	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
AS12	0.0-0.3	94.3-94.0	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
AS13	0.0-0.3	94.3-94.0	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-

Note: ✓- Meets MECP Table 2 RPI MFT Standards
X - Exceeds MECP Table 2 RPI MFT Standards
- Not sampled

6.6.2 Comparison to Applicable Standards (Soil)

The rationale for sampling location and frequency are presented in the Sampling and Analysis Plan in Appendix B. The laboratory Certificates of Analysis are provided in Appendix F. The results of soil chemical analysis are provided in Tables 4, 5, 6, 7, 8, and 9. Exceedances of Table 2 RPI MFT Standards for soil are provided below.

Metals Parameters in Soil

Fifteen (15) soil samples with two (2) duplicate samples were selected for chemical analysis for Metals, Metals – HF, and ORP parameters. The collected samples met Table 2 RPI MFT soil standards for all parameters, except for the Vanadium (V), Cobalt (Co), and Barium (Ba) exceedances. The exceedances are summarized below.

Sample Description	BH11/SS1	DUP-2 (BH11/SS1)
Date Sampled	12/15/2022	12/15/2022
Depth of Sample (mbgs)	0-0.61	0-0.61
AGAT Workorder	22T982124	22T982124

Parameter Name	ON T2 RPI MFT	Unit	4631346	4631348
Barium (Ba)	390	µg/g	373	**411**
Cobalt (Co)	22	µg/g	**22.1**	**25**
Vanadium (V)	86	µg/g	84.8	**89**

*Note: **Bold** - Exceeds MECP Table 2 RPI MFT Standards*

The soil impacts identified at BH11-SS1 and DUP-2 (BH11-SS1) are considered to be localized within the fill material at the Property.

Additional investigation was carried out on the Property in May 2023. Fifteen (15) hand-auger soil samples (including QA/QC) were collected for the purpose of delineating the lateral and vertical extent of the impacts identified at BH11. The soil samples were submitted for analysis of metals and hydride-forming metals.

- Applicable site condition standards were met for all additional samples with the exception of the following exceedance:
  - Cobalt
    - AS06 (0.0-0.3 m depth): 30.7 ug/g vs. 22.0 ug/g MECP Table 2 Standards

It should be noted, a PHC (F2) exceedance was identified in the soil analysis completed as part of the report previous geotechnical report detailed in Section 3.2. The exceedance is summarized below:

Sample Description			BH110-S01
Date Sampled			08/26/2022
Depth of Sample (mbgs)			0-0.61
Parameter Name	ON T2 RPI MFT	Unit	2235551-11
PHC F2	150	µg/g	**196**

The rationale for sampling location and frequency are presented in the Sampling and Analysis Plan in Appendix B. The laboratory certificate of analysis for the chemical analysis conducted are provided in Appendix F.

Removal of the impacted soil and confirmatory soil sampling would be needed to meet the applicable MECP Table 2 Standards. The soil exceedances are shown in Figure 6.

6.6.3 Contaminants of Concern (Soil)

The Contaminant of Concern associated with the soil within the earth fill on the Property is:

- Barium
- Cobalt
- Vanadium
- PHC (F2)

6.6.4 Chemical or Biological Transformations

No chemical or biological transformations of the contaminant of concern identified.

6.6.5 Contamination Impact On Other Media

The Contaminants of Concern, which exceeded the applicable condition standards, were found in surficial soils, as such, had low potential to impact the ground water.

6.6.6 Presence of Light or Dense Non-Aqueous Phase Liquids (In Soil)

No light non-aqueous phase liquids (LNAPL) or dense non-aqueous phase liquids (DNAPL) were detected in the soil on the Property.

6.6.7 Toxicity Characteristic Leaching Procedure (TCLP)

One (1) composite sample was collected and submitted for analyses of Ontario Regulation 347 Schedule 4 Parameters, Toxicity Characteristic Leaching Procedure (TCLP), for waste classification purposes. The analyses were conducted for M&I, PCBs, VOCs, and Benzo(a)Pyrene.

The results of the chemical analysis indicate that the soil is considered **non-hazardous** and should be handled accordingly. The laboratory certificates of analysis are presented in Appendix F.

6.7 Ground Water Quality

Groundwater sampling was completed for five (5) monitoring wells on the Property. Groundwater samples were analyzed for Metals, PHCs and VOCs (including BTEX). Also, one (1) duplicate sample and one (1) trip blank was submitted for VOCs. The location and depths of the sample submitted for chemical analysis are presented below:

6.7.1 Location and Depth of Sample Locations

Monitoring Well	Screen Elevation		Metals & Inorganics	PHCs	BTEX	VOCs
	(mbgs)	(masl)				
BH1	1.52-4.57	93.98-90.93	✓	✓	✓	✓
BH2	2.44-3.96	93.06-91.54	✓	✓	✓	✓
BH4	2.44-3.96	92.66-91.14	✓	✓	✓	✓
BH5	2.33-5.38	92.97-89.92	✓	✓	✓	✓
BH6	1.65-3.18	93.55-90.5	✓	✓	✓	✓
DUP(BH6)	1.65-3.18	93.55-90.5	✓	✓	✓	✓

Note: ✓- Meets MECP Table 2 RPI MFT Standards
X - Exceeds MECP Table 2 RPI MFT Standards
- Not sampled

6.7.2 Field Filtering

Samples submitted for metals and inorganics analysis were field filtered as per the analytical laboratories protocol.

6.7.3 Comparison to Applicable Standards (Ground Water)

The rationale for sampling location and frequency are presented in the Sampling and Analysis Plan in Appendix B. The laboratory Certificates of Analysis are provided in Appendix F. The results of groundwater chemical analysis are provided in Tables 10, 11, 12, and 13.

Metals and Inorganics Parameters in Groundwater

Six (6) groundwater samples were selected from monitoring wells across the Property for chemical analysis for metals and inorganics parameters. The samples met Table 2 Standards for all metals and inorganics parameters.

PHCs Parameters in Groundwater

Six (6) groundwater samples were selected from monitoring wells across the Property for chemical analysis for PHCs parameter. The samples met Table 2 Standards for PHCs parameters.

VOCs (including BTEX) Parameters in Groundwater

Six (6) groundwater samples were selected from monitoring wells across the Property for chemical analysis for VOCs parameter. The samples met Table 2 Standards for the VOCs parameter.

The analysis indicated that the groundwater on the Property is not impacted according to the Table 2 Standards. The laboratory Certificates of Analysis are provided in Appendix F. The groundwater sample results are provided in Tables 10, 11, 12, and 13.

6.7.4 Contaminants of Concern (Ground Water)

No Contaminants of Concern associated with the ground water on the Property were identified.

6.7.5 Chemical or Biological Transformations

No Contaminants of Concern associated with the ground water on the Property were identified, as such no chemical or biological transformations are expected to occur.

6.7.6 Contamination Impact On Other Media

No Contaminants of Concern associated with the ground water on the Property were identified.

6.7.7 Presence of Light or Dense Non-Aqueous Phase Liquids (Ground Water)

Light non-aqueous phase liquids (LNAPL) and dense non-aqueous phase liquids (DNAPL) were not detected in the ground water on the Property.

6.8 Sediment Quality

6.8.1 Location and Depth of Sample Locations

No sediment sampling was conducted as part of this investigation.

6.9 Quality Assurance and Quality Control Results

6.9.1 Types of Quality Control Samples Collected and Results

In general, samples were handled in accordance with the Analytical Protocol with respect to holding time, preservation method, storage requirement and sample container type. Laboratory results were compared to MECP standards for quality control under Ontario Regulation 153/04 which require laboratory results to meet specific method detection limit (MDL) requirements. The sampling and analyses performed conformed with the following:

- Ministry of the Environment Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario.
- Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.I of the Environmental Protection Act of Ontario.

Duplicate samples were submitted at a rate of 10% for both soil and ground water samples.

6.9.2 Samples Not Handled per the Analytical Methods

Holding Time

All samples met the holding times as specified in Ontario Ministry of Environment, Conservation and Parks (MECP) - Laboratory Services Branch *"Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act"* July 1, 2011

Preservation Method

All samples met the preservation methods as specified in MECP - Laboratory Services Branch "*Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act*" July 1, 2011.

Storage Requirement

All samples met the storage requirements as specified in MECP - Laboratory Services Branch "*Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act*" July 1, 2011.

Container Type

All samples met the container type as specified in MECP - Laboratory Services Branch "*Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act*" July 1, 2011

6.9.3 Subsection 47 (3) of the Regulation

All certificates of analysis or analytical reports received pursuant to clause 47 (2) (b) of the regulation comply with subsection 47(3). A certificate of analysis or analytical report has been received for each sample submitted for analysis. All certificates of analysis or analytical reports received have been included in full in Appendix F.

6.9.4 Results Qualified by Laboratory

The laboratory did not make any significant comments that changed the outcome of the analytical results regarding the soil and groundwater samples.

6.9.5 Overall Quality of Field Data

Decision-making regard the environmental condition of the Property was not affected by the overall quality of the field data. The overall quality of the field data was considered by the Qualified Person to meet the objectives of the investigation and assessment.

7.0 CONCLUSIONS

- A total of thirteen (13) boreholes were advanced on the Property to a depth of approximately 3.5 to 5.4 meters below grade. Five (5) boreholes (BH1, BH2, BH4, BH5, and BH6) were installed with a monitoring well.
- Soil conditions encountered within the boreholes consisted of a layer of topsoil varying in thickness from about 100 mm to 150 mm in Boreholes BH1, 2, 7, 8, 10, 11, and 12. A surficial layer of asphaltic concrete varying in thickness from 65 mm to 80 mm was encountered at Boreholes BH 5, 6, and 13.
- Earth-fill material was encountered at all borehole locations, extending to depths varying from about 0.8 m (BH1, 2, 3, 4, 6, 7, 8, 12) to 1.5 m (BH5) below ground surface. It consisted of clayey silt/silty sand with trace amounts of gravel as well as inorganics.
- Undisturbed native cohesive soil deposit comprising of clayey silt to silty clay was encountered beneath the earth fill layer at all borehole locations and extended to depths varying from about 2.7 m (BH2) to 4.0 m (BH5) below ground surface.
- A total of eight (8) grain size analyses were conducted to determine the on-site soil texture. Six (6) soil samples were identified to be of medium-fine texture and two (2) of coarse texture.
- Ground water depths at the Property varies from 0.5 m (94.7 masl) to 1.4 m (93.9 masl) below ground surface. Based on the groundwater elevation readings and the topography of the area, the groundwater is expected to flow in the south-southeastern direction.
- The applicable Site Condition Standards are the Ministry of the Environment, Conservation and Parks (MECP) Table 2 Standards for Residential, Parkland, Institutional Land Use with medium-fine textured texture soils (Table 2 Standards).
- Select soil samples were analysed for metals (M), including hydride-forming metals (As, Sb, Se), B-HWS, CN-, Hg, Cr(VI), pH, EC, SAR (ORPs), polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), petroleum hydrocarbons (PHCs), volatile organic compounds (VOCs), benzene, toluene, ethylbenzene and xylene (BTEX).
    - Applicable site condition standards were met for all soils on the Property with the exception of the following exceedances:
        - Cobalt
            - BH11-SS1 (0.0-0.6 m depth): 22.1 ug/g vs 22.0 ug/g MECP Table 2 Standards
            - DUP-2 (BH11-SS1) (0.0-0.6 m depth): 25.0 ug/g vs 22.0 ug/g MECP Table 2 Standards
        - Barium

- DUP-2 (BH11-SS1) (0.0-0.6 m depth): 411 ug/g vs 390 ug/g MECP Table 2 Standards

- Vanadium
  - DUP-2 (BH11-SS1) (0.0-0.6 m depth): 89.0 ug/g vs 86.0 ug/g MECP Table 2 Standards

- Additional investigation was carried out on the Property in May 2023. Fifteen (15) hand-auger soil samples (including QA/QC) were collected for the purpose of delineating the lateral and vertical extent of the impacts identified at BH11. The soil samples were submitted for analysis of metals and hydride-forming metals.
  - Applicable site condition standards were met for all additional samples with the exception of the following exceedance:
    - Cobalt
      - AS06 (0.0-0.3 m depth): 30.7 ug/g vs. 22.0 ug/g MECP Table 2 Standards
- The following exceedance was identified based on soil analysis completed as part of the following report: *"Geotechnical Investigation Report, Proposed Addition JJ O'Neil Catholic School, Napanee, ON"*, prepared for Algonquin and Lakeshore Catholic District School Board, prepared by Malroz Engineering Inc. (Malroz), and dated October 17, 2022.
  - Comparing the soil results to the applicable Table 2 RPI MFT Standards, one PHC exceedance is observed at BH110-S01 (0-0.6 m depth) (PHCs F2: 196 ug/g vs. 150 ug/g Table 2 Standards).
- Select groundwater samples were analysed for metals, PHCs, VOCs, and BTEX.
  - Applicable site condition standards were met for groundwater on the Property.

The soil impacts identified at BH11-SS1, DUP-2 (BH11-SS1), AS06 and Malroz BH110-S01 are considered to be localized within the fill material at the Property. Removal of the impacted soil and confirmatory soil sampling would be needed to meet the applicable MECP Table 2 Standards.

All wells installed during the subsurface soil and groundwater investigation are required to be decommissioned under O. Reg. 903 when they are no longer needed for groundwater observation.

8.0 SIGNATURES

The Phase Two Environmental Site Assessment has been completed by Syed Ali E.I.T., under the direction and supervision of Muhammad I. Shahid, P.Geo., QP_{ESA}. The findings and conclusions presented in this report have been determined based on the information that was obtained and reviewed from the review of previous investigations provided and on the current investigation for the Phase Two Property.

The Phase Two Environmental Site Assessment was completed per Ontario Regulation 153/04 (Records of Site Condition–Part XV.1 of the Environmental Protection Act). The Phase Two Environmental Site Assessment met the objectives and requirements set out in that Ontario Regulation 153/04 for a Phase Two Environmental Site Assessment were applied in carrying out the environmental site assessment and preparation of the report.

We trust this report meets your requirements. Should you have any questions regarding the information presented, please do not hesitate to contact our office.

Yours truly,

Terraprobe Inc.

Syed Ali E.I.T.
Project Manager

Muhammad I. Shahid, P.Geo., QP_{ESA}
Senior Project Manager

9.0 REFERENCES

1. Armstrong, D.K. and Dodge, J.E.P. *Paleozoic Geology Map of Southern Ontario*. Ontario Geological Survey, Miscellaneous Release--Data 219.

2. Chapman, L.J. and Putnam, D.F. 2007. *The Physiography of Southern Ontario*. Ontario Geological Survey, Miscellaneous Release--Data 228.

3. Freeze, R. Allen and Cherry, John A., 1979. *Groundwater*. Page 29.

4. Ontario Ministry of the Environment, December 1996. *Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario.*

5. Ontario Ministry of Environment, 15 April 2011. *Soil, Ground Water and Sediment Standards for use under part XV.1of the Environmental Protection Act.*

6. Ontario Ministry of the Environment, June 2011. *Guide for Completing Phase Two Environmental Site Assessments under Ontario regulation 153/04.*

7. Terraprobe Inc. *Phase One Environmental Site Assessment, J. J. O Neil Catholic School Addition, 240 Marilyn Avenue, Napanee, Ontario"*, February 9, 2023, File Number 02209037

8. *"Geotechnical Investigation Report, Proposed Addition JJ O'Neil Catholic School, Napanee, ON"*, prepared for Algonquin and Lakeshore Catholic District School Board, prepared by Malroz Engineering Inc. (Malroz), and dated October 17, 2022.

10.0 LIMITATIONS AND USE OF THE REPORT

This report was prepared for the exclusive use by **Ontario Infrastructure and Lands Corporation (IO).** and is intended to provide an assessment of the environmental condition on the property located at **240 Marilyn Avenue, Napanee, Ontario**. The report was prepared for identifying potential environmental concerns, including an assessment of the likelihood that the environmental quality of the soil and groundwater at the Property may have been adversely affected by past and present practices at the Property, and/or those of the surrounding properties before the development of the Property. 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. Terraprobe accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report, including consequential financial effects on transactions or property values, or requirements for follow-up actions and costs.

The assessment should not be considered a comprehensive audit that eliminates all risks of encountering environmental problems. The information presented in this report is based on information collected during the completion of the subsurface investigation conducted by Terraprobe Inc. It is based on conditions at the Property at the time of the site inspection. The subsurface conditions were assessed based on information collected at specific borehole and monitoring well locations. The actual subsurface conditions between the sampling points may vary.

There is no warranty expressed or implied by this report regarding the environmental status of the Property. Professional judgment was exercised in gathering and analyzing information collected by our staff, as well as that submitted by others. The conclusions presented are the product of professional care and competence and cannot be construed as a guarantee.

If during future work new information regarding the environmental condition of the Property is encountered, or if the outstanding responses from the regulatory agencies indicate outstanding issues on file concerning the Property, Terraprobe should be notified so that we may re-evaluate the findings of this assessment and provide amendments, as required.

TABLES

TERRAPROBE INC

TABLE 1
GEOLOGICAL UNITS
240 Marliy Avenue, Napanee, Ontario
PROJECT NUMBER : 02209049.000

Borehole	BH1			BH2			BH3			BH4			BH5			BH6		
	Elev. Top (masl)	Elev. Bottom (masl)	Thickness (m)	Elev. Top (masl)	Elev. Bottom (masl)	Thickness (m)	Elev. Top (masl)	Elev. Bottom (masl)	Thickness (m)	Elev. Top (masl)	Elev. Bottom (masl)	Thickness (m)	Elev. Top (masl)	Elev. Bottom (masl)	Thickness (m)	Elev. Top (masl)	Elev. Bottom (masl)	Thickness (m)
Asphaltic Concrete & Aggregate	Not Encountered			Not Encountered			95.1	94.9	0.2	95.1	94.9	0.2	95.3	95.1	0.2	95.2	94.8	0.4
Top Soil	95.5	95.4	0.1	95.5	95.4	0.1	Not Encountered			Not Encountered			Not Encountered			Not Encountered		
Fill	95.4	94.7	0.7	95.4	94.7	0.7	94.9	94.3	0.6	94.9	94.3	0.6	95.1	93.8	1.3	94.8	94.4	0.4
Silty Clay	94.7	93.2	1.5	94.7	93.2	1.5	94.3	92.6	1.7	94.3	92.8	1.5	93.8	92.3	1.5	94.4	92.9	1.5
Clayey Silt	93.2	92.2	1.0	93.2	92.8	0.4	92.6	92.1	0.5	92.8	92.1	0.7	92.3	91.3	1.0	92.9	92.2	0.7
Sand	92.2	91.0	1.2	92.8	91.5	1.3	92.1	90.5	1.6	92.1	91.1	1.0	92.3	89.9	2.4	92.2	90.5	1.7

Borehole	BH7			`BH8			BH9			BH10			BH11			BH12		
	Elev. Top (masl)	Elev. Bottom (masl)	Thickness (m)	Elev. Top (masl)	Elev. Bottom (masl)	Thickness (m)	Elev. Top (masl)	Elev. Bottom (masl)	Thickness (m)	Elev. Top (masl)	Elev. Bottom (masl)	Thickness (m)	Elev. Top (masl)	Elev. Bottom (masl)	Thickness (m)	Elev. Top (masl)	Elev. Bottom (masl)	Thickness (m)
Asphaltic Concrete & Aggregate	Not Encountered			Not Encountered			94.2	94.1	0.1	Not Encountered			Not Encountered			Not Encountered		
Top Soil	94.9	94.8	0.2	94.5	94.4	0.2	Not Encountered			94.5	94.5	0.0	94.3	94.2	0.1	94.1	94.0	0.1
Fill	94.8	94.1	0.7	94.4	94.3	0.0	94.1	93.4	0.7	94.5	93.4	1.1	94.2	93.2	1.0	94.0	93.3	0.7
Silty Clay	94.1	91.9	2.2	94.3	93.7	0.6	93.4	90.9	2.5	93.4	91.5	1.9	93.2	90.6	2.6	93.3	91.1	2.2
Clayey Silt	91.9	91.4	0.5	93.7	91.0	2.7	90.9	90.7	0.2	91.5	91.0	0.5	Not Encountered			91.1	90.4	0.7
Sand	Not Encountered			Not Encountered			Not Encountered			Not Encountered			Not Encountered			Not Encountered		

Borehole	BH13		
	Elev. Top (masl)	Elev. Bottom (masl)	Thickness (m)
Asphaltic Concrete & Aggregate	94.5	94.3	0.2
Top Soil	Not Encountered		
Fill	94.3	93.3	1.0
Silty Clay	93.3	91.0	2.3
Clayey Silt	Not Encountered		
Sand	Not Encountered		

TABLE 2
MONITORING WELL CONSTRUCTION
240 Marliy Avenue, Napanee, Ontario
PROJECT NUMBER : 02209049.000

Well ID	BH1		BH2		BH4		BH5		BH6	
Stick Up (m)	0.00		0.00		0.00		0.00		0.00	
Ground Elev. (masl)	95.5		95.5		95.1		95.3		95.2	
Well Component	**Depth (m)**	**Elev. (masl)**	**Depth (m)**	**Elev. (masl)**	**Depth (m)**	**Elev. (masl)**	**Depth (m)**	**Elev. (masl)**	**Depth (m)**	**Elev. (masl)**
Bentonite - Top	0.0	95.5	0.0	95.5	0.0	95.1	0.0	95.3	0.0	95.2
Bentonite - Bottom	0.8	94.7	1.8	93.7	1.8	93.3	1.7	93.6	1.0	94.2
Sand - Top	0.8	94.7	1.8	93.7	1.8	93.3	1.7	93.6	1.0	94.2
Screen - Top	1.4	94.1	2.4	93.1	2.4	92.7	2.3	93.0	1.7	93.6
Screen - Bottom	4.5	91.0	4.0	91.5	4.0	91.1	5.4	89.9	4.7	90.5
Sand - Bottom	4.5	91.0	4.0	91.5	4.0	91.1	5.4	89.9	4.7	90.5

TABLE 3
GROUNDWATER LEVELS
240 Marliy Avenue, Napanee, Ontario
PROJECT NUMBER : 02209049.000

Well ID	BH1		BH2		BH4		BH5		BH6	
Stick Up (m)	0.00		0.00		0.00		0.00		0.00	
Ground Elev. (masl)	95.5		95.5		95.1		95.3		95.2	
Depth (mbgs)	4.50		4.00		4.00		5.40		4.70	
Top of Screen (mbgs / masl)	1.4	94.1	2.4	93.1	2.4	92.7	2.3	93.0	1.7	93.5
Bottom of Screen (mbgs / masl)	4.5	91.0	4.0	91.5	4.0	91.1	5.4	89.9	4.7	90.5
Date	WL (m)	Elev. (masl)	WL (m)	Elev. (masl)	WL (m)	Elev. (masl)	WL (m)	Elev. (masl)	WL (m)	Elev. (masl)
25-Jul-23	1.1	94.4	0.8	94.7	1.4	93.7	1.4	93.9	0.7	94.5
27-Jul-23	1.1	94.4	0.8	94.7	0.5	94.6	1.0	94.3	0.8	94.4

TABLE 4
SOIL QUALITY - Metals
O. Reg. 153(511): Table 2 RPI Medium Fine Textured Soil
240 Marilyn Avenue, Napanee, Ontario
PROJECT NUMBER : 02209049

Sample Description			BH1-SS1	BH1-SS4	BH2-SS1	BH2-SS3	BH3-SS1	BH3-SS3	BH4-SS1	BH5-SS1	BH5-SS3	BH6-SS1	BH6-SS4	BH7-SS1	DUP-1	BH8-SS1	BH10-SS1	BH11-SS1	DUP-2
Date Sampled			12/15/2022	12/15/2022	12/15/2022	12/15/2022	12/15/2022	12/15/2022	12/15/2022	12/15/2022	12/15/2022	12/15/2022	12/15/2022	12/15/2022		12/15/2022	12/15/2022	12/15/2022	
Sample Depth (mbgs)			0-0.61	2.23-2.9	0-0.61	1.52-2.13	0-0.61	1.52-2.13	0-0.61	0-0.61	1.52-2.13	0-0.61	2.23-2.9	0-0.61		0-0.61	0-0.61	0-0.61	
Sample Elevation (masl)			95.5-94.89	93.27-92.6	95.5-94.89	93.98-93.37	95.1-94.49	93.58-92.97	95.1-94.49	95.3-94.69	93.78-93.17	95.2-94.59	92.97-92.3	94.9-94.29		94.5-93.89	94.5-93.89	94.3-93.69	
AGAT Workorder			22T982124	22T982124	22T982124	22T982124	22T982124	22T982124	22T982124	22T982124	22T982124	22T982124	22T982124	22T982124		22T982124	22T982124	22T982124	
Parameter Name	**ON T2 S RPI MFT**	**Unit**	**4631321**	**4631323**	**4631324**	**4631328**	**4631329**	**4631330**	**4631331**	**4631332**	**4631333**	**4631334**	**4631339**	**4631341**	**4631342**	**4631344**	**4631345**	**4631346**	**4631348**
Antimony	7.5	µg/g	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	18	µg/g	3	3	3	1	2	2	1	2	2	1	<1	3	3	3	4	4	4
Barium	390	µg/g	286	349	255	96.4	241	172	133	319	171	115	70.8	332	390	223	115	373	411
Beryllium	5	µg/g	1.3	1.1	1	<0.4	0.8	<0.4	<0.4	1	0.5	0.4	<0.4	1.5	1.6	1	0.6	1.5	1.4
Boron	120	µg/g	10	13	8	9	10	13	8	10	14	9	9	9	12	12	9	11	10
Boron (Hot Water Soluble)	1.5	µg/g	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.12	<0.10	<0.10	<0.10	0.13	0.19	0.12	<0.10
Cadmium	1.2	µg/g	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	160	µg/g	53	56	43	15	35	26	15	46	28	13	13	51	61	40	30	56	61
Chromium, Hexavalent	10	µg/g	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Cobalt	22	µg/g	16.1	19	15	7	10.4	8.6	4.7	13.9	8.3	4.4	6.3	18.4	20.4	14.9	8.8	22.1	25
Copper	180	µg/g	24.5	32.1	25.9	12.7	16.8	14.8	8.1	23.3	16.4	6.6	11.6	28.9	33.7	20.4	40.7	33.4	36.9
Cyanide, WAD	0.051	µg/g	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Electrical Conductivity (2:1)	0.7	mS/cm	0.336	0.25	0.292	0.183	0.325	0.193	0.351	0.32	0.234	0.393	0.159	0.364	0.288	0.372	0.345	0.264	0.258
Lead	120	µg/g	14	10	9	4	11	5	6	10	5	6	3	12	12	16	51	14	15
Mercury	1.8	µg/g	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Molybdenum	6.9	µg/g	0.8	0.7	0.6	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	0.5	0.6	0.8	1.6	1	1.1
Nickel	130	µg/g	32	36	30	9	21	14	5	27	15	5	8	33	41	24	19	42	46
pH, 2:1 CaCl2 Extraction	5.0-9.0	pH Units	7.74	7.68	7.68	7.74	7.7	7.63	7.75	7.72	7.73	7.68	7.69	7.56	7.47	7.59	7.38	7.08	7.38
Selenium	2.4	µg/g	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	0.8	0.9	<0.8	0.8	<0.8
Silver	25	µg/g	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Sodium Adsorption Ratio (2:1) (Calc.)	5	N/A	0.178	0.408	0.264	0.26	0.5	0.131	0.932	0.729	0.146	0.509	0.109	0.334	0.322	0.448	0.164	0.186	0.19
Thallium	1	µg/g	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6
Uranium	23	µg/g	1.69	0.73	1.13	<0.50	0.7	0.57	0.56	1.15	0.6	0.53	<0.50	1.18	1.24	1.36	0.64	1.28	1.41
Vanadium	86	µg/g	69.5	75.4	60.4	26.2	48.5	39.4	19.8	60.6	42.9	18.3	21.1	69.2	81.8	56.7	34.3	84.8	89
Zinc	340	µg/g	105	99	81	23	57	38	30	80	43	24	20	106	118	98	200	123	131

TABLE 4.1
SOIL QUALITY - Additional Metals Sampling
O. Reg. 153(511): Table 2 RPI Medium Fine Textured Soil
240 Marilyn Avenue, Napanee, Ontario
PROJECT NUMBER : 02209049

Sample Description			AS01	DUP1	AS02	AS03	AS04	AS05	DUP2	AS06	AS07	AS08	AS09	AS10	AS11	AS12	AS13
Date Sampled			5/15/2023	5/15/2023	5/15/2023	5/15/2023	5/15/2023	5/15/2023		5/15/2023	5/15/2023	5/15/2023	5/15/2023	5/15/2023	5/15/2023	5/15/2023	5/15/2023
Sample Depth (mbgs)			0-0.3		0-0.3	0-0.3	0-0.3	0.7-1.0		0-0.3	0-0.3	0-0.3	0-0.3	0-0.3	0-0.3	0-0.3	0-0.3
Sample Elevation (masl)			94.3-94.0		94.3-94.0	94.3-94.0	94.3-94.0	93.6-93.3		94.3-94.0	94.3-94.0	94.3-94.0	94.3-94.0	94.3-94.0	94.3-94.0	94.3-94.0	94.3-94.0
AGAT Workorder			23T024970	23T024970	23T024970	23T024970	23T024970	23T024970	23T024970	23T024970	23T024970	23T024970	23T024970	23T024970	23T024970	23T024970	23T024970
Parameter Name	**ON T2 S RPI MFT**	**Unit**	**4991001**	**4991014**	**4991002**	**4991003**	**4991004**	**4991005**	**4991015**	**4991006**	**4991007**	**4991008**	**4991009**	**4991010**	**4991011**	**4991012**	**4991013**
Antimony	7.5	µg/g	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	1	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	0.9	<0.8
Arsenic	18	µg/g	3	4	3	5	4	5	10	3	4	4	5	3	3	9	4
Barium	390	µg/g	210	351	313	260	270	214	295	380	253	240	278	264	296	282	244
Beryllium	5	µg/g	0.9	1.5	1.1	1	1.1	0.9	1.4	1.3	1.1	1.2	1.2	1	1.2	1.4	1
Boron	120	µg/g	10	10	11	13	8	10	12	11	11	10	11	11	9	10	12
Cadmium	1.2	µg/g	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	160	µg/g	37	59	51	46	50	38	45	61	40	42	48	46	52	41	44
Cobalt	22	µg/g	11.1	19.4	17.6	13.7	15.4	12.7	15	30.7	13.2	12.5	15	14	18.1	14.1	13
Copper	180	µg/g	22	32	37.2	34.6	33.1	27.4	42.3	26.8	25.8	26.2	32.2	28.1	27.4	40.7	33.1
Lead	120	µg/g	14	18	23	35	14	29	87	18	17	27	30	17	14	78	27
Molybdenum	6.9	µg/g	0.8	1	<0.5	0.8	0.6	0.9	2.2	1.2	0.7	0.9	1.1	0.6	0.7	2	0.9
Nickel	130	µg/g	25	38	36	30	36	26	31	38	28	27	32	31	34	29	27
Selenium	2.4	µg/g	<0.8	0.8	<0.8	0.8	<0.8	<0.8	1	<0.8	<0.8	0.9	<0.8	<0.8	<0.8	<0.8	1
Silver	25	µg/g	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Thallium	1	µg/g	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Uranium	23	µg/g	0.89	2.2	0.7	1.08	0.98	0.81	1.13	1.71	0.81	1.19	1.25	0.93	1.4	1.1	1.71
Vanadium	86	µg/g	48.9	75.7	71.9	61.7	72.4	52.3	59	81.4	53	55.8	64.8	61.3	73.4	54.4	57.7
Zinc	340	µg/g	81	144	116	152	93	119	173	152	89	101	161	95	110	166	127

TABLE 5
SOIL QUALITY - PAHs
O. Reg. 153(511): Table 2 RPI Medium Fine Textured Soil
240 Marilyn Avenue, Napanee, Ontario
PROJECT NUMBER : 02209049

Sample Description			BH1-SS1	BH2-SS1	BH3-SS1	BH4-SS1	BH5-SS1	BH6-SS1	BH7-SS1	DUP-1	BH8-SS1	BH10-SS1	BH11-SS1
Date Sampled			12/15/2022	12/15/2022	12/15/2022	12/15/2022	12/15/2022	12/15/2022	12/15/2022		12/15/2022	12/15/2022	12/15/2022
Sample Depth (mbgs)			0-0.61	0-0.61	0-0.61	0-0.61	0-0.61	0-0.61	0-0.61		0-0.61	0-0.61	0-0.61
Sample Elevation (masl)			95.5-94.89	95.5-94.89	95.1-94.49	95.1-94.49	95.3-94.69	95.2-94.59	94.9-94.29		94.5-93.89	94.5-93.89	94.3-93.69
AGAT Workorder			22T982124	22T982124	22T982124	22T982124	22T982124	22T982124	22T982124		22T982124	22T982124	22T982124
Parameter Name	**ON T2 S RPI MF**	**Unit**	**4631321**	**4631324**	**4631329**	**4631331**	**4631332**	**4631334**	**4631341**	**4631342**	**4631344**	**4631345**	**4631346**
1 and 2 Methlynaphthalene	3.4	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene	29	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	0.17	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	0.74	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benz(a)anthracene	0.63	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.09	0.06	<0.05
Benzo(a)pyrene	0.3	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	0.05	<0.05
Benzo(b)fluoranthene	0.78	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.2	0.11	<0.05
Benzo(g,h,i)perylene	7.8	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.11	0.07	<0.05
Benzo(k)fluoranthene	0.78	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	0.05	<0.05
Chrysene	7.8	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	<0.05	<0.05
Dibenz(a,h)anthracene	0.1	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	0.69	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.22	0.16	<0.05
Fluorene	69	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	0.48	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.09	<0.05	<0.05
Naphthalene	0.75	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	7.8	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	78	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.18	0.17	<0.05

TABLE 6
SOIL QUALITY - PHCs
O. Reg. 153(511): Table 2 RPI Medium Fine Textured Soil
240 Marilyn Avenue, Napanee, Ontario
PROJECT NUMBER : 02209049

Sample Description			BH1-SS1	BH2-SS1	BH3-SS1	BH4-SS1	BH5-SS1	BH6-SS1	BH7-SS1	DUP-1	BH8-SS1	BH10-SS1	BH11-SS1
Date Sampled			12/15/2022	12/15/2022	12/15/2022	12/15/2022	12/15/2022	12/15/2022	12/15/2022		12/15/2022	12/15/2022	12/15/2022
Sample Depth (mbgs)			0-0.61	0-0.61	0-0.61	0-0.61	0-0.61	0-0.61	0-0.61		0-0.61	0-0.61	0-0.61
Sample Elevation (masl)			95.5-94.89	95.5-94.89	95.1-94.49	95.1-94.49	95.3-94.69	95.2-94.59	94.9-94.29		94.5-93.89	94.5-93.89	94.3-93.69
AGAT Workorder			22T982124	22T982124	22T982124	22T982124	22T982124	22T982124	22T982124		22T982124	22T982124	22T982124
Parameter Name	**ON T2 S RPI MFT**	**Unit**	**4631321**	**4631324**	**4631329**	**4631331**	**4631332**	**4631334**	**4631341**	**4631342**	**4631344**	**4631345**	**4631346**
1,1,1,2-Tetrachloroethane	0.05	ug/g	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,1,1-Trichloroethane	3.4	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,2,2-Tetrachloroethane	0.05	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,2-Trichloroethane	0.05	ug/g	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,1-Dichloroethane	0.6	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,1-Dichloroethylene	0.05	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,2-Dichlorobenzene	1.7	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,2-Dichloroethane	0.05	ug/g	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
1,2-Dichloropropane	0.085	ug/g	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
1,3-Dichlorobenzene	6	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,3-Dichloropropene (Cis + Trans)	0.081	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,4-Dichlorobenzene	0.097	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acetone	28	ug/g	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromodichloromethane	1.9	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bromoform	0.26	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bromomethane	0.05	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	0.12	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorobenzene	2.7	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chloroform	0.18	ug/g	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Cis- 1,2-Dichloroethylene	2.5	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Dibromochloromethane	2.9	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorodifluoromethane	25	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylene Dibromide	0.05	ug/g	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
F1 (C6 - C10)	65	µg/g	<5	<5	<5	<5	<5	6	<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	65	µg/g	<5	<5	<5	<5	<5	6	<5	<5	<5	<5	<5
F2 (C10 to C16)	150	µg/g	<10	<10	<10	<10	<10	27	<10	<10	<10	<10	<10
F3 (C16 to C34)	1300	µg/g	<50	<50	<50	<50	<50	351	<50	<50	<50	<50	<50
F4 (C34 to C50)	5600	µg/g	<50	<50	<50	<50	<50	439	<50	<50	<50	<50	<50
Methyl Ethyl Ketone	44	ug/g	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl Isobutyl Ketone	4.3	ug/g	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl tert-butyl Ether	1.4	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	0.96	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
n-Hexane	34	µg/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Styrene	2.2	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Tetrachloroethylene	2.3	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trans- 1,2-Dichloroethylene	0.75	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichloroethylene	0.52	ug/g	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Trichlorofluoromethane	5.8	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	0.022	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

TABLE 7
SOIL QUALITY - VOCs (with PHC)
O. Reg. 153(511): Table 2 RPI Medium Fine Textured Soil
240 Marilyn Avenue, Napanee, Ontario
PROJECT NUMBER : 02209049

Sample Description					BH1-SS1	BH2-SS1	BH3-SS1	BH4-SS1	BH5-SS1	BH6-SS1	BH7-SS1	DUP-1	BH8-SS1	BH10-SS1	BH11-SS1
Date Sampled					12/15/2022	12/15/2022	12/15/2022	12/15/2022	12/15/2022	12/15/2022	12/15/2022		12/15/2022	12/15/2022	12/15/2022
Sample Depth (mbgs)					0-0.61	0-0.61	0-0.61	0-0.61	0-0.61	0-0.61	0-0.61		0-0.61	0-0.61	0-0.61
Sample Elevation (masl)					95.5-94.89	95.5-94.89	95.1-94.49	95.1-94.49	95.3-94.69	95.2-94.59	94.9-94.29		94.5-93.89	94.5-93.89	94.3-93.69
AGAT Workorder					22T982124	22T982124	22T982124	22T982124	22T982124	22T982124	22T982124		22T982124	22T982124	22T982124
Parameter Name	**RDL**	**Guidelin**	**ON T2 S RPI MFT**	**Unit**	**4631321**	**4631324**	**4631329**	**4631331**	**4631332**	**4631334**	**4631341**	**4631342**	**4631344**	**4631345**	**4631346**
Benzene	0.02	ON T2 S RPI	0.17	ug/g	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Ethylbenzene	0.05	ON T2 S RPI	1.6	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Toluene	0.05	ON T2 S RPI	6	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	0.05	ON T2 S RPI	25	ug/g	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

TABLE 8
SOIL QUALITY - PCBs
O. Reg. 153(511): Table 2 RPI Medium Fine Textured Soil
240 Marilyn Avenue, Napanee, Ontario
PROJECT NUMBER : 02209049

Sample Description			BH1-SS1	BH3-SS1	BH4-SS1	BH5-SS1	BH6-SS1	BH7-SS1	DUP-1	BH8-SS1	BH10-SS1
Date Sampled			12/15/2022	12/15/2022	12/15/2022	12/15/2022	12/15/2022	12/15/2022		12/15/2022	12/15/2022
Sample Depth (mbgs)			0-0.61	0-0.61	0-0.61	0-0.61	0-0.61	0-0.61		0-0.61	0-0.61
Sample Elevation (masl)			95.5-94.89	95.1-94.49	95.1-94.49	95.3-94.69	95.2-94.59	94.9-94.29		94.5-93.89	94.5-93.89
AGAT Workorder			22T982124	22T982124	22T982124	22T982124	22T982124	22T982124		22T982124	22T982124
Parameter Name	**ON T2 S RPI MFT**	**Unit**	**4631321**	**4631329**	**4631331**	**4631332**	**4631334**	**4631341**	**4631342**	**4631344**	**4631345**
Polychlorinated Biphenyls	0.35	µg/g	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

TABLE 9
SOIL QUALITY - ORPs
O. Reg. 153(511): Table 2 RPI Medium Fine Textured Soil
240 Marilyn Avenue, Napanee, Ontario
PROJECT NUMBER : 02209049

Sample Description			BH1-SS1	BH1-SS4	BH2-SS1	BH2-SS3	BH3-SS1	BH3-SS3	BH4-SS1	BH5-SS1	BH5-SS3	BH6-SS1	BH6-SS4	BH7-SS1	DUP-1	BH8-SS1	BH10-SS1	BH11-SS1	DUP-2
Date Sampled			12/15/2022	12/15/2022	12/15/2022	12/15/2022	12/15/2022	12/15/2022	12/15/2022	12/15/2022	12/15/2022	12/15/2022	12/15/2022	12/15/2022		12/15/2022	12/15/2022	12/15/2022	
Sample Depth (mbgs)			0-0.61	2.23-2.9	0-0.61	1.52-2.13	0-0.61	1.52-2.13	0-0.61	0-0.61	1.52-2.13	0-0.61	2.23-2.9	0-0.61		0-0.61	0-0.61	0-0.61	
Sample Elevation (masl)			95.5-94.89	93.27-92.6	95.5-94.89	93.98-93.37	95.1-94.49	93.58-92.97	95.1-94.49	95.3-94.69	93.78-93.17	95.2-94.59	92.97-92.3	94.9-94.29		94.5-93.89	94.5-93.89	94.3-93.69	
AGAT Workorder			22T982124	22T982124	22T982124	22T982124	22T982124	22T982124	22T982124	22T982124	22T982124	22T982124	22T982124	22T982124		22T982124	22T982124	22T982124	
Parameter Name	**ON T2 S RPI MFT**	**Unit**	**4631321**	**4631323**	**4631324**	**4631328**	**4631329**	**4631330**	**4631331**	**4631332**	**4631333**	**4631334**	**4631339**	**4631341**	**4631342**	**4631344**	**4631345**	**4631346**	**4631348**
pH, 2:1 CaCl2 Extraction	5.0-9.0	pH Units	7.74	7.68	7.68	7.74	7.7	7.63	7.75	7.72	7.73	7.68	7.69	7.56	7.47	7.59	7.38	7.08	7.38

