Terraprobe

Consulting Geotechnical & Environmental Engineering
Construction Materials Inspection & Testing

PHASE TWO
ENVIRONMENTAL SITE ASSESSMENT
PART OF LOT 4, CONCESSION 6, PART 1, PLAN 43R-20293, BLOCK 7, 8, 9 & 10 (CONVEYANCE LAND), CALEDON, ONTARIO

Prepared for:

Shacca Caledon Holdings
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Attention: Mr. Bruce McCall-Richmond, Planner

Prepared by:

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File No. 1-16-0543-42.1
December 23, 2019

1.0 EXECUTIVE SUMMARY

Terraprobe Inc. (Terraprobe) was retained by Shacca Caledon Holdings c/o Glen Schnarr & Associates Inc. to complete a Phase Two Environmental Site Assessment (ESA) of the Property identified as Part of Lot 4, Concession 6, Part 1, Plan 43R-20293, Block 7, 8, 9 &10, Caledon, Ontario (Property). The Property is a strip of land (approximately 2.6 m to 3 m wide) located along Airport Road and Walker Road West at the northwest corner of the intersection between Walker Road West and Airport Road in the Town of Caledon, Ontario. Access to the Property is via Airport Road.

The Property is irregular in shape, and covers an area of approximately 0.1 ha (approximately 0.25 acres) The Property is currently an undeveloped vacant land comprised of landscaped and wooded areas. The surrounding area is predominantly used for residential purposes. The Property is currently considered to be "Agricultural or Other Use" as per Ontario Regulation 153/04 (O.Reg. 153/04).

The Property is to be conveyed to the Region of Peel (the “Region”) for road widening. The Region has identified the requirements for a Phase One and Phase Two ESA completed in accordance with O. Reg 153/04, as amended, as a condition for site plan approval process.

Terraprobe conducted an Updated Phase One ESA and Updated Phase Two ESA of a larger area in December 2019 including the Property. The Updated Phase One ESAs identified an Area of Potential Environmental Concern (APEC) at the Property and recommended to conduct a Phase Two ESA to investigate the identified APEC.

Areas of Potential Environmental Concern

The identified areas of potential environmental concern (APEC) and potential contaminants of concern (PCOC) are summarized below.

APEC	Location of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity	Location of PCA	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, Soil and/or Sediment)
APEC-1	South Central Portion of the Property (Block 9)	PCA # 28 – Gasoline and Associated Products Storage in Fixed Tanks	On-Site (PCA1)	Petroleum Hydrocarbons (PHCs) + Benzene, Toluene,	Soil & ground water

This Phase Two ESA was conducted in accordance with the Phase Two ESA standards as defined by Ontario Regulation 153/04, as amended (O/Reg. 153/04), and in accordance with generally accepted professional practices.

The scope of work for the Phase Two ESA was developed based on the results of the previous Phase One ESA and Phase Two ESA completed at the larger property by Terraprobe in 2017 and the Updated Phase

One ESA completed in December 2019. A total of five (5) boreholes were advanced on the Property and four (4) were also installed with monitoring wells.

Based upon the results of the Phase Two ESA, the following conclusions are presented:

- The general stratigraphy at the Property, as observed in the boreholes, consists of a surficial layer of topsoil underlain by native deposits of silty sand to sand and silt, which extended to the full depth of investigation.
- The depth to ground water in monitoring wells installed on the Property ranged between approximately 1.7 m to 3.5 m below grade. Based on the groundwater elevation contours, the direction of ground water flow is towards the south/southeast.
- The applicable Site Condition Standards (SCS) are the Ontario Ministry of the Environment, Conservation and Parks Standards identified as Table 1 Full Depth Background Site Condition Standards for Residential/Parkland/Institutional land use.
- The parameters analysed for soil samples included: petroleum hydrocarbons (fraction F1 to F4), BTEX compounds, metals and inorganics and pH.
- All analytical soil sample results met the MECP Table 1 Site Condition Standards (SCS) for Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use for the analysed parameters.
- The ground water samples were collected from three (3) monitoring wells and analysed for PHCs and BTEX. The results of the ground water samples met the applicable Table 1 Standards for all analysed parameters.

Based on the results of the Phase Two ESA, there is no soil and ground water samples with contaminants found at levels exceeding the SCS, therefore, no contaminants are found in, at or under the Property. Based on the findings of the Phase Two ESA, the environmental status of the Property is considered to meet the applicable MECP Table 1 SCS. A Record of Site Condition can be filed for the Property at this time.

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2.0 INTRODUCTION

Terraprobe Inc. (Terraprobe) was retained by Shacca Caledon Holdings c/o Glen Schnarr & Associates Inc. to complete a Phase Two Environmental Site Assessment (ESA) of the Property identified as Part of Lot 4, Concession 6, Part 1, Plan 43R-20293, Block 7, 8, 9 & 10, Caledon, Ontario (Property). The Property is a strip of land (approximately 2.6 m to 3 m wide) located along Airport Road and Walker Road West at the northwest corner of the intersection between Walker Road West and Airport Road in the Town of Caledon, Ontario. Access to the Property is via Airport Road.

The Property is irregular in shape, and covers an area of approximately 0.1 ha (approximately 0.25 acres) The Property is currently an undeveloped vacant land comprised of landscaped and wooded areas. The surrounding area is predominantly used for residential purposes. The Property is currently undeveloped/vacant in land and considered to be "Agricultural or Other Use" as per Ontario Regulation 153/04 (O.Reg. 153/04).