TABLE 10
Metals - Ground Water
240 Marilyn Avenue, Napanee, Ontario
PROJECT NUMBER : 02209049

Sample Name			**BH1**	**BH2**	**BH4**	**BH5**	**BH6**	**DUP**
Date			1/26/2023	1/26/2023	1/26/2023	1/26/2023	1/26/2023	
AGAT ID#			4723829	4723830	4723831	4723832	4723833	
Elevation of Screen (masl)			93.98-90.93	93.06-91.54	92.66-91.14	92.97-89.92	93.55-92.02	
Elevation of Sample (masl)			1.52-4.57	2.44-3.96	2.44-3.96	2.33-5.38	1.65-3.18	
Parameter/Depth of Screens (mbgs)	**Unit**	**Table 2 PGW MFT**	**4723829**	**4723830**	**4723831**	**4723832**	**4723833**	**4723834**
Dissolved Antimony	µg/L	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Arsenic	µg/L	25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Barium	µg/L	1000	153	146	146	173	136	129
Dissolved Beryllium	µg/L	4	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Boron	µg/L	5000	26.2	22.2	13.7	14	14.1	14.2
Dissolved Cadmium	µg/L	2.7	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dissolved Chromium	µg/L	50	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Cobalt	µg/L	3.8	1.59	1.75	1.21	<0.50	<0.50	<0.50
Dissolved Copper	µg/L	87	1.9	1.1	1.2	1.4	1.6	1.2
Dissolved Lead	µg/L	10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Molybdenum	µg/L	70	4.31	5.16	1.38	4.35	1.2	0.9
Dissolved Nickel	µg/L	100	2.9	2.5	1.5	<1.0	1.1	<1.0
Dissolved Selenium	µg/L	10	1.1	<1.0	<1.0	<1.0	1.4	1.6
Dissolved Silver	µg/L	1.5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dissolved Thallium	µg/L	2	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Dissolved Uranium	µg/L	20	1.22	1.35	0.9	2.07	1.46	1.37
Dissolved Vanadium	µg/L	6.2	<0.40	<0.40	<0.40	0.8	0.49	0.55
Dissolved Zinc	µg/L	1100	<5.0	<5.0	<5.0	<5.0	<5.0	11.7
Mercury	µg/L	0.29	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chromium VI	µg/L	25	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000
Cyanide, WAD	µg/L	66	<2	<2	<2	<2	<2	<2
Dissolved Sodium	µg/L	490000	19400	17900	7860	15900	11700	11400
Chloride	µg/L	790000	2250	2040	2460	11600	22400	22500

TABLE 11
Petroleum Hydrocarbons (PHCs) - Ground Water
240 Marilyn Avenue, Napanee, Ontario
PROJECT NUMBER : 02209049

Sample Name			BH1	BH2	BH4	BH5	BH6	DUP
Date			1/26/2023	1/26/2023	1/26/2023	1/26/2023	1/26/2023	
AGAT ID#			4723829	4723830	4723831	4723832	4723833	
Elevation of Screen (masl)			93.98-90.93	93.06-91.54	92.66-91.14	92.97-89.92	93.55-92.02	
Elevation of Sample (masl)			1.52-4.57	2.44-3.96	2.44-3.96	2.33-5.38	1.65-3.18	
Parameter/Depth of Screens (mbgs)	**Unit**	**Table 2 PGW MFT**	**4723829**	**4723830**	**4723831**	**4723832**	**4723833**	**4723834**
1,1,1,2-Tetrachloroethane	µg/L	1.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,1,1-Trichloroethane	µg/L	200	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
1,1,2,2-Tetrachloroethane	µg/L	1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,1,2-Trichloroethane	µg/L	5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1-Dichloroethane	µg/L	5	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
1,1-Dichloroethylene	µg/L	14	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
1,2-Dichlorobenzene	µg/L	3	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,2-Dichloroethane	µg/L	5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloropropane	µg/L	5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,3-Dichlorobenzene	µg/L	59	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,3-Dichloropropene	µg/L	0.5	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
1,4-Dichlorobenzene	µg/L	1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Acetone	µg/L	2700	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	µg/L	16	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Bromoform	µg/L	25	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Bromomethane	µg/L	0.89	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Carbon Tetrachloride	µg/L	5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chlorobenzene	µg/L	30	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chloroform	µg/L	22	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
cis- 1,2-Dichloroethylene	µg/L	17	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dibromochloromethane	µg/L	25	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dichlorodifluoromethane	µg/L	590	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Ethylene Dibromide	µg/L	0.2	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
F1 (C6 - C10)	µg/L	750	<25	<25	<25	<25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L	750	<25	<25	<25	<25	<25	<25
F2 (C10 to C16)	µg/L	150	<100	<100	<100	<100	<100	<100
F3 (C16 to C34)	µg/L	500	<100	<100	<100	<100	<100	<100
F4 (C34 to C50)	µg/L	500	<100	<100	<100	<100	<100	<100
Methyl Ethyl Ketone	µg/L	1800	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl Isobutyl Ketone	µg/L	640	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether	µg/L	15	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Methylene Chloride	µg/L	50	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
n-Hexane	µg/L	520	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Styrene	µg/L	5.4	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Tetrachloroethylene	µg/L	17	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
trans- 1,2-Dichloroethylene	µg/L	17	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichloroethylene	µg/L	5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L	150	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Vinyl Chloride	µg/L	1.7	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17

TABLE 12
Benzene, Toluene, Ethylbenzene and Xylene (BTEX) - Ground Water
240 Marilyn Avenue, Napanee, Ontario
PROJECT NUMBER : 02209049

Sample Name			**BH1**	**BH2**	**BH4**	**BH5**	**BH6**	**DUP**
Date			1/26/2023	1/26/2023	1/26/2023	1/26/2023	1/26/2023	
AGAT ID#			4723829	4723830	4723831	4723832	4723833	
Elevation of Screen (masl)			93.98-90.93	93.06-91.54	92.66-91.14	92.97-89.92	93.55-92.02	
Elevation of Sample (masl)			1.52-4.57	2.44-3.96	2.44-3.96	2.33-5.38	1.65-3.18	
Parameter/Depth of Screens (mbgs)	**Unit**	**Table 2 PGW MFT**	**4723829**	**4723830**	**4723831**	**4723832**	**4723833**	**4723834**
Benzene	µg/L	5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	µg/L	24	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Ethylbenzene	µg/L	2.4	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Xylenes (Total)	µg/L	300	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

TABLE 13
Volatile Organic Compounds (VOCs) - Ground Water
240 Marilyn Avenue, Napanee, Ontario
PROJECT NUMBER : 02209049

Sample Name			BH1	BH2	BH4	BH5	BH6	DUP (BH6)
Date			1/26/2023	1/26/2023	1/26/2023	1/26/2023	1/26/2023	1/26/2023
AGAT ID#			4723829	4723830	4723831	4723832	4723833	4723834
Elevation of Screen (masl)			93.98-90.93	93.06-91.54	92.66-91.14	92.97-89.92	93.55-92.02	93.55-92.02
Parameter/Depth of Screens (mbgs)	Unit	Table 2 RPI	1.52-4.57	2.44-3.96	2.44-3.96	2.33-5.38	1.65-3.18	1.65-3.18
Dichlorodifluoromethane	µg/L	590	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Vinyl Chloride	µg/L	0.5	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Bromomethane	µg/L	0.89	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L	150	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Acetone	µg/L	2700	<1.0	<1.1	<1.2	<1.3	<1.4	<1.5
1,1-Dichloroethylene	µg/L	1.6	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Methylene Chloride	µg/L	50	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L	1.6	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Methyl tert-butyl ether	µg/L	15	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1-Dichloroethane	µg/L	5	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Methyl Ethyl Ketone	µg/L	1800	<1.0	<1.1	<1.2	<1.3	<1.4	<1.5
cis- 1,2-Dichloroethylene	µg/L	1.6	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chloroform	µg/L	2.4	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloroethane	µg/L	1.6	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1,1-Trichloroethane	µg/L	200	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Carbon Tetrachloride	µg/L	0.79	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Benzene	µg/L	5.0	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloropropane	µg/L	5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichloroethylene	µg/L	1.6	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Bromodichloromethane	µg/L	16	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Methyl Isobutyl Ketone	µg/L	640	<1.0	<1.1	<1.2	<1.3	<1.4	<1.5
1,1,2-Trichloroethane	µg/L	4.7	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	µg/L	24	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dibromochloromethane	µg/L	25	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ethylene Dibromide	µg/L	0.2	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Tetrachloroethylene	µg/L	1.6	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	1.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chlorobenzene	µg/L	30	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ethylbenzene	µg/L	2.4	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Bromoform	µg/L	25	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Styrene	µg/L	5.4	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,3-Dichlorobenzene	µg/L	59	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,4-Dichlorobenzene	µg/L	1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,2-Dichlorobenzene	µg/L	3	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,3-Dichloropropene	µg/L	0.5	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Xylenes (Total)	µg/L	300	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
n-Hexane	µg/L	51	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

FIGURES

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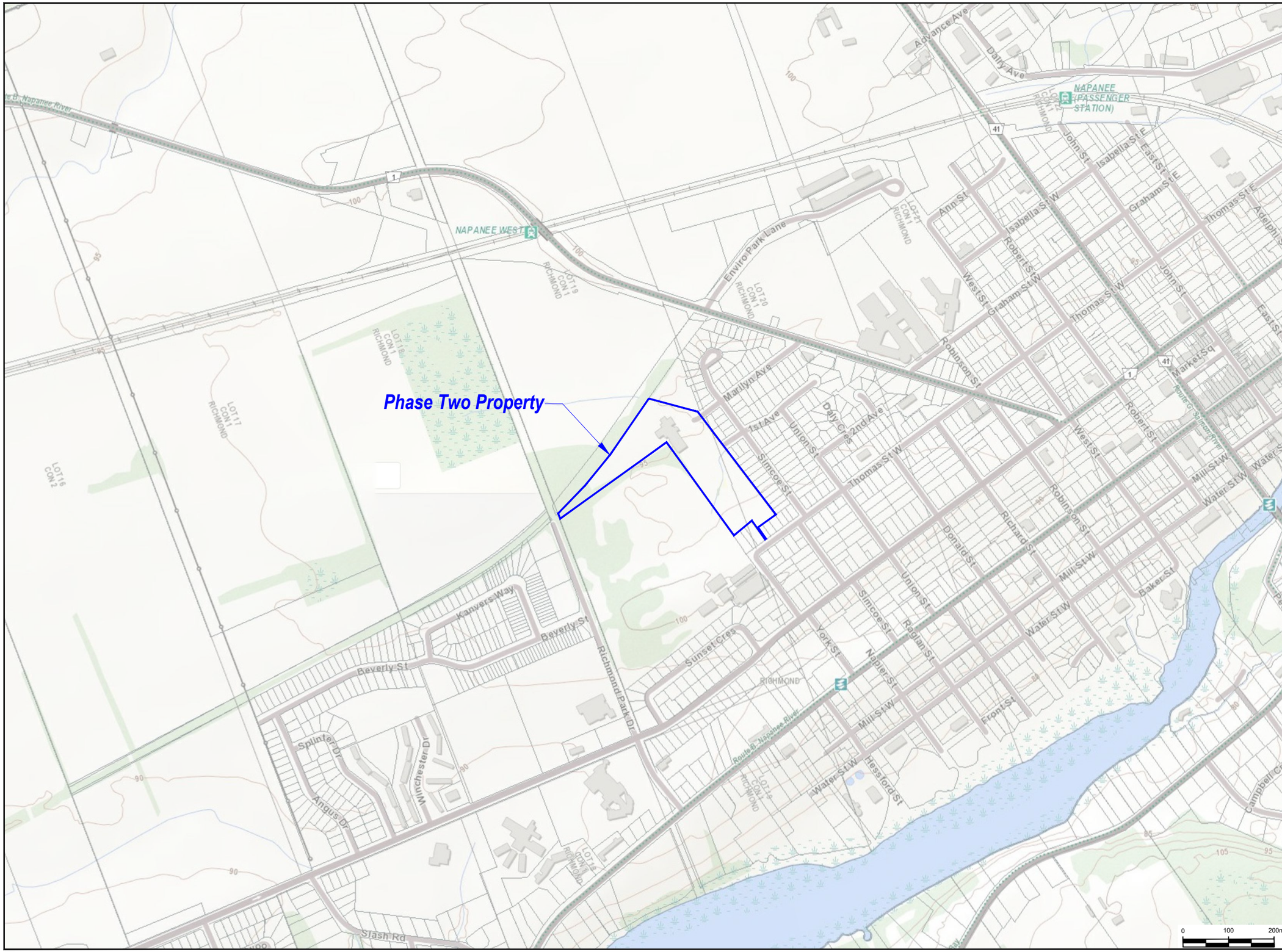

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Reference:
MNR Maps

Notes:

Legend:
Phase Two Property Boundary

Project Title:
Updated Phase Two Environmental Site Assessment

Site Location:
240 Marilyn Avenue, Napanee, Ontario

Figure Title:
Phase Two Property Location

Designed By: SA	File No.: 02209049
Drawn By: SSK	Scale: As Shown
Reviewed By: MS	Figure No.: 1
Date: June 2023	

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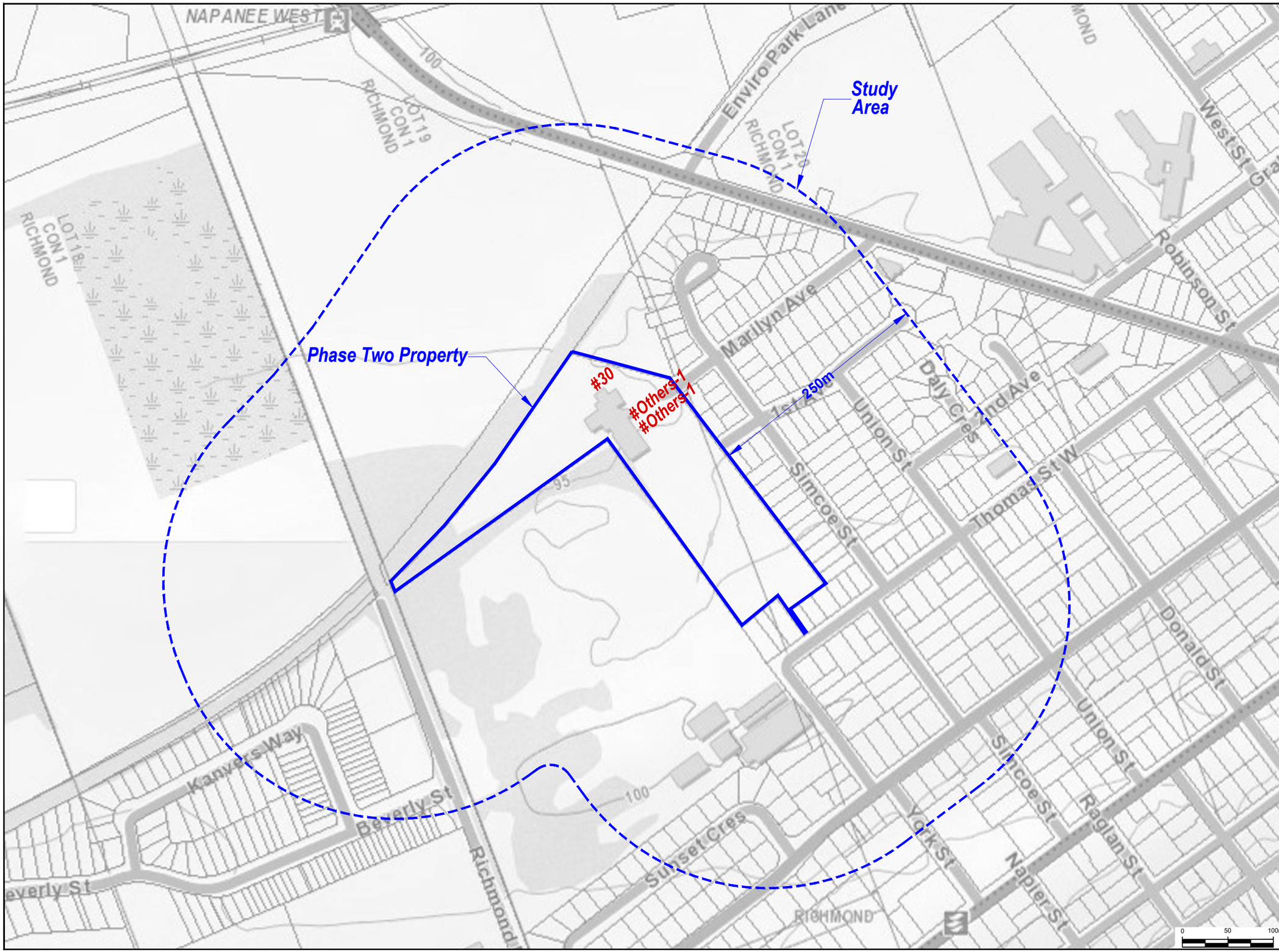

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Reference:
MNR Maps

Notes:

PCA - Potentially Contaminating Activity

#00 PCA Causing APEC

#00 PCA Not Causing APEC

Legend:

	Phase Two Property Boundary
	Phase Two Study Area, 250m
#30	Importation of Fill Material of Unknown Quality
#Others-1	Transformer

Project Title:
Updated Phase Two Environmental Site Assessment

Site Location:
240 Marilyn Avenue, Napanee, Ontario

Figure Title:
PCA Locations

Designed By: SA	File No.: 02209049
Drawn By: SSK	Scale: As Shown
Reviewed By: MS	Figure No.: 2
Date: June 2023	

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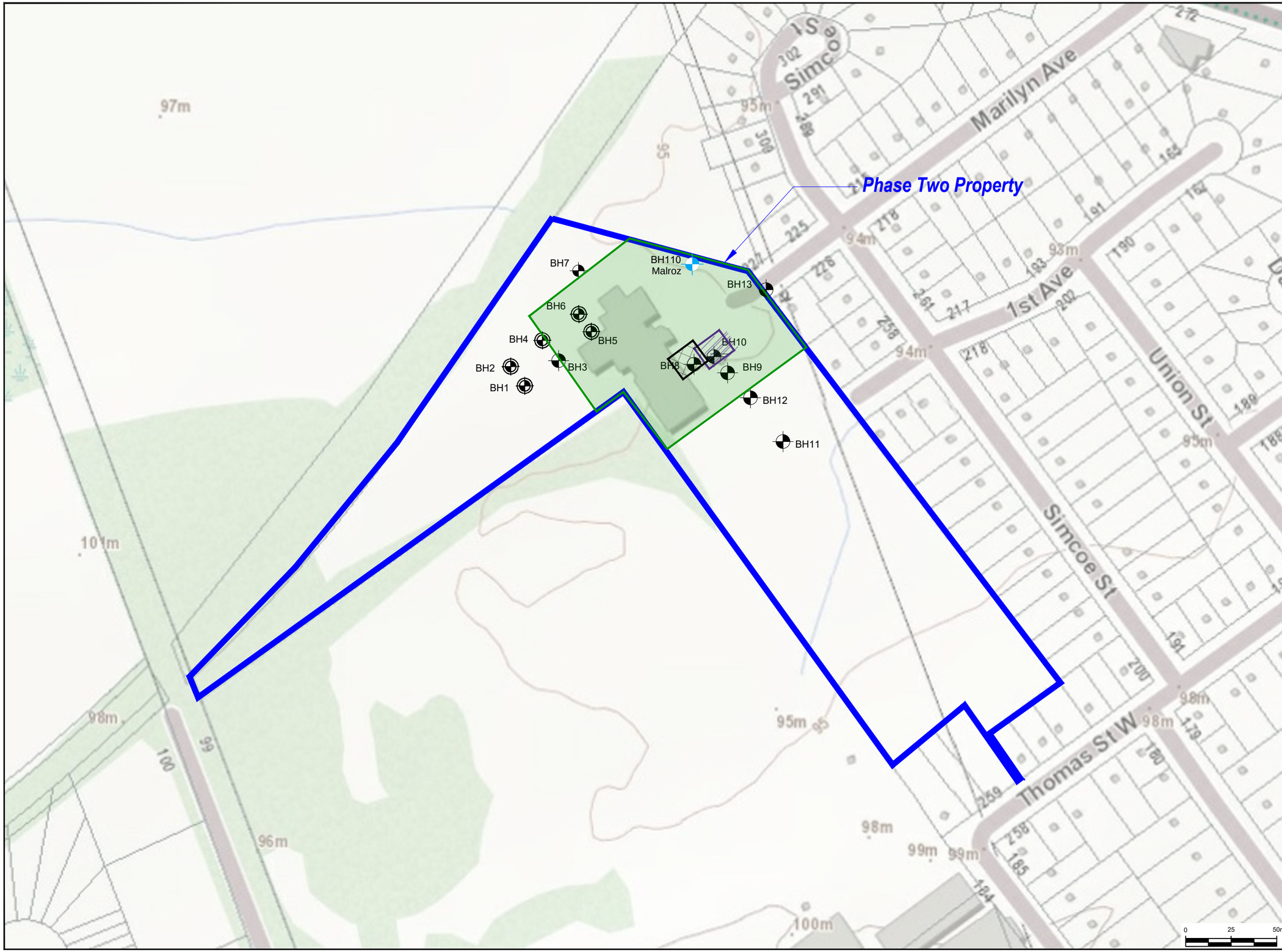

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Reference:
MNR Maps

Notes:

APEC - Area of Potential Environmental Concern
PCA - Potentially Contaminating Activity

Legend:

- Phase Two Property Boundary
- APEC1- #30
- APEC2- #Others-1
- APEC 3- #Others-1
- Boreholes
- Boreholes with Monitoring Wells
- Malroz Borehole

Project Title:
Updated Phase Two Environmental Site Assessment

Site Location:
240 Marilyn Avenue, Napanee, Ontario

Figure Title:
APEC Locations & BH/MW Locations

Designed By: SA	File No.: 02209049
Drawn By: HK/SSK	Scale: As Shown
Reviewed By: MS	Figure No.: 3
Date: June 2023	

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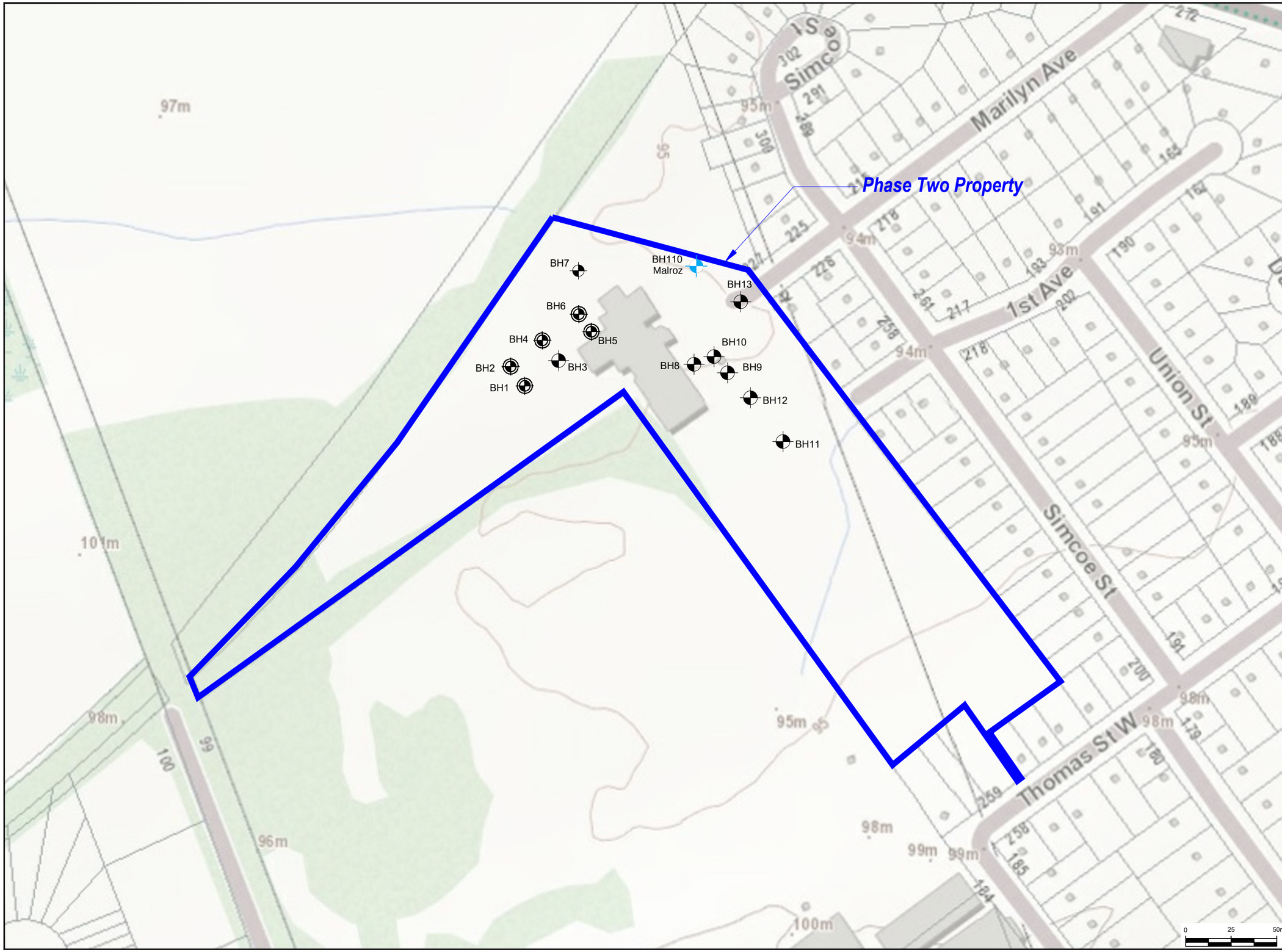

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Reference:
MNR Maps

Notes:

Legend:

- Phase Two Property Boundary
- Boreholes
- Boreholes with Monitoring Wells
- Malroz Borehole

Project Title:
Updated Phase Two Environmental Site Assessment

Site Location:
240 Marilyn Avenue, Napanee, Ontario

Figure Title:
BH/MW Locations

Designed By: SA	**File No.:** 02209049
Drawn By: HK/SSK	**Scale:** As Shown
Reviewed By: MS	**Figure No.:** 4
Date: June 2023	

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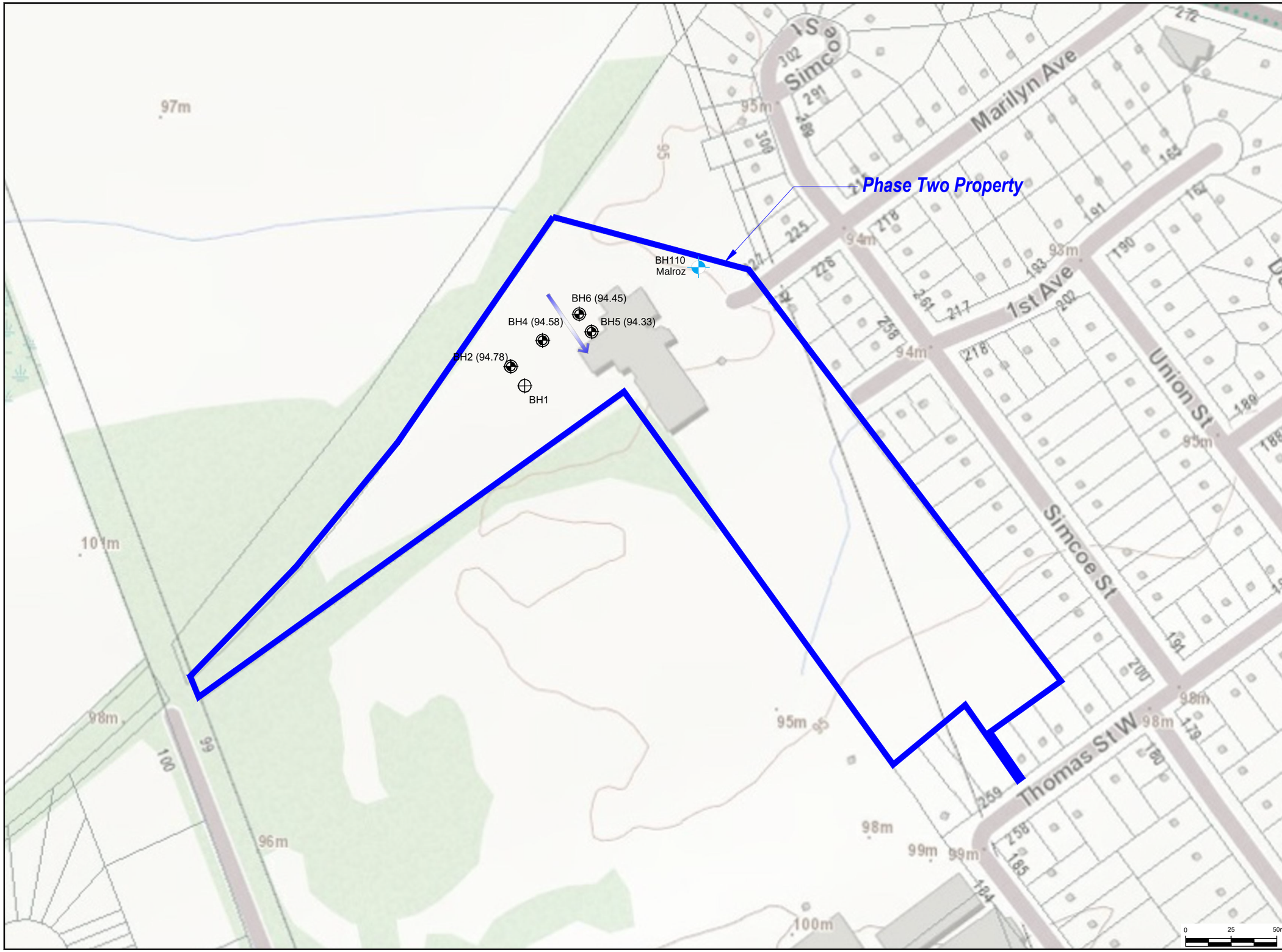

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Reference:
MNR Maps

Notes:

Legend:

- Phase Two Property Boundary
- Boreholes
- Boreholes with Monitoring Wells
- 94.78 Groundwater Elevations as on Jan 20 2023 (masl)
- Groundwater Flow Direction
- Malroz Borehole

Project Title:
Updated Phase Two Environmental Site Assessment

Site Location:
240 Marilyn Avenue, Napanee, Ontario

Figure Title:
Ground Water Elevations and Flow Direction

Designed By: SA	**File No.:** 02209049
Drawn By: HK	**Scale:** As Shown
Reviewed By: MS	**Figure No.:** 5
Date: June 2023	

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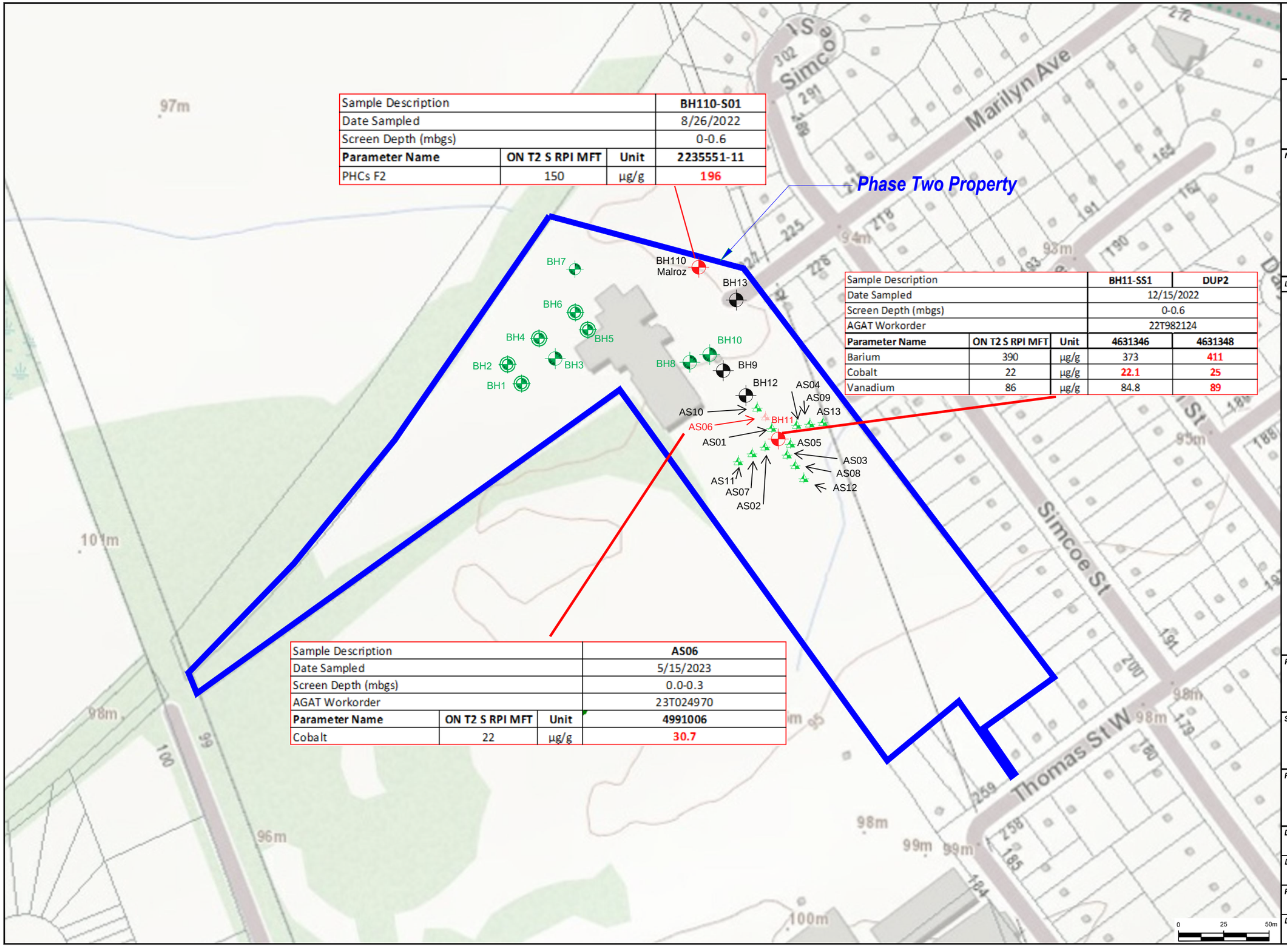

Sample Description			BH110-S01
Date Sampled			8/26/2022
Screen Depth (mbgs)			0-0.6
Parameter Name	**ON T2 S RPI MFT**	**Unit**	**2235551-11**
PHCs F2	150	µg/g	196

Sample Description			BH11-SS1	DUP2
Date Sampled			12/15/2022	
Screen Depth (mbgs)			0-0.6	
AGAT Workorder			22T982124	
Parameter Name	**ON T2 S RPI MFT**	**Unit**	**4631346**	**4631348**
Barium	390	µg/g	373	411
Cobalt	22	µg/g	22.1	25
Vanadium	86	µg/g	84.8	89

Sample Description			AS06
Date Sampled			5/15/2023
Screen Depth (mbgs)			0.0-0.3
AGAT Workorder			23T024970
Parameter Name	**ON T2 S RPI MFT**	**Unit**	**4991006**
Cobalt	22	µg/g	30.7

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Reference:
MNR Maps

Notes:

Legend:
- Phase Two Property Boundary
- Boreholes Meet Table 2 Standards
- Boreholes with Monitoring Wells Meet Table 2 Standards
- Boreholes exceed Table 2 Standards
- Boreholes - No samples submitted for analysis
- Samples Meet Table 2 Standards
- Sample Exceed Table 2 Standards

Project Title:
Updated Phase Two Environmental Site Assessment

Site Location:
240 Marilyn Avenue, Napanee, Ontario

Figure Title:
Soil Sampling Results (Plan View)

Designed By: SA	File No.: 02209049
Drawn By: HK	Scale: As Shown
Reviewed By: MS	Figure No.: 6
Date: June 2023	

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APPENDIX A

TERRAPROBE INC.

240 MARILYN AVENUE
NAPANEE, ONTARIO
PHASE ONE CONCEPTUAL SITE MODEL

Phase One CSM		Information Pertaining to Property
Figures of the Phase One Study Area are provided that:		
i.	Show any existing buildings and structures,	The Property is currently developed with a single storey elementary school building with no basement.
ii.	Identify and locate water bodies located in whole or in part on the Phase One Study Area	There are no surface water bodies or features located on the Property. Ground water and surface water is expected to flow in the south-southeast direction into the Napanee River located approximately 0.9 km south of the Phase One Property.
iii.	Identify and locate any Area of Natural Significance located in whole or in part on the Phase One Study Area	Terraprobe reviewed the Ontario Ministry of Natural Resources NHIC database for natural area listings. One (1) unevaluated is present in the Study Area, 230m from the property to the northwest.
iv.	Locate any drinking water wells at the Phase One Property	No drinking water well was identified at the Property. Six (6) other wells were found in the MECP Water Well Information System (WWIS) within the Study Area.
v.	Show roads, including names, within the Phase One Study Area	The Property is situated at the western end of Marilyn Avenue. The Property is bounded by residential properties to the east, agricultural land to the north, and a park to the south. Other roads and properties within the Study Area are presented in Figure 4.
vi.	Show use of properties adjacent to the Phase One Property	The land uses of the adjacent properties are shown in Figure 4. The neighboring properties to the Phase One Property are primarily in agricultural and residential land use.
vii.	Identify and locate area where any potentially contaminating activity has occurred, and show tanks in such areas	Three (3) Potentially Contaminating Activities (PCAs) were located on the Property. The location of PCAs is shown in Figure 5.
viii.	Identify and locate any areas of potential environmental concern	Three (3) Areas of Potential Environmental Concern (APECs) were identified on the Property. They are shown in Figure 6.
The following is a description and assessment of:		
i.	Any areas where potentially contaminating activity on or potentially affecting the Phase One Property has occurred.	See above list of APECs.
ii.	Any contaminants of potential concern,	Fifteen (15) Contaminants of Potential Concern (COPCs) identified on the Property that have potential to be present in soil: • PCBs, PAHs, VOCs, BTEX, Metals • As, Sb, Se, B-HWS, CN-, Hg, Cr(VI) • pH, EC, SAR No Contaminants of Potential Concern (COPCs) identified on the Property that have potential to be present in ground water.
iii.	The potential for underground utilities, if any present, to	There are underground utilities located on the Property, as such, the potential for contaminant distribution is present.

	affect contaminant distribution and transport	
iv.	Available regional or site specific geological and hydrogeological information,	Topography • The elevation of the Property is approximately 95 m above mean sea level (masl). Hydrogeology • There are no surface water bodies or features located on the Property. Ground water and surface water is expected to flow in the south-southeast direction into the Napanee River located approximately 0.9 km south of the Phase One Property. Geology (overburden) • Comprised of predominantly silt and clay with minor sand and gravel. Geology (bedrock) • The bedrock on the Property is of the Bobcaygeon Formation, which is comprised of limestone with minor shales in upper part of the bedrock.. Geology (depth to bedrock) • Based on the published information, bedrock in the vicinity is located approximately 4.3 to 6.1 m below ground surface.
v.	How any uncertainty or absence of information obtained in each of the components of the Phase One ESA could affect the validity of the model.	No uncertainty was encountered while conducting the Phase One ESA that could affect the validity of the model.

FIGURES:

Figure 1 – Phase One Property Location
Figure 2 – Phase One Property
Figure 3 – Phase One Study Area
Figure 4 – Adjacent Land Uses
Figure 5 – PCA Location
Figure 6 – APEC Locations

FIGURES

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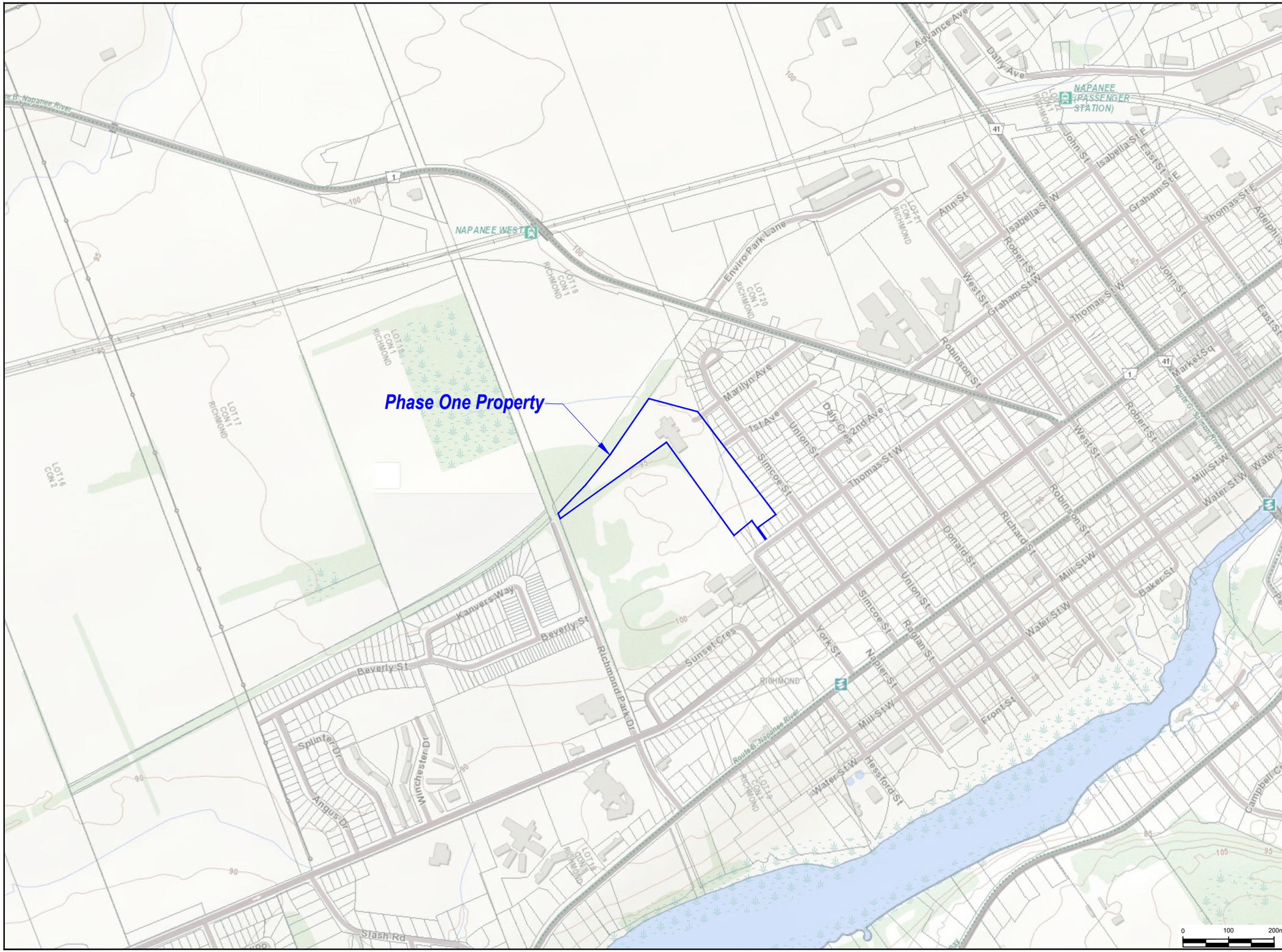

Terraprobe Inc.

Consulting Geotechnical & Environmental Engineering
Construction Materials, Inspection & Testing

11 Indell Lane - Brampton Ontario L6T 3Y3 (905) 796-2650

Reference:

MNR Maps

Notes:

Legend:

Phase One Property Boundary

Project Title:

Phase One Environmental Site Assessment

Site Location:

240 Marilyn Avenue, Napanee, Ontario

Figure Title:

PHASE ONE PROPERTY LOCATION

Designed By: SA	**File No.:** 02209049.000
Drawn By: SSK	**Scale:** As Shown
Reviewed By: SQ	**Figure No.:** 1
Date: November 2022	

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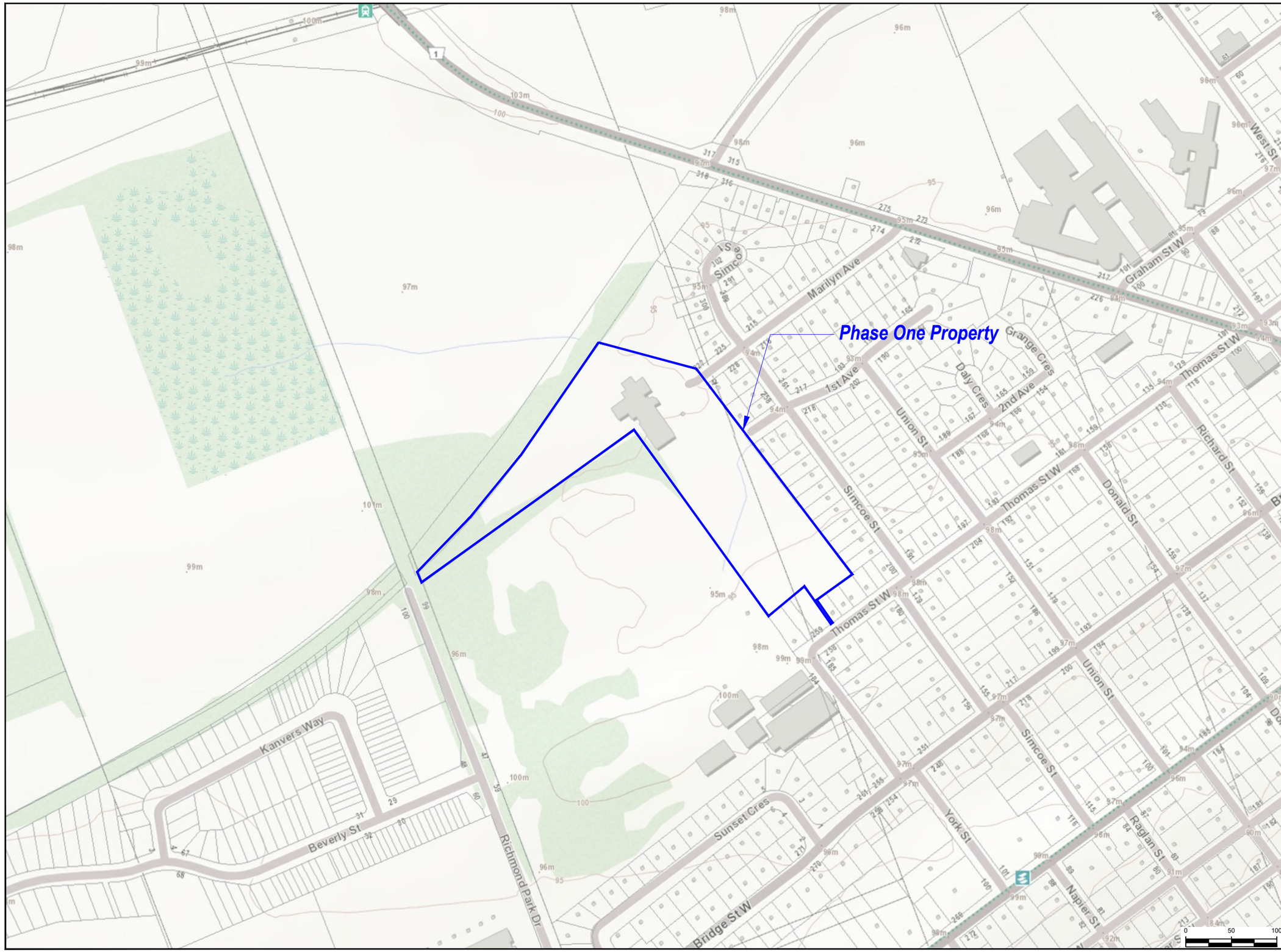

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Reference:
MNR Maps

Notes:

Legend:
Phase One Property Boundary

Project Title:
Phase One Environmental Site Assessment

Site Location:
240 Marilyn Avenue, Napanee, Ontario

Figure Title:
PHASE ONE PROPERTY

Designed By: SA	*File No.:* 02209049.000
Drawn By: SSK	*Scale:* As Shown
Reviewed By: SQ	*Figure No.:* 2
Date: November 2022	

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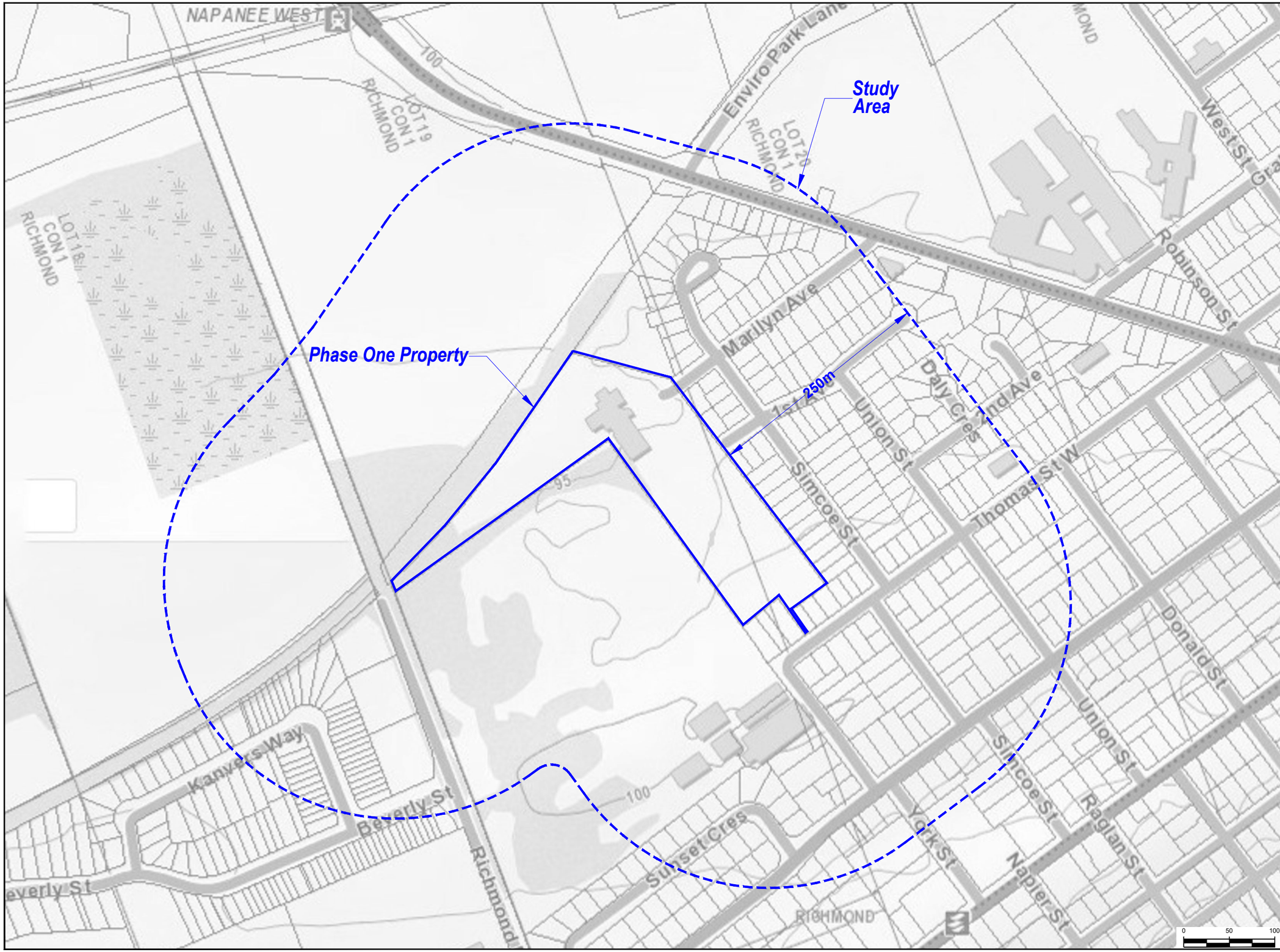

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Reference:
MNR Maps

Notes:

Legend:
- Phase One Property Boundary
- Phase One Study Area, 250m

Project Title:
Phase One Environmental Site Assessment

Site Location:
240 Marilyn Avenue, Napanee, Ontario

Figure Title:
PHASE ONE STUDY AREA

Designed By: SA	**File No.:** 02209049.000
Drawn By: SSK	**Scale:** As Shown
Reviewed By: SQ	**Figure No.:** 3
Date: November 2022	

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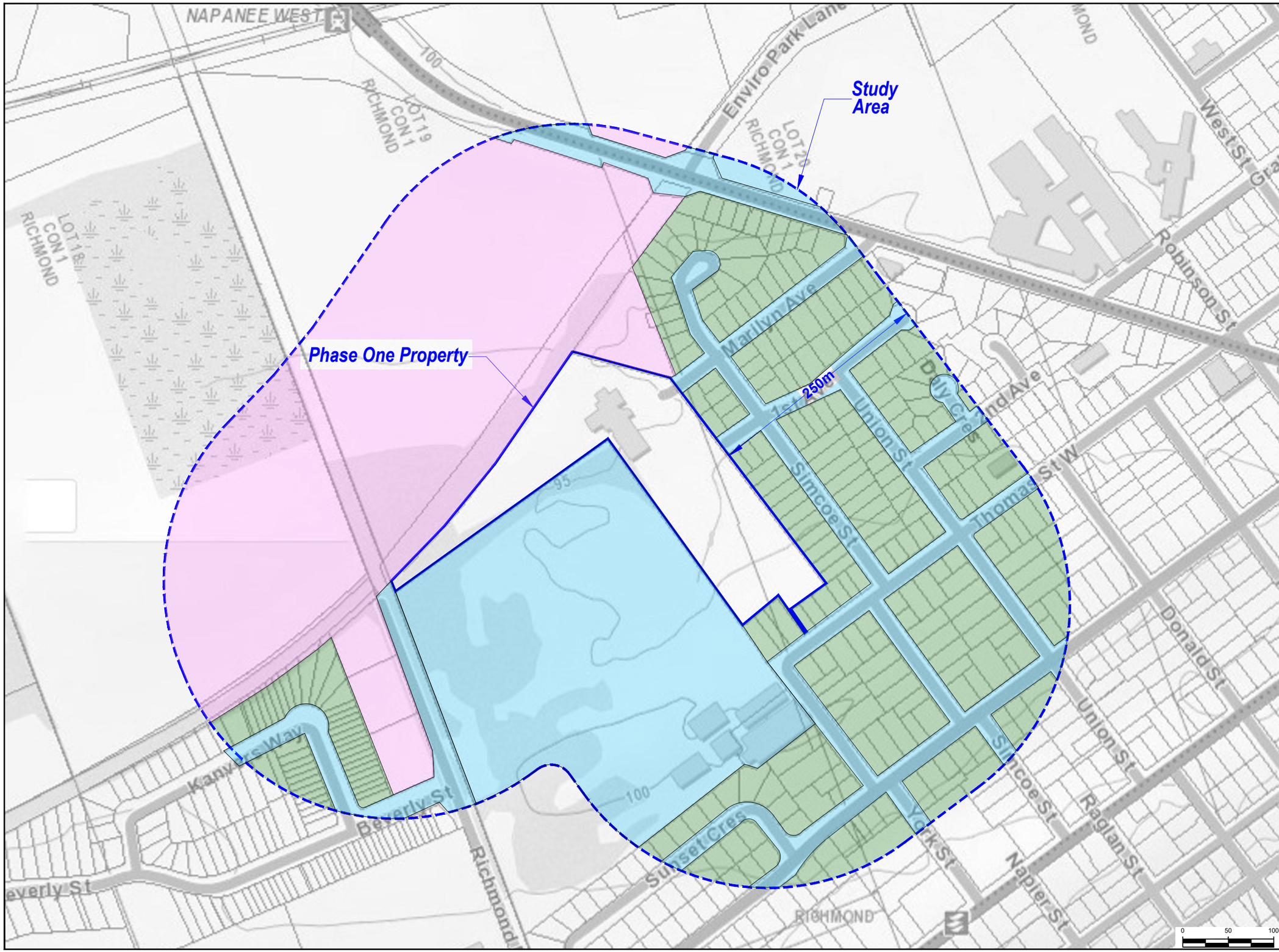

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11 Indell Lane - Brampton Ontario L6T 3Y3 (905) 796-2650

Reference:
MNR Maps

Notes:

Legend:

- Phase One Property Boundary
- Residential Land Use
- Community Land Use (Roads)
- Agricultural / Other Land Use

Project Title:
Phase One Environmental Site Assessment

Site Location:
240 Marilyn Avenue, Napanee, Ontario

Figure Title:
ADJACENT PROPERTY LAND USES

Designed By: SA	File No.: 02209049.000
Drawn By: SSK	Scale: As Shown
Reviewed By: SQ	Figure No.: 4
Date: November 2022	

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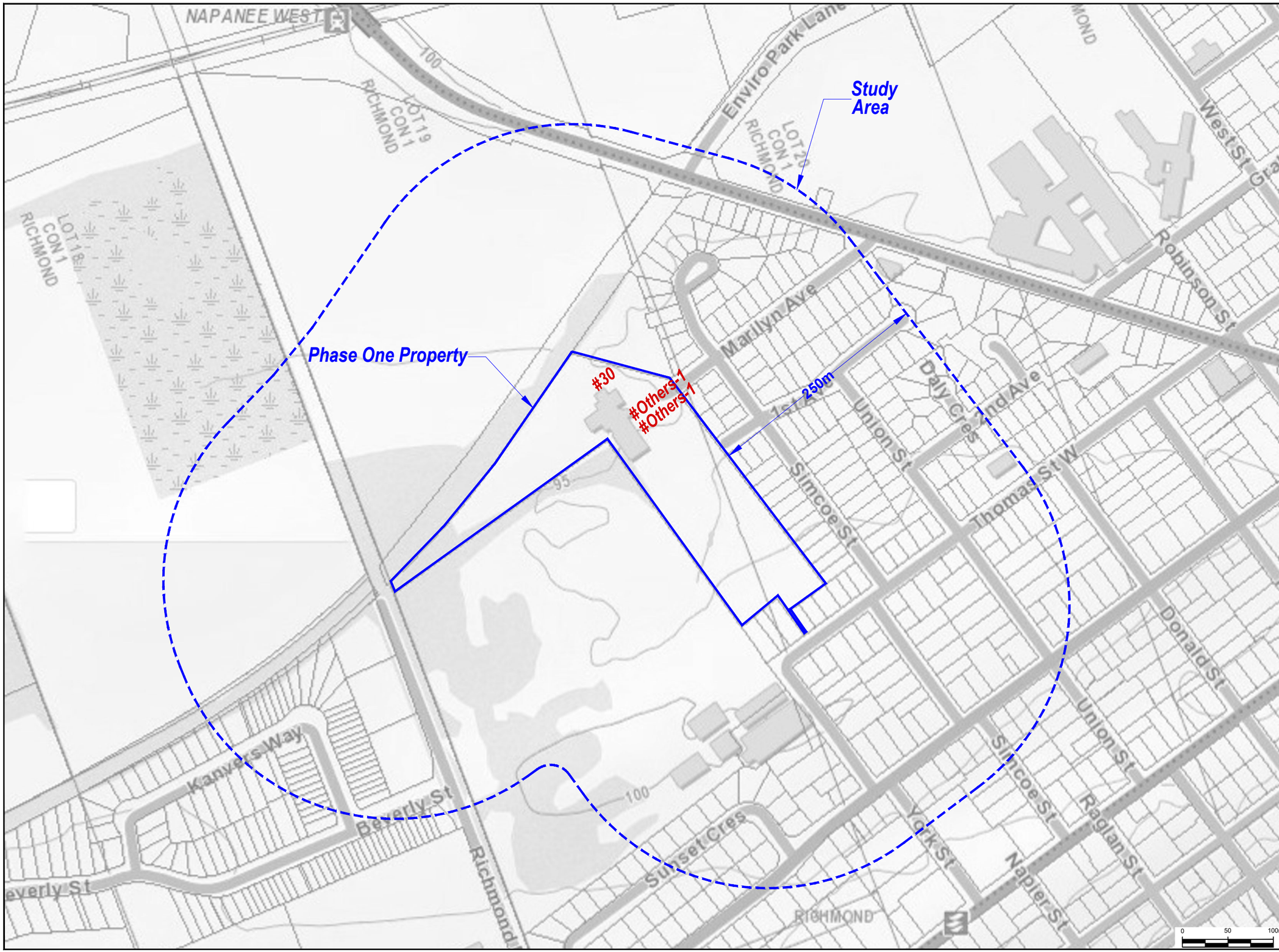

Terraprobe Inc.
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Construction Materials, Inspection & Testing
11 Indell Lane - Brampton Ontario L6T 3Y3 (905) 796-2650

Reference:
MNR Maps

Notes:

PCA - Potentially Contaminating Activity
#00 PCA Causing APEC
#00 PCA Not Causing APEC

Legend:

	Phase One Property Boundary
	Phase One Study Area, 250m
#30	Importation of Fill Material of Unknown Quality
#Others-1	Transformer

Project Title:
Phase One Environmental Site Assessment

Site Location:
240 Marilyn Avenue, Napanee, Ontario

Figure Title:
PCA LOCATIONS

Designed By: SA	*File No.:* 02209049.000
Drawn By: SSK	*Scale:* As Shown
Reviewed By: SQ	*Figure No.:* 5
Date: November 2022	

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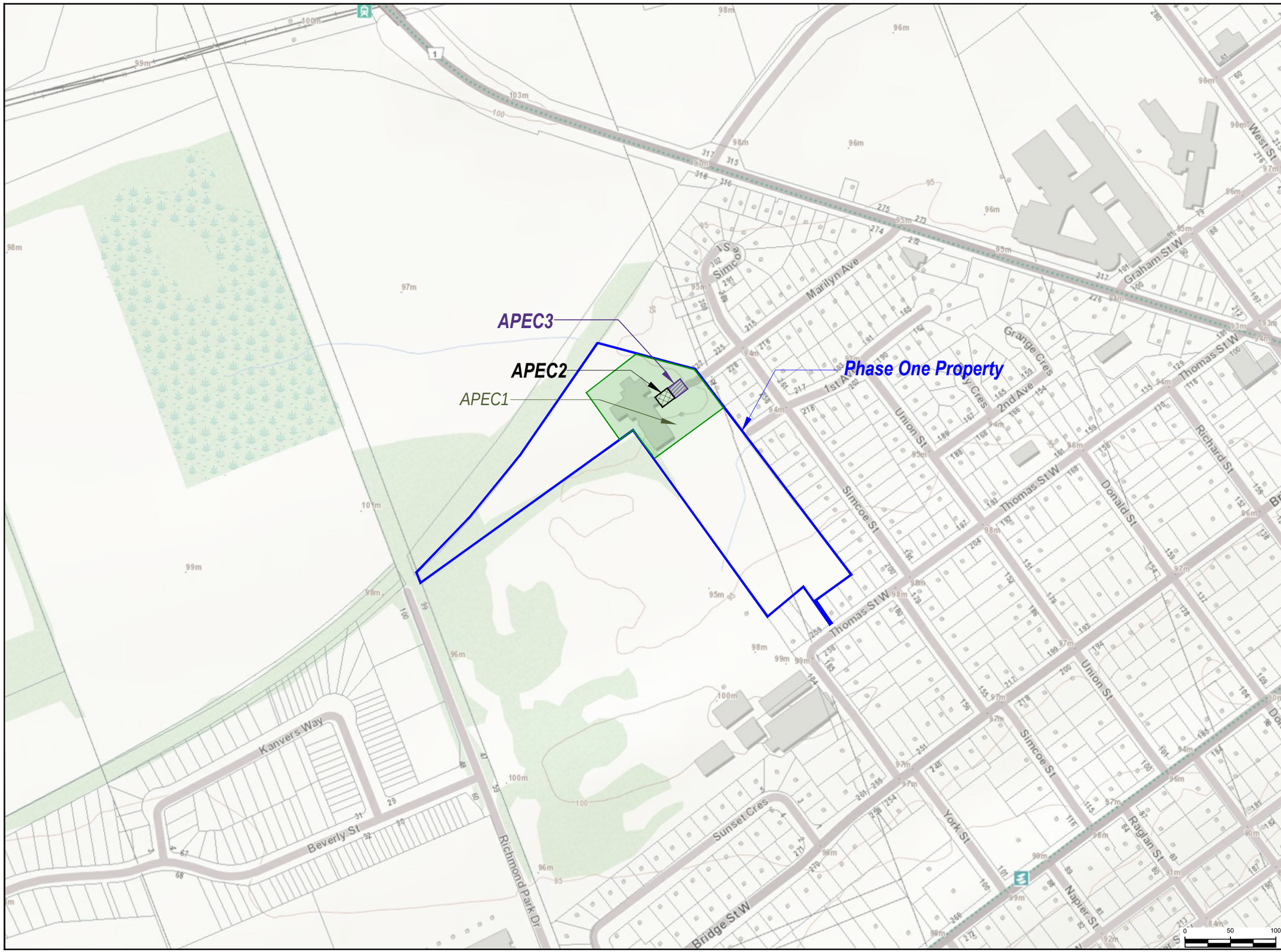

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Construction Materials, Inspection & Testing
11 Indell Lane - Brampton Ontario L6T 3Y3 (905) 796-2650

Reference:
MNR Maps

Notes:
APEC - Area of Potential Environmental Concern

Legend:
- Phase One Property Boundary
- APEC1- #30
- APEC2- #Others-1
- APEC 3- #Others-1

Project Title:
Phase One Environmental Site Assessment

Site Location:
240 Marilyn Avenue, Napanee, Ontario

Figure Title:
APEC LOCATIONS

Designed By: SA	**File No.:** 02209049.000
Drawn By: SSK	**Scale:** As Shown
Reviewed By: SQ	**Figure No.:** 6
Date: November 2022	

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APPENDIX B

TERRAPROBE INC

SOIL SAMPLING PLAN

Sample Identification	Sample Depth		Chemical Analysis													
	mbgs	masl	Metals	Metals – HF	CR (VI)	Hg	B-HWS	CN-	EC	SAR	pH	PAHs	PCBs	PHCs	BTEX	VOCs
BH1																
SS1	0-0.61	95.5-94.89	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SS4	2.23-2.9	93.27-92.6	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-
BH2																
SS1	0-0.61	95.5-94.89	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓
SS3	1.52-2.13	93.98-93.37	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-
BH3																
SS1	0-0.61	95.1-94.49	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SS3	1.52-2.13	93.58-92.97	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-
BH4																
SS1	0-0.61	95.1-94.49	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
BH5																
SS1	0-0.61	95.3-94.69	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SS3	1.52-2.13	93.78-93.17	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-
BH6																
SS1	0-0.61	95.2-94.59	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SS4	2.23-2.9	92.97-92.3	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-
BH7																
SS1	0-0.61	94.9-94.29	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DUP-1	0-0.61	94.9-94.29	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
BH8																
SS1	0-0.61	94.5-93.89	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
BH10																
SS1	3.05-3.66	94.5-93.89	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
BH11																
SS1	0-0.61	94.3-93.69	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓
DUP-2	0-0.61	94.3-93.69	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-
Additional Investigation May 2023																
Hand Auger Samples																
AS01	0.0-0.3	94.3-94.0	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
DUP1	0.0-0.3	94.3-94.0	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
AS02	0.0-0.3	94.3-94.0	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
AS03	0.0-0.3	94.3-94.0	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
AS04	0.0-0.3	94.3-94.0	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
AS05	0.7-1.0	93.6-93.3	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-

Sample Identification	Sample Depth		Chemical Analysis													
	mbgs	masl	Metals	Metals – HF	CR (VI)	Hg	B-HWS	CN-	EC	SAR	pH	PAHs	PCBs	PHCs	BTEX	VOCs
DUP2	0.7-1.0	93.6-93.3	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
AS06	0.0-0.3	94.3-94.0	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
AS07	0.0-0.3	94.3-94.0	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
AS08	0.0-0.3	94.3-94.0	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
AS09	0.0-0.3	94.3-94.0	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
AS10	0.0-0.3	94.3-94.0	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
AS11	0.0-0.3	94.3-94.0	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
AS12	0.0-0.3	94.3-94.0	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
AS13	0.0-0.3	94.3-94.0	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-

Note: ✓ Sample submitted for analysis

GROUNDWATER SAMPLING PLAN

Monitoring Well	Screen Elevation		Metals & Inorganics	PHCs	BTEX	VOCs
	(mbgs)	(masl)				
BH1	1.52-4.57	93.98-90.93	✓	✓	✓	✓
BH2	2.44-3.96	93.06-91.54	✓	✓	✓	✓
BH4	2.44-3.96	92.66-91.14	✓	✓	✓	✓
BH5	2.33-5.38	92.97-89.92	✓	✓	✓	✓
BH6	1.65-3.18	93.55-90.5	✓	✓	✓	✓
DUP(BH6)	1.65-3.18	93.55-90.5	✓	✓	✓	✓

Note: ✓ Sample submitted for analysis

APPENDIX C

TERRAPROBE INC

SUMMARY OF FIELD INVESTIGATION PROTOCOL

1. Drilling and Soil Sampling Procedures

Drilling and sampling of overburden materials are generally conducted using a mobile power auger. During augering operations, soil samples are recovered using a standard 50 mm diameter split-spoon sampling device. The sampler is generally advanced by a drop hammer to obtain standard penetration values (N values) for assessment of soil consistency.

In some instances, soil samples are obtained by directly pushing a sampling device into the soil using specialized drilling equipment.

Soil samples obtained from the split-spoon are examined in the field by qualified engineering staff. The soil is classified according to: grain size distribution, texture, colour, odour, moisture content, and other pertinent details. Field borehole logs are prepared and notes are made regarding visual or olfactory evidence of potential contamination of soil materials.

Following logging, all samples are placed into laboratory-cleaned 500 mL glass jars, with foil-lined lids. The samples are transported to Terraprobe's laboratory for detailed inspection by the site engineer. Where samples are collected for analysis of volatile organic compounds, they are placed into laboratory-cleaned, 50 mL glass septum jars with Teflon-lined caps. Following review by the project engineer, samples are forwarded to a CAEAL-certified laboratory for analysis.

During the drilling procedure, no lubricants are used on any of the drilling and sampling equipment in order to ensure there is no contamination with hydrocarbon-based or other lubricating materials.

If significant contamination of the soil or ground water is expected, then drill cuttings are placed into 205 L steel drums stored on thesite. The drill cuttings and water are later characterized for proper off-site disposal, where necessary.

The sample collection and preservation techniques follow the general requirements of *Table 5.2(d), Required Container Preservation Techniques and Maximum Handling Times for Water Samples*, and from *MOE Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario* (May 1996).

Chain of custody forms are filled out for all samples which are shipped to commercial laboratories. The chain of custody forms are provided by the laboratory and include the following information:

1. Terraprobe's project number
2. Sample number and locations
3. Name of party shipping the samples to the laboratory
4. Required scope of analysis
5. Date of submission
6. Date of receipt by the laboratory
7. Any special notes or items of clarification appropriate to the project

2. Test Pit Excavation and Sampling

Test pits are generally excavated using a hydraulic backhoe of appropriate size and capacity depending on test pit depth and soil consistency. The test pit operations are carried out under the full-time supervision of Terraprobe engineering staff. During excavation, the test pits are logged based on the exposed soil and ground water profile. Soil samples are generally recovered from each soil strata noted during the investigation. Depending on the depth of the test pit, samples are obtained either by a spade or shovel from the side wall, or directly from the backhoe bucket.

In all cases, operations are carried out in strict accordance with the requirements of the Occupational Health and Safety Act. Personnel are not permitted to enter unsupported test pits with depths in excess of 1.2 m below prevailing grade.

3. Equipment Clean-up

All drilling equipment is cleaned by the contractor prior to beginning each project. This includes augers, drill rods, sampling spoons, and the like.

In the event that significant contamination is expected or noted during drilling, then the drilling equipment is also cleaned between each borehole location. The cleaning is conducted using high pressure washing equipment and a phosphate detergent. A decontamination pad or cleaning area is set up well away from the general work area.

All sampling equipment used during the investigation is cleaned between collection of each sample. This includes split-spoon equipment, shovels, trowels, and any other sampling equipment. Sampling equipment is cleaned as follows:

- All sampling equipment is wiped to remove excess soil material.
- Equipment is rinsed in municipal water.
- Equipment is further rinsed with distilled water.
- In the event of significant organic contamination (such as hydrocarbons), the material is rinsed with detergent and/or methanol to remove materials.
- A final rinse with distilled water is carried out prior to utilizing the sampling equipment.

4. Soil Gas Monitoring

Soil gas monitoring is conducted to assess the potential presence of volatile organic compounds in soil materials. The monitoring is conducted by obtaining headspace measurements from soil samples. Headspace measurement is conducted by placing the tip of a photo-ionization detector or flame ionization detector through an aluminum foil cover placed over the 500 mL sample jars. Alternatively, samples may be placed into polyethylene sampling bags and vapour analysis can be conducted through the wall of the sampling bag.

When the ambient air temperature is less than 10°C, samples are generally transported to Terraprobe's laboratory and allowed to remain in sealed containers until reaching room temperature. Vapour analysis is then conducted at room temperature.

All testing equipment is calibrated each day prior to conducting soil vapour measurements. Measurements are generally taken with respect to equivalent hexane concentration (concentration of parts per million), or in relation to the lower explosive limit of hexane. Where appropriate, the results are converted to represent concentrations of other gases such as methane.

The results of vapour monitoring are generally utilized to provide guidance for the selection of samples for later chemical analysis. They may also be used in assessing the presence of volatile organic compounds for the siting of monitoring wells.

5. Monitoring Well Installation

Monitoring wells are generally constructed using new, pre-packaged 50 mm diameter Schedule 40 PVC pipe and screens. The screen length and opening are dependent on the project requirements.

All wells are constructed using threaded joints without glues or solvents.

A silica sand pack is placed around the well screen and typically to a height of approximately 500 mm above the top of the well screen. A well seal, consisting of bentonite clay or cementitious bentonite grout, is then placed to a thickness of at least 1 m above the sand zone. The remainder of the hole is then filled to surface with an appropriate grout material or drill cuttings.

A locking security cap is fitted in areas which may be subject to vandalism or tampering of the well installation.

Specialized drilling procedures and monitoring well installation procedures are used where aquifer zones may be penetrated. All drilling is conducted in accordance with the general requirements of Regulation 903 to ensure that there is no cross-contamination or cross flow between aquifer zones.

6. Ground Water Sampling and Water Level Measurement

Water level measurements are conducted using an electronic water level finder. The water level finder is cleaned with distilled water, detergent, and where appropriate, methanol, prior to insertion into each well.

Measurements of non-aqueous phase liquids are conducted using specialized monitoring equipment which detects the presence of both the water column and non-aqueous phase liquids.

All measurements in the field are taken relative to a fixed point, which is generally the top of the well casing or top of the well protective cap. These are later referenced to appropriate elevations or ground surface.

Ground water sampling is conducted following proper development of the well. Wells are generally developed using a dedicated Waterra inertial pump. The wells are developed by removing a minimum of three casing volumes of water, or by bailing to dryness. Where possible, the wells are developed until clear, sediment-free water is obtained.

Ground water samples are obtained only following well bailing and development, as noted above. Samples are obtained either from a dedicated inertial pump, or a dedicated bailer.

During sampling, measurements are made for selected parameters including pH, conductivity, and temperature.

Samples are collected directly into laboratory-supplied containers. Samples collected for analysis of metals are filtered through a 0.45 micron disposable filter to eliminate suspended solids.

Sample bottles are stored in an insulated cooler to protect from freezing, and to maintain temperatures of less than 10°C.

The sample collection and preservation techniques follow the general requirements of *Table 5.2(d), Required Container Preservation Techniques and Maximum Handling Times for Water Samples*, and from *MOE Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario* (May 1996).

Chain of custody forms are filled out for all samples which are shipped to commercial laboratories. The chain of custody forms are provided by the laboratory and include the following information:

- Terraprobe's project number
- Sample number and locations
- Name of party shipping the samples to the laboratory
- Required scope of analysis
- Date of submission
- Date of receipt by the laboratory
- Any special notes or items of clarification appropriate to the project

7. Sample Quality Assurance and Quality Control

All chemical analysis of soil and ground water samples is carried out only by CAEAL certified laboratories. These laboratories provide internal quality control checks regarding laboratory analytical procedures. This includes the use of sample spikes, surrogate samples, and duplicate analysis.

For each sampling program, one trip blank is included. The trip blank consists of deionized water that is placed in the sample containers provided by the laboratory, and is prepared by the laboratory.

Field duplicate samples are prepared at the rate of approximately one sample per ten soil or ground water samples submitted. The number of duplicate samples depends on site and project-specific requirements. Duplicate samples are provided with a fictitious sample number in order that the laboratory is not aware of the duplicate sample.

A field blank sample is obtained at the rate of approximately one sample per ten ground water samples submitted. A field blank is obtained by filling the appropriate laboratory containers with the deionized water in the field during the sampling procedure.

The results of all laboratory analysis are carefully examined and compared to the results of visual, olfactory, and soil vapour monitoring conducted in the field. Any unusual results or unexpected results are discussed carefully with the field technician and the laboratory. Where appropriate, resampling is conducted to ensure the veracity of all results.

. . . . . .

APPENDIX D

TERRAPROBE INC

LOG OF BOREHOLE 1

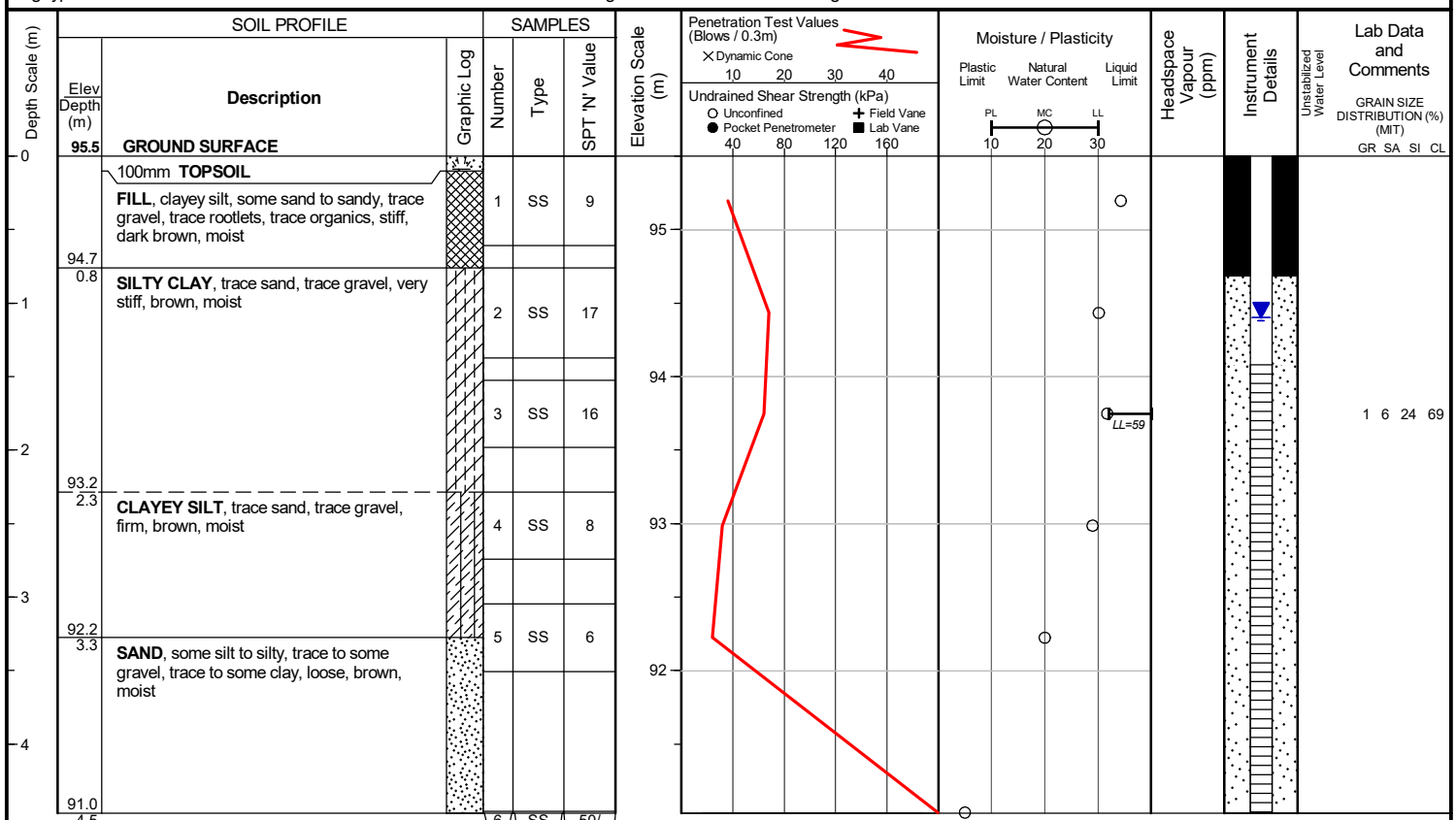
Terraprobe

Project No.	: 02209049.000	Client	: Infrastructure Ontario	Originated by	: OH
Date started	: December 15, 2022	Project	: 240 Marilyn Avenue	Compiled by	: MR
Sheet No.	: 1 of 1	Location	: Napanee, Ontario	Checked by	: MMT

Position : E: 343025, N: 4901165 (UTM 18T) Elevation Datum : Geodetic

Rig type : Track-mounted Drilling Method : Solid stem augers

Elev Depth (m)	Description	Number	Type	SPT 'N' Value
95.5	**GROUND SURFACE**			
	100mm **TOPSOIL**			
	FILL, clayey silt, some sand to sandy, trace gravel, trace rootlets, trace organics, stiff, dark brown, moist	1	SS	9
94.7 / 0.8	**SILTY CLAY**, trace sand, trace gravel, very stiff, brown, moist	2	SS	17
		3	SS	16
93.2 / 2.3	**CLAYEY SILT**, trace sand, trace gravel, firm, brown, moist	4	SS	8
		5	SS	6
92.2 / 3.3	**SAND**, some silt to silty, trace to some gravel, trace to some clay, loose, brown, moist			
91.0 / 4.5		6	SS	50/ 0mm



END OF BOREHOLE
Auger refusal on inferred bedrock

Borehole was dry and open upon completion of drilling.

50 mm dia. monitoring well installed.

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Jan 25, 2023	1.1	94.4
Jan 27, 2023	1.1	94.4

file: 02209049.000 bh logs.gpj

LOG OF BOREHOLE 2

Terraprobe

Project No.	: 02209049.000	Client	: Infrastructure Ontario	Originated by	: OH
Date started	: December 15, 2022	Project	: 240 Marilyn Avenue	Compiled by	: MR
Sheet No.	: 1 of 1	Location	: Napanee, Ontario	Checked by	: MMT

Position : E: 343018, N: 4901175 (UTM 18T) Elevation Datum : Geodetic

Rig type : Track-mounted Drilling Method : Solid stem augers

Elev Depth (m)	Description	Number	Type	SPT 'N' Value
95.5	**GROUND SURFACE**			
	100mm **TOPSOIL**			
	FILL, clayey silt, some sand to sandy, trace gravel, trace rootlets, trace organics, stiff, dark brown, moist	1	SS	10
94.7 / 0.8	**SILTY CLAY**, trace sand, trace gravel, stiff to very stiff, brown, moist	2	SS	17
		3	SS	13
93.2 / 2.3	**CLAYEY SILT**, trace sand, trace gravel, stone pieces, very stiff, brown, moist	4	SS	21
92.8 / 2.7	**SAND**, some silt to silty, trace to some gravel, trace to some clay, stone pieces, compact to dense, brown, moist	5	SS	38
91.5 / 4.0				

Depth Scale (m): 0, 1, 2, 3

Elevation Scale (m): 95, 94, 93, 92

Penetration Test Values (Blows / 0.3m): Dynamic Cone; Undrained Shear Strength (kPa): Unconfined, Pocket Penetrometer, Field Vane, Lab Vane

Moisture / Plasticity: Plastic Limit (PL), Natural Water Content (MC), Liquid Limit (LL)

Headspace Vapour (ppm)

Instrument Details

Unstabilized Water Level

Lab Data and Comments — GRAIN SIZE DISTRIBUTION (%) (MIT): GR SA SI CL

Number	GR	SA	SI	CL
5	14	58	17	11

END OF BOREHOLE
Auger refusal on inferred bedrock

Borehole was dry and open upon completion of drilling.