The Property is to be conveyed to the Region of Peel (the “Region”) for road widening. The Region has identified the requirements for a Phase One and Phase Two ESA completed in accordance with O. Reg 153/04, as amended, as a condition for site plan approval process.

Terraprobe conducted an Updated Phase One ESA and Updated Phase Two ESA of a larger area including the Property in December 2019. The Updated Phase One ESAs identified an Area of Potential Environmental Concern (APEC) at the Property and recommended to conduct a Phase Two ESA to investigate the identified APEC.

The Phase Two ESA was conducted to assess the soil and ground water quality on the Property in the areas of potential environmental concerns and to determine what, if any, requirements exist for further investigation and/or remediation.

2.1 Site Description

The Property is currently an undeveloped landscaped and wooded area. The surrounding area is predominantly used for residential purposes. The location of the Property is shown in Figure 1. General site features are presented on the Site and Borehole/Monitoring Well Location Plan (Figure 3).

2.2 Phase Two Property Information

The Property information is provided in the following Table.

Municipal Address	**NA**
Legal Description	Part Lot 4 Con 6, EHS, Part 1, Plan 43R-20293, Block 7, 8, 9 & 10, Town of Caledon, Regional Municipality of Peel
PIN	14289-0188 (LT) and 14289-0186 (LT)
Zoning	Rural Residential (A2)

Property Owner Information	Shacca Caledon Holdings 210 Drumline Circle, Unit #1, Concord, Ontario Contact: Ugo Gulia

2.3 Current and Proposed Future Uses

The Property is currently an undeveloped land comprised of landscaped and wooded areas. The Property is to be conveyed to the Region. The Region has identified the requirement for a Phase One Environmental Site Assessment (ESA) to be completed in accordance with Ontario Regulation 153/04, as amended, as a condition for the site plan approval process.

2.4 Applicable Site Condition Standard

The applicable Site Condition Standards (SCS) for the Subject Property were considered to be those contained in Table 1 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 Full Depth Background Site Condition Standards for Residential/Parkland/Institutional/Industrial/Commercial/Community lane use. This is considered to be the applicable Standard for the Property based on the following reasons:

- The intended use for the Property is residential.
- The Property is located within a rural area, where domestic water use may be supplied from local groundwater
- The Property is not located within 30 m of a surface water body.
- Bedrock across the Property is found at depths of greater than 2 m.
- Soil at the property was found to be coarse textured based on a review of the soil samples collected from the boreholes and the results of grain size analyses of representative soil samples on the Property.
- The soil pH was between 6 to 9 for surficial soils, and between 5 to 11 for subsurface soils.
- TRCA classified the western portion of the Property as a Locally Significant Wetland associated with the Caledon East Wetland Complex of the Humber River Watershed.

3.0 BACKGROUND INFORMATION

3.1 Physical Setting

The Property consists of gently rolling land with a maximum topographic relief of approximately 5 m. The elevation of the ground surface at the Property varies from 296 to 291 masl and slopes gently to the east-southeast towards Innis Lake & Widget Lake.

The Property is located within the watershed of the Humber River. The nearest surface water body is Innis Lake and Widget Lake, which are located approximately 1.9 km southeast and 2.1 km east of the Property, respectively. Groundwater is expected to follow the local topography and flow towards the east-southeast.

There are no permanent water courses found at the Property. Based on communication with Nicholas Carscone from the Toronto Region and Conservation Authority (TRCA), the southwestern portion of the Property is classified as a Provincially Significant Wetland (PSW) by the TRCA. However, the Ministry of the Natural Resources (MNRF) Heritage information database classifies the southwestern portion of the Property as a Non-Provincially Significant Wetland. All surface water runoff flows towards the swale in the east, which runs along Airport Road, and ultimately discharges into the municipal sewer system.

The Property is situated within a physiographic region of Ontario known as the Niagara Escarpment. The overburden geology of Property is comprised of glaciofluvial ice contact deposits consisting of sand & gravel, with minor amounts of silt, clay and till. The bedrock on the Site is comprised of shale, limestone, dolostone and siltstone, part of the Queenston Formation (55a). Based on the Ministry of the Environment, Conservation and Parks (MECP) water well records, the bedrock is approximately 24 m below the ground surface.

3.2 Past Investigations

Previous investigations for the Property, which were completed by Terraprobe, are summarized below:

Report Title	Phase One Environmental Site Assessment 16114 Airport Road, Caledon, Ontario
Report Date	January 5, 2017
Prepared By	Terraprobe Inc. (Report Authors- Shama M. Qureshi, P.Eng., P.Geo., $QP_{RA,}$ Muhammad Shahid, P. Geo, QP_{ESA}, and Ahmad Sarwar, B.Sc., G.I.T.)
Prepared For	Shacca Caledon Holdings c/o Glen Schnarr & Associates Inc.

- A Phase One ESA was completed for a larger property including the Property as per the requirement of O.Reg. 153/04. The Phase One Environmental Site Assessment (ESA) identified the following Areas of Potential Environmental Concern (APEC) on the Phase One Property:

APEC	Location of APEC on the property	Details	Potential Contaminants of Concern (PCoCs)	Media Potentially Impacted
APEC 1	Eastern Portion of the property	PCA # 30 - Importation of Fill Material of Unknown Quality	Metals & Inorganics	Soil
APEC 2	South Central Portion of property	Other 1 - Ontario Spills	Petroleum Hydrocarbons (PHCs) + BTEX	Soil & Ground Water

- A Phase Two