50 mm dia. monitoring well installed.

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Jan 25, 2023	0.8	94.7
Jan 27, 2023	0.8	94.7

file: 02209049.000 bh logs.gpj

LOG OF BOREHOLE 3

Terraprobe

Project No.	: 02209049.000	Client	: Infrastructure Ontario	Originated by	: OH
Date started	: December 15, 2022	Project	: 240 Marilyn Avenue	Compiled by	: MR
Sheet No.	: 1 of 1	Location	: Napanee, Ontario	Checked by	: MMT

Position : E: 343044, N: 4901178 (UTM 18T) Elevation Datum : Geodetic

Rig type : Track-mounted Drilling Method : Solid stem augers

Elev Depth (m)	Description	Number	Type	SPT 'N' Value
95.1	**GROUND SURFACE**			
94.9 / 0.2	150mm **AGGREGATE**			
	FILL, clayey silt, some sand to sandy, trace gravel, trace rootlets, trace organics, dark brown, moist	1	AS	
94.3 / 0.8	**SILTY CLAY**, trace sand, trace gravel, stiff to very stiff, brown, moist	2	SS	12
		3	SS	18
92.6 / 2.5	**CLAYEY SILT**, trace sand, trace gravel, stiff, brown, moist	4A, 4B	SS	8
92.1 / 3.0	**SAND**, some silt to silty, trace to some gravel, trace to some clay, compact, brown, moist	5	SS	15
90.5 / 4.6				

Penetration Test Values (Blows / 0.3m): Dynamic Cone 10 20 30 40

Undrained Shear Strength (kPa): Unconfined, Pocket Penetrometer, Field Vane, Lab Vane 40 80 120 160

Moisture / Plasticity: Plastic Limit (PL) 10, Natural Water Content (MC) 20, Liquid Limit (LL) 30

Lab Data and Comments: GRAIN SIZE DISTRIBUTION (%) (MIT) GR SA SI CL

Number	GR	SA	SI	CL
4A, 4B	0	1	77	22

END OF BOREHOLE
Auger refusal on inferred bedrock

Borehole was dry and open upon completion of drilling.

LOG OF BOREHOLE 4

Terraprobe

Project No.	: 02209049.000	Client	: Infrastructure Ontario	Originated by	: OH
Date started	: December 15, 2022	Project	: 240 Marilyn Avenue	Compiled by	: MR
Sheet No.	: 1 of 1	Location	: Napanee, Ontario	Checked by	: MMT

Position : E: 343036, N: 4901190 (UTM 18T) Elevation Datum : Geodetic

Rig type : Track-mounted Drilling Method : Solid stem augers

Depth Scale (m)	Elev Depth (m)	Description	Graphic Log	Number	Type	SPT 'N' Value	Lab Data and Comments: GRAIN SIZE DISTRIBUTION (%) (MIT) GR SA SI CL
0	95.1	**GROUND SURFACE**					
	94.9 / 0.2	150mm **AGGREGATE**					
		FILL, clayey silt, some sand to sandy, trace gravel, trace rootlets, trace organics, dark brown, moist		1	AS		
	94.3 / 0.8	**SILTY CLAY**, trace sand, trace gravel, very stiff, brown, moist		2	SS	18	
1				3	SS	18	
2	92.8 / 2.3	**CLAYEY SILT**, trace sand, trace gravel, stiff, brown, moist		4	SS	12	
3	92.1 / 3.0	**SAND**, some silt to silty, trace to some gravel, trace to some clay, compact, brown, moist		5	SS	24	18 52 19 11
	91.1 / 4.0						

Elevation Scale (m): 95, 94, 93, 92

Penetration Test Values (Blows / 0.3m): Dynamic Cone 10 20 30 40

Undrained Shear Strength (kPa): Unconfined, Pocket Penetrometer, Field Vane, Lab Vane 40 80 120 160

Moisture / Plasticity: Plastic Limit (PL) 10, Natural Water Content (MC) 20, Liquid Limit (LL) 30

Headspace Vapour (ppm)

Instrument Details

Unstabilized Water Level

END OF BOREHOLE
Auger refusal on inferred bedrock

Borehole was dry and open upon completion of drilling.

50 mm dia. monitoring well installed.

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Jan 25, 2023	1.4	93.7
Jan 27, 2023	0.5	94.6

file: 02209049.000 bh logs.gpj

Terraprobe

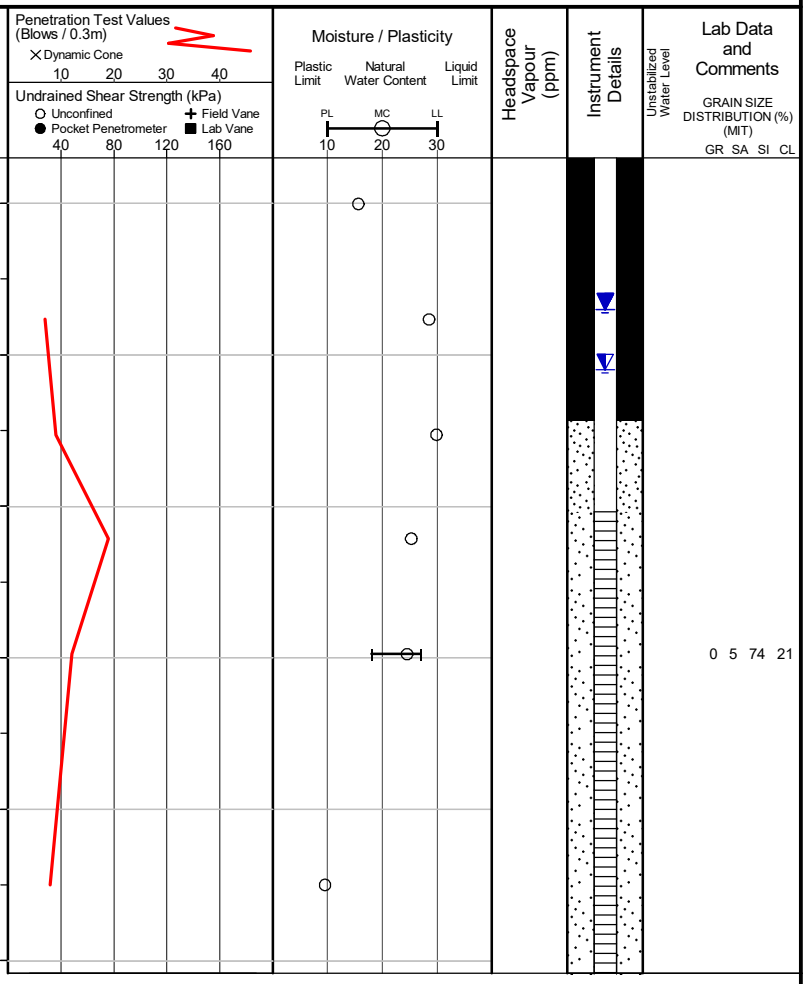
LOG OF BOREHOLE 5

Project No.	: 02209049.000	Client	: Infrastructure Ontario	Originated by	: OH
Date started	: December 15, 2022	Project	: 240 Marilyn Avenue	Compiled by	: MR
Sheet No.	: 1 of 1	Location	: Napanee, Ontario	Checked by	: MMT

Position : E: 343062, N: 4901194 (UTM 18T) Elevation Datum : Geodetic

Rig type : Track-mounted Drilling Method : Solid stem augers

Elev Depth (m)	Description	Number	Type	SPT 'N' Value
95.3	**GROUND SURFACE**			
95.1 / 0.2	65mm **ASPHALTIC CONCRETE** / 125mm **AGGREGATE**			
	FILL, clayey silt, some sand to sandy, trace gravel, trace rootlets, trace organics, firm, dark brown, moist	1	AS	
		2	SS	7
93.8 / 1.5	**SILTY CLAY**, trace sand, trace gravel, stiff to very stiff, brown, moist	3	SS	9
		4	SS	19
92.3 / 3.0	**CLAYEY SILT**, trace sand, trace gravel, stiff, brown, moist	5	SS	12
91.3 / 4.0	**SAND**, some silt to silty, trace to some gravel, trace to some clay, stone pieces, loose, brown, wet	6	SS	8
89.9 / 5.4				



END OF BOREHOLE
Auger refusal on inferred bedrock

Borehole was dry and open upon completion of drilling.

50 mm dia. monitoring well installed.

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Jan 25, 2023	1.4	93.9
Jan 27, 2023	1.0	94.3

file: 02209049.000 bh logs.gpj

LOG OF BOREHOLE 6

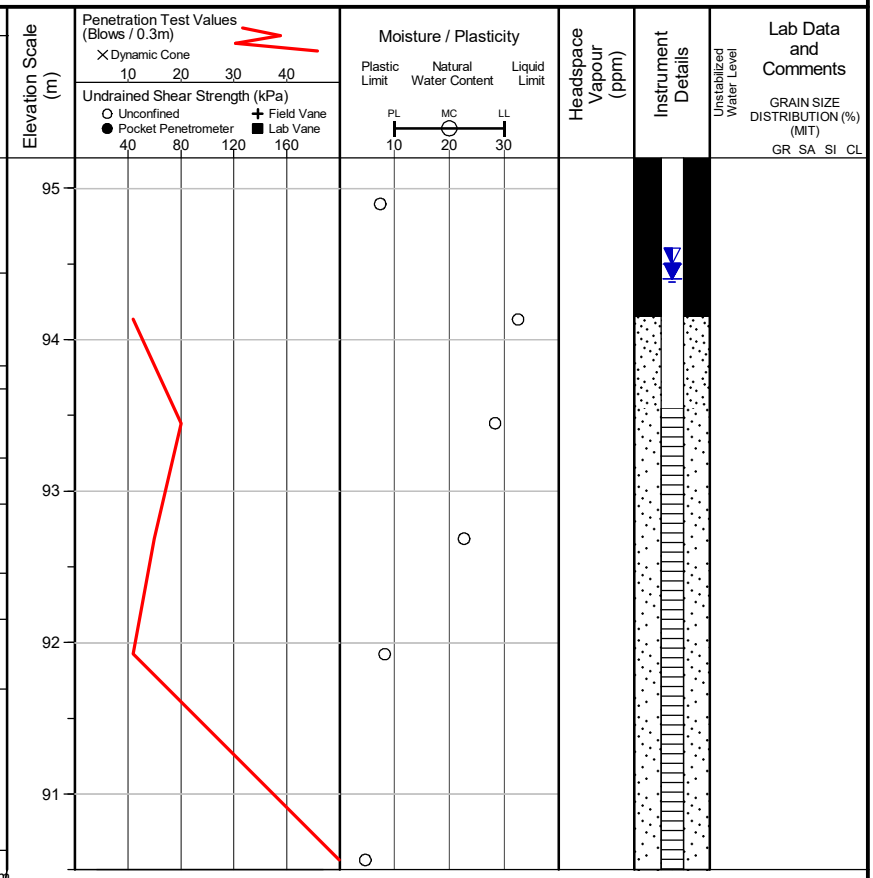
Terraprobe

Project No.	: 02209049.000	Client	: Infrastructure Ontario	Originated by	: OH
Date started	: December 15, 2022	Project	: 240 Marilyn Avenue	Compiled by	: MR
Sheet No.	: 1 of 1	Location	: Napanee, Ontario	Checked by	: MMT

Position : E: 343056, N: 4901204 (UTM 18T) Elevation Datum : Geodetic

Rig type : Track-mounted Drilling Method : Solid stem augers

Elev Depth (m)	Description	Graphic Log	Number	Type	SPT 'N' Value
95.2	**GROUND SURFACE**				
	80mm **ASPHALTIC CONCRETE**				
94.8	300mm **AGGREGATE**		1	AS	
0.4 / 94.4	**FILL**, silty sand, trace to some clay, trace gravel, trace organics, dark brown, moist				
0.8	**SILTY CLAY**, trace sand, trace gravel, stiff to very stiff, brown, moist		2	SS	11
			3	SS	20
92.9					
2.3	**CLAYEY SILT**, trace sand, trace gravel, stiff, brown, moist		4	SS	15
92.2					
3.0	**SAND**, some silt to silty, trace to some gravel, trace to some clay, compact, brown, moist		5	SS	11
90.5	...lime stone pieces inclusion, very dense		6	SS	50/140mm
4.7					



END OF BOREHOLE
Auger refusal on inferred bedrock

Borehole was dry and open upon completion of drilling.

50 mm dia. monitoring well installed.

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Jan 25, 2023	0.7	94.5
Jan 27, 2023	0.8	94.4

file: 02209049.000 bh logs.gpj

Terraprobe

LOG OF BOREHOLE 7

Project No.	: 02209049.000	Client	: Infrastructure Ontario	Originated by	: OH
Date started	: December 14, 2022	Project	: 240 Marilyn Avenue	Compiled by	: MR
Sheet No.	: 1 of 1	Location	: Napanee, Ontario	Checked by	: MMT

Position : E: 343055, N: 4901228 (UTM 18T) Elevation Datum : Geodetic

Rig type : Track-mounted Drilling Method : Solid stem augers

Depth Scale (m)	Elev / Depth (m)	Description	Graphic Log	Number	Type	SPT 'N' Value	Elevation Scale (m)	Penetration Test Values (Blows / 0.3m) / Undrained Shear Strength (kPa)	Moisture / Plasticity (PL, MC, LL)	Headspace Vapour (ppm)	Instrument Details	Unstabilized Water Level	Lab Data and Comments / GRAIN SIZE DISTRIBUTION (%) (MIT) GR SA SI CL
0	94.9	**GROUND SURFACE**											
		125mm **TOPSOIL**											
		FILL, clayey silt, some sand to sandy, trace gravel, trace rootlets, trace organics, firm, dark brown, moist		1	SS	7			41				
	94.1 / 0.8	**SILTY CLAY**, trace sand, trace gravel, very stiff, brown, moist		2	SS	16	94		LL=51				0 2 29 69
1				3	SS	19	93						
2				4	SS	15	92						
3	91.9 / 3.0	**CLAYEY SILT**, trace sand, trace gravel, stiff, brown, moist		5	SS	11							
	91.4 / 3.5	**END OF BOREHOLE**											

Penetration Test Values (Blows / 0.3m): × Dynamic Cone; 10 20 30 40

Undrained Shear Strength (kPa): ○ Unconfined, ● Pocket Penetrometer, + Field Vane, ■ Lab Vane; 40 80 120 160

Moisture / Plasticity: Plastic Limit (PL) 10, Natural Water Content (MC) 20, Liquid Limit (LL) 30

Borehole was dry and open upon completion of drilling.

file: 02209049.000 bh logs.gpj

LOG OF BOREHOLE 8

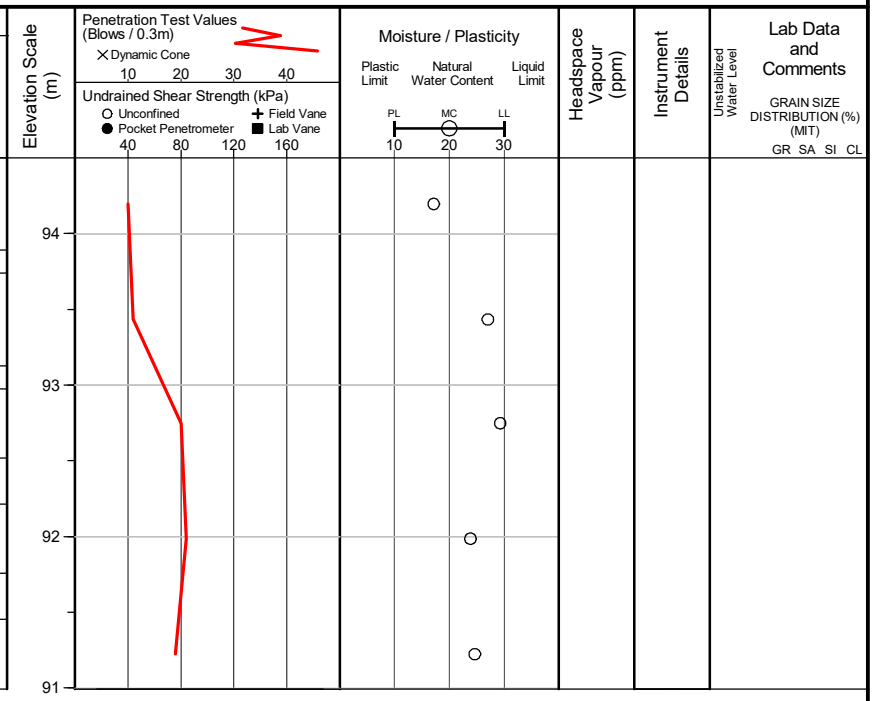
Terraprobe

Project No.	: 02209049.000	Client	: Infrastructure Ontario	Originated by	: OH
Date started	: December 14, 2022	Project	: 240 Marilyn Avenue	Compiled by	: MR
Sheet No.	: 1 of 1	Location	: Napanee, Ontario	Checked by	: MMT

Position : E: 343119, N: 4901175 (UTM 18T) Elevation Datum : Geodetic

Rig type : Track-mounted Drilling Method : Solid stem augers

Depth Scale (m)	Elev / Depth (m)	Description	Graphic Log	Sample Number	Type	SPT 'N' Value
0	94.5	**GROUND SURFACE**				
	94.3 / 0.2	150mm **TOPSOIL**				
		FILL, clayey silt, some sand to sandy, trace gravel, trace rootlets, trace organics, stiff, dark brown, moist		1	SS	10
	93.7 / 0.8	**SILTY CLAY**, trace sand, trace gravel, stiff to very stiff, brown, moist		2	SS	11
1				3	SS	20
2				4	SS	21
3				5	SS	19
	91.0 / 3.5					



END OF BOREHOLE

Borehole was dry and open upon completion of drilling.

file: 02209049.000 bh logs.gpj

LOG OF BOREHOLE 9

Terraprobe

Project No.	: 02209049.000	Client	: Infrastructure Ontario	Originated by	: OH
Date started	: December 14, 2022	Project	: 240 Marilyn Avenue	Compiled by	: MR
Sheet No.	: 1 of 1	Location	: Napanee, Ontario	Checked by	: MMT

Position : E: 343136, N: 4901171 (UTM 18T) Elevation Datum : Geodetic

Rig type : Track-mounted Drilling Method : Solid stem augers

Depth Scale (m)	Elev Depth (m)	Description	Graphic Log	Number	Type	SPT 'N' Value	Elevation Scale (m)	Lab Data and Comments (GR SA SI CL)
0	94.2	**GROUND SURFACE**					94	
		65mm **AGGREGATE**						
		FILL, clayey silt, some sand to sandy, trace gravel, trace rootlets, trace organics, stiff, dark brown, moist		1	SS	13		
	93.4 / 0.8	**SILTY CLAY**, trace sand, trace gravel, stiff to very stiff, brown, moist		2	SS	8	93	
1				3	SS	13		0 7 33 60
2				4	SS	19	92	
3	90.9 / 3.3			5	SS	10	91	
	90.7 / 3.5	**CLAYEY SILT**, trace sand, trace gravel, stiff, brown, moist						

Penetration Test Values (Blows / 0.3m): × Dynamic Cone; 10 20 30 40

Undrained Shear Strength (kPa): ○ Unconfined ● Pocket Penetrometer + Field Vane ■ Lab Vane; 40 80 120 160

Moisture / Plasticity: Plastic Limit (PL) 10; Natural Water Content (MC) 20; Liquid Limit (LL) 30

Headspace Vapour (ppm)

Instrument Details

Unstabilized Water Level

Lab Data and Comments: GRAIN SIZE DISTRIBUTION (%) (MIT)

END OF BOREHOLE

Borehole was dry and open upon completion of drilling.

Terraprobe

LOG OF BOREHOLE 10

Project No.	: 02209049.000	Client	: Infrastructure Ontario	Originated by	: OH
Date started	: December 14, 2022	Project	: 240 Marilyn Avenue	Compiled by	: MR
Sheet No.	: 1 of 1	Location	: Napanee, Ontario	Checked by	: MMT

Position : E: 343130, N: 4901179 (UTM 18T) Elevation Datum : Geodetic

Rig type : Track-mounted Drilling Method : Solid stem augers

Depth Scale (m)	Elev / Depth (m)	Description	Graphic Log	Number	Type	SPT 'N' Value
0	94.5	**GROUND SURFACE**				
		125mm **TOPSOIL**				
	93.9 / 0.6	**FILL**, silty sand, trace to some clay, trace gravel, trace organics, loose, dark brown, moist		1	SS	10
1	93.4 / 1.1	**FILL**, clayey silt, some sand to sandy, trace gravel, trace rootlets, trace organics, stiff, dark brown, moist		2	SS	10
		SILTY CLAY, trace sand, trace gravel, stiff to very stiff, brown, moist		3	SS	19
2				4	SS	14
3	91.5 / 3.0	**CLAYEY SILT**, trace sand, trace gravel, stiff, brown, moist		5	SS	12
	91.0 / 3.5	**END OF BOREHOLE**				

Elevation Scale (m): 94, 93, 92, 91

Penetration Test Values (Blows / 0.3m): Dynamic Cone 10 20 30 40

Undrained Shear Strength (kPa): Unconfined, Pocket Penetrometer, Field Vane, Lab Vane 40 80 120 160

Moisture / Plasticity: Plastic Limit (PL) 10, Natural Water Content (MC) 20, Liquid Limit (LL) 30

Headspace Vapour (ppm)

Instrument Details

Unstabilized Water Level

Lab Data and Comments

GRAIN SIZE DISTRIBUTION (%) (MIT): GR SA SI CL

Borehole was dry and open upon completion of drilling.

file: 02209049.000 bh logs.gpj

Terraprobe

LOG OF BOREHOLE 11

Project No.	: 02209049.000	Client	: Infrastructure Ontario	Originated by	: OH
Date started	: December 14, 2022	Project	: 240 Marilyn Avenue	Compiled by	: MR
Sheet No.	: 1 of 1	Location	: Napanee, Ontario	Checked by	: MMT

Position : E: 343167, N: 4901132 (UTM 18T) Elevation Datum : Geodetic

Rig type : Track-mounted Drilling Method : Solid stem augers

Depth Scale (m)	Elev / Depth (m)	Description	Graphic Log	Sample Number	Type	SPT 'N' Value	Elevation Scale (m)	Lab Data and Comments (GR SA SI CL)
0	94.3	**GROUND SURFACE**						
		125mm **TOPSOIL**						
		FILL, clayey silt, some sand to sandy, trace gravel, trace rootlets, trace organics, firm, dark brown, moist		1	SS	8	94	
1	93.2 / 1.1			2A	SS	7		
		SILTY CLAY, trace sand, trace gravel, firm to very stiff, brown, moist		2B			93	0 3 26 71
2				3	AS	21		
							92	
3				4	AS	25		
				5	SS	15	91	
	90.6 / 3.7							

Penetration Test Values (Blows / 0.3m): Dynamic Cone 10 20 30 40

Undrained Shear Strength (kPa): Unconfined, Pocket Penetrometer, Field Vane, Lab Vane 40 80 120 160

Moisture / Plasticity: Plastic Limit (PL) 10, Natural Water Content (MC) 20, Liquid Limit (LL) 30

Headspace Vapour (ppm)

Instrument Details

Unstabilized Water Level

GRAIN SIZE DISTRIBUTION (%) (MIT)

END OF BOREHOLE

Borehole was dry and open upon completion of drilling.

file: 02209049.000 bh logs.gpj

Terraprobe

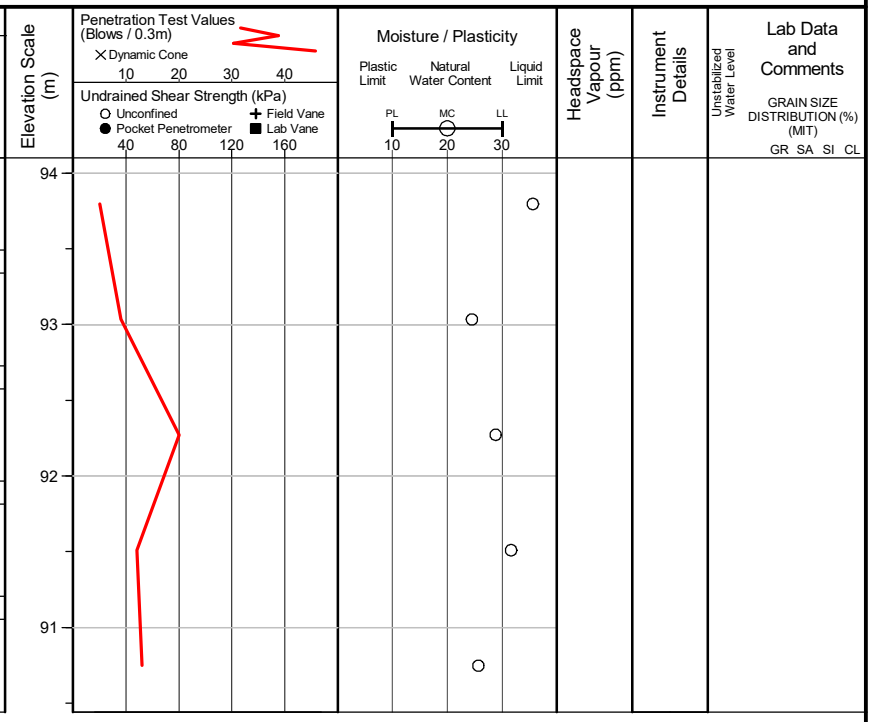
LOG OF BOREHOLE 12

Project No.	: 02209049.000	Client	: Infrastructure Ontario	Originated by	: OH
Date started	: December 14, 2022	Project	: 240 Marilyn Avenue	Compiled by	: MR
Sheet No.	: 1 of 1	Location	: Napanee, Ontario	Checked by	: MMT

Position : E: 343149, N: 4901156 (UTM 18T) Elevation Datum : Geodetic

Rig type : Track-mounted Drilling Method : Solid stem augers

Depth Scale (m)	Elev / Depth (m)	Description	Graphic Log	Number	Type	SPT 'N' Value
0	94.1	**GROUND SURFACE**				
		115mm **TOPSOIL**				
		FILL, clayey silt, some sand to sandy, trace gravel, trace rootlets, trace organics, firm, dark brown, moist		1	SS	5
	93.3 / 0.8	**SILTY CLAY**, trace sand, trace gravel, stiff to very stiff, brown, moist		2	SS	9
1				3	SS	20
2				4	SS	12
3	91.1 / 3.0	**CLAYEY SILT**, trace sand, trace gravel, stiff, brown, moist		5	SS	13
	90.4 / 3.7	**END OF BOREHOLE**				



Borehole was dry and open upon completion of drilling.

file: 02209049.000 bh logs.gpj

LOG OF BOREHOLE 13

Terraprobe

Project No.	: 02209049.000	Client	: Infrastructure Ontario	Originated by	: OH
Date started	: December 14, 2022	Project	: 240 Marilyn Avenue	Compiled by	: MR
Sheet No.	: 1 of 1	Location	: Napanee, Ontario	Checked by	: MMT

Position : E: 343144, N: 4901207 (UTM 18T) Elevation Datum : Geodetic

Rig type : Track-mounted Drilling Method : Solid stem augers

Depth Scale (m)	Elev Depth (m)	Description	Graphic Log	Number	Type	SPT 'N' Value
0	94.5	**GROUND SURFACE**				
	94.3 / 0.2	75mm **ASPHALTIC CONCRETE**				
		75mm **AGGREGATE**		1	AS	
	93.7 / 0.8	**FILL**, silty sand, trace to some clay, trace gravel, trace organics, dark brown, moist				
1	93.3 / 1.2	**FILL**, clayey silt, some sand to sandy, trace gravel, trace rootlets, trace organics, stiff, dark brown, moist		2	SS	14
		SILTY CLAY, trace sand, trace gravel, stiff to very stiff, brown, moist		3	SS	18
2				4	SS	16
3	91.0 / 3.5			5	SS	18

Elevation Scale (m): 94, 93, 92, 91

Penetration Test Values (Blows / 0.3m): Dynamic Cone 10 20 30 40

Undrained Shear Strength (kPa): Unconfined, Pocket Penetrometer, Field Vane, Lab Vane 40 80 120 160

Moisture / Plasticity: Plastic Limit (PL) 10, Natural Water Content (MC) 20, Liquid Limit (LL) 30

Headspace Vapour (ppm)

Instrument Details

Unstabilized Water Level

Lab Data and Comments

GRAIN SIZE DISTRIBUTION (%) (MIT) GR SA SI CL

END OF BOREHOLE

Borehole was dry and open upon completion of drilling.

file: 02209049.000 bh logs.gpj

APPENDIX E

TERRAPROBE INC

Terraprobe

SIEVE AND HYDROMETER ANALYSIS TEST FORM

PROJECT: **Proposed School Addition**
LOCATION: **Greater Toronto Area, On.**
CLIENT: **Infrastructure Ontario**
BOREHOLE: **1**
SAMPLE NUMBER: **3**
SAMPLE DEPTH:
SAMPLE DESCRIPTION: **SILTY CLAY, trace sand, trace gravel**

FILE NO.: **0229049 -01**
SAMPLE DATE: **Dec 14, 2022**
SAMPLED BY: **O.H.**
TEST DATE: **Jan 11, 2023**
TESTED BY: **A.K.**
LAB NO.: **1004**

COARSE SIEVES

Dry Weight (g)		226.4		
SIEVE SIZE		**CUM. WT.**	**PERCENT**	**PERCENT**
Standard	(mm)	**RET.**	**RET.**	**PASSING**
1.5"	37.5	0.00	0.0	**100.0**
3/4"	19.0	0.00	0.0	**100.0**
3/8"	9.5	0.00	0.0	**100.0**
No. 4	4.75	0.73	0.3	**99.7**
No. 10	2.00	1.62	0.7	**99.3**
PAN		224.69		
Dry Weight After Sieving (g)		226.3		
Percent Loss After Sieving		0.04		

FINE SIEVES (after washing)

Dry Weight		50.87		
Percent Passing No.4 (%)		99		
SIEVE SIZE		**CUM. WT.**	**PERCENT**	**PERCENT**
Standard	(mm)	**RET.**	**RET.**	**PASSING**
No. 20	0.840	0.92	1.8	**97.5**
No. 40	0.425	1.54	3.0	**96.3**
No. 60	0.250	1.95	3.8	**95.5**
No. 140	0.105	2.53	5.0	**94.3**
No. 200	0.075	2.72	5.3	**94.0**

HYGROSCOPIC MOISTURE CONTENT

Wt. of wet soil and tare (g)	100.00
Wt. of dry soil and tare (g)	100.00
Wt. of water (g)	0.00
Wt. of tare (g)	0.00
Wt. of wet soil (g) (W_A)	100.00
Wt. of dry soil (g) (W_0)	100.00
Water content (%)	0.00

HYDROMETER

Hygroscopic Correction Factor	1.000000
Corrected Sample Weight (M_o)	50.87
Test sample represented by soil (W)	51.24
Gs Correction Factor	0.985209
Specific Gravity	2.717

Date and time	**Elapsed Time**	**H_s in Divisions (G/L)**	**H_c in Divisions (G/L)**	**Temp. T_c (C)**	**Corrected Reading $R = H_s - H_c$**	**Percent Passing P in %**	**L in cm**	**n in milliPoise**	**K**	**Particle Diameter D in mm**
	1	53.0	6.0	23.7	47.0	**90.37**	6.7029	9.2416	0.0128	0.0332
	2	52.0	6.0	23.7	46.0	**88.45**	6.9029	9.2416	0.0128	0.0238
	5	51.0	6.0	23.7	45.0	**86.53**	7.1029	9.2416	0.0128	0.0153
	15	50.5	6.0	23.6	44.5	**85.57**	7.2029	9.2629	0.0129	0.0089
	30	50.0	6.0	23.6	44.0	**84.61**	7.3029	9.2629	0.0129	0.0063
	60	49.0	6.0	23.5	43.0	**82.68**	7.5029	9.2843	0.0129	0.0045
	250	44.0	6.0	23.9	38.0	**73.07**	8.5029	9.1993	0.0128	0.0024
	1440	35.0	6.0	23.3	29.0	**55.76**	10.3029	9.3273	0.0129	0.0011

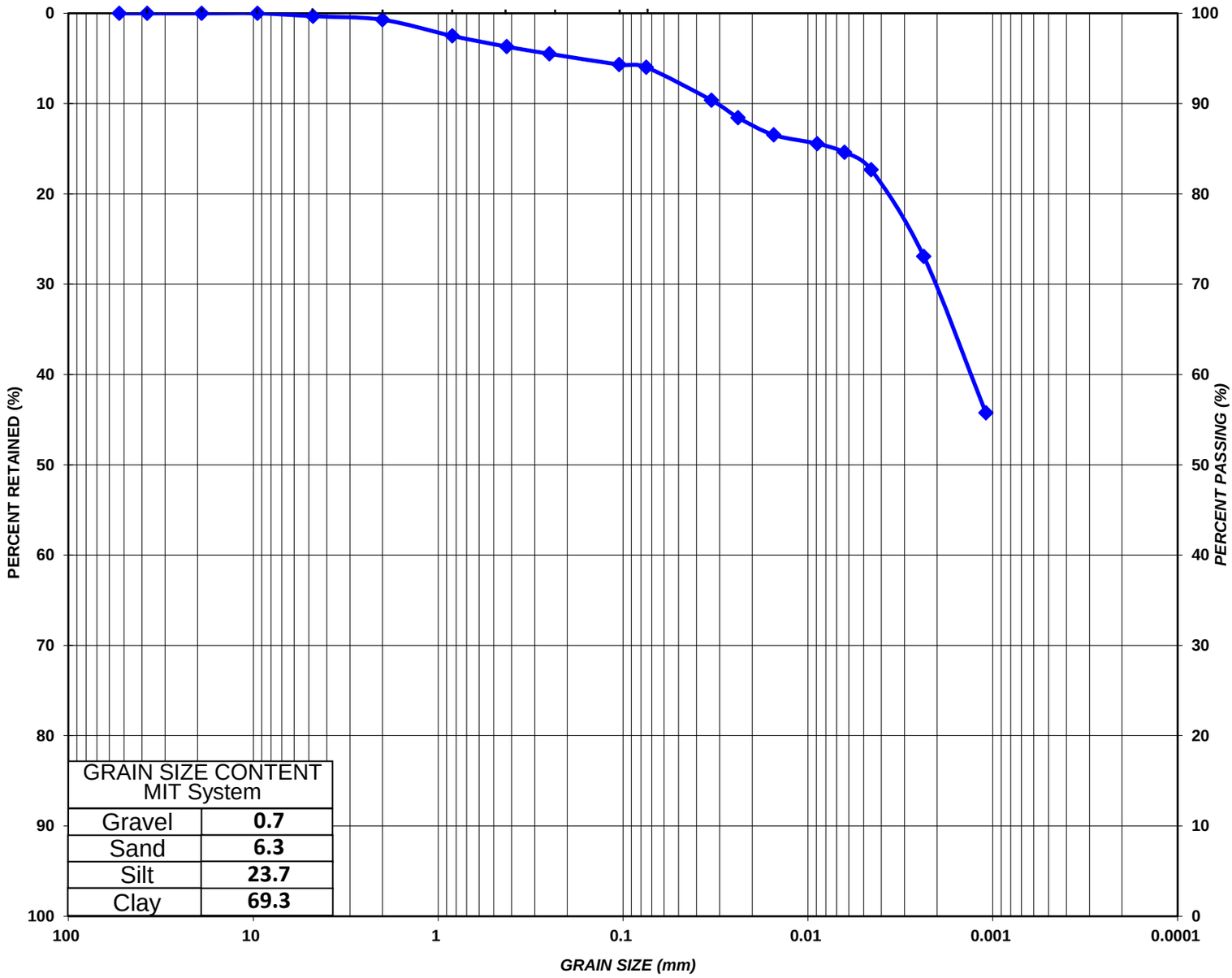
Terraprobe

SIEVE AND HYDROMETER ANALYSIS TEST REPORT

PROJECT: **Proposed School Addition**
LOCATION: **Greater Toronto Area, On.**
CLIENT: **Infrastructure Ontario**
BOREHOLE: **1**
SAMPLE NUMBER: **3**
SAMPLE DEPTH:
SAMPLE DESCRIPTION: **SILTY CLAY, trace sand, trace gravel**

FILE NO.: **0229049**
LAB NO.: **1004**
SAMPLE DATE: **Dec 14, 2022**
SAMPLED BY: **O.H.**

GRAIN SIZE DISTRIBUTION ANALYSIS



GRAIN SIZE CONTENT MIT System	
Gravel	**0.7**
Sand	**6.3**
Silt	**23.7**
Clay	**69.3**

MIT SYSTEM	GRAVEL		COARSE	MEDIUM	FINE	SILT	CLAY
			SAND				
UNIFIED SYSTEM ASTM D2487	COARSE	FINE	COARSE	MEDIUM	FINE	SILT AND CLAY	
	GRAVEL		SAND				

Terraprobe

SIEVE AND HYDROMETER ANALYSIS TEST FORM

PROJECT: **Proposed School Addition**
LOCATION: **Greater Toronto Area, On.**
CLIENT: **Infrastructure Ontario**
BOREHOLE: **2**
SAMPLE NUMBER: **5**
SAMPLE DEPTH:
SAMPLE DESCRIPTION: **SAND, some silt, some gravel, some clay**

FILE NO.: **0229049 -01**
SAMPLE DATE: **Dec 14, 2022**
SAMPLED BY: **O.H.**
TEST DATE: **Jan 11, 2023**
TESTED BY: **A.K.**
LAB NO.: **1004**

COARSE SIEVES

Dry Weight (g)		404.9		
SIEVE SIZE		**CUM. WT.**	**PERCENT**	**PERCENT**
Standard	(mm)	**RET.**	**RET.**	**PASSING**
1.5"	37.5	0.00	0.0	**100.0**
3/4"	19.0	27.52	6.8	**93.2**
3/8"	9.5	39.16	9.7	**90.3**
No. 4	4.75	54.74	13.5	**86.5**
No. 10	2.00	58.00	14.3	**85.7**
PAN		346.71		
Dry Weight After Sieving (g)		404.7		
Percent Loss After Sieving		0.04		

FINE SIEVES (after washing)

Dry Weight		73.59		
Percent Passing No.4 (%)		86		
SIEVE SIZE		**CUM. WT.**	**PERCENT**	**PERCENT**
Standard	(mm)	**RET.**	**RET.**	**PASSING**
No. 20	0.840	5.87	8.0	**78.8**
No. 40	0.425	11.35	15.4	**72.5**
No. 60	0.250	23.05	31.3	**58.9**
No. 140	0.105	41.76	56.7	**37.1**
No. 200	0.075	45.74	62.2	**32.4**

HYGROSCOPIC MOISTURE CONTENT

Wt. of wet soil and tare (g)	100.00
Wt. of dry soil and tare (g)	100.00
Wt. of water (g)	0.00
Wt. of tare (g)	0.00
Wt. of wet soil (g) (W_A)	100.00
Wt. of dry soil (g) (W_0)	100.00
Water content (%)	0.00

HYDROMETER

Hygroscopic Correction Factor	1.000000
Corrected Sample Weight (M_o)	73.59
Test sample represented by soil (W)	85.90
Gs Correction Factor	0.985209
Specific Gravity	2.717

Date and time	**Elapsed Time**	**H_s in Divisions (G/L)**	**H_c in Divisions (G/L)**	**Temp. T_c (C)**	**Corrected Reading $R = H_s - H_c$**	**Percent Passing P in %**	**L in cm**	**n in milliPoise**	**K**	**Particle Diameter D in mm**
	1	26.0	6.0	23.7	20.0	**22.94**	12.1029	9.2416	0.0128	0.0447
	2	22.0	6.0	23.7	16.0	**18.35**	12.9029	9.2416	0.0128	0.0326
	5	21.0	6.0	23.7	15.0	**17.20**	13.1029	9.2416	0.0128	0.0208
	15	20.0	6.0	23.6	14.0	**16.06**	13.3029	9.2629	0.0129	0.0121
	30	19.0	6.0	23.6	13.0	**14.91**	13.5029	9.2629	0.0129	0.0086
	60	18.0	6.0	23.5	12.0	**13.76**	13.7029	9.2843	0.0129	0.0061
	250	17.0	6.0	23.9	11.0	**12.62**	13.9029	9.1993	0.0128	0.0030
	1440	14.0	6.0	23.3	8.0	**9.18**	14.5029	9.3273	0.0129	0.0013

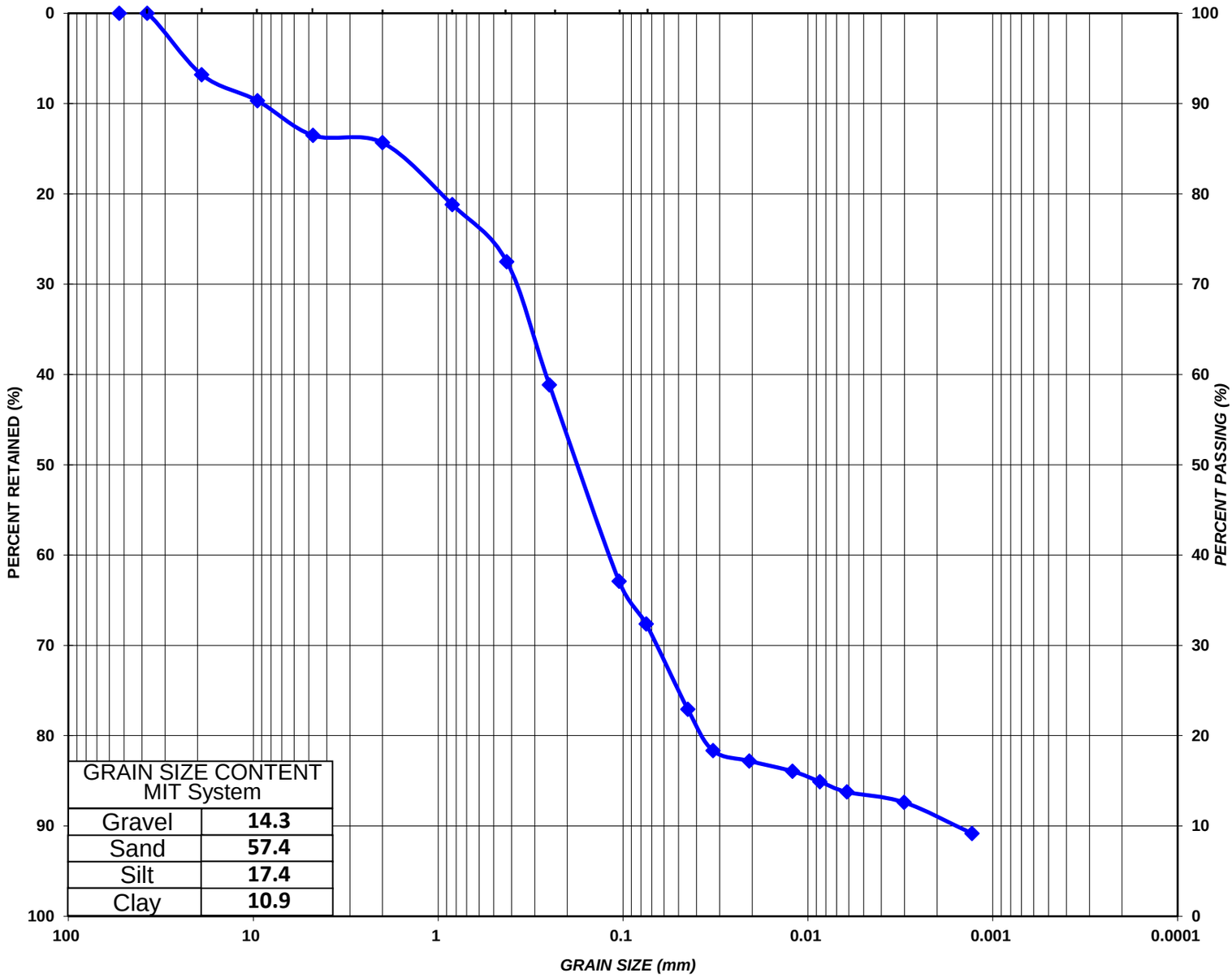
Terraprobe

SIEVE AND HYDROMETER ANALYSIS TEST REPORT

PROJECT: **Proposed School Addition**
LOCATION: **Greater Toronto Area, On.**
CLIENT: **Infrastructure Ontario**
BOREHOLE: **2**
SAMPLE NUMBER: **5**
SAMPLE DEPTH:
SAMPLE DESCRIPTION: **SAND, some silt, some gravel, some clay**

FILE NO.: **0229049**
LAB NO.: **1004**
SAMPLE DATE: **Dec 14, 2022**
SAMPLED BY: **O.H.**

GRAIN SIZE DISTRIBUTION ANALYSIS



GRAIN SIZE CONTENT MIT System	
Gravel	**14.3**
Sand	**57.4**
Silt	**17.4**
Clay	**10.9**

MIT SYSTEM	GRAVEL	COARSE	MEDIUM	FINE	SILT	CLAY
		SAND				

UNIFIED SYSTEM ASTM D2487	COARSE	FINE	COARSE	MEDIUM	FINE	SILT AND CLAY
	GRAVEL		SAND			

Terraprobe

SIEVE AND HYDROMETER ANALYSIS TEST FORM

PROJECT: **Proposed School Addition**
LOCATION: **Greater Toronto Area, On.**
CLIENT: **Infrastructure Ontario**
BOREHOLE: **3**
SAMPLE NUMBER: **4B**
SAMPLE DEPTH:
SAMPLE DESCRIPTION: **CLAYEY SILT, trace sand**

FILE NO.: **0229049 -01**
SAMPLE DATE: **Dec 14, 2022**
SAMPLED BY: **O.H.**
TEST DATE: **Jan 11, 2023**
TESTED BY: **A.K.**
LAB NO.: **1004**

COARSE SIEVES

Dry Weight (g)		276.1		
SIEVE SIZE		**CUM. WT.**	**PERCENT**	**PERCENT**
Standard	(mm)	**RET.**	**RET.**	**PASSING**
1.5"	37.5	0.00	0.0	**100.0**
3/4"	19.0	0.00	0.0	**100.0**
3/8"	9.5	0.00	0.0	**100.0**
No. 4	4.75	0.00	0.0	**100.0**
No. 10	2.00	0.00	0.0	**100.0**
PAN		275.93		
Dry Weight After Sieving (g)		275.9		
Percent Loss After Sieving		0.06		

FINE SIEVES (after washing)

Dry Weight		52.84		
Percent Passing No.4 (%)		100		
SIEVE SIZE		**CUM. WT.**	**PERCENT**	**PERCENT**
Standard	(mm)	**RET.**	**RET.**	**PASSING**
No. 20	0.840	0.00	0.0	**100.0**
No. 40	0.425	0.00	0.0	**100.0**
No. 60	0.250	0.05	0.1	**99.9**
No. 140	0.105	0.21	0.4	**99.6**
No. 200	0.075	0.32	0.6	**99.4**

HYGROSCOPIC MOISTURE CONTENT

Wt. of wet soil and tare (g)	100.00
Wt. of dry soil and tare (g)	100.00
Wt. of water (g)	0.00
Wt. of tare (g)	0.00
Wt. of wet soil (g) (W_A)	100.00
Wt. of dry soil (g) (W_0)	100.00
Water content (%)	0.00

HYDROMETER

Hygroscopic Correction Factor	1.000000
Corrected Sample Weight (M_o)	52.84
Test sample represented by soil (W)	52.84
Gs Correction Factor	0.985209
Specific Gravity	2.717

Date and time	**Elapsed Time**	**H_s in Divisions (G/L)**	**H_c in Divisions (G/L)**	**Temp. T_c (C)**	**Corrected Reading $R = H_s - H_c$**	**Percent Passing P in %**	**L in cm**	**n in milliPoise**	**K**	**Particle Diameter D in mm**
	1	57.0	6.0	23.7	51.0	**95.09**	5.9029	9.2416	0.0128	0.0312
	2	53.0	6.0	23.7	47.0	**87.63**	6.7029	9.2416	0.0128	0.0235
	5	47.0	6.0	23.7	41.0	**76.45**	7.9029	9.2416	0.0128	0.0161
	15	38.0	6.0	23.6	32.0	**59.66**	9.7029	9.2629	0.0129	0.0103
	30	31.0	6.0	23.6	25.0	**46.61**	11.1029	9.2629	0.0129	0.0078
	60	27.0	6.0	23.5	21.0	**39.15**	11.9029	9.2843	0.0129	0.0057
	250	20.0	6.0	23.9	14.0	**26.10**	13.3029	9.1993	0.0128	0.0030
	1440	15.0	6.0	23.3	9.0	**16.78**	14.3029	9.3273	0.0129	0.0013

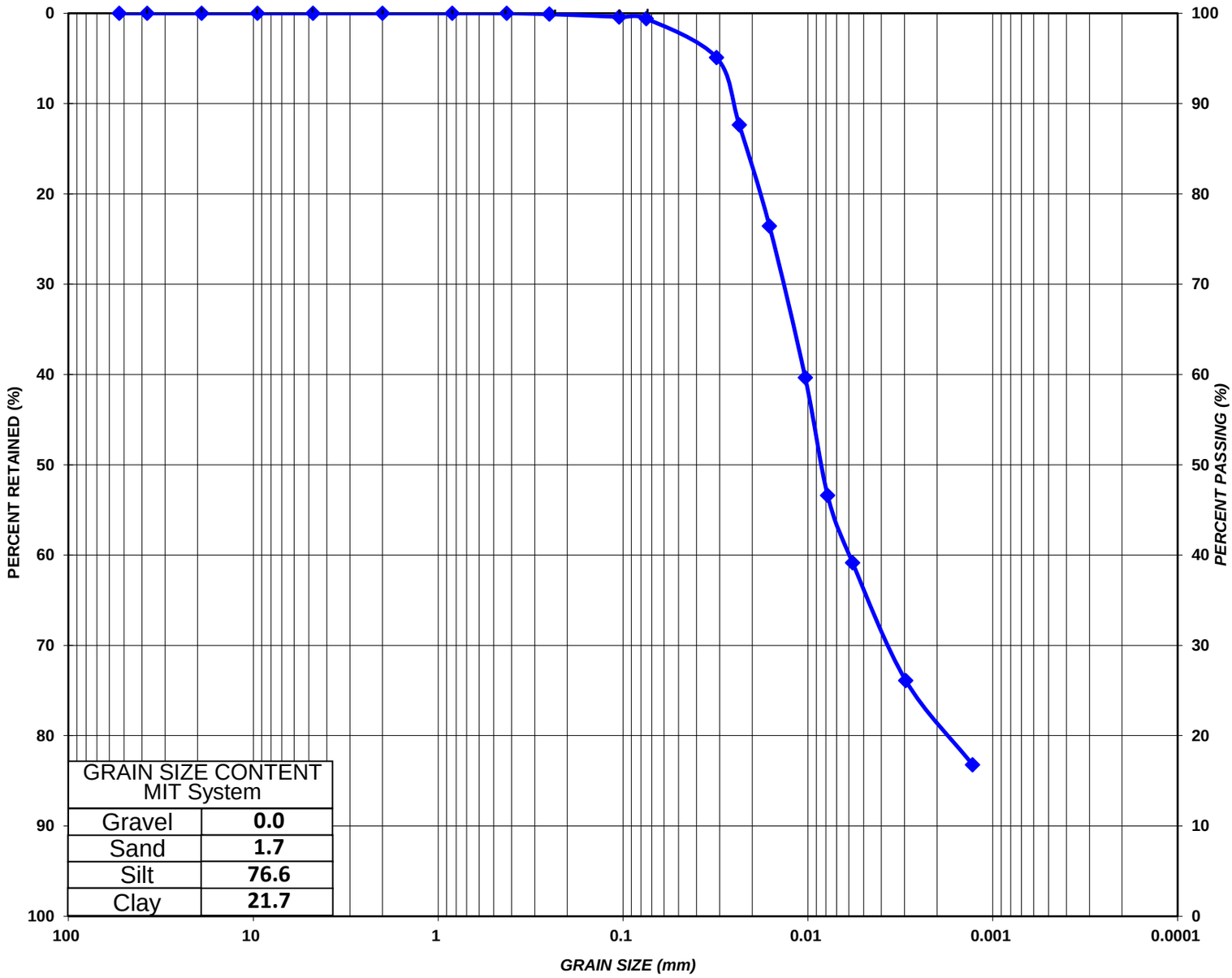
Terraprobe

SIEVE AND HYDROMETER ANALYSIS TEST REPORT

PROJECT: **Proposed School Addition**
LOCATION: **Greater Toronto Area, On.**
CLIENT: **Infrastructure Ontario**
BOREHOLE: **3**
SAMPLE NUMBER: **4B**
SAMPLE DEPTH:
SAMPLE DESCRIPTION: **CLAYEY SILT, trace sand**

FILE NO.: **0229049**
LAB NO.: **1004**
SAMPLE DATE: **Dec 14, 2022**
SAMPLED BY: **O.H.**

GRAIN SIZE DISTRIBUTION ANALYSIS



GRAIN SIZE CONTENT MIT System	
Gravel	**0.0**
Sand	**1.7**
Silt	**76.6**
Clay	**21.7**

MIT SYSTEM	GRAVEL		COARSE	MEDIUM	FINE	SILT	CLAY
			SAND				
UNIFIED SYSTEM ASTM D2487	COARSE	FINE	COARSE	MEDIUM	FINE	SILT AND CLAY	
	GRAVEL		SAND				

Terraprobe

SIEVE AND HYDROMETER ANALYSIS TEST FORM

PROJECT: **Proposed School Addition**
LOCATION: **Greater Toronto Area, On.**
CLIENT: **Infrastructure Ontario**
BOREHOLE: **4**
SAMPLE NUMBER: **5**
SAMPLE DEPTH:
SAMPLE DESCRIPTION: **SAND, some silt, some gravel, some clay**

FILE NO.: **0229049 -01**
SAMPLE DATE: **Dec 14, 2022**
SAMPLED BY: **O.H.**
TEST DATE: **Jan 11, 2023**
TESTED BY: **A.K.**
LAB NO.: **1004**

COARSE SIEVES

Dry Weight (g)		263.1		
SIEVE SIZE		**CUM. WT.**	**PERCENT**	**PERCENT**
Standard	(mm)	**RET.**	**RET.**	**PASSING**
1.5"	37.5	0.00	0.0	**100.0**
3/4"	19.0	0.00	0.0	**100.0**
3/8"	9.5	16.84	6.4	**93.6**
No. 4	4.75	32.65	12.4	**87.6**
No. 10	2.00	47.04	17.9	**82.1**
PAN		215.98		
Dry Weight After Sieving (g)		263.0		
Percent Loss After Sieving		0.03		

FINE SIEVES (after washing)

Dry Weight		71.17		
Percent Passing No.4 (%)		82		
SIEVE SIZE		**CUM. WT.**	**PERCENT**	**PERCENT**
Standard	(mm)	**RET.**	**RET.**	**PASSING**
No. 20	0.840	8.31	11.7	**72.5**
No. 40	0.425	16.59	23.3	**63.0**
No. 60	0.250	26.63	37.4	**51.4**
No. 140	0.105	40.21	56.5	**35.7**
No. 200	0.075	43.02	60.4	**32.5**

HYGROSCOPIC MOISTURE CONTENT

Wt. of wet soil and tare (g)	100.00
Wt. of dry soil and tare (g)	100.00
Wt. of water (g)	0.00
Wt. of tare (g)	0.00
Wt. of wet soil (g) (W_A)	100.00
Wt. of dry soil (g) (W_0)	100.00
Water content (%)	0.00

HYDROMETER

Hygroscopic Correction Factor	1.000000
Corrected Sample Weight (M_o)	71.17
Test sample represented by soil (W)	86.66
Gs Correction Factor	0.985209
Specific Gravity	2.717

Date and time	**Elapsed Time**	**H_s in Divisions (G/L)**	**H_c in Divisions (G/L)**	**Temp. T_c (C)**	**Corrected Reading $R = H_s - H_c$**	**Percent Passing P in %**	**L in cm**	**n in milliPoise**	**K**	**Particle Diameter D in mm**
	1	28.0	6.0	23.7	22.0	**25.01**	11.7029	9.2416	0.0128	0.0439
	2	25.0	6.0	23.7	19.0	**21.60**	12.3029	9.2416	0.0128	0.0318
	5	23.0	6.0	23.7	17.0	**19.33**	12.7029	9.2416	0.0128	0.0205
	15	22.0	6.0	23.6	16.0	**18.19**	12.9029	9.2629	0.0129	0.0119
	30	20.0	6.0	23.6	14.0	**15.92**	13.3029	9.2629	0.0129	0.0086
	60	19.0	6.0	23.5	13.0	**14.78**	13.5029	9.2843	0.0129	0.0061
	250	17.0	6.0	23.9	11.0	**12.50**	13.9029	9.1993	0.0128	0.0030
	1440	14.0	6.0	23.3	8.0	**9.09**	14.5029	9.3273	0.0129	0.0013

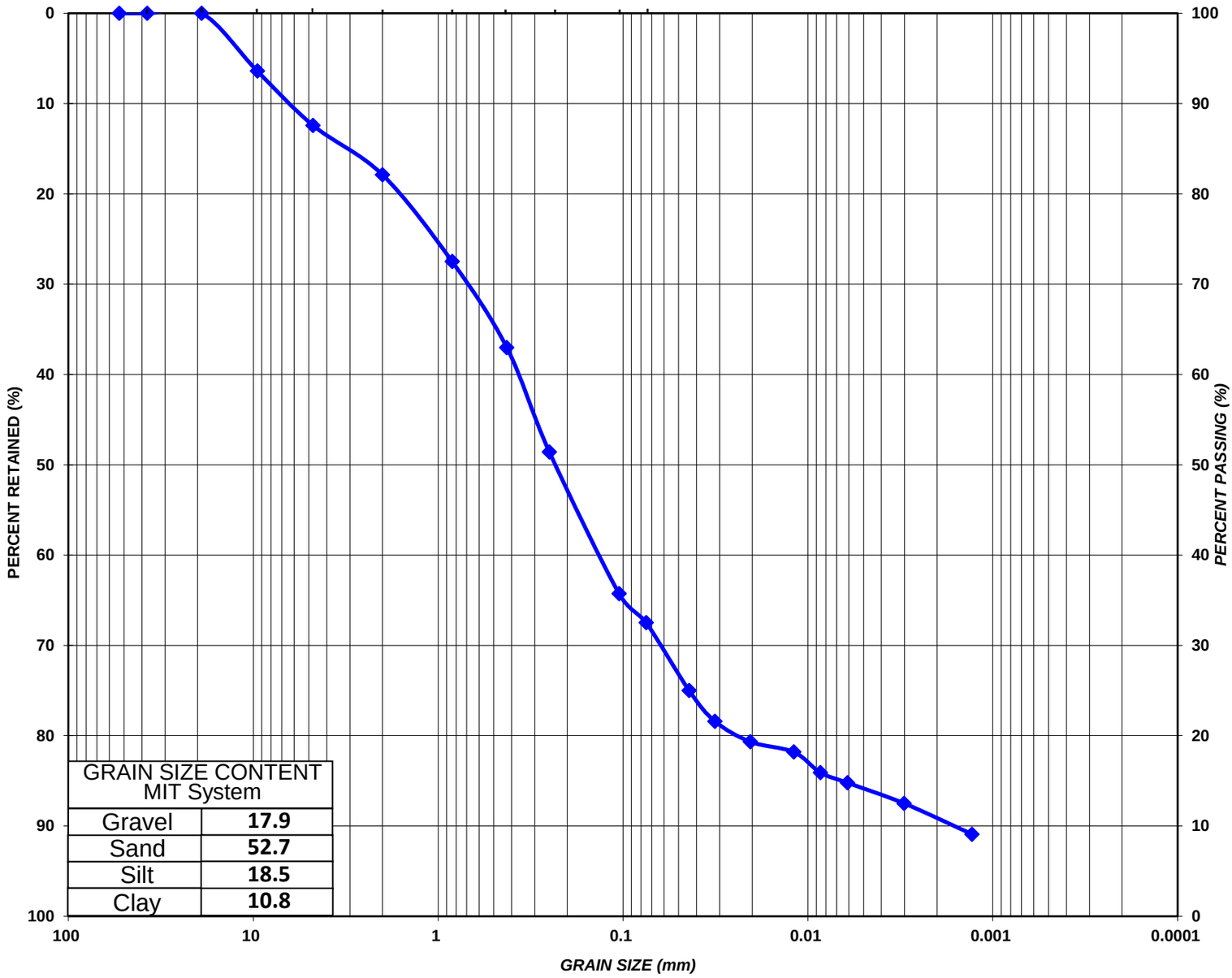
Terraprobe

SIEVE AND HYDROMETER ANALYSIS TEST REPORT

PROJECT: **Proposed School Addition**
LOCATION: **Greater Toronto Area, On.**
CLIENT: **Infrastructure Ontario**
BOREHOLE: **4**
SAMPLE NUMBER: **5**
SAMPLE DEPTH:
SAMPLE DESCRIPTION: **SAND, some silt, some gravel, some clay**

FILE NO.: **0229049**
LAB NO.: **1004**
SAMPLE DATE: **Dec 14, 2022**
SAMPLED BY: **O.H.**

GRAIN SIZE DISTRIBUTION ANALYSIS



GRAIN SIZE CONTENT MIT System	
Gravel	**17.9**
Sand	**52.7**
Silt	**18.5**
Clay	**10.8**

MIT SYSTEM	GRAVEL	COARSE	MEDIUM	FINE	SILT	CLAY
		SAND				

UNIFIED SYSTEM ASTM D2487	COARSE	FINE	COARSE	MEDIUM	FINE	SILT AND CLAY
	GRAVEL		SAND			

Terraprobe

SIEVE AND HYDROMETER ANALYSIS TEST FORM

PROJECT: **Proposed School Addition**
LOCATION: **Greater Toronto Area, On.**
CLIENT: **Infrastructure Ontario**
BOREHOLE: **5**
SAMPLE NUMBER: **5**
SAMPLE DEPTH:
SAMPLE DESCRIPTION: **CLAYEY SILT, trace sand**

FILE NO.: **0229049 -01**
SAMPLE DATE: **Dec 14, 2022**
SAMPLED BY: **O.H.**
TEST DATE: **Jan 11, 2023**
TESTED BY: **A.K.**
LAB NO.: **1004**

COARSE SIEVES

Dry Weight (g)		370.6		
SIEVE SIZE		**CUM. WT.**	**PERCENT**	**PERCENT**
Standard	(mm)	**RET.**	**RET.**	**PASSING**
1.5"	37.5	0.00	0.0	**100.0**
3/4"	19.0	0.00	0.0	**100.0**
3/8"	9.5	0.00	0.0	**100.0**
No. 4	4.75	0.49	0.1	**99.9**
No. 10	2.00	1.09	0.3	**99.7**
PAN		369.41		
Dry Weight After Sieving (g)		370.5		
Percent Loss After Sieving		0.03		

FINE SIEVES (after washing)

Dry Weight		53.29		
Percent Passing No.4 (%)		100		
SIEVE SIZE		**CUM. WT.**	**PERCENT**	**PERCENT**
Standard	(mm)	**RET.**	**RET.**	**PASSING**
No. 20	0.840	0.81	1.5	**98.2**
No. 40	0.425	1.04	2.0	**97.7**
No. 60	0.250	1.24	2.3	**97.4**
No. 140	0.105	1.49	2.8	**96.9**
No. 200	0.075	1.60	3.0	**96.7**

HYGROSCOPIC MOISTURE CONTENT

Wt. of wet soil and tare (g)	100.00
Wt. of dry soil and tare (g)	100.00
Wt. of water (g)	0.00
Wt. of tare (g)	0.00
Wt. of wet soil (g) (W_A)	100.00
Wt. of dry soil (g) (W_0)	100.00
Water content (%)	0.00

HYDROMETER

Hygroscopic Correction Factor	1.000000
Corrected Sample Weight (M_o)	53.29
Test sample represented by soil (W)	53.45
Gs Correction Factor	0.985209
Specific Gravity	2.717

Date and time	**Elapsed Time**	**H_s in Divisions (G/L)**	**H_c in Divisions (G/L)**	**Temp. T_c (C)**	**Corrected Reading $R = H_s - H_c$**	**Percent Passing P in %**	**L in cm**	**n in milliPoise**	**K**	**Particle Diameter D in mm**
	1	56.0	6.0	23.7	50.0	**92.17**	6.1029	9.2416	0.0128	0.0317
	2	52.0	6.0	23.7	46.0	**84.79**	6.9029	9.2416	0.0128	0.0238
	5	47.0	6.0	23.7	41.0	**75.58**	7.9029	9.2416	0.0128	0.0161
	15	37.0	6.0	23.6	31.0	**57.14**	9.9029	9.2629	0.0129	0.0104
	30	31.0	6.0	23.6	25.0	**46.08**	11.1029	9.2629	0.0129	0.0078
	60	26.0	6.0	23.5	20.0	**36.87**	12.1029	9.2843	0.0129	0.0058
	250	20.0	6.0	23.9	14.0	**25.81**	13.3029	9.1993	0.0128	0.0030
	1440	15.0	6.0	23.3	9.0	**16.59**	14.3029	9.3273	0.0129	0.0013

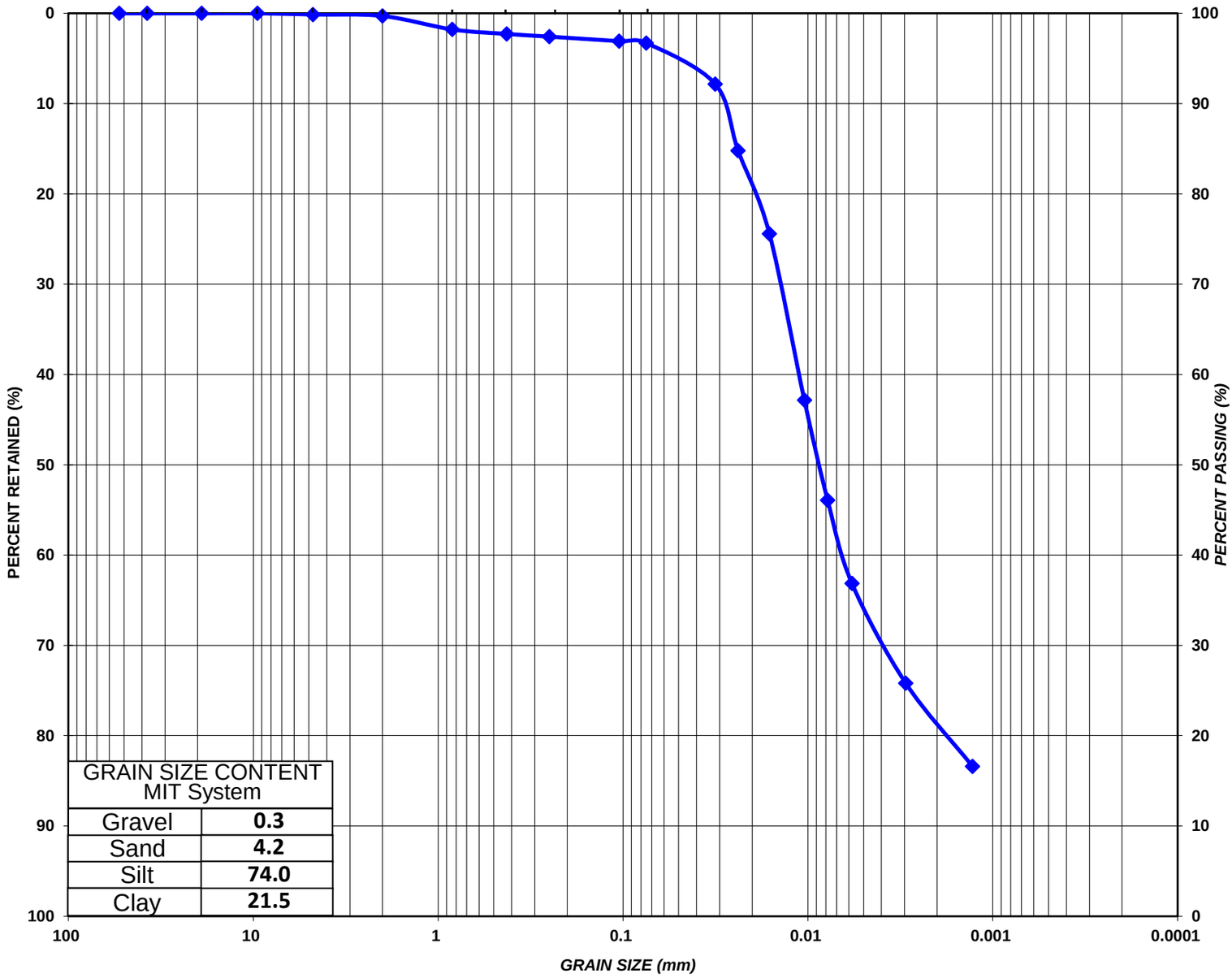
Terraprobe

SIEVE AND HYDROMETER ANALYSIS TEST REPORT

PROJECT: **Proposed School Addition**
LOCATION: **Greater Toronto Area, On.**
CLIENT: **Infrastructure Ontario**
BOREHOLE: **5**
SAMPLE NUMBER: **5**
SAMPLE DEPTH:
SAMPLE DESCRIPTION: **CLAYEY SILT, trace sand**

FILE NO.: **0229049**
LAB NO.: **1004**
SAMPLE DATE: **Dec 14, 2022**
SAMPLED BY: **O.H.**

GRAIN SIZE DISTRIBUTION ANALYSIS



GRAIN SIZE CONTENT MIT System	
Gravel	**0.3**
Sand	**4.2**
Silt	**74.0**
Clay	**21.5**

MIT SYSTEM	GRAVEL		COARSE / MEDIUM / FINE SAND		SILT	CLAY
UNIFIED SYSTEM ASTM D2487	COARSE / FINE GRAVEL		COARSE / MEDIUM / FINE SAND		SILT AND CLAY	

Terraprobe

SIEVE AND HYDROMETER ANALYSIS TEST FORM

PROJECT: **Proposed School Addition**
LOCATION: **Greater Toronto Area, On.**
CLIENT: **Infrastructure Ontario**
BOREHOLE: **7**
SAMPLE NUMBER: **2**
SAMPLE DEPTH:
SAMPLE DESCRIPTION: **SILTY CLAY, trace gravel**

FILE NO.: **0229049 -01**
SAMPLE DATE: **Dec 14, 2022**
SAMPLED BY: **O.H.**
TEST DATE: **Jan 11, 2023**
TESTED BY: **A.K.**
LAB NO.: **1004**

COARSE SIEVES

Dry Weight (g)		228.9		
SIEVE SIZE		**CUM. WT.**	**PERCENT**	**PERCENT**
Standard	(mm)	**RET.**	**RET.**	**PASSING**
1.5"	37.5	0.00	0.0	**100.0**
3/4"	19.0	0.00	0.0	**100.0**
3/8"	9.5	0.00	0.0	**100.0**
No. 4	4.75	0.00	0.0	**100.0**
No. 10	2.00	0.00	0.0	**100.0**
PAN		228.88		
Dry Weight After Sieving (g)		228.9		
Percent Loss After Sieving		0.01		

FINE SIEVES (after washing)

Dry Weight		51.83		
Percent Passing No.4 (%)		100		
SIEVE SIZE		**CUM. WT.**	**PERCENT**	**PERCENT**
Standard	(mm)	**RET.**	**RET.**	**PASSING**
No. 20	0.840	0.17	0.3	**99.7**
No. 40	0.425	0.37	0.7	**99.3**
No. 60	0.250	0.57	1.1	**98.9**
No. 140	0.105	0.92	1.8	**98.2**
No. 200	0.075	1.04	2.0	**98.0**

HYGROSCOPIC MOISTURE CONTENT

Wt. of wet soil and tare (g)	100.00
Wt. of dry soil and tare (g)	100.00
Wt. of water (g)	0.00
Wt. of tare (g)	0.00
Wt. of wet soil (g) (W_A)	100.00
Wt. of dry soil (g) (W_0)	100.00
Water content (%)	0.00

HYDROMETER

Hygroscopic Correction Factor	1.000000
Corrected Sample Weight (M_o)	51.83
Test sample represented by soil (W)	51.83
Gs Correction Factor	0.985209
Specific Gravity	2.717

Date and time	**Elapsed Time**	**H_s in Divisions (G/L)**	**H_c in Divisions (G/L)**	**Temp. T_c (C)**	**Corrected Reading $R = H_s - H_c$**	**Percent Passing P in %**	**L in cm**	**n in milliPoise**	**K**	**Particle Diameter D in mm**
	1	56.0	6.0	23.7	50.0	**95.04**	6.1029	9.2416	0.0128	0.0317
	2	55.5	6.0	23.7	49.5	**94.09**	6.2029	9.2416	0.0128	0.0226
	5	55.0	6.0	23.7	49.0	**93.14**	6.3029	9.2416	0.0128	0.0144
	15	54.0	6.0	23.6	48.0	**91.24**	6.5029	9.2629	0.0129	0.0085
	30	52.0	6.0	23.6	46.0	**87.44**	6.9029	9.2629	0.0129	0.0062
	60	50.0	6.0	23.5	44.0	**83.64**	7.3029	9.2843	0.0129	0.0045
	250	44.0	6.0	23.9	38.0	**72.23**	8.5029	9.1993	0.0128	0.0024
	1440	36.0	6.0	23.3	30.0	**57.03**	10.1029	9.3273	0.0129	0.0011

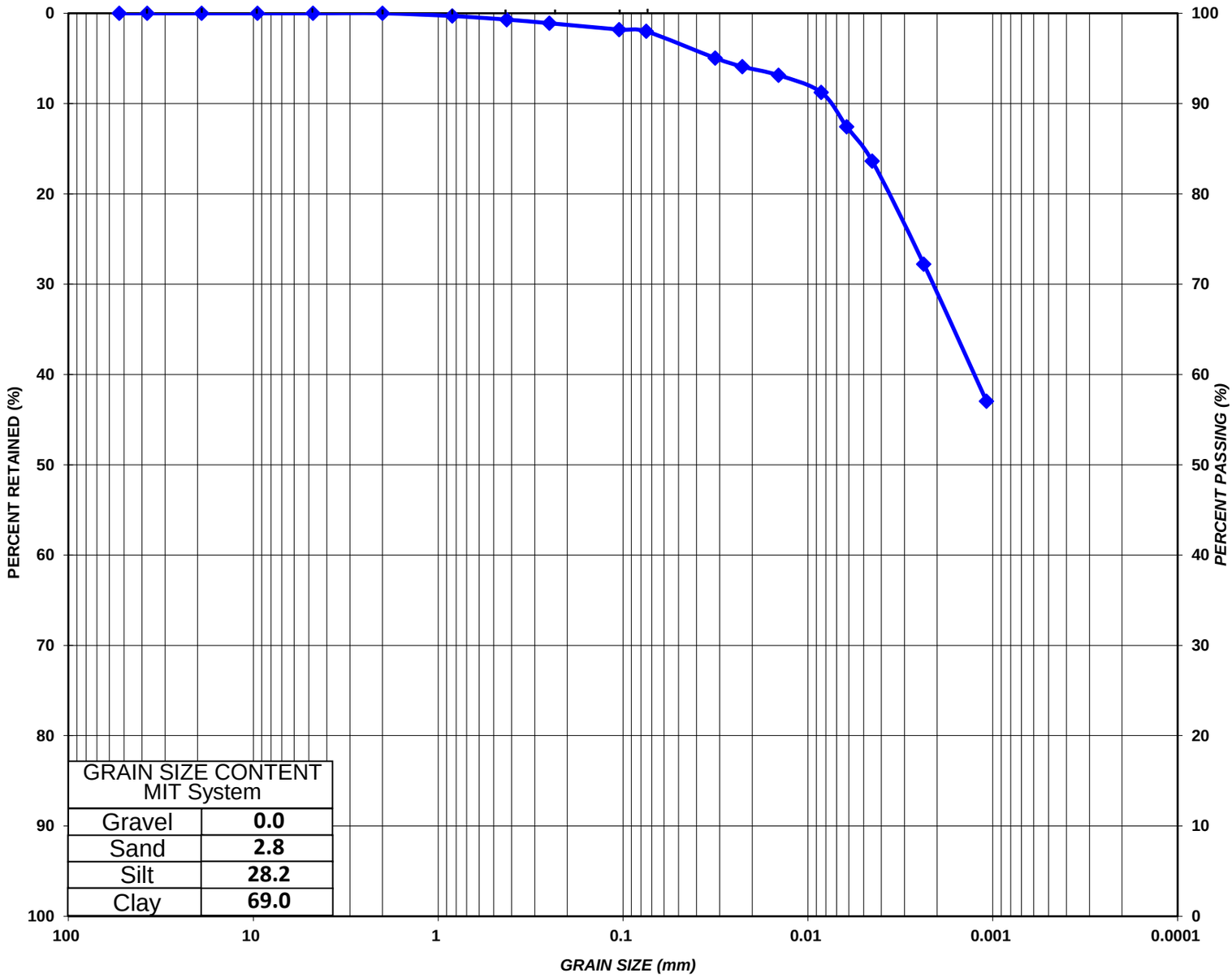
Terraprobe

SIEVE AND HYDROMETER ANALYSIS TEST REPORT

PROJECT: **Proposed School Addition**
LOCATION: **Greater Toronto Area, On.**
CLIENT: **Infrastructure Ontario**
BOREHOLE: **7**
SAMPLE NUMBER: **2**
SAMPLE DEPTH:
SAMPLE DESCRIPTION: **SILTY CLAY, trace gravel**

FILE NO.: **0229049**
LAB NO.: **1004**
SAMPLE DATE: **Dec 14, 2022**
SAMPLED BY: **O.H.**

GRAIN SIZE DISTRIBUTION ANALYSIS



GRAIN SIZE CONTENT MIT System	
Gravel	**0.0**
Sand	**2.8**
Silt	**28.2**
Clay	**69.0**

MIT SYSTEM	GRAVEL	COARSE	MEDIUM	FINE	SILT	CLAY
		SAND				

UNIFIED SYSTEM ASTM D2487	COARSE	FINE	COARSE	MEDIUM	FINE	SILT AND CLAY
	GRAVEL		SAND			

Terraprobe

SIEVE AND HYDROMETER ANALYSIS TEST FORM

PROJECT: **Proposed School Addition**
LOCATION: **Greater Toronto Area, On.**
CLIENT: **Infrastructure Ontario**
BOREHOLE: **9**
SAMPLE NUMBER: **3**
SAMPLE DEPTH:
SAMPLE DESCRIPTION: **SILTY CLAY, trace sand**

FILE NO.: **0229049 -01**
SAMPLE DATE: **Dec 14, 2022**
SAMPLED BY: **O.H.**
TEST DATE: **Jan 11, 2023**
TESTED BY: **A.K.**
LAB NO.: **1004**

COARSE SIEVES

Dry Weight (g)		240.1		
SIEVE SIZE		**CUM. WT.**	**PERCENT**	**PERCENT**
Standard	(mm)	**RET.**	**RET.**	**PASSING**
1.5"	37.5	0.00	0.0	**100.0**
3/4"	19.0	0.00	0.0	**100.0**
3/8"	9.5	0.00	0.0	**100.0**
No. 4	4.75	0.00	0.0	**100.0**
No. 10	2.00	0.14	0.1	**99.9**
PAN		239.91		
Dry Weight After Sieving (g)		240.1		
Percent Loss After Sieving		0.02		

FINE SIEVES (after washing)

Dry Weight		52.21		
Percent Passing No.4 (%)		100		
SIEVE SIZE		**CUM. WT.**	**PERCENT**	**PERCENT**
Standard	(mm)	**RET.**	**RET.**	**PASSING**
No. 20	0.840	1.01	1.9	**98.0**
No. 40	0.425	1.60	3.1	**96.8**
No. 60	0.250	2.02	3.9	**96.0**
No. 140	0.105	2.59	5.0	**94.9**
No. 200	0.075	2.80	5.4	**94.5**

HYGROSCOPIC MOISTURE CONTENT

Wt. of wet soil and tare (g)	100.00
Wt. of dry soil and tare (g)	100.00
Wt. of water (g)	0.00
Wt. of tare (g)	0.00
Wt. of wet soil (g) (W_A)	100.00
Wt. of dry soil (g) (W_0)	100.00
Water content (%)	0.00

HYDROMETER

Hygroscopic Correction Factor	1.000000
Corrected Sample Weight (M_o)	52.21
Test sample represented by soil (W)	52.24
Gs Correction Factor	0.985209
Specific Gravity	2.717

Date and time	**Elapsed Time**	**H_s in Divisions (G/L)**	**H_c in Divisions (G/L)**	**Temp. T_c (C)**	**Corrected Reading $R = H_s - H_c$**	**Percent Passing P in %**	**L in cm**	**n in milliPoise**	**K**	**Particle Diameter D in mm**
	1	53.0	6.0	23.7	47.0	**88.64**	6.7029	9.2416	0.0128	0.0332
	2	52.0	6.0	23.7	46.0	**86.75**	6.9029	9.2416	0.0128	0.0238
	5	51.0	6.0	23.7	45.0	**84.87**	7.1029	9.2416	0.0128	0.0153
	15	49.0	6.0	23.6	43.0	**81.09**	7.5029	9.2629	0.0129	0.0091
	30	47.0	6.0	23.6	41.0	**77.32**	7.9029	9.2629	0.0129	0.0066
	60	46.0	6.0	23.5	40.0	**75.44**	8.1029	9.2843	0.0129	0.0047
	250	40.0	6.0	23.9	34.0	**64.12**	9.3029	9.1993	0.0128	0.0025
	1440	32.0	6.0	23.3	26.0	**49.03**	10.9029	9.3273	0.0129	0.0011

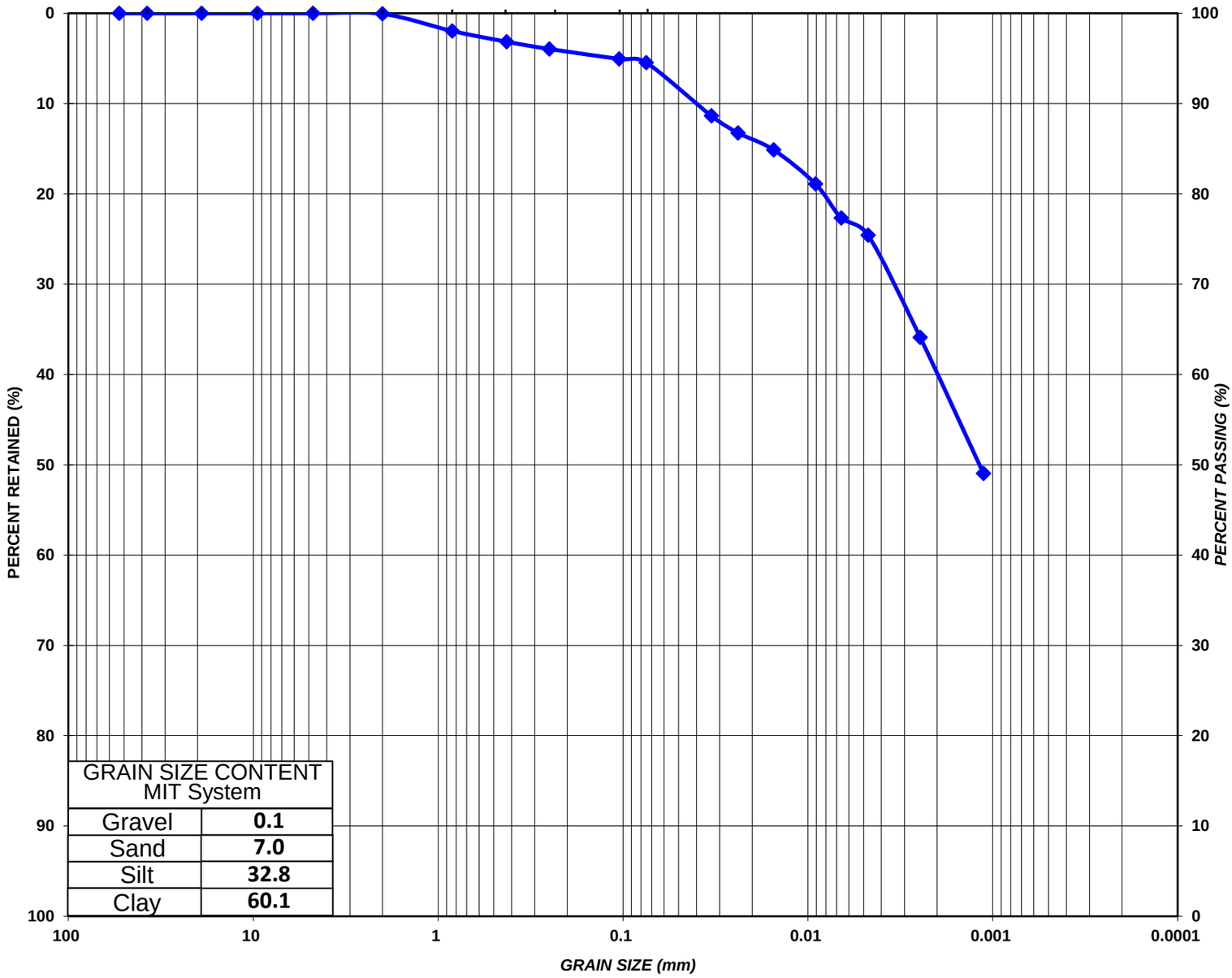
Terraprobe

SIEVE AND HYDROMETER ANALYSIS TEST REPORT

PROJECT: **Proposed School Addition**
LOCATION: **Greater Toronto Area, On.**
CLIENT: **Infrastructure Ontario**
BOREHOLE: **9**
SAMPLE NUMBER: **3**
SAMPLE DEPTH:
SAMPLE DESCRIPTION: **SILTY CLAY, trace sand**

FILE NO.: **0229049**
LAB NO.: **1004**
SAMPLE DATE: **Dec 14, 2022**
SAMPLED BY: **O.H.**

GRAIN SIZE DISTRIBUTION ANALYSIS



GRAIN SIZE CONTENT MIT System	
Gravel	**0.1**
Sand	**7.0**
Silt	**32.8**
Clay	**60.1**

MIT SYSTEM	GRAVEL	COARSE	MEDIUM	FINE	SILT	CLAY
		SAND				

UNIFIED SYSTEM ASTM D2487	COARSE	FINE	COARSE	MEDIUM	FINE	SILT AND CLAY
	GRAVEL		SAND			

Terraprobe

SIEVE AND HYDROMETER ANALYSIS TEST FORM

PROJECT: **Proposed School Addition**
LOCATION: **Greater Toronto Area, On.**
CLIENT: **Infrastructure Ontario**
BOREHOLE: **11**
SAMPLE NUMBER: **2**
SAMPLE DEPTH:
SAMPLE DESCRIPTION: **SILTY CLAY, trace gravel**

FILE NO.: **0229049 -01**
SAMPLE DATE: **Dec 14, 2022**
SAMPLED BY: **O.H.**
TEST DATE: **Jan 11, 2023**
TESTED BY: **A.K.**
LAB NO.: **1004**

COARSE SIEVES

Dry Weight (g)		221.0		
SIEVE SIZE		**CUM. WT.**	**PERCENT**	**PERCENT**
Standard	(mm)	**RET.**	**RET.**	**PASSING**
1.5"	37.5	0.00	0.0	**100.0**
3/4"	19.0	0.00	0.0	**100.0**
3/8"	9.5	0.00	0.0	**100.0**
No. 4	4.75	0.00	0.0	**100.0**
No. 10	2.00	0.00	0.0	**100.0**
PAN		220.93		
Dry Weight After Sieving (g)		220.9		
Percent Loss After Sieving		0.02		

FINE SIEVES (after washing)

Dry Weight		52.10		
Percent Passing No.4 (%)		100		
SIEVE SIZE		**CUM. WT.**	**PERCENT**	**PERCENT**
Standard	(mm)	**RET.**	**RET.**	**PASSING**
No. 20	0.840	0.16	0.3	**99.7**
No. 40	0.425	0.46	0.9	**99.1**
No. 60	0.250	0.77	1.5	**98.5**
No. 140	0.105	1.35	2.6	**97.4**
No. 200	0.075	1.54	3.0	**97.0**

HYGROSCOPIC MOISTURE CONTENT

Wt. of wet soil and tare (g)	100.00
Wt. of dry soil and tare (g)	100.00
Wt. of water (g)	0.00
Wt. of tare (g)	0.00
Wt. of wet soil (g) (W_A)	100.00
Wt. of dry soil (g) (W_0)	100.00
Water content (%)	0.00

HYDROMETER

Hygroscopic Correction Factor	1.000000
Corrected Sample Weight (M_o)	52.10
Test sample represented by soil (W)	52.10
Gs Correction Factor	0.985209
Specific Gravity	2.717

Date and time	**Elapsed Time**	**H_s in Divisions (G/L)**	**H_c in Divisions (G/L)**	**Temp. T_c (C)**	**Corrected Reading $R = H_s - H_c$**	**Percent Passing P in %**	**L in cm**	**n in milliPoise**	**K**	**Particle Diameter D in mm**
	1	57.0	6.0	23.7	51.0	**96.44**	5.9029	9.2416	0.0128	0.0312
	2	56.0	6.0	23.7	50.0	**94.55**	6.1029	9.2416	0.0128	0.0224
	5	55.0	6.0	23.7	49.0	**92.66**	6.3029	9.2416	0.0128	0.0144
	15	53.0	6.0	23.6	47.0	**88.88**	6.7029	9.2629	0.0129	0.0086
	30	52.0	6.0	23.6	46.0	**86.99**	6.9029	9.2629	0.0129	0.0062
	60	50.0	6.0	23.5	44.0	**83.20**	7.3029	9.2843	0.0129	0.0045
	250	45.0	6.0	23.9	39.0	**73.75**	8.3029	9.1993	0.0128	0.0023
	1440	36.0	6.0	23.3	30.0	**56.73**	10.1029	9.3273	0.0129	0.0011

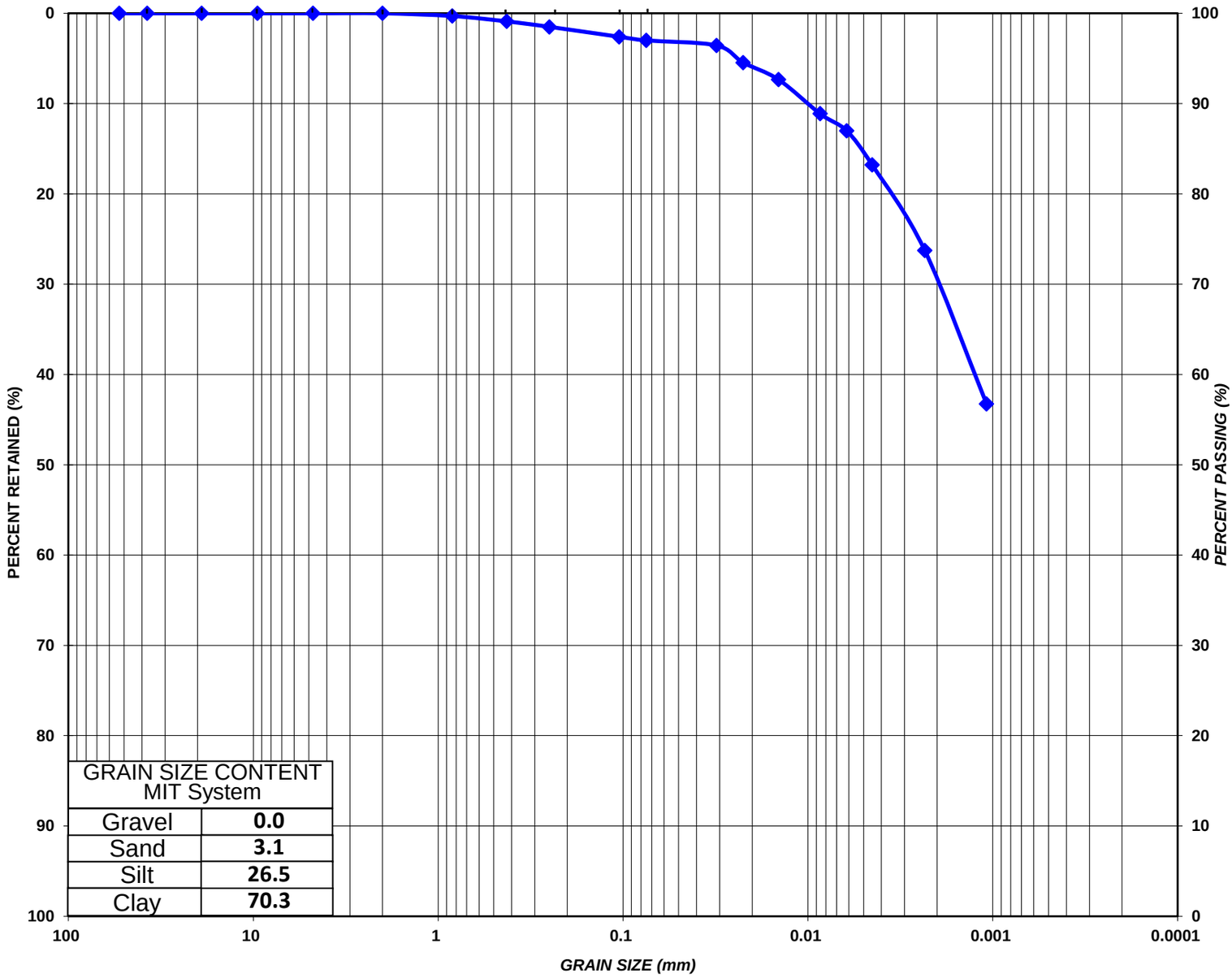
Terraprobe

SIEVE AND HYDROMETER ANALYSIS TEST REPORT

PROJECT: **Proposed School Addition**
LOCATION: **Greater Toronto Area, On.**
CLIENT: **Infrastructure Ontario**
BOREHOLE: **11**
SAMPLE NUMBER: **2**
SAMPLE DEPTH:
SAMPLE DESCRIPTION: **SILTY CLAY, trace gravel**

FILE NO.: **0229049**
LAB NO.: **1004**
SAMPLE DATE: **Dec 14, 2022**
SAMPLED BY: **O.H.**

GRAIN SIZE DISTRIBUTION ANALYSIS



GRAIN SIZE CONTENT MIT System	
Gravel	**0.0**
Sand	**3.1**
Silt	**26.5**
Clay	**70.3**

MIT SYSTEM	GRAVEL		COARSE	MEDIUM	FINE	SILT	CLAY
			SAND				

UNIFIED SYSTEM ASTM D2487	COARSE	FINE	COARSE	MEDIUM	FINE	SILT AND CLAY
	GRAVEL		SAND			

APPENDIX F

TERRAPROBE INC

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

CLIENT NAME: TERRAPROBE INC.
11 INDELL LANE
BRAMPTON, ON L6T3Y3
(905) 796-2650

ATTENTION TO: Syed Ali

PROJECT: 02209049.000.0102

AGAT WORK ORDER: 22T982124

SOIL ANALYSIS REVIEWED BY: Amanjot Bhela, Inorganic Lab Manager

TRACE ORGANICS REVIEWED BY: Pinkal Patel, Report Reviewer

DATE REPORTED: Dec 23, 2022

PAGES (INCLUDING COVER): 22

VERSION*: 1

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

Notes

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AGAT Laboratories

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

Certificate of Analysis

AGAT WORK ORDER: 22T982124

PROJECT: 02209049.000.0102

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Syed Ali

SAMPLING SITE:

SAMPLED BY:O.H

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

DATE RECEIVED: 2022-12-19 **DATE REPORTED: 2022-12-23**

		SAMPLE DESCRIPTION:		BH1-SS1	BH1-SS4	BH2-SS1	BH2-SS3	BH3-SS1	BH3-SS3	BH4-SS1	BH5-SS1
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2022-12-15	2022-12-15	2022-12-15	2022-12-15	2022-12-15	2022-12-15	2022-12-15	2022-12-15
Parameter	**Unit**	**G / S**	**RDL**	**4631321**	**4631323**	**4631324**	**4631328**	**4631329**	**4631330**	**4631331**	**4631332**
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	3	3	3	1	2	2	1	2
Barium	µg/g	390	2.0	286	349	255	96.4	241	172	133	319
Beryllium	µg/g	5	0.4	1.3	1.1	1.0	<0.4	0.8	<0.4	<0.4	1.0
Boron	µg/g	120	5	10	13	8	9	10	13	8	10
Boron (Hot Water Soluble)	µg/g	1.5	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	160	5	53	56	43	15	35	26	15	46
Cobalt	µg/g	22	0.5	16.1	19.0	15.0	7.0	10.4	8.6	4.7	13.9
Copper	µg/g	180	1.0	24.5	32.1	25.9	12.7	16.8	14.8	8.1	23.3
Lead	µg/g	120	1	14	10	9	4	11	5	6	10
Molybdenum	µg/g	6.9	0.5	0.8	0.7	0.6	<0.5	<0.5	<0.5	<0.5	0.6
Nickel	µg/g	130	1	32	36	30	9	21	14	5	27
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	25	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	1.69	0.73	1.13	<0.50	0.70	0.57	0.56	1.15
Vanadium	µg/g	86	0.4	69.5	75.4	60.4	26.2	48.5	39.4	19.8	60.6
Zinc	µg/g	340	5	105	99	81	23	57	38	30	80
Chromium, Hexavalent	µg/g	10	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Cyanide, WAD	µg/g	0.051	0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Mercury	µg/g	1.8	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	0.7	0.005	0.336	0.250	0.292	0.183	0.325	0.193	0.351	0.320
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	N/A	0.178	0.408	0.264	0.260	0.500	0.131	0.932	0.729
pH, 2:1 CaCl2 Extraction	pH Units	5.0-9.0	NA	7.74	7.68	7.68	7.74	7.70	7.63	7.75	7.72

Certified By:

Amanjot Bhela

ASSOCIATION OF THE CHEMICAL PROFESSION OF ONTARIO
CHARTERED
AMANJOT BHELA
CHEMIST

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

AGAT Laboratories

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FAX (905)712-5122
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 22T982124

PROJECT: 02209049.000.0102

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Syed Ali

SAMPLING SITE:

SAMPLED BY:O.H

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

DATE RECEIVED: 2022-12-19 **DATE REPORTED: 2022-12-23**

		SAMPLE DESCRIPTION:		BH5-SS3	BH6-SS1	BH6-SS4	BH7-SS1	DUP-1	BH8-SS1	BH10-SS1	BH11-SS1
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2022-12-15	2022-12-15	2022-12-15	2022-12-15	2022-12-15	2022-12-15	2022-12-15	2022-12-15
Parameter	**Unit**	**G / S**	**RDL**	**4631333**	**4631334**	**4631339**	**4631341**	**4631342**	**4631344**	**4631345**	**4631346**
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	2	1	<1	3	3	3	4	4
Barium	µg/g	390	2.0	171	115	70.8	332	390	223	115	373
Beryllium	µg/g	5	0.4	0.5	0.4	<0.4	1.5	1.6	1.0	0.6	1.5
Boron	µg/g	120	5	14	9	9	9	12	12	9	11
Boron (Hot Water Soluble)	µg/g	1.5	0.10	<0.10	0.12	<0.10	<0.10	<0.10	0.13	0.19	0.12
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	28	13	13	51	61	40	30	56
Cobalt	µg/g	22	0.5	8.3	4.4	6.3	18.4	20.4	14.9	8.8	**22.1**
Copper	µg/g	180	1.0	16.4	6.6	11.6	28.9	33.7	20.4	40.7	33.4
Lead	µg/g	120	1	5	6	3	12	12	16	51	14
Molybdenum	µg/g	6.9	0.5	<0.5	<0.5	<0.5	0.5	0.6	0.8	1.6	1.0
Nickel	µg/g	130	1	15	5	8	33	41	24	19	42
Selenium	µg/g	2.4	0.8	<0.8	<0.8	<0.8	<0.8	0.8	0.9	<0.8	0.8
Silver	µg/g	25	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	0.60	0.53	<0.50	1.18	1.24	1.36	0.64	1.28
Vanadium	µg/g	86	0.4	42.9	18.3	21.1	69.2	81.8	56.7	34.3	84.8
Zinc	µg/g	340	5	43	24	20	106	118	98	200	123
Chromium, Hexavalent	µg/g	10	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Cyanide, WAD	µg/g	0.051	0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Mercury	µg/g	1.8	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	0.7	0.005	0.234	0.393	0.159	0.364	0.288	0.372	0.345	0.264
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	N/A	0.146	0.509	0.109	0.334	0.322	0.448	0.164	0.186
pH, 2:1 CaCl2 Extraction	pH Units	5.0-9.0	NA	7.73	7.68	7.69	7.56	7.47	7.59	7.38	7.08

Certified By:

Amanjot Bhela

ASSOCIATION OF THE CHEMICAL PROFESSION OF ONTARIO
CHARTERED
AMANJOT BHELA
CHEMIST

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Certificate of Analysis

AGAT WORK ORDER: 22T982124

PROJECT: 02209049.000.0102

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Syed Ali

SAMPLING SITE:

SAMPLED BY:O.H

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

DATE RECEIVED: 2022-12-19

DATE REPORTED: 2022-12-23

		SAMPLE DESCRIPTION:		DUP-2
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2022-12-15
Parameter	**Unit**	**G / S**	**RDL**	**4631348**
Antimony	µg/g	7.5	0.8	<0.8
Arsenic	µg/g	18	1	4
Barium	µg/g	390	2.0	**411**
Beryllium	µg/g	5	0.4	1.4
Boron	µg/g	120	5	10
Boron (Hot Water Soluble)	µg/g	1.5	0.10	<0.10
Cadmium	µg/g	1.2	0.5	<0.5
Chromium	µg/g	160	5	61
Cobalt	µg/g	22	0.5	**25.0**
Copper	µg/g	180	1.0	36.9
Lead	µg/g	120	1	15
Molybdenum	µg/g	6.9	0.5	1.1
Nickel	µg/g	130	1	46
Selenium	µg/g	2.4	0.8	<0.8
Silver	µg/g	25	0.5	<0.5
Thallium	µg/g	1	0.5	0.6
Uranium	µg/g	23	0.50	1.41
Vanadium	µg/g	86	0.4	**89.0**
Zinc	µg/g	340	5	131
Chromium, Hexavalent	µg/g	10	0.2	<0.2
Cyanide, WAD	µg/g	0.051	0.040	<0.040
Mercury	µg/g	1.8	0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	0.7	0.005	0.258
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	N/A	0.190
pH, 2:1 CaCl2 Extraction	pH Units	5.0-9.0	NA	7.38

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AGAT WORK ORDER: 22T982124

PROJECT: 02209049.000.0102

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Syed Ali

SAMPLING SITE:

SAMPLED BY:O.H

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

DATE RECEIVED: 2022-12-19

DATE REPORTED: 2022-12-23

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ON T2 S RPI MFT
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.

4631321-4631348 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:

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AGAT WORK ORDER: 22T982124

PROJECT: 02209049.000.0102

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Syed Ali

SAMPLING SITE:

SAMPLED BY:O.H

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

DATE RECEIVED: 2022-12-19 **DATE REPORTED: 2022-12-23**

		SAMPLE DESCRIPTION:		BH1-SS1	BH2-SS1	BH3-SS1	BH4-SS1	BH5-SS1	BH6-SS1	BH7-SS1	DUP-1
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2022-12-15	2022-12-15	2022-12-15	2022-12-15	2022-12-15	2022-12-15	2022-12-15	2022-12-15
Parameter	**Unit**	**G / S**	**RDL**	**4631321**	**4631324**	**4631329**	**4631331**	**4631332**	**4631334**	**4631341**	**4631342**
Naphthalene	µg/g	0.75	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	µg/g	0.17	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene	µg/g	29	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	µg/g	69	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	µg/g	7.8	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	µg/g	0.74	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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	µg/g	78	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benz(a)anthracene	µg/g	0.63	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	µg/g	7.8	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.78	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	0.48	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	7.8	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1 and 2 Methlynaphthalene	µg/g	3.4	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	26.9	27.3	16.7	13.8	19.7	6.5	26.5	23.8
Surrogate	**Unit**	**Acceptable Limits**									
Naphthalene-d8	%	50-140		120	115	105	85	110	90	100	105
Acridine-d9	%	50-140		125	125	110	120	105	120	105	100
Terphenyl-d14	%	50-140		105	130	115	125	120	125	120	120

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Certificate of Analysis

AGAT WORK ORDER: 22T982124

PROJECT: 02209049.000.0102

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Syed Ali

SAMPLING SITE:

SAMPLED BY:O.H

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

DATE RECEIVED: 2022-12-19 **DATE REPORTED: 2022-12-23**

		SAMPLE DESCRIPTION:		BH8-SS1	BH10-SS1	BH11-SS1
		SAMPLE TYPE:		Soil	Soil	Soil
		DATE SAMPLED:		2022-12-15	2022-12-15	2022-12-15
Parameter	**Unit**	**G / S**	**RDL**	**4631344**	**4631345**	**4631346**
Naphthalene	µg/g	0.75	0.05	<0.05	<0.05	<0.05
Acenaphthylene	µg/g	0.17	0.05	<0.05	<0.05	<0.05
Acenaphthene	µg/g	29	0.05	<0.05	<0.05	<0.05
Fluorene	µg/g	69	0.05	<0.05	<0.05	<0.05
Phenanthrene	µg/g	7.8	0.05	<0.05	<0.05	<0.05
Anthracene	µg/g	0.74	0.05	<0.05	<0.05	<0.05
Fluoranthene	µg/g	0.69	0.05	0.22	0.16	<0.05
Pyrene	µg/g	78	0.05	0.18	0.17	<0.05
Benz(a)anthracene	µg/g	0.63	0.05	0.09	0.06	<0.05
Chrysene	µg/g	7.8	0.05	0.07	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.78	0.05	0.20	0.11	<0.05
Benzo(k)fluoranthene	µg/g	0.78	0.05	0.05	0.05	<0.05
Benzo(a)pyrene	µg/g	0.3	0.05	0.05	0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.48	0.05	0.09	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g	0.1	0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	7.8	0.05	0.11	0.07	<0.05
1 and 2 Methlynaphthalene	µg/g	3.4	0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	19.8	16.1	23.2
Surrogate	**Unit**	**Acceptable Limits**				
Naphthalene-d8	%	50-140		110	80	110
Acridine-d9	%	50-140		110	125	105
Terphenyl-d14	%	50-140		135	120	120

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ON T2 S RPI MFT
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.

4631321-4631346 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:

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AGAT WORK ORDER: 22T982124

PROJECT: 02209049.000.0102

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Syed Ali

SAMPLING SITE:

SAMPLED BY:O.H

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

DATE RECEIVED: 2022-12-19 **DATE REPORTED: 2022-12-23**

		SAMPLE DESCRIPTION:		BH1-SS1	BH3-SS1	BH4-SS1	BH5-SS1	BH6-SS1	BH7-SS1	DUP-1	BH8-SS1
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2022-12-15	2022-12-15	2022-12-15	2022-12-15	2022-12-15	2022-12-15	2022-12-15	2022-12-15
Parameter	**Unit**	**G / S**	**RDL**	**4631321**	**4631329**	**4631331**	**4631332**	**4631334**	**4631341**	**4631342**	**4631344**
Polychlorinated Biphenyls	µg/g	0.35	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Moisture Content	%		0.1	26.9	16.7	13.8	19.7	6.5	26.5	23.8	19.8
Surrogate	**Unit**	**Acceptable Limits**									
Decachlorobiphenyl	%	50-140		100	108	92	112	80	112	108	76

		SAMPLE DESCRIPTION:		BH10-SS1
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2022-12-15
Parameter	**Unit**	**G / S**	**RDL**	**4631345**
Polychlorinated Biphenyls	µg/g	0.35	0.1	<0.1
Moisture Content	%		0.1	16.1
Surrogate	**Unit**	**Acceptable Limits**		
Decachlorobiphenyl	%	50-140		84

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ON T2 S RPI MFT
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.

4631321-4631345 Results are based on the dry weight of soil extracted.
PCB total is a calculated parameter. The calculated value is the sum of Aroclor 1242, Aroclor 1248, Aroclor 1254 and Aroclor 1260.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: Pinkal Patel

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AGAT WORK ORDER: 22T982124

PROJECT: 02209049.000.0102

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Syed Ali

SAMPLING SITE:

SAMPLED BY:O.H

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

DATE RECEIVED: 2022-12-19 **DATE REPORTED: 2022-12-23**

		SAMPLE DESCRIPTION:		BH1-SS1	BH2-SS1	BH3-SS1	BH4-SS1	BH5-SS1	BH6-SS1	BH7-SS1	DUP-1
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2022-12-15	2022-12-15	2022-12-15	2022-12-15	2022-12-15	2022-12-15	2022-12-15	2022-12-15
Parameter	**Unit**	**G / S**	**RDL**	**4631321**	**4631324**	**4631329**	**4631331**	**4631332**	**4631334**	**4631341**	**4631342**
F1 (C6 - C10)	µg/g	65	5	<5	<5	<5	<5	<5	6	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	65	5	<5	<5	<5	<5	<5	6	<5	<5
F2 (C10 to C16)	µg/g	150	10	<10	<10	<10	<10	<10	27	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10	<10	<10	<10	<10	27	<10	<10
F3 (C16 to C34)	µg/g	1300	50	<50	<50	<50	<50	<50	351	<50	<50
F3 (C16 to C34) minus PAHs	µg/g		50	<50	<50	<50	<50	<50	351	<50	<50
F4 (C34 to C50)	µg/g	5600	50	<50	<50	<50	<50	<50	439	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	5600	50	NA	NA	NA	NA	NA	NA	NA	NA
Moisture Content	%		0.1	26.9	27.3	16.7	13.8	19.7	6.5	26.5	23.8
Surrogate	**Unit**	**Acceptable Limits**									
Toluene-d8	%	50-140		73	80	73	73	77	80	76	74
Terphenyl	%	60-140		71	78	64	70	87	87	76	77

		SAMPLE DESCRIPTION:		BH8-SS1	BH10-SS1	BH11-SS1
		SAMPLE TYPE:		Soil	Soil	Soil
		DATE SAMPLED:		2022-12-15	2022-12-15	2022-12-15
Parameter	**Unit**	**G / S**	**RDL**	**4631344**	**4631345**	**4631346**
F1 (C6 - C10)	µg/g	65	5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	65	5	<5	<5	<5
F2 (C10 to C16)	µg/g	150	10	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10	<10	<10
F3 (C16 to C34)	µg/g	1300	50	<50	<50	<50
F3 (C16 to C34) minus PAHs	µg/g		50	<50	<50	<50
F4 (C34 to C50)	µg/g	5600	50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	5600	50	NA	NA	NA
Moisture Content	%		0.1	19.8	16.1	23.2
Surrogate	**Unit**	**Acceptable Limits**				
Toluene-d8	%	50-140		74	70	76
Terphenyl	%	60-140		75	85	74

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 22T982124

PROJECT: 02209049.000.0102

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Syed Ali

SAMPLING SITE:

SAMPLED BY:O.H

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

DATE RECEIVED: 2022-12-19 **DATE REPORTED: 2022-12-23**

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ON T2 S RPI MFT
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.

4631321-4631346 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: Pinkal Patel

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AGAT WORK ORDER: 22T982124

PROJECT: 02209049.000.0102

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Syed Ali

SAMPLING SITE:

SAMPLED BY:O.H

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

DATE RECEIVED: 2022-12-19 **DATE REPORTED: 2022-12-23**

		SAMPLE DESCRIPTION:		BH1-SS1	BH2-SS1	BH3-SS1	BH4-SS1	BH5-SS1	BH6-SS1	BH7-SS1	DUP-1
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2022-12-15	2022-12-15	2022-12-15	2022-12-15	2022-12-15	2022-12-15	2022-12-15	2022-12-15
Parameter	**Unit**	**G / S**	**RDL**	**4631321**	**4631324**	**4631329**	**4631331**	**4631332**	**4631334**	**4631341**	**4631342**
Dichlorodifluoromethane	µg/g	25	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	ug/g	0.022	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Bromomethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	ug/g	5.8	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acetone	ug/g	28	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	ug/g	0.96	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trans- 1,2-Dichloroethylene	ug/g	0.75	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl tert-butyl Ether	ug/g	1.4	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1-Dichloroethane	ug/g	0.6	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Methyl Ethyl Ketone	ug/g	44	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cis- 1,2-Dichloroethylene	ug/g	2.5	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	ug/g	0.18	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
1,2-Dichloroethane	ug/g	0.05	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
1,1,1-Trichloroethane	ug/g	3.4	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	ug/g	0.12	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzene	ug/g	0.17	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
1,2-Dichloropropane	ug/g	0.085	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Trichloroethylene	ug/g	0.52	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Bromodichloromethane	ug/g	1.9	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl Isobutyl Ketone	ug/g	4.3	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Toluene	ug/g	6	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromochloromethane	ug/g	2.9	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylene Dibromide	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Tetrachloroethylene	ug/g	2.3	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,1,2-Tetrachloroethane	ug/g	0.05	0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Chlorobenzene	ug/g	2.7	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	ug/g	1.6	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
m & p-Xylene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Certified By:

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: 22T982124

PROJECT: 02209049.000.0102

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Syed Ali

SAMPLING SITE:

SAMPLED BY:O.H

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

DATE RECEIVED: 2022-12-19 **DATE REPORTED: 2022-12-23**

		SAMPLE DESCRIPTION:		BH1-SS1	BH2-SS1	BH3-SS1	BH4-SS1	BH5-SS1	BH6-SS1	BH7-SS1	DUP-1
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2022-12-15	2022-12-15	2022-12-15	2022-12-15	2022-12-15	2022-12-15	2022-12-15	2022-12-15
Parameter	**Unit**	**G / S**	**RDL**	**4631321**	**4631324**	**4631329**	**4631331**	**4631332**	**4631334**	**4631341**	**4631342**
Bromoform	ug/g	0.26	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Styrene	ug/g	2.2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
o-Xylene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,3-Dichlorobenzene	ug/g	6	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,4-Dichlorobenzene	ug/g	0.097	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,2-Dichlorobenzene	ug/g	1.7	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	ug/g	25	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1,3-Dichloropropene (Cis + Trans)	µg/g	0.081	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
n-Hexane	µg/g	34	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	26.9	27.3	16.7	13.8	19.7	6.5	26.5	23.8
Surrogate	**Unit**	**Acceptable Limits**									
Toluene-d8	% Recovery	50-140		73	80	73	73	77	80	76	74
4-Bromofluorobenzene	% Recovery	50-140		104	102	97	107	107	113	104	101

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AGAT WORK ORDER: 22T982124

PROJECT: 02209049.000.0102

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Syed Ali

SAMPLING SITE:

SAMPLED BY:O.H

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

DATE RECEIVED: 2022-12-19

DATE REPORTED: 2022-12-23

		SAMPLE DESCRIPTION:		BH8-SS1	BH10-SS1	BH11-SS1
		SAMPLE TYPE:		Soil	Soil	Soil
		DATE SAMPLED:		2022-12-15	2022-12-15	2022-12-15
Parameter	**Unit**	**G / S**	**RDL**	**4631344**	**4631345**	**4631346**
Dichlorodifluoromethane	µg/g	25	0.05	<0.05	<0.05	<0.05
Vinyl Chloride	ug/g	0.022	0.02	<0.02	<0.02	<0.02
Bromomethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	ug/g	5.8	0.05	<0.05	<0.05	<0.05
Acetone	ug/g	28	0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	ug/g	0.05	0.05	<0.05	<0.05	<0.05
Methylene Chloride	ug/g	0.96	0.05	<0.05	<0.05	<0.05
Trans- 1,2-Dichloroethylene	ug/g	0.75	0.05	<0.05	<0.05	<0.05
Methyl tert-butyl Ether	ug/g	1.4	0.05	<0.05	<0.05	<0.05
1,1-Dichloroethane	ug/g	0.6	0.02	<0.02	<0.02	<0.02
Methyl Ethyl Ketone	ug/g	44	0.50	<0.50	<0.50	<0.50
Cis- 1,2-Dichloroethylene	ug/g	2.5	0.02	<0.02	<0.02	<0.02
Chloroform	ug/g	0.18	0.04	<0.04	<0.04	<0.04
1,2-Dichloroethane	ug/g	0.05	0.03	<0.03	<0.03	<0.03
1,1,1-Trichloroethane	ug/g	3.4	0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	ug/g	0.12	0.05	<0.05	<0.05	<0.05
Benzene	ug/g	0.17	0.02	<0.02	<0.02	<0.02
1,2-Dichloropropane	ug/g	0.085	0.03	<0.03	<0.03	<0.03
Trichloroethylene	ug/g	0.52	0.03	<0.03	<0.03	<0.03
Bromodichloromethane	ug/g	1.9	0.05	<0.05	<0.05	<0.05
Methyl Isobutyl Ketone	ug/g	4.3	0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	ug/g	0.05	0.04	<0.04	<0.04	<0.04
Toluene	ug/g	6	0.05	<0.05	<0.05	<0.05
Dibromochloromethane	ug/g	2.9	0.05	<0.05	<0.05	<0.05
Ethylene Dibromide	ug/g	0.05	0.04	<0.04	<0.04	<0.04
Tetrachloroethylene	ug/g	2.3	0.05	<0.05	<0.05	<0.05
1,1,1,2-Tetrachloroethane	ug/g	0.05	0.04	<0.04	<0.04	<0.04
Chlorobenzene	ug/g	2.7	0.05	<0.05	<0.05	<0.05
Ethylbenzene	ug/g	1.6	0.05	<0.05	<0.05	<0.05
m & p-Xylene	ug/g		0.05	<0.05	<0.05	<0.05

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Certificate of Analysis

AGAT WORK ORDER: 22T982124

PROJECT: 02209049.000.0102

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Syed Ali

SAMPLING SITE:

SAMPLED BY:O.H

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

DATE RECEIVED: 2022-12-19

DATE REPORTED: 2022-12-23

		SAMPLE DESCRIPTION:		BH8-SS1	BH10-SS1	BH11-SS1
		SAMPLE TYPE:		Soil	Soil	Soil
		DATE SAMPLED:		2022-12-15	2022-12-15	2022-12-15
Parameter	**Unit**	**G / S**	**RDL**	**4631344**	**4631345**	**4631346**
Bromoform	ug/g	0.26	0.05	<0.05	<0.05	<0.05
Styrene	ug/g	2.2	0.05	<0.05	<0.05	<0.05
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.05	<0.05	<0.05	<0.05
o-Xylene	ug/g		0.05	<0.05	<0.05	<0.05
1,3-Dichlorobenzene	ug/g	6	0.05	<0.05	<0.05	<0.05
1,4-Dichlorobenzene	ug/g	0.097	0.05	<0.05	<0.05	<0.05
1,2-Dichlorobenzene	ug/g	1.7	0.05	<0.05	<0.05	<0.05
Xylenes (Total)	ug/g	25	0.05	<0.05	<0.05	<0.05
1,3-Dichloropropene (Cis + Trans)	µg/g	0.081	0.05	<0.05	<0.05	<0.05
n-Hexane	µg/g	34	0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	19.8	16.1	23.2
Surrogate	**Unit**	**Acceptable Limits**				
Toluene-d8	% Recovery	50-140		74	70	76
4-Bromofluorobenzene	% Recovery	50-140		105	104	100

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ON T2 S RPI MFT
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.

4631321-4631346 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:

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Guideline Violation

AGAT WORK ORDER: 22T982124

PROJECT: 02209049.000.0102

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Syed Ali

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
4631346	BH11-SS1	ON T2 S RPI MFT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Cobalt	µg/g	22	22.1
4631348	DUP-2	ON T2 S RPI MFT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Barium	µg/g	390	411
4631348	DUP-2	ON T2 S RPI MFT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Cobalt	µg/g	22	25.0
4631348	DUP-2	ON T2 S RPI MFT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Vanadium	µg/g	86	89.0

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Quality Assurance

CLIENT NAME: TERRAPROBE INC.

PROJECT: 02209049.000.0102

SAMPLING SITE:

AGAT WORK ORDER: 22T982124

ATTENTION TO: Syed Ali

SAMPLED BY:O.H

Soil Analysis

RPT Date: Dec 23, 2022

PARAMETER	Batch	Sample Id	DUPLICATE Dup #1	DUPLICATE Dup #2	DUPLICATE RPD	Method Blank	REFERENCE MATERIAL Measured Value	REFERENCE MATERIAL Acceptable Limits Lower	REFERENCE MATERIAL Acceptable Limits Upper	METHOD BLANK SPIKE Recovery	METHOD BLANK SPIKE Acceptable Limits Lower	METHOD BLANK SPIKE Acceptable Limits Upper	MATRIX SPIKE Recovery	MATRIX SPIKE Acceptable Limits Lower	MATRIX SPIKE Acceptable Limits Upper
O. Reg. 153(511) - Metals & Inorganics (Soil)															
Antimony	4631321	4631321	<0.8	<0.8	NA	< 0.8	84%	70%	130%	97%	80%	120%	87%	70%	130%
Arsenic	4631321	4631321	3	3	NA	< 1	121%	70%	130%	111%	80%	120%	109%	70%	130%
Barium	4631321	4631321	286	288	0.7%	< 2.0	102%	70%	130%	96%	80%	120%	93%	70%	130%
Beryllium	4631321	4631321	1.3	1.3	NA	< 0.4	121%	70%	130%	109%	80%	120%	101%	70%	130%
Boron	4631321	4631321	10	11	NA	< 5	86%	70%	130%	93%	80%	120%	83%	70%	130%
Boron (Hot Water Soluble)	4631321	4631321	<0.10	<0.10	NA	< 0.10	95%	60%	140%	101%	70%	130%	102%	60%	140%
Cadmium	4631321	4631321	<0.5	<0.5	NA	< 0.5	92%	70%	130%	106%	80%	120%	106%	70%	130%
Chromium	4631321	4631321	53	52	1.9%	< 5	109%	70%	130%	101%	80%	120%	97%	70%	130%
Cobalt	4631321	4631321	16.1	16.4	1.8%	< 0.5	105%	70%	130%	99%	80%	120%	99%	70%	130%
Copper	4631321	4631321	24.5	24.9	1.6%	< 1.0	98%	70%	130%	100%	80%	120%	91%	70%	130%
Lead	4631321	4631321	14	14	0.0%	< 1	113%	70%	130%	102%	80%	120%	98%	70%	130%
Molybdenum	4631321	4631321	0.8	0.9	NA	< 0.5	112%	70%	130%	113%	80%	120%	110%	70%	130%
Nickel	4631321	4631321	32	32	0.0%	< 1	105%	70%	130%	102%	80%	120%	97%	70%	130%
Selenium	4631321	4631321	<0.8	0.8	NA	< 0.8	125%	70%	130%	109%	80%	120%	109%	70%	130%
Silver	4631321	4631321	<0.5	<0.5	NA	< 0.5	101%	70%	130%	102%	80%	120%	100%	70%	130%
Thallium	4631321	4631321	<0.5	0.7	NA	< 0.5	116%	70%	130%	105%	80%	120%	106%	70%	130%
Uranium	4631321	4631321	1.69	1.71	NA	< 0.50	125%	70%	130%	102%	80%	120%	107%	70%	130%
Vanadium	4631321	4631321	69.5	67.0	3.7%	< 0.4	116%	70%	130%	101%	80%	120%	96%	70%	130%
Zinc	4631321	4631321	105	105	0.0%	< 5	112%	70%	130%	108%	80%	120%	112%	70%	130%
Chromium, Hexavalent	4634636		<0.2	<0.2	NA	< 0.2	90%	70%	130%	99%	80%	120%	77%	70%	130%
Cyanide, WAD	4631330	4631330	<0.040	<0.040	NA	< 0.040	99%	70%	130%	102%	80%	120%	101%	70%	130%
Mercury	4631321	4631321	<0.10	<0.10	NA	< 0.10	122%	70%	130%	109%	80%	120%	107%	70%	130%
Electrical Conductivity (2:1)	4631321	4631321	0.336	0.335	0.3%	< 0.005	104%	80%	120%	NA			NA		
Sodium Adsorption Ratio (2:1) (Calc.)	4623293		0.839	0.840	0.1%	N/A	NA			NA			NA		
pH, 2:1 CaCl2 Extraction	4628502		7.06	7.12	0.8%	NA	100%	80%	120%	NA			NA		

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

O. Reg. 153(511) - Metals & Inorganics (Soil)															
Sodium Adsorption Ratio (2:1) (Calc.)	4631321	4631321	0.178	0.176	1.1%	N/A	NA			NA			NA		
pH, 2:1 CaCl2 Extraction	4631345	4631345	7.38	7.53	2.0%	NA	100%	80%	120%	NA			NA		

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

Amanjot Bhela

ASSOCIATION OF THE CHEMICAL PROFESSION OF ONTARIO
CHARTERED
AMANJOT BHELA
CHEMIST

Certified By:

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Quality Assurance

CLIENT NAME: TERRAPROBE INC.

PROJECT: 02209049.000.0102

SAMPLING SITE:

AGAT WORK ORDER: 22T982124

ATTENTION TO: Syed Ali

SAMPLED BY:O.H

Trace Organics Analysis

RPT Date: Dec 23, 2022			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs and VOC) (Soil)															
F1 (C6 - C10)	4634381		<5	<5	NA	< 5	104%	60%	140%	97%	60%	140%	78%	60%	140%
F2 (C10 to C16)	4628511		<10	<10	NA	< 10	106%	60%	140%	110%	60%	140%	100%	60%	140%
F3 (C16 to C34)	4628511		<50	<50	NA	< 50	115%	60%	140%	113%	60%	140%	102%	60%	140%
F4 (C34 to C50)	4628511		<50	<50	NA	< 50	95%	60%	140%	108%	60%	140%	115%	60%	140%
O. Reg. 153(511) - VOCs (with PHC) (Soil)															
Dichlorodifluoromethane	4634381		<0.05	<0.05	NA	< 0.05	105%	50%	140%	120%	50%	140%	104%	50%	140%
Vinyl Chloride	4634381		<0.02	<0.02	NA	< 0.02	96%	50%	140%	100%	50%	140%	106%	50%	140%
Bromomethane	4634381		<0.05	<0.05	NA	< 0.05	109%	50%	140%	106%	50%	140%	105%	50%	140%
Trichlorofluoromethane	4634381		<0.05	<0.05	NA	< 0.05	116%	50%	140%	107%	50%	140%	105%	50%	140%
Acetone	4634381		<0.50	<0.50	NA	< 0.50	96%	50%	140%	109%	50%	140%	101%	50%	140%
1,1-Dichloroethylene	4634381		<0.05	<0.05	NA	< 0.05	106%	50%	140%	84%	60%	130%	87%	50%	140%
Methylene Chloride	4634381		<0.05	<0.05	NA	< 0.05	116%	50%	140%	75%	60%	130%	97%	50%	140%
Trans- 1,2-Dichloroethylene	4634381		<0.05	<0.05	NA	< 0.05	97%	50%	140%	77%	60%	130%	116%	50%	140%
Methyl tert-butyl Ether	4634381		<0.05	<0.05	NA	< 0.05	109%	50%	140%	82%	60%	130%	120%	50%	140%
1,1-Dichloroethane	4634381		<0.02	<0.02	NA	< 0.02	105%	50%	140%	82%	60%	130%	86%	50%	140%
Methyl Ethyl Ketone	4634381		<0.50	<0.50	NA	< 0.50	103%	50%	140%	93%	50%	140%	116%	50%	140%
Cis- 1,2-Dichloroethylene	4634381		<0.02	<0.02	NA	< 0.02	112%	50%	140%	94%	60%	130%	95%	50%	140%
Chloroform	4634381		<0.04	<0.04	NA	< 0.04	116%	50%	140%	103%	60%	130%	120%	50%	140%
1,2-Dichloroethane	4634381		<0.03	<0.03	NA	< 0.03	109%	50%	140%	73%	60%	130%	111%	50%	140%
1,1,1-Trichloroethane	4634381		<0.05	<0.05	NA	< 0.05	102%	50%	140%	110%	60%	130%	110%	50%	140%
Carbon Tetrachloride	4634381		<0.05	<0.05	NA	< 0.05	99%	50%	140%	109%	60%	130%	118%	50%	140%
Benzene	4634381		<0.02	<0.02	NA	< 0.02	112%	50%	140%	97%	60%	130%	114%	50%	140%
1,2-Dichloropropane	4634381		<0.03	<0.03	NA	< 0.03	91%	50%	140%	88%	60%	130%	108%	50%	140%
Trichloroethylene	4634381		<0.03	<0.03	NA	< 0.03	113%	50%	140%	74%	60%	130%	116%	50%	140%
Bromodichloromethane	4634381		<0.05	<0.05	NA	< 0.05	95%	50%	140%	102%	60%	130%	105%	50%	140%
Methyl Isobutyl Ketone	4634381		<0.50	<0.50	NA	< 0.50	103%	50%	140%	112%	50%	140%	111%	50%	140%
1,1,2-Trichloroethane	4634381		<0.04	<0.04	NA	< 0.04	98%	50%	140%	103%	60%	130%	77%	50%	140%
Toluene	4634381		<0.05	<0.05	NA	< 0.05	76%	50%	140%	115%	60%	130%	77%	50%	140%
Dibromochloromethane	4634381		<0.05	<0.05	NA	< 0.05	102%	50%	140%	98%	60%	130%	80%	50%	140%
Ethylene Dibromide	4634381		<0.04	<0.04	NA	< 0.04	102%	50%	140%	83%	60%	130%	108%	50%	140%
Tetrachloroethylene	4634381		<0.05	<0.05	NA	< 0.05	88%	50%	140%	95%	60%	130%	97%	50%	140%
1,1,1,2-Tetrachloroethane	4634381		<0.04	<0.04	NA	< 0.04	75%	50%	140%	100%	60%	130%	73%	50%	140%
Chlorobenzene	4634381		<0.05	<0.05	NA	< 0.05	73%	50%	140%	105%	60%	130%	77%	50%	140%
Ethylbenzene	4634381		<0.05	<0.05	NA	< 0.05	88%	50%	140%	83%	60%	130%	97%	50%	140%
m & p-Xylene	4634381		<0.05	<0.05	NA	< 0.05	98%	50%	140%	87%	60%	130%	103%	50%	140%
Bromoform	4634381		<0.05	<0.05	NA	< 0.05	71%	50%	140%	94%	60%	130%	72%	50%	140%
Styrene	4634381		<0.05	<0.05	NA	< 0.05	76%	50%	140%	77%	60%	130%	80%	50%	140%
1,1,2,2-Tetrachloroethane	4634381		<0.05	<0.05	NA	< 0.05	72%	50%	140%	100%	60%	130%	71%	50%	140%
o-Xylene	4634381		<0.05	<0.05	NA	< 0.05	79%	50%	140%	84%	60%	130%	87%	50%	140%

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AGAT Laboratories

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Quality Assurance

CLIENT NAME: TERRAPROBE INC.

PROJECT: 02209049.000.0102

SAMPLING SITE:

AGAT WORK ORDER: 22T982124

ATTENTION TO: Syed Ali

SAMPLED BY:O.H

Trace Organics Analysis (Continued)

RPT Date: Dec 23, 2022			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
1,3-Dichlorobenzene	4634381		<0.05	<0.05	NA	< 0.05	73%	50%	140%	101%	60%	130%	78%	50%	140%
1,4-Dichlorobenzene	4634381		<0.05	<0.05	NA	< 0.05	73%	50%	140%	106%	60%	130%	78%	50%	140%
1,2-Dichlorobenzene	4634381		<0.05	<0.05	NA	< 0.05	70%	50%	140%	94%	60%	130%	71%	50%	140%
n-Hexane	4634381		<0.05	<0.05	NA	< 0.05	82%	50%	140%	104%	60%	130%	108%	50%	140%
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	4627927		<0.05	<0.05	NA	< 0.05	82%	50%	140%	98%	50%	140%	98%	50%	140%
Acenaphthylene	4627927		<0.05	<0.05	NA	< 0.05	107%	50%	140%	98%	50%	140%	100%	50%	140%
Acenaphthene	4627927		<0.05	<0.05	NA	< 0.05	93%	50%	140%	88%	50%	140%	85%	50%	140%
Fluorene	4627927		<0.05	<0.05	NA	< 0.05	105%	50%	140%	75%	50%	140%	80%	50%	140%
Phenanthrene	4627927		<0.05	<0.05	NA	< 0.05	89%	50%	140%	85%	50%	140%	93%	50%	140%
Anthracene	4627927		<0.05	<0.05	NA	< 0.05	108%	50%	140%	100%	50%	140%	93%	50%	140%
Fluoranthene	4627927		<0.05	<0.05	NA	< 0.05	114%	50%	140%	83%	50%	140%	78%	50%	140%
Pyrene	4627927		<0.05	<0.05	NA	< 0.05	110%	50%	140%	90%	50%	140%	83%	50%	140%
Benz(a)anthracene	4627927		<0.05	<0.05	NA	< 0.05	74%	50%	140%	113%	50%	140%	108%	50%	140%
Chrysene	4627927		<0.05	<0.05	NA	< 0.05	70%	50%	140%	95%	50%	140%	100%	50%	140%
Benzo(b)fluoranthene	4627927		<0.05	<0.05	NA	< 0.05	97%	50%	140%	93%	50%	140%	83%	50%	140%
Benzo(k)fluoranthene	4627927		<0.05	<0.05	NA	< 0.05	114%	50%	140%	113%	50%	140%	85%	50%	140%
Benzo(a)pyrene	4627927		<0.05	<0.05	NA	< 0.05	111%	50%	140%	100%	50%	140%	103%	50%	140%
Indeno(1,2,3-cd)pyrene	4627927		<0.05	<0.05	NA	< 0.05	85%	50%	140%	98%	50%	140%	93%	50%	140%
Dibenz(a,h)anthracene	4627927		<0.05	<0.05	NA	< 0.05	88%	50%	140%	105%	50%	140%	90%	50%	140%
Benzo(g,h,i)perylene	4627927		<0.05	<0.05	NA	< 0.05	104%	50%	140%	120%	50%	140%	98%	50%	140%
O. Reg. 153(511) - PCBs (Soil)															
Polychlorinated Biphenyls	4628506		< 0.1	< 0.1	NA	< 0.1	108%	50%	140%	90%	50%	140%	106%	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: Pinkal Patel

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Method Summary

CLIENT NAME: TERRAPROBE INC.

AGAT WORK ORDER: 22T982124

PROJECT: 02209049.000.0102

ATTENTION TO: Syed Ali

SAMPLING SITE:

SAMPLED BY:O.H

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	TECHNICON AUTO ANALYZER
Mercury	MET-93-6103	modified from EPA 7471B and SM 3112 B	ICP-MS
Electrical Conductivity (2:1)	INOR-93-6075	modified from MSA PART 3, CH 14 and SM 2510 B	PC TITRATE
Sodium Adsorption Ratio (2:1) (Calc.)	INOR-93-6007	modified from EPA 6010D & 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

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AGAT WORK ORDER: 22T982124

PROJECT: 02209049.000.0102

ATTENTION TO: Syed Ali

SAMPLING SITE:

SAMPLED BY:O.H

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
Polychlorinated Biphenyls	ORG-91-5113	modified from EPA SW-846 3570 & 8082A	GC/ECD
Decachlorobiphenyl	ORG-91-5113	modified from EPA SW-846 3541 & 8082A	GC/ECD
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

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Method Summary

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AGAT WORK ORDER: 22T982124

PROJECT: 02209049.000.0102

ATTENTION TO: Syed Ali

SAMPLING SITE:

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PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
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
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
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

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SAMPLING SITE:

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PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
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

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CLIENT NAME: TERRAPROBE INC.
11 INDELL LANE
BRAMPTON, ON L6T3Y3
(905) 796-2650

ATTENTION TO: Syed Ali

PROJECT: 02209049

AGAT WORK ORDER: 23T994542

SOIL ANALYSIS REVIEWED BY: Nivine Basily, Inorganics Report Writer

TRACE ORGANICS REVIEWED BY: Radhika Chakraberty, Trace Organics Lab Manager

DATE REPORTED: Feb 09, 2023

PAGES (INCLUDING COVER): 8

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.*
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Certificate of Analysis

AGAT WORK ORDER: 23T994542

PROJECT: 02209049

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Syed Ali

SAMPLING SITE:Napanee

SAMPLED BY:Syed Ali

O. Reg. 406/19 SPLP Metals

DATE RECEIVED: 2023-02-03

DATE REPORTED: 2023-02-09

		SAMPLE DESCRIPTION:		BH7-SS1	BH10-SS1	BH11-SS1
		SAMPLE TYPE:		Soil	Soil	Soil
		DATE SAMPLED:		2023-02-02	2023-02-02	2023-02-02
Parameter	**Unit**	**G / S**	**RDL**	**4744492**	**4744493**	**4744494**
Antimony Leachate	µg/L	-	0.6	<0.6	<0.6	<0.6
Arsenic Leachate	µg/L	-	5	<5	<5	<5
Barium Leachate	µg/L	-	100	<100	<100	<100
Beryllium Leachate	µg/L	-	0.8	<0.8	<0.8	<0.8
Boron Leachate	µg/L	-	500	<500	<500	<500
Cadmium Leachate	µg/L	-	0.20	<0.20	<0.20	<0.20
Chromium Leachate	µg/L	-	10	<10	<10	<10
Cobalt Leachate	µg/L	-	0.3	<0.3	<0.3	<0.3
Copper Leachate	µg/L	-	6.9	<6.9	<6.9	<6.9
Lead Leachate	µg/L	-	1.0	<1.0	<1.0	<1.0
Molybdenum Leachate	µg/L	23	1.5	<1.5	2.5	2.7
Nickel Leachate	µg/L	-	10	<10	<10	<10
Selenium Leachate	µg/L	-	5.0	<5.0	<5.0	<5.0
Silver Leachate	µg/L	0.3	0.10	<0.10	<0.10	<0.10
Thallium Leachate	µg/L	2	0.5	<0.5	<0.5	<0.5
Uranium Leachate	µg/L	-	2	<2	<2	<2
Vanadium Leachate	µg/L	-	0.6	3.3	3.3	1.9
Zinc Leachate	µg/L	-	20	<20	<20	<20

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

4744492-4744494 Leachate for metal testing was prepared in accordance with Ontario MECP Method E9003, which has been modified from SW846-1312 by Ontario MECP. MECP has recommended that Method E9003 be used for leachate testing of soil samples under O'Reg 406/19 by MECP.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 23T994542

PROJECT: 02209049

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Syed Ali

SAMPLING SITE:Napanee

SAMPLED BY:Syed Ali

O. Reg. 406/19 - SPLP VOCs

DATE RECEIVED: 2023-02-03 **DATE REPORTED: 2023-02-09**

		SAMPLE DESCRIPTION:		BH7-SS1	BH10-SS1	BH11-SS1
		SAMPLE TYPE:		Soil	Soil	Soil
		DATE SAMPLED:		2023-02-02	2023-02-02	2023-02-02
Parameter	**Unit**	**G / S**	**RDL**	**4744492**	**4744493**	**4744494**
Bromomethane Leachate	µg/L	0.5	0.20	<0.20	<0.20	<0.20
1,1-Dichloroethylene Leachate	µg/L	0.5	0.30	<0.30	<0.30	<0.30
Trans 1,2-Dichloroethylene Leachate	µg/L	0.5	0.20	<0.20	<0.20	<0.20
1,1-Dichloroethane Leachate	µg/L	0.5	0.30	<0.30	<0.30	<0.30
Cis 1,2-Dichloroethylene Leachate	µg/L	0.5	0.20	<0.20	<0.20	<0.20
Chloroform Leachate	µg/L	1	0.20	<0.20	<0.20	<0.20
1,2-Dichloroethane Leachate	µg/L	0.5	0.20	<0.20	<0.20	<0.20
Carbon Tetrachloride Leachate	µg/L	0.2	0.20	<0.20	<0.20	<0.20
1,2-Dichloropropane Leachate	µg/L	0.5	0.20	<0.20	<0.20	<0.20
Trichloroethylene Leachate	µg/L	0.5	0.20	<0.20	<0.20	<0.20
1,1,2-Trichloroethane Leachate	µg/L	0.5	0.20	<0.20	<0.20	<0.20
Ethylene Dibromide Leachate	µg/L	0.2	0.10	<0.10	<0.10	<0.10
Tetrachloroethylene Leachate	µg/L	0.5	0.20	<0.20	<0.20	<0.20
1,1,1,2-Tetrachloroethane Leachate	µg/L	0.5	0.10	<0.10	<0.10	<0.10
1,1,2,2-Tetrachloroethane Leachate	µg/L	0.5	0.10	<0.10	<0.10	<0.10
1,4-Dichlorobenzene Leachate	µg/L	0.5	0.10	<0.10	<0.10	<0.10
1,2-Dichlorobenzene Leachate	µg/L	0.55	0.10	<0.10	<0.10	<0.10
1,3-Dichloropropene Total Leachate	µg/L	0.5	0.30	<0.30	<0.30	<0.30
Surrogate	**Unit**	**Acceptable Limits**				
Toluene-d8	% Recovery	50-140		112	107	110

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

4744492-4744494 Leachate was prepared in accordance with Ontario MECP Method E9003, which has been modified from SW846-1312 by Ontario MECP. MECP has recommended that Method E9003 be used for leachate testing of soil samples under O'Reg 406/19 by MECP. This is a validated, unaccredited procedure.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: R. Chakraberty

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Quality Assurance

CLIENT NAME: TERRAPROBE INC.
PROJECT: 02209049
SAMPLING SITE:Napanee

AGAT WORK ORDER: 23T994542
ATTENTION TO: Syed Ali
SAMPLED BY:Syed Ali

Soil Analysis

RPT Date: Feb 09, 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. 406/19 SPLP Metals															
Antimony Leachate	4739040		<0.6	<0.6	NA	< 0.6	98%	70%	130%	91%	80%	120%	92%	70%	130%
Arsenic Leachate	4739040		<5	<5	NA	< 5	89%	70%	130%	103%	80%	120%	103%	70%	130%
Barium Leachate	4739040		<100	<100	NA	< 100	99%	70%	130%	104%	80%	120%	115%	70%	130%
Beryllium Leachate	4739040		<0.8	<0.8	NA	< 0.8	79%	70%	130%	86%	80%	120%	93%	70%	130%
Boron Leachate	4739040		<500	<500	NA	< 500	87%	70%	130%	94%	80%	120%	98%	70%	130%
Cadmium Leachate	4739040		<0.20	<0.20	NA	< 0.20	99%	70%	130%	100%	80%	120%	105%	70%	130%
Chromium Leachate	4739040		13	13	NA	< 10	98%	70%	130%	100%	80%	120%	101%	70%	130%
Cobalt Leachate	4739040		0.3	<0.3	NA	< 0.3	99%	70%	130%	112%	80%	120%	108%	70%	130%
Copper Leachate	4739040		<6.9	<6.9	NA	< 6.9	100%	70%	130%	102%	80%	120%	103%	70%	130%
Lead Leachate	4739040		<1.0	<1.0	NA	< 1.0	97%	70%	130%	107%	80%	120%	107%	70%	130%
Molybdenum Leachate	4739040		2.3	2.4	NA	< 1.5	100%	70%	130%	100%	80%	120%	102%	70%	130%
Nickel Leachate	4739040		<10	<10	NA	< 10	91%	70%	130%	104%	80%	120%	101%	70%	130%
Selenium Leachate	4739040		<5.0	<5.0	NA	< 5.0	97%	70%	130%	105%	80%	120%	102%	70%	130%
Silver Leachate	4739040		<0.10	<0.10	NA	0.26	92%	70%	130%	98%	80%	120%	98%	70%	130%
Thallium Leachate	4739040		<0.5	<0.5	NA	< 0.5	100%	70%	130%	113%	80%	120%	114%	70%	130%
Uranium Leachate	4739040		<2	<2	NA	< 2	99%	70%	130%	106%	80%	120%	108%	70%	130%
Vanadium Leachate	4739040		9.0	8.4	6.3%	0.6	94%	70%	130%	101%	80%	120%	100%	70%	130%
Zinc Leachate	4739040		<20	<20	NA	< 20	93%	70%	130%	98%	80%	120%	97%	70%	130%

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

Certified By:

ASSOCIATION OF THE CHEMICAL PROFESSION OF ONTARIO
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CHEMIST

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

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Quality Assurance

CLIENT NAME: TERRAPROBE INC.

PROJECT: 02209049

SAMPLING SITE:Napanee

AGAT WORK ORDER: 23T994542

ATTENTION TO: Syed Ali

SAMPLED BY:Syed Ali

Trace Organics Analysis

RPT Date: Feb 09, 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. 406/19 - SPLP VOCs															
Bromomethane Leachate	4742871		<0.20	0.00	NA	< 0.20	114%	50%	140%	111%	50%	140%	105%	50%	140%
1,1-Dichloroethylene Leachate	4742871		<0.30	0.00	NA	< 0.30	79%	50%	140%	76%	60%	130%	82%	50%	140%
Trans 1,2-Dichloroethylene Leachate	4742871		<0.20	0.00	NA	< 0.20	93%	50%	140%	84%	60%	130%	89%	50%	140%
1,1-Dichloroethane Leachate	4742871		<0.30	0.00	NA	< 0.30	93%	50%	140%	83%	60%	130%	83%	50%	140%
Cis 1,2-Dichloroethylene Leachate	4742871		<0.20	0.00	NA	< 0.20	109%	50%	140%	98%	60%	130%	94%	50%	140%
Chloroform Leachate	4742871		<0.20	0.00	NA	< 0.20	107%	50%	140%	98%	60%	130%	100%	50%	130%
1,2-Dichloroethane Leachate	4742871		<0.20	0.00	NA	< 0.20	106%	50%	140%	100%	60%	130%	98%	50%	140%
Carbon Tetrachloride Leachate	4742871		<0.20	0.00	NA	< 0.20	101%	50%	140%	104%	60%	130%	117%	50%	140%
1,2-Dichloropropane Leachate	4742871		<0.20	0.00	NA	< 0.20	116%	50%	140%	107%	60%	130%	82%	50%	140%
Trichloroethylene Leachate	4742871		<0.20	0.00	NA	< 0.20	77%	50%	140%	74%	60%	130%	100%	50%	140%
1,1,2-Trichloroethane Leachate	4742871		<0.20	0.00	NA	< 0.20	120%	50%	140%	116%	60%	130%	106%	50%	140%
Ethylene Dibromide Leachate	4742871		<0.10	0.00	NA	< 0.10	112%	50%	140%	105%	60%	130%	93%	50%	140%
Tetrachloroethylene Leachate	4742871		<0.20	0.00	NA	< 0.20	79%	50%	140%	73%	60%	130%	88%	50%	140%
1,1,1,2-Tetrachloroethane Leachate	4742871		<0.10	0.00	NA	< 0.10	85%	50%	140%	77%	60%	130%	80%	50%	140%
1,1,2,2-Tetrachloroethane Leachate	4742871		<0.10	0.00	NA	< 0.10	118%	50%	140%	114%	60%	130%	105%	50%	140%
1,4-Dichlorobenzene Leachate	4742871		<0.10	0.00	NA	< 0.10	94%	50%	140%	84%	60%	130%	92%	50%	140%
1,2-Dichlorobenzene Leachate	4742871		<0.10	0.00	NA	< 0.10	96%	50%	140%	86%	60%	130%	90%	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: R. Chakraberty

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Method Summary

CLIENT NAME: TERRAPROBE INC.

AGAT WORK ORDER: 23T994542

PROJECT: 02209049

ATTENTION TO: Syed Ali

SAMPLING SITE:Napanee

SAMPLED BY:Syed Ali

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Antimony Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B	ICP/MS
Arsenic Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B	ICP/MS
Barium Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B	ICP-MS
Beryllium Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B	ICP-MS
Boron Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B	ICP-MS
Cadmium Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B	ICP-MS
Chromium Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B	ICP-MS
Cobalt Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B	ICP-MS
Copper Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B	ICP-MS
Lead Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B	ICP-MS
Molybdenum Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B	ICP-MS
Nickel Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B	ICP-MS
Selenium Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B	ICP-MS
Silver Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B	ICP-MS
Thallium Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B	ICP-MS
Uranium Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B	ICP-MS
Vanadium Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B	ICP-MS
Zinc Leachate	MET-93-6103	modified from EPA 1312 & EPA 6020B	ICP-MS

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

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Method Summary

CLIENT NAME: TERRAPROBE INC.

AGAT WORK ORDER: 23T994542

PROJECT: 02209049

ATTENTION TO: Syed Ali

SAMPLING SITE:Napanee

SAMPLED BY:Syed Ali

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Bromomethane Leachate	VOL-91-5001	modified from EPA 1312, EPA SW-846 5030C & 8260D	(P&T)GC/MS
1,1-Dichloroethylene Leachate	VOL-91-5001	modified from EPA 1312, EPA SW-846 5030C & 8260D	(P&T)GC/MS
Trans 1,2-Dichloroethylene Leachate	VOL-91-5001	modified from EPA 1312, EPA SW-846 5030C & 8260D	(P&T)GC/MS
1,1-Dichloroethane Leachate	VOL-91-5001	modified from EPA 1312, EPA SW-846 5030C & 8260D	(P&T)GC/MS
Cis 1,2-Dichloroethylene Leachate	VOL-91-5001	modified from EPA 1312, EPA SW-846 5030C & 8260D	(P&T)GC/MS
Chloroform Leachate	VOL-91-5001	modified from EPA 1312, EPA SW-846 5030C & 8260D	(P&T)GC/MS
1,2-Dichloroethane Leachate	VOL-91-5001	modified from EPA 1312, EPA SW-846 5030C & 8260D	(P&T)GC/MS
Carbon Tetrachloride Leachate	VOL-91-5001	modified from EPA 1312, EPA SW-846 5030C & 8260D	(P&T)GC/MS
1,2-Dichloropropane Leachate	VOL-91-5001	modified from EPA 1312, EPA SW-846 5030C & 8260D	(P&T)GC/MS
Trichloroethylene Leachate	VOL-91-5001	modified from EPA 1312, EPA SW-846 5030C & 8260D	(P&T)GC/MS
1,1,2-Trichloroethane Leachate	VOL-91-5001	modified from EPA 1312, EPA SW-846 5030C & 8260D	(P&T)GC/MS
Ethylene Dibromide Leachate	VOL-91-5001	modified from EPA 1312, EPA SW-846 5030C & 8260D	(P&T)GC/MS
Tetrachloroethylene Leachate	VOL-91-5001	modified from EPA 1312, EPA SW-846 5030C & 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane Leachate	VOL-91-5001	modified from EPA 1312, EPA SW-846 5030C & 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane Leachate	VOL-91-5001	modified from EPA 1312, EPA SW-846 5030C & 8260D	(P&T)GC/MS
1,4-Dichlorobenzene Leachate	VOL-91-5001	modified from EPA 1312, EPA SW-846 5030C & 8260D	(P&T)GC/MS
1,2-Dichlorobenzene Leachate	VOL-91-5001	modified from EPA 1312, EPA SW-846 5030C & 8260D	(P&T)GC/MS
1,3-Dichloropropene Total Leachate	VOL-91-5001	modified from EPA 1312, EPA SW-846 5030C & 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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

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

Chain of Custody Record

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

Laboratory Use Only

Work Order #: 23T994542

Cooler Quantity: 1 Bag

Arrival Temperatures: 4.3 4.6 4.5

Custody Seal Intact: ☐Yes ☐No ☐N/A

Notes: No Ice

Report Information:

Company: Terraprobe Inc.
Contact: Syed Ali
Address: 11 Indell Lane
Phone: 647-517-3570 Fax:
Reports to be sent to:
1. Email: sali@terraprobe.ca
2. Email:

Regulatory Requirements:

(Please check all applicable boxes)

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

☑ Excess Soils R406
Table 1 (Indicate One)
☐ Regulation 558
☐ CCME

☐ Sewer Use
☐ Sanitary ☐ Storm
___ (Region)
☐ Prov. Water Quality Objectives (PWQO)
☐ Other
___ (Indicate One)

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

Report Guideline on Certificate of Analysis ☑ Yes ☐ No

Turnaround Time (TAT) Required:

Regular TAT ☑ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

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

OR Date Required (Rush Surcharges May Apply):

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

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

Project Information:

Project: 02209049
Site Location: Napanee
Sampled By: Syed Ali
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☐ No ☐

Company:
Contact: Sarah Quevedo
Address:
Email: squevedo@terraprobe.ca

Sample Matrix Legend

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs Analyze F4G if required ☐ Yes ☐ No	PAHs	PCBs	VOC	O. Reg 558: Landfill Disposal Characterization TCLP: TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach SPLP: ☑ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR								Potentially Hazardous or High Concentration (Y/N)
BH7-SS1	02/02/2023	AM PM	2	S										X										
BH10-SS1	1	AM PM	2	S										X										
BH11-SS1	V	AM PM	2	S										X										
		AM PM																						
		AM PM																						
		AM PM																						
		AM PM																						
		AM PM																						
		AM PM																						
		AM PM																						
		AM PM																						

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Syed Ali	03/02/2023	5:00 pm	Neil Ramnalaign		
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time

'23 FEB 3 5:26PM

Page 1 of 1

N°:

Document ID: DIV-78-1511.021

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

Date Issued: March 9, 2021

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http://www.agatlabs.com

CLIENT NAME: TERRAPROBE INC.
11 INDELL LANE
BRAMPTON, ON L6T3Y3
(905) 796-2650
ATTENTION TO: Sayed Ali
PROJECT: 02209049.000.0102
AGAT WORK ORDER: 22T982745
SOIL ANALYSIS REVIEWED BY: Amanjot Bhela, Inorganic Lab Manager
TRACE ORGANICS REVIEWED BY: Pinkal Patel, Report Reviewer
DATE REPORTED: Dec 29, 2022
PAGES (INCLUDING COVER): 10
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.*

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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Certificate of Analysis

AGAT WORK ORDER: 22T982745

PROJECT: 02209049.000.0102

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Sayed Ali

SAMPLING SITE:

SAMPLED BY:O.H

O. Reg. 558 Metals and Inorganics

DATE RECEIVED: 2022-12-21

DATE REPORTED: 2022-12-29

		SAMPLE DESCRIPTION:		TCLP
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2022-12-15
Parameter	**Unit**	**G / S**	**RDL**	**4637867**
Arsenic Leachate	mg/L	2.5	0.010	<0.010
Barium Leachate	mg/L	100	0.010	0.923
Boron Leachate	mg/L	500	0.050	<0.050
Cadmium Leachate	mg/L	0.5	0.010	<0.010
Chromium Leachate	mg/L	5	0.050	<0.050
Lead Leachate	mg/L	5	0.010	<0.010
Mercury Leachate	mg/L	0.1	0.01	<0.01
Selenium Leachate	mg/L	1	0.010	<0.010
Silver Leachate	mg/L	5	0.010	<0.010
Uranium Leachate	mg/L	10	0.050	<0.050
Fluoride Leachate	mg/L	150	0.10	0.17
Cyanide Leachate	mg/L	20	0.05	<0.05
(Nitrate + Nitrite) as N Leachate	mg/L	1000	0.70	<0.70

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to O. Reg. 558 - Schedule IV Leachate Quality Criteria
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

Amanjot Bhela

ASSOCIATION OF THE CHEMICAL PROFESSION OF ONTARIO
CHARTERED
AMANJOT BHELA
CHEMIST

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: 22T982745

PROJECT: 02209049.000.0102

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Sayed Ali

SAMPLING SITE:

SAMPLED BY:O.H

O. Reg. 558 - Benzo(a) pyrene

DATE RECEIVED: 2022-12-21

DATE REPORTED: 2022-12-29

		SAMPLE DESCRIPTION:		TCLP
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2022-12-15
Parameter	**Unit**	**G / S**	**RDL**	**4637867**
Benzo(a)pyrene Leachate	mg/L	0.001	0.001	<0.001
Surrogate	**Unit**	**Acceptable Limits**		
Acridine-d9	%	50-140		75
Naphthalene-d8	%	50-140		88
Terphenyl-d14	%	50-140		91

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to O. Reg. 558 - Schedule IV Leachate Quality Criteria
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

4637867 The sample was leached according to Regulation 558 protocol. Analysis was performed on the leachate.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

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

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Certificate of Analysis

AGAT WORK ORDER: 22T982745

PROJECT: 02209049.000.0102

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Sayed Ali

SAMPLING SITE:

SAMPLED BY:O.H

O. Reg. 558 - PCBs

DATE RECEIVED: 2022-12-21 **DATE REPORTED: 2022-12-29**

		SAMPLE DESCRIPTION:		TCLP
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2022-12-15
Parameter	**Unit**	**G / S**	**RDL**	**4637867**
PCB's Leachate	mg/L	0.3	0.005	<0.005
Surrogate	**Unit**	**Acceptable Limits**		
Decachlorobiphenyl	%	50-140		108

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to O. Reg. 558 - Schedule IV Leachate Quality Criteria
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

4637867 The soil sample was leached using the Regulation 558 procedure. Analysis was performed on the leachate.
PCB total is a calculated parameter. The calculated value is the sum of Aroclor 1242, Aroclor 1248, Aroclor 1254 and Aroclor 1260.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: Pinkal Patel

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Certificate of Analysis

AGAT WORK ORDER: 22T982745

PROJECT: 02209049.000.0102

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Sayed Ali

SAMPLING SITE:

SAMPLED BY:O.H

O. Reg. 558 - VOCs

DATE RECEIVED: 2022-12-21

DATE REPORTED: 2022-12-29

		SAMPLE DESCRIPTION:		TCLP
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2022-12-15
Parameter	**Unit**	**G / S**	**RDL**	**4637867**
Vinyl Chloride Leachate	mg/L	0.2	0.030	<0.030
1,1 Dichloroethene Leachate	mg/L	1.4	0.020	<0.020
Dichloromethane Leachate	mg/L	5.0	0.030	<0.030
Methyl Ethyl Ketone Leachate	mg/L	200	0.090	<0.090
Chloroform Leachate	mg/L	10.0	0.020	<0.020
1,2-Dichloroethane Leachate	mg/L	0.5	0.020	<0.020
Carbon Tetrachloride Leachate	mg/L	0.5	0.020	<0.020
Benzene Leachate	mg/L	0.5	0.020	<0.020
Trichloroethene Leachate	mg/L	5.0	0.020	<0.020
Tetrachloroethene Leachate	mg/L	3.0	0.050	<0.050
Chlorobenzene Leachate	mg/L	8.0	0.010	<0.010
1,2-Dichlorobenzene Leachate	mg/L	20.0	0.010	<0.010
1,4-Dichlorobenzene Leachate	mg/L	0.5	0.010	<0.010
Surrogate	**Unit**	**Acceptable Limits**		
Toluene-d8	% Recovery	50-140		99
4-Bromofluorobenzene	% Recovery	50-140		87

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to O. Reg. 558 - Schedule IV Leachate Quality Criteria
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

4637867 Sample was prepared using Regulation 558 protocol and a zero headspace extractor.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

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Quality Assurance

CLIENT NAME: TERRAPROBE INC.

PROJECT: 02209049.000.0102

SAMPLING SITE:

AGAT WORK ORDER: 22T982745

ATTENTION TO: Sayed Ali

SAMPLED BY:O.H

Soil Analysis

RPT Date: Dec 29, 2022			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. 558 Metals and Inorganics															
Arsenic Leachate	4640413		<0.010	<0.010	NA	< 0.010	97%	70%	130%	109%	80%	120%	110%	70%	130%
Barium Leachate	4640413		0.212	0.242	13.2%	< 0.010	100%	70%	130%	105%	80%	120%	107%	70%	130%
Boron Leachate	4640413		<0.050	0.054	NA	< 0.050	98%	70%	130%	105%	80%	120%	100%	70%	130%
Cadmium Leachate	4640413		<0.010	<0.010	NA	< 0.010	100%	70%	130%	104%	80%	120%	106%	70%	130%
Chromium Leachate	4640413		<0.050	<0.050	NA	< 0.050	101%	70%	130%	107%	80%	120%	99%	70%	130%
Lead Leachate	4640413		<0.010	<0.010	NA	< 0.010	100%	70%	130%	100%	80%	120%	101%	70%	130%
Mercury Leachate	4640413		<0.01	<0.01	NA	< 0.01	99%	70%	130%	101%	80%	120%	107%	70%	130%
Selenium Leachate	4640413		<0.010	<0.010	NA	< 0.010	103%	70%	130%	108%	80%	120%	115%	70%	130%
Silver Leachate	4640413		<0.010	<0.010	NA	< 0.010	98%	70%	130%	99%	80%	120%	92%	70%	130%
Uranium Leachate	4640413		<0.050	<0.050	NA	< 0.050	103%	70%	130%	117%	80%	120%	122%	70%	130%
Fluoride Leachate	4640413		0.25	0.25	NA	< 0.10	99%	90%	110%	99%	90%	110%	101%	70%	130%
Cyanide Leachate	4640413		<0.05	<0.05	NA	< 0.05	102%	70%	130%	102%	80%	120%	110%	70%	130%
(Nitrate + Nitrite) as N Leachate	4640413		<0.70	<0.70	NA	< 0.70	98%	80%	120%	96%	80%	120%	98%	70%	130%

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

Certified By:

Amanjot Bhela

CHARTERED CHEMIST AMANJOT BHELA — ASSOCIATION OF THE CHEMICAL PROFESSION OF ONTARIO

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AGAT Laboratories

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Quality Assurance

CLIENT NAME: TERRAPROBE INC.

PROJECT: 02209049.000.0102

SAMPLING SITE:

AGAT WORK ORDER: 22T982745

ATTENTION TO: Sayed Ali

SAMPLED BY:O.H

Trace Organics Analysis

RPT Date: Dec 29, 2022			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. 558 - VOCs															
Vinyl Chloride Leachate	4641154		<0.030	<0.030	NA	< 0.030	94%	50%	140%	119%	50%	140%	89%	50%	140%
1,1 Dichloroethene Leachate	4641154		<0.020	<0.020	NA	< 0.020	92%	50%	140%	95%	60%	130%	99%	50%	140%
Dichloromethane Leachate	4641154		<0.030	<0.030	NA	< 0.030	118%	50%	140%	105%	60%	130%	108%	50%	140%
Methyl Ethyl Ketone Leachate	4641154		<0.090	<0.090	NA	< 0.090	100%	50%	140%	104%	50%	140%	98%	50%	140%
Chloroform Leachate	4641154		<0.020	<0.020	NA	< 0.020	109%	50%	140%	114%	60%	130%	112%	50%	140%
1,2-Dichloroethane Leachate	4641154		<0.020	<0.020	NA	< 0.020	115%	50%	140%	114%	60%	130%	115%	50%	140%
Carbon Tetrachloride Leachate	4641154		<0.020	<0.020	NA	< 0.020	83%	50%	140%	71%	60%	130%	76%	50%	140%
Benzene Leachate	4641154		<0.020	<0.020	NA	< 0.020	105%	50%	140%	110%	60%	130%	81%	50%	140%
Trichloroethene Leachate	4641154		<0.020	<0.020	NA	< 0.020	95%	50%	140%	92%	60%	130%	80%	50%	140%
Tetrachloroethene Leachate	4641154		<0.050	<0.050	NA	< 0.050	104%	50%	140%	117%	60%	130%	112%	50%	140%
Chlorobenzene Leachate	4641154		<0.010	<0.010	NA	< 0.010	85%	50%	140%	101%	60%	130%	88%	50%	140%
1,2-Dichlorobenzene Leachate	4641154		<0.010	<0.010	NA	< 0.010	114%	50%	140%	105%	60%	130%	117%	50%	140%
1,4-Dichlorobenzene Leachate	4641154		<0.010	<0.010	NA	< 0.010	103%	50%	140%	110%	60%	130%	110%	50%	140%
O. Reg. 558 - Benzo(a) pyrene															
Benzo(a)pyrene Leachate	4643821		< 0.001	< 0.001	NA	< 0.001	81%	50%	140%	89%	50%	140%	102%	50%	140%
O. Reg. 558 - PCBs															
PCB's Leachate	4637867	4637867	< 0.005	< 0.005	NA	< 0.005	104%	50%	140%	95%	50%	140%	86%	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:

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CANADA L4Z 1Y2
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Method Summary

CLIENT NAME: TERRAPROBE INC.

AGAT WORK ORDER: 22T982745

PROJECT: 02209049.000.0102

ATTENTION TO: Sayed Ali

SAMPLING SITE:

SAMPLED BY:O.H

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

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

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TEL (905)712-5100
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Method Summary

CLIENT NAME: TERRAPROBE INC.

AGAT WORK ORDER: 22T982745

PROJECT: 02209049.000.0102

ATTENTION TO: Sayed Ali

SAMPLING SITE:

SAMPLED BY:O.H

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Benzo(a)pyrene Leachate	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
PCB's Leachate	ORG-91-5112	Regulation 558, EPA SW846 3510C/8082	GC/ECD
Decachlorobiphenyl	ORG-91-5112	EPA SW846 3510C/8082	GC/ECD
Vinyl Chloride Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
1,1 Dichloroethene Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
Dichloromethane Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
Chloroform Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
Benzene Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
Trichloroethene Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
Tetrachloroethene Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
Chlorobenzene Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene Leachate	VOL-91-5001	EPA 1311, modified from EPA 5030C & EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91- 5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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

AGAT Laboratories

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Mississauga, Ontario L4Z 1Y2
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webearth.agatlabs.com

Chain of Custody Record

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

Laboratory Use Only

Work Order #: 22T982745

Cooler Quantity:

Arrival Temperatures: 3.1 | 1.1 | 1.1

Custody Seal Intact: ☐Yes ☐No ☐N/A

Notes: on ice

Report Information:

Company: Terraprobe

Contact: Sayed Ali

Address: 111 Indel Ln, Brampton, ON L6T 3Y3

Phone: 9057962650 Fax:

Reports to be sent to:

1. Email: sali@terraprobe.ca
2. Email: mshahid@terraprobe.ca

Regulatory Requirements:

(Please check all applicable boxes)

☑ Regulation 153/04
Table 1 *Indicate One*
☐ Ind/Com
☐ Res/Park
☐ Agriculture

Soil Texture *(Check One)*
☐ Coarse
☐ Fine

☐ Excess Soils R406
Table _____ *Indicate One*

☐ Regulation 558

☐ CCME

☐ Sewer Use
☐ Sanitary ☐ Storm
_____ *Region*

☐ Prov. Water Quality Objectives (PWQO)

☐ Other
_____ *Indicate One*

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

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

Turnaround Time (TAT) Required:

Regular TAT ☑ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

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

OR Date Required (Rush Surcharges May Apply):

Please provide prior notification for rush TAT

**TAT is exclusive of weekends and statutory holidays*

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

Project Information:

Project: 02209049.000.0102

Site Location:

Sampled By: O.H

AGAT Quote #: PO:

Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☑ No ☐

Company:

Contact:

Address:

Email:

Sample Matrix Legend

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC Y/N	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs	PAHs	PCBs	VOC	Aroclors	O. Reg 558 Landfill Disposal Characterization TCLP: ☑ M&I ☑ VOCs ☐ ABNs ☑ BaP ☑ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Corrosivity: Include Moisture ☐ Sulphide ☐						Potentially Hazardous or High Concentration (Y/N)
TCLP	15/12/22	AM PM	4	Soil		N								X									
		AM PM																					
		AM PM																					
		AM PM																					
		AM PM																					
		AM PM																					
		AM PM																					
		AM PM																					
		AM PM																					
		AM PM																					
		AM PM																					

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
OMAR HAMAD	21/12/22	8:00 am			
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign): Ova Sezak	Date	Time

Page _____ of _____

N°: T - 133946

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http://www.agatlabs.com

CLIENT NAME: TERRAPROBE INC.
11 INDELL LANE
BRAMPTON, ON L6T3Y3
(905) 796-2650

ATTENTION TO: Syed Ali

PROJECT: 02209049

AGAT WORK ORDER: 23T992202

TRACE ORGANICS REVIEWED BY: Radhika Chakraberty, Trace Organics Lab Manager

WATER ANALYSIS REVIEWED BY: Amanjot Bhela, Inorganic Lab Manager

DATE REPORTED: Feb 02, 2023

PAGES (INCLUDING COVER): 14

VERSION*: 1

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

Notes

Disclaimer:

- *All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.*
- *All samples will be disposed of within 30 days following analysis, unless expressly agreed otherwise in writing. Please contact your Client Project Manager if you require additional sample storage time.*
- *AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.*
- *This report shall not be reproduced or distributed, in whole or in part, without the prior written consent of AGAT Laboratories.*
- *The test results reported herewith relate only to the samples as received by the laboratory.*
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- *All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.*

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

AGAT Laboratories is accredited to ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA) and/or Standards Council of Canada (SCC) for specific tests listed on the scope of accreditation. AGAT Laboratories (Mississauga) is also accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) for specific drinking water tests. Accreditations are location and parameter specific. A complete listing of parameters for each location is available from www.cala.ca and/or www.scc.ca. The tests in this report may not necessarily be included in the scope of accreditation. Measurement Uncertainty is not taken into consideration when stating conformity with a specified requirement.

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Certificate of Analysis

AGAT WORK ORDER: 23T992202

PROJECT: 02209049

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Syed Ali

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2023-01-27 **DATE REPORTED: 2023-02-02**

		SAMPLE DESCRIPTION:		BH1	BH2	BH4	BH5	BH6	DUP
		SAMPLE TYPE:		Water	Water	Water	Water	Water	Water
		DATE SAMPLED:		2023-01-26	2023-01-26	2023-01-26	2023-01-26	2023-01-26	2023-01-26
Parameter	**Unit**	**G / S**	**RDL**	**4723829**	**4723830**	**4723831**	**4723832**	**4723833**	**4723834**
F1 (C6 - C10)	µg/L	750	25	<25	<25	<25	<25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L	750	25	<25	<25	<25	<25	<25	<25
F2 (C10 to C16)	µg/L	150	100	<100	<100	<100	<100	<100	<100
F3 (C16 to C34)	µg/L	500	100	<100	<100	<100	<100	<100	<100
F4 (C34 to C50)	µg/L	500	100	<100	<100	<100	<100	<100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500	NA	NA	NA	NA	NA	NA
Sediment				1	1	1	3	3	3
Surrogate	**Unit**	**Acceptable Limits**							
Toluene-d8	%	50-140		109	107	108	113	100	108
Terphenyl	% Recovery	60-140		69	66	70	72	64	64

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ON T2 PGW MFT
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.

4723829-4723834 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 nC34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16 - C50 and are only determined if the chromatogram of the C34 - C50 Hydrocarbons indicated that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6-C50 results are corrected for BTEX contribution.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.
Fractions 1-4 are quantified with the contribution of PAHs. Under Ontario Regulation 153/04, results are considered valid without determining the PAH contribution if not requested by the client.
NA = Not Applicable

Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.
Legend: 1 = no sediment present; 2 = sediment present; 3 = sediment present in trace amounts

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: R. Chakraberty

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

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Certificate of Analysis

AGAT WORK ORDER: 23T992202

PROJECT: 02209049

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Syed Ali

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2023-01-27

DATE REPORTED: 2023-02-02

		SAMPLE DESCRIPTION:		TRIP BLANK
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2023-01-26
Parameter	Unit	G / S	RDL	4723835
Dichlorodifluoromethane	µg/L	590	0.40	<0.40
Vinyl Chloride	µg/L	1.7	0.17	<0.17
Bromomethane	µg/L	0.89	0.20	<0.20
Trichlorofluoromethane	µg/L	150	0.40	<0.40
Acetone	µg/L	2700	1.0	<1.0
1,1-Dichloroethylene	µg/L	14	0.30	<0.30
Methylene Chloride	µg/L	50	0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L	17	0.20	<0.20
Methyl tert-butyl ether	µg/L	15	0.20	<0.20
1,1-Dichloroethane	µg/L	5	0.30	<0.30
Methyl Ethyl Ketone	µg/L	1800	1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L	17	0.20	<0.20
Chloroform	µg/L	22	0.20	<0.20
1,2-Dichloroethane	µg/L	5	0.20	<0.20
1,1,1-Trichloroethane	µg/L	200	0.30	<0.30
Carbon Tetrachloride	µg/L	5.0	0.20	<0.20
Benzene	µg/L	5.0	0.20	<0.20
1,2-Dichloropropane	µg/L	5	0.20	<0.20
Trichloroethylene	µg/L	5	0.20	<0.20
Bromodichloromethane	µg/L	16	0.20	<0.20
Methyl Isobutyl Ketone	µg/L	640	1.0	<1.0
1,1,2-Trichloroethane	µg/L	5	0.20	<0.20
Toluene	µg/L	24	0.20	<0.20
Dibromochloromethane	µg/L	25	0.10	<0.10
Ethylene Dibromide	µg/L	0.2	0.10	<0.10
Tetrachloroethylene	µg/L	17	0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.10	<0.10
Chlorobenzene	µg/L	30	0.10	<0.10
Ethylbenzene	µg/L	2.4	0.10	<0.10
m & p-Xylene	µg/L		0.20	<0.20

Certified By: R. Chakraberty

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

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Certificate of Analysis

AGAT WORK ORDER: 23T992202

PROJECT: 02209049

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Syed Ali

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2023-01-27 **DATE REPORTED: 2023-02-02**

		SAMPLE DESCRIPTION:		TRIP BLANK
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2023-01-26
Parameter	**Unit**	**G / S**	**RDL**	**4723835**
Bromoform	µg/L	25	0.10	<0.10
Styrene	µg/L	5.4	0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	1	0.10	<0.10
o-Xylene	µg/L		0.10	<0.10
1,3-Dichlorobenzene	µg/L	59	0.10	<0.10
1,4-Dichlorobenzene	µg/L	1	0.10	<0.10
1,2-Dichlorobenzene	µg/L	3	0.10	<0.10
1,3-Dichloropropene	µg/L	0.5	0.30	<0.30
Xylenes (Total)	µg/L	300	0.20	<0.20
n-Hexane	µg/L	520	0.20	<0.20
Surrogate	**Unit**	**Acceptable Limits**		
Toluene-d8	% Recovery	50-140		102
4-Bromofluorobenzene	% Recovery	50-140		99

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ON T2 PGW MFT
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.

4723835 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: R. Chakraberty

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

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Certificate of Analysis

AGAT WORK ORDER: 23T992202

PROJECT: 02209049

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Syed Ali

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2023-01-27 **DATE REPORTED: 2023-02-02**

		SAMPLE DESCRIPTION:		BH1	BH2	BH4	BH5	BH6	DUP
		SAMPLE TYPE:		Water	Water	Water	Water	Water	Water
		DATE SAMPLED:		2023-01-26	2023-01-26	2023-01-26	2023-01-26	2023-01-26	2023-01-26
Parameter	Unit	G / S	RDL	4723829	4723830	4723831	4723832	4723833	4723834
Dichlorodifluoromethane	µg/L	590	0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Vinyl Chloride	µg/L	1.7	0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Bromomethane	µg/L	0.89	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L	150	0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Acetone	µg/L	2700	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene	µg/L	14	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Methylene Chloride	µg/L	50	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L	17	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Methyl tert-butyl ether	µg/L	15	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1-Dichloroethane	µg/L	5	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Methyl Ethyl Ketone	µg/L	1800	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L	17	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chloroform	µg/L	22	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloroethane	µg/L	5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1,1-Trichloroethane	µg/L	200	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Carbon Tetrachloride	µg/L	5.0	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Benzene	µg/L	5.0	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloropropane	µg/L	5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichloroethylene	µg/L	5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Bromodichloromethane	µg/L	16	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Methyl Isobutyl Ketone	µg/L	640	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	µg/L	5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	µg/L	24	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dibromochloromethane	µg/L	25	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ethylene Dibromide	µg/L	0.2	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Tetrachloroethylene	µg/L	17	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chlorobenzene	µg/L	30	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ethylbenzene	µg/L	2.4	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
m & p-Xylene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

Certified By: R. Chakraberty

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

AGAT Laboratories

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CANADA L4Z 1Y2
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http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 23T992202

PROJECT: 02209049

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Syed Ali

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2023-01-27 **DATE REPORTED: 2023-02-02**

		SAMPLE DESCRIPTION:		BH1	BH2	BH4	BH5	BH6	DUP
		SAMPLE TYPE:		Water	Water	Water	Water	Water	Water
		DATE SAMPLED:		2023-01-26	2023-01-26	2023-01-26	2023-01-26	2023-01-26	2023-01-26
Parameter	**Unit**	**G / S**	**RDL**	**4723829**	**4723830**	**4723831**	**4723832**	**4723833**	**4723834**
Bromoform	µg/L	25	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Styrene	µg/L	5.4	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	1	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
o-Xylene	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,3-Dichlorobenzene	µg/L	59	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,4-Dichlorobenzene	µg/L	1	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,2-Dichlorobenzene	µg/L	3	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,3-Dichloropropene	µg/L	0.5	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Xylenes (Total)	µg/L	300	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
n-Hexane	µg/L	520	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Surrogate	**Unit**	**Acceptable Limits**							
Toluene-d8	% Recovery	50-140		109	107	108	113	100	108
4-Bromofluorobenzene	% Recovery	50-140		92	96	95	92	88	90

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ON T2 PGW MFT
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.

4723829-4723834 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: R. Chakraberty

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: 23T992202

PROJECT: 02209049

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Syed Ali

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2023-01-27 **DATE REPORTED: 2023-02-02**

		SAMPLE DESCRIPTION:		BH1	BH2	BH4	BH5	BH6	DUP
		SAMPLE TYPE:		Water	Water	Water	Water	Water	Water
		DATE SAMPLED:		2023-01-26	2023-01-26	2023-01-26	2023-01-26	2023-01-26	2023-01-26
Parameter	Unit	G / S	RDL	4723829	4723830	4723831	4723832	4723833	4723834
Dissolved Antimony	µg/L	6	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Arsenic	µg/L	25	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Barium	µg/L	1000	2.0	153	146	146	173	136	129
Dissolved Beryllium	µg/L	4	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Boron	µg/L	5000	10.0	26.2	22.2	13.7	14.0	14.1	14.2
Dissolved Cadmium	µg/L	2.7	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dissolved Chromium	µg/L	50	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Cobalt	µg/L	3.8	0.50	1.59	1.75	1.21	<0.50	<0.50	<0.50
Dissolved Copper	µg/L	87	1.0	1.9	1.1	1.2	1.4	1.6	1.2
Dissolved Lead	µg/L	10	0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Molybdenum	µg/L	70	0.50	4.31	5.16	1.38	4.35	1.20	0.90
Dissolved Nickel	µg/L	100	1.0	2.9	2.5	1.5	<1.0	1.1	<1.0
Dissolved Selenium	µg/L	10	1.0	1.1	<1.0	<1.0	<1.0	1.4	1.6
Dissolved Silver	µg/L	1.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dissolved Thallium	µg/L	2	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Dissolved Uranium	µg/L	20	0.50	1.22	1.35	0.90	2.07	1.46	1.37
Dissolved Vanadium	µg/L	6.2	0.40	<0.40	<0.40	<0.40	0.80	0.49	0.55
Dissolved Zinc	µg/L	1100	5.0	<5.0	<5.0	<5.0	<5.0	<5.0	11.7
Mercury	µg/L	1	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chromium VI	µg/L	25	2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000
Cyanide, WAD	µg/L	66	2	<2	<2	<2	<2	<2	<2
Dissolved Sodium	µg/L	490000	50	19400	17900	7860	15900	11700	11400
Chloride	µg/L	790000	100	2250	2040	2460	11600	22400	22500
Electrical Conductivity	uS/cm	NA	2	758	765	670	750	803	800
pH	pH Units		NA	7.76	7.82	7.79	7.81	7.82	7.81

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ON T2 PGW MFT
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.

4723829-4723834 Metals analysis completed on a filtered sample.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

Amanjot Bhela

ASSOCIATION OF THE CHEMICAL PROFESSION OF ONTARIO
CHARTERED
AMANJOT BHELA
CHEMIST

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Quality Assurance

CLIENT NAME: TERRAPROBE INC.

PROJECT: 02209049

SAMPLING SITE:

AGAT WORK ORDER: 23T992202

ATTENTION TO: Syed Ali

SAMPLED BY:

Trace Organics Analysis

RPT Date: Feb 02, 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 VOC) (Water)															
F1 (C6 - C10)	4723834	4723834	<25	<25	NA	< 25	83%	60%	140%	86%	60%	140%	80%	60%	140%
F2 (C10 to C16)	4723833	4723833	<100	<100	NA	< 100	97%	60%	140%	70%	60%	140%	63%	60%	140%
F3 (C16 to C34)	4723833	4723833	<100	<100	NA	< 100	104%	60%	140%	72%	60%	140%	70%	60%	140%
F4 (C34 to C50)	4723833	4723833	<100	<100	NA	< 100	103%	60%	140%	76%	60%	140%	82%	60%	140%
O. Reg. 153(511) - VOCs (with PHC) (Water)															
Dichlorodifluoromethane	4723834	4723834	<0.40	<0.40	NA	< 0.40	71%	50%	140%	73%	50%	140%	72%	50%	140%
Vinyl Chloride	4723834	4723834	<0.17	<0.17	NA	< 0.17	85%	50%	140%	74%	50%	140%	85%	50%	140%
Bromomethane	4723834	4723834	<0.20	<0.20	NA	< 0.20	112%	50%	140%	94%	50%	140%	82%	50%	140%
Trichlorofluoromethane	4723834	4723834	<0.40	<0.40	NA	< 0.40	119%	50%	140%	112%	50%	140%	81%	50%	140%
Acetone	4723834	4723834	<1.0	<1.0	NA	< 1.0	103%	50%	140%	76%	50%	140%	71%	50%	140%
1,1-Dichloroethylene	4723834	4723834	<0.30	<0.30	NA	< 0.30	84%	50%	140%	95%	60%	130%	72%	50%	140%
Methylene Chloride	4723834	4723834	<0.30	<0.30	NA	< 0.30	77%	50%	140%	73%	60%	130%	76%	50%	140%
trans- 1,2-Dichloroethylene	4723834	4723834	<0.20	<0.20	NA	< 0.20	73%	50%	140%	74%	60%	130%	116%	50%	140%
Methyl tert-butyl ether	4723834	4723834	<0.20	<0.20	NA	< 0.20	110%	50%	140%	73%	60%	130%	78%	50%	140%
1,1-Dichloroethane	4723834	4723834	<0.30	<0.30	NA	< 0.30	70%	50%	140%	105%	60%	130%	95%	50%	140%
Methyl Ethyl Ketone	4723834	4723834	<1.0	<1.0	NA	< 1.0	118%	50%	140%	83%	50%	140%	98%	50%	140%
cis- 1,2-Dichloroethylene	4723834	4723834	<0.20	<0.20	NA	< 0.20	86%	50%	140%	109%	60%	130%	74%	50%	140%
Chloroform	4723834	4723834	<0.20	<0.20	NA	< 0.20	91%	50%	140%	73%	60%	130%	75%	50%	140%
1,2-Dichloroethane	4723834	4723834	<0.20	<0.20	NA	< 0.20	81%	50%	140%	105%	60%	130%	83%	50%	140%
1,1,1-Trichloroethane	4723834	4723834	<0.30	<0.30	NA	< 0.30	74%	50%	140%	75%	60%	130%	70%	50%	140%
Carbon Tetrachloride	4723834	4723834	<0.20	<0.20	NA	< 0.20	103%	50%	140%	73%	60%	130%	79%	50%	140%
Benzene	4723834	4723834	<0.20	<0.20	NA	< 0.20	81%	50%	140%	96%	60%	130%	83%	50%	140%
1,2-Dichloropropane	4723834	4723834	<0.20	<0.20	NA	< 0.20	99%	50%	140%	105%	60%	130%	98%	50%	140%
Trichloroethylene	4723834	4723834	<0.20	<0.20	NA	< 0.20	97%	50%	140%	95%	60%	130%	113%	50%	140%
Bromodichloromethane	4723834	4723834	<0.20	<0.20	NA	< 0.20	92%	50%	140%	78%	60%	130%	78%	50%	140%
Methyl Isobutyl Ketone	4723834	4723834	<1.0	<1.0	NA	< 1.0	104%	50%	140%	108%	50%	140%	93%	50%	140%
1,1,2-Trichloroethane	4723834	4723834	<0.20	<0.20	NA	< 0.20	98%	50%	140%	72%	60%	130%	91%	50%	140%
Toluene	4723834	4723834	<0.20	<0.20	NA	< 0.20	104%	50%	140%	80%	60%	130%	87%	50%	140%
Dibromochloromethane	4723834	4723834	<0.10	<0.10	NA	< 0.10	115%	50%	140%	76%	60%	130%	86%	50%	140%
Ethylene Dibromide	4723834	4723834	<0.10	<0.10	NA	< 0.10	99%	50%	140%	82%	60%	130%	113%	50%	140%
1,1,1,2-Tetrachloroethane	4723834	4723834	<0.10	<0.10	NA	< 0.10	91%	50%	140%	88%	60%	130%	106%	50%	140%
Chlorobenzene	4723834	4723834	<0.10	<0.10	NA	< 0.10	117%	50%	140%	94%	60%	130%	108%	50%	140%
Ethylbenzene	4723834	4723834	<0.10	<0.10	NA	< 0.10	105%	50%	140%	99%	60%	130%	102%	50%	140%
m & p-Xylene	4723834	4723834	<0.20	<0.20	NA	< 0.20	112%	50%	140%	112%	60%	130%	117%	50%	140%
Bromoform	4723834	4723834	<0.10	<0.10	NA	< 0.10	109%	50%	140%	95%	60%	130%	85%	50%	140%
Styrene	4723834	4723834	<0.10	<0.10	NA	< 0.10	108%	50%	140%	100%	60%	130%	115%	50%	140%
1,1,2,2-Tetrachloroethane	4723834	4723834	<0.10	<0.10	NA	< 0.10	96%	50%	140%	71%	60%	130%	84%	50%	140%
o-Xylene	4723834	4723834	<0.10	<0.10	NA	< 0.10	105%	50%	140%	114%	60%	130%	120%	50%	140%
1,3-Dichlorobenzene	4723834	4723834	<0.10	<0.10	NA	< 0.10	110%	50%	140%	104%	60%	130%	108%	50%	140%

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AGAT Laboratories

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Quality Assurance

CLIENT NAME: TERRAPROBE INC.

AGAT WORK ORDER: 23T992202

PROJECT: 02209049

ATTENTION TO: Syed Ali

SAMPLING SITE:

SAMPLED BY:

Trace Organics Analysis (Continued)

RPT Date: Feb 02, 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
1,4-Dichlorobenzene	4723834	4723834	<0.10	<0.10	NA	< 0.10	92%	50%	140%	79%	60%	130%	91%	50%	140%
1,2-Dichlorobenzene	4723834	4723834	<0.10	<0.10	NA	< 0.10	115%	50%	140%	90%	60%	130%	105%	50%	140%
n-Hexane	4723834	4723834	<0.20	<0.20	NA	< 0.20	88%	50%	140%	91%	60%	130%	78%	50%	140%

Comments: 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: R. Chakraberty

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Quality Assurance

CLIENT NAME: TERRAPROBE INC.

PROJECT: 02209049

SAMPLING SITE:

AGAT WORK ORDER: 23T992202

ATTENTION TO: Syed Ali

SAMPLED BY:

Water Analysis

RPT Date: Feb 02, 2023

PARAMETER	Batch	Sample Id	DUPLICATE Dup #1	DUPLICATE Dup #2	DUPLICATE RPD	Method Blank	REFERENCE MATERIAL Measured Value	REFERENCE MATERIAL Acceptable Limits Lower	REFERENCE MATERIAL Acceptable Limits Upper	METHOD BLANK SPIKE Recovery	METHOD BLANK SPIKE Acceptable Limits Lower	METHOD BLANK SPIKE Acceptable Limits Upper	MATRIX SPIKE Recovery	MATRIX SPIKE Acceptable Limits Lower	MATRIX SPIKE Acceptable Limits Upper
O. Reg. 153(511) - Metals & Inorganics (Water)															
Dissolved Antimony	4723829	4723829	<1.0	<1.0	NA	< 1.0	104%	70%	130%	104%	80%	120%	103%	70%	130%
Dissolved Arsenic	4723829	4723829	<1.0	<1.0	NA	< 1.0	99%	70%	130%	103%	80%	120%	103%	70%	130%
Dissolved Barium	4723829	4723829	153	155	1.3%	< 2.0	102%	70%	130%	106%	80%	120%	106%	70%	130%
Dissolved Beryllium	4723829	4723829	<0.50	<0.50	NA	< 0.50	101%	70%	130%	113%	80%	120%	108%	70%	130%
Dissolved Boron	4723829	4723829	26.2	25.6	NA	< 10.0	98%	70%	130%	105%	80%	120%	103%	70%	130%
Dissolved Cadmium	4723829	4723829	<0.20	<0.20	NA	< 0.20	99%	70%	130%	101%	80%	120%	98%	70%	130%
Dissolved Chromium	4723829	4723829	<2.0	<2.0	NA	< 2.0	95%	70%	130%	102%	80%	120%	95%	70%	130%
Dissolved Cobalt	4723829	4723829	1.59	2.10	NA	< 0.50	109%	70%	130%	99%	80%	120%	95%	70%	130%
Dissolved Copper	4723829	4723829	1.9	2.1	NA	< 1.0	99%	70%	130%	99%	80%	120%	91%	70%	130%
Dissolved Lead	4723829	4723829	<0.50	<0.50	NA	< 0.50	95%	70%	130%	96%	80%	120%	94%	70%	130%
Dissolved Molybdenum	4723829	4723829	4.31	5.17	18.1%	< 0.50	102%	70%	130%	103%	80%	120%	99%	70%	130%
Dissolved Nickel	4723829	4723829	2.9	2.5	NA	< 1.0	107%	70%	130%	98%	80%	120%	91%	70%	130%
Dissolved Selenium	4723829	4723829	1.1	1.0	NA	< 1.0	103%	70%	130%	111%	80%	120%	112%	70%	130%
Dissolved Silver	4723829	4723829	<0.20	<0.20	NA	< 0.20	106%	70%	130%	93%	80%	120%	89%	70%	130%
Dissolved Thallium	4723829	4723829	<0.30	<0.30	NA	< 0.30	97%	70%	130%	98%	80%	120%	97%	70%	130%
Dissolved Uranium	4723829	4723829	1.22	1.28	NA	< 0.50	93%	70%	130%	100%	80%	120%	99%	70%	130%
Dissolved Vanadium	4723829	4723829	<0.40	0.54	NA	< 0.40	110%	70%	130%	105%	80%	120%	100%	70%	130%
Dissolved Zinc	4723829	4723829	<5.0	<5.0	NA	< 5.0	99%	70%	130%	103%	80%	120%	98%	70%	130%
Mercury	4720734		0.05	0.04	NA	< 0.02	102%	70%	130%	101%	80%	120%	99%	70%	130%
Chromium VI	4723829	4723829	<2.000	<2.000	NA	< 2	102%	70%	130%	107%	80%	120%	104%	70%	130%
Cyanide, WAD	4723829	4723829	<2	<2	NA	< 2	107%	70%	130%	108%	80%	120%	104%	70%	130%
Dissolved Sodium	4723829	4723829	19400	19000	2.1%	< 50	103%	70%	130%	105%	80%	120%	103%	70%	130%
Chloride	4729473		154000	158000	2.6%	< 100	93%	70%	130%	104%	80%	120%	NA	70%	130%
Electrical Conductivity	4722042		873	877	0.5%	< 2	104%	90%	110%	NA			NA		
pH	4722042		7.34	7.30	0.5%	NA	99%	90%	110%	NA			NA		

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

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

Certified By: Amanjot Bhela

ASSOCIATION OF THE CHEMICAL PROFESSION OF ONTARIO CHARTERED AMANJOT BHELA CHEMIST

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Method Summary

CLIENT NAME: TERRAPROBE INC.

AGAT WORK ORDER: 23T992202

PROJECT: 02209049

ATTENTION TO: Syed Ali

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
F1 (C6 - C10)	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/FID
Toluene-d8	VOL-91- 5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F3 (C16 to C34)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F4 (C34 to C50)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	modified from MOE PHC-E3421	BALANCE
Terphenyl	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Sediment			N/A
Dichlorodifluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Vinyl Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
trans- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl tert-butyl ether	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
cis- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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

AGAT Laboratories

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Method Summary

CLIENT NAME: TERRAPROBE INC.

AGAT WORK ORDER: 23T992202

PROJECT: 02209049

ATTENTION TO: Syed Ali

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Toluene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
m & p-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

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Method Summary

CLIENT NAME: TERRAPROBE INC.

AGAT WORK ORDER: 23T992202

PROJECT: 02209049

ATTENTION TO: Syed Ali

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis			
Dissolved Antimony	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Arsenic	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Barium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Beryllium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Boron	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Cadmium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Chromium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Cobalt	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Copper	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Lead	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Molybdenum	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Nickel	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Selenium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Silver	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Thallium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Uranium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Vanadium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Zinc	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Mercury	MET-93-6100	modified from EPA 245.2 and SM 3112 B	CVAAS
Chromium VI	INOR-93-6073	modified from SM 3500-CR B	LACHAT FIA
Cyanide, WAD	INOR-93-6052	modified from ON MOECC E3015, SM 4500-CN- I, G-387	TECHNICON AUTO ANALYZER
Dissolved Sodium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP/MS
Chloride	INOR-93-6004	modified from SM 4110 B	ION CHROMATOGRAPH
Electrical Conductivity	INOR-93-6000	SM 2510 B	PC TITRATE
pH	INOR-93-6000	modified from SM 4500-H+ B	PC TITRATE

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Chain of Custody Record

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

Laboratory Use Only

Work Order #: 23T992202

Cooler Quantity:

Arrival Temperatures: 1.1 | 1.2 | 1.3

Custody Seal Intact: ☐Yes ☐No ☐N/A

Notes: Loose Seal

Report Information:

Company: Terraprobe

Contact: Saqeel Ali

Address: 11 Indel Ln, Brampton, ON L6T3Y3

Phone: 905 7962650 Fax:

Reports to be sent to:

1. Email: sali@terraprobe.ca
2. Email:

Project Information:

Project: 02209049

Site Location:

Sampled By:

AGAT Quote #: PO:

Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☑ No ☐

Company:

Contact:

Address:

Email:

Regulatory Requirements:

(Please check all applicable boxes)

☑ Regulation 153/04
Table 2 RPI *Indicate One*
☐ Ind/Com
☑ Res/Park
☐ Agriculture

Soil Texture *(Check One)*
☐ Coarse
☐ Fine

☐ Excess Soils R406
Table _____ *Indicate One*

☐ Regulation 558

☐ CCME

☐ Sewer Use
☐ Sanitary ☐ Storm
_____ *Region*

☐ Prov. Water Quality Objectives (PWQO)

☐ Other
_____ *Indicate One*

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

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

Turnaround Time (TAT) Required:

Regular TAT ☑ 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 Matrix Legend

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC Y/N	O. Reg 153 Metals & Inorganics	Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	BTEX, F1-F4 PHCs	PAHs	PCBs	VOC	Aroclors	O. Reg 558 Landfill Disposal Characterization TCLP: TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406 Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Corrosivity: Include Moisture ☐ Sulphide ☐	metals					Potentially Hazardous or High Concentration (Y/N)
BH1	26/01/2023	AM PM	13	GW		Y			X			X						X					
BH2	↓	AM PM	↓	↓		Y			X			X						X					
BH4		AM PM				Y			X			X						X					
BH5		AM PM				Y			X			X						X					
BH6		AM PM				Y			X			X						X					
DUP		AM PM				Y			X			X						X					
TRIP BLANK		AM PM	3									X											
		AM PM																					
		AM PM																					
		AM PM																					
		AM PM																					

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
OMAR HAMAD	27/01/23		NEAL	27 Jan/23	14h35m
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time

Page _____ of _____

N°: T - 142627

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CLIENT NAME: TERRAPROBE INC.
11 INDELL LANE
BRAMPTON, ON L6T3Y3
(905) 796-2650
ATTENTION TO: Sayed Ali
PROJECT: 02209049
AGAT WORK ORDER: 23T024970
SOIL ANALYSIS REVIEWED BY: Nivine Basily, Inorganics Report Writer
DATE REPORTED: May 23, 2023
PAGES (INCLUDING COVER): 8
VERSION*: 1

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

Notes

Disclaimer:

- *All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.*
- *All samples will be disposed of within 30 days following analysis, unless expressly agreed otherwise in writing. Please contact your Client Project Manager if you require additional sample storage time.*
- *AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.*
- *This report shall not be reproduced or distributed, in whole or in part, without the prior written consent of AGAT Laboratories.*
- *The test results reported herewith relate only to the samples as received by the laboratory.*
- *Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the information contained in this document.*
- *All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.*

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Western Enviro-Agricultural Laboratory Association (WEALA)
Environmental Services Association of Alberta (ESAA)

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AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 23T024970

PROJECT: 02209049

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Sayed Ali

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2023-05-15 **DATE REPORTED: 2023-05-23**

		SAMPLE DESCRIPTION:		AS01	AS02	AS03	AS04	AS05	AS06	AS07	AS08
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2023-05-15 12:00	2023-05-15 12:00	2023-05-15 12:00	2023-05-15 12:00	2023-05-15 12:00	2023-05-15 12:10	2023-05-15 12:10	2023-05-15 12:10
Parameter	**Unit**	**G / S**	**RDL**	**4991001**	**4991002**	**4991003**	**4991004**	**4991005**	**4991006**	**4991007**	**4991008**
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	3	3	5	4	5	3	4	4
Barium	µg/g	390	2.0	210	313	260	270	214	380	253	240
Beryllium	µg/g	5	0.5	0.9	1.1	1.0	1.1	0.9	1.3	1.1	1.2
Boron	µg/g	120	5	10	11	13	8	10	11	11	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	37	51	46	50	38	61	40	42
Cobalt	µg/g	22	0.8	11.1	17.6	13.7	15.4	12.7	**30.7**	13.2	12.5
Copper	µg/g	180	1.0	22.0	37.2	34.6	33.1	27.4	26.8	25.8	26.2
Lead	µg/g	120	1	14	23	35	14	29	18	17	27
Molybdenum	µg/g	6.9	0.5	0.8	<0.5	0.8	0.6	0.9	1.2	0.7	0.9
Nickel	µg/g	130	1	25	36	30	36	26	38	28	27
Selenium	µg/g	2.4	0.8	<0.8	<0.8	0.8	<0.8	<0.8	<0.8	<0.8	0.9
Silver	µg/g	25	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	0.89	0.70	1.08	0.98	0.81	1.71	0.81	1.19
Vanadium	µg/g	86	2.0	48.9	71.9	61.7	72.4	52.3	81.4	53.0	55.8
Zinc	µg/g	340	5	81	116	152	93	119	152	89	101

Certified By:

ASSOCIATION OF THE CHEMICAL PROFESSION OF ONTARIO
CHARTERED
NIVINE BASILY
CHEMIST

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: 23T024970

PROJECT: 02209049

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Sayed Ali

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2023-05-15 **DATE REPORTED: 2023-05-23**

		SAMPLE DESCRIPTION:		AS09	AS10	AS11	AS12	AS13	Dup 1	Dup 2
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2023-05-15 12:10	2023-05-15 12:10	2023-05-15 12:10	2023-05-15 12:30	2023-05-15 12:30	2023-05-15 12:30	2023-05-15 12:30
Parameter	**Unit**	**G / S**	**RDL**	**4991009**	**4991010**	**4991011**	**4991012**	**4991013**	**4991014**	**4991015**
Antimony	µg/g	7.5	0.8	<0.8	<0.8	<0.8	0.9	<0.8	<0.8	1.0
Arsenic	µg/g	18	1	5	3	3	9	4	4	10
Barium	µg/g	390	2.0	278	264	296	282	244	351	295
Beryllium	µg/g	5	0.5	1.2	1.0	1.2	1.4	1.0	1.5	1.4
Boron	µg/g	120	5	11	11	9	10	12	10	12
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	160	5	48	46	52	41	44	59	45
Cobalt	µg/g	22	0.8	15.0	14.0	18.1	14.1	13.0	19.4	15.0
Copper	µg/g	180	1.0	32.2	28.1	27.4	40.7	33.1	32.0	42.3
Lead	µg/g	120	1	30	17	14	78	27	18	87
Molybdenum	µg/g	6.9	0.5	1.1	0.6	0.7	2.0	0.9	1.0	2.2
Nickel	µg/g	130	1	32	31	34	29	27	38	31
Selenium	µg/g	2.4	0.8	<0.8	<0.8	<0.8	<0.8	1.0	0.8	1.0
Silver	µg/g	25	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Thallium	µg/g	1	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Uranium	µg/g	23	0.50	1.25	0.93	1.40	1.10	1.71	2.20	1.13
Vanadium	µg/g	86	2.0	64.8	61.3	73.4	54.4	57.7	75.7	59.0
Zinc	µg/g	340	5	161	95	110	166	127	144	173

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ON T2 S RPI MFT
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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Results relate only to the items tested. Results apply to samples as received.

Guideline Violation

AGAT WORK ORDER: 23T024970

PROJECT: 02209049

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http://www.agatlabs.com

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Sayed Ali

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
4991006	AS06	ON T2 S RPI MFT	O. Reg. 153(511) - Metals (Including Hydrides) (Soil)	Cobalt	µg/g	22	30.7

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

AGAT Laboratories

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http://www.agatlabs.com

Quality Assurance

CLIENT NAME: TERRAPROBE INC.

PROJECT: 02209049

SAMPLING SITE:

AGAT WORK ORDER: 23T024970

ATTENTION TO: Sayed Ali

SAMPLED BY:

Soil Analysis

RPT Date: May 23, 2023

PARAMETER	Batch	Sample Id	DUPLICATE Dup #1	DUPLICATE Dup #2	DUPLICATE RPD	Method Blank	REFERENCE MATERIAL Measured Value	REFERENCE MATERIAL Acceptable Limits Lower	REFERENCE MATERIAL Acceptable Limits Upper	METHOD BLANK SPIKE Recovery	METHOD BLANK SPIKE Acceptable Limits Lower	METHOD BLANK SPIKE Acceptable Limits Upper	MATRIX SPIKE Recovery	MATRIX SPIKE Acceptable Limits Lower	MATRIX SPIKE Acceptable Limits Upper
O. Reg. 153(511) - Metals (Including Hydrides) (Soil)															
Antimony	4991001	4991001	<0.8	<0.8	NA	< 0.8	100%	70%	130%	98%	80%	120%	99%	70%	130%
Arsenic	4991001	4991001	3	3	NA	< 1	117%	70%	130%	97%	80%	120%	103%	70%	130%
Barium	4991001	4991001	210	216	2.8%	< 2.0	106%	70%	130%	99%	80%	120%	101%	70%	130%
Beryllium	4991001	4991001	0.9	0.8	NA	< 0.5	106%	70%	130%	96%	80%	120%	101%	70%	130%
Boron	4991001	4991001	10	11	NA	< 5	94%	70%	130%	101%	80%	120%	97%	70%	130%
Cadmium	4991001	4991001	<0.5	<0.5	NA	< 0.5	114%	70%	130%	100%	80%	120%	95%	70%	130%
Chromium	4991001	4991001	37	37	0.0%	< 5	109%	70%	130%	102%	80%	120%	104%	70%	130%
Cobalt	4991001	4991001	11.1	11.1	0.0%	< 0.8	112%	70%	130%	99%	80%	120%	102%	70%	130%
Copper	4991001	4991001	22.0	20.8	5.6%	< 1.0	99%	70%	130%	101%	80%	120%	88%	70%	130%
Lead	4991001	4991001	14	14	0.0%	< 1	112%	70%	130%	100%	80%	120%	97%	70%	130%
Molybdenum	4991001	4991001	0.8	0.7	NA	< 0.5	114%	70%	130%	102%	80%	120%	108%	70%	130%
Nickel	4991001	4991001	25	24	4.1%	< 1	112%	70%	130%	98%	80%	120%	99%	70%	130%
Selenium	4991001	4991001	<0.8	<0.8	NA	< 0.8	101%	70%	130%	97%	80%	120%	102%	70%	130%
Silver	4991001	4991001	<0.5	<0.5	NA	< 0.5	97%	70%	130%	99%	80%	120%	89%	70%	130%
Thallium	4991001	4991001	<0.5	<0.5	NA	< 0.5	109%	70%	130%	96%	80%	120%	96%	70%	130%
Uranium	4991001	4991001	0.89	0.91	NA	< 0.50	124%	70%	130%	99%	80%	120%	107%	70%	130%
Vanadium	4991001	4991001	48.9	49.3	0.8%	< 2.0	118%	70%	130%	102%	80%	120%	106%	70%	130%
Zinc	4991001	4991001	81	82	1.2%	< 5	109%	70%	130%	102%	80%	120%	108%	70%	130%

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

Certified By:

ASSOCIATION OF THE CHEMICAL PROFESSION OF ONTARIO
CHARTERED
NIVINE BASILY
CHEMIST

AGAT Laboratories is accredited to ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA) and/or Standards Council of Canada (SCC) for specific tests listed on the scope of accreditation. AGAT Laboratories (Mississauga) is also accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) for specific drinking water tests. Accreditations are location and parameter specific. A complete listing of parameters for each location is available from www.cala.ca and/or www.scc.ca. The tests in this report may not necessarily be included in the scope of accreditation. RPDs calculated using raw data. The RPD may not be reflective of duplicate values shown, due to rounding of final results.

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

AGAT Laboratories

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

Method Summary

CLIENT NAME: TERRAPROBE INC.

AGAT WORK ORDER: 23T024970

PROJECT: 02209049

ATTENTION TO: Sayed Ali

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

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)

Laboratory Use Only

Work Order #: 23T024970

Cooler Quantity: 1 large

Arrival Temperatures: 10.5 | 10.2 | 10.7

Custody Seal Intact: ☐ Yes ☐ No ☐ N/A

Notes: Loose ice

Report Information:

Company: Terraprobe Inc

Contact: Syed Ali

Address: 11 Indel Lane Brampton ON

Phone: 905 796 2650 Fax:

Reports to be sent to:

1. Email: SAli@Terraprobe.ca
2. Email:

Project Information:

Project: 0220904q

Site Location: Napanee

Sampled By: Constantinos Kyriacou

AGAT Quote #: PO:

Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☒ No ☐

Company:

Contact:

Address:

Email:

Regulatory Requirements:

(Please check all applicable boxes)

☒ Regulation 153/04
Table 1 RPI (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

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 Matrix Legend

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	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	VOC	PAHs	PCBs	PCBs: Aroclors ☐	O. Reg 558: Landfill Disposal Characterization TCLP: 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 pH, ICPMS Metals, BTEX, F1-F4	Corrosivity: ☐ Moisture ☐ Sulphide	Metals					Potentially Hazardous or High Concentration (Y/N)
1. AS01	15/5/23	12:00 AM/PM	1	S														X					
2. AS02																							
3. AS03																							
4. AS04																							
5. AS05																							
6. AS06		12:10																					
7. AS07																							
8. AS08																							
9. AS09																							
10. AS10																							
11. AS11																							

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Constantinos Kyriacou	15/5/23	6:00	Anjan Tahir		
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time

'23 MAY 15 6:00PM

Page 1 of 2

N°: T - 143821

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AGAT Laboratories

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Ph: 905.712.5100 Fax: 905.712.5122
webearth.agatlabs.com

Chain of Custody Record

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

Laboratory Use Only

Work Order #: 23T024970

Cooler Quantity: See page 1

Arrival Temperatures:

Custody Seal Intact: ☐Yes ☐No ☐N/A

Notes:

Report Information:

Company:

Contact:

Address: See pg# 1

Phone: Fax:

Reports to be sent to:

1. Email:
2. Email:

Regulatory Requirements:

(Please check all applicable boxes)

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

☐ 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

Turnaround Time (TAT) Required:

Regular TAT ☐ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

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

OR Date Required (Rush Surcharges May Apply):

Please provide prior notification for rush TAT

**TAT is exclusive of weekends and statutory holidays*

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

Project Information:

Project:

Site Location:

Sampled By:

AGAT Quote #: PO:

Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☐ No ☐

Company:

Contact:

Address:

Email:

Sample Matrix Legend

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	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	VOC	PAHs	PCBs	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 pH, ICPMS Metals, BTEX, F1-F4	Corrosivity: ☐ Moisture ☐ Sulphide	Mo Tot					Potentially Hazardous or High Concentration (Y/N)
1. AS12	15/5/23	12:30 AM/PM	1	S														✓					
2. AS13	↓	↓	↓	↓																			
3. Dup 1	↓	↓	↓	↓																			
4. Dup 2	↓	↓	↓	↓																			
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):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
			Aniqa Tahir		
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time

'23MAY15 6:00PM

Page 2 of 2

N°: T-143445

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Date Issued: Mar 30, 2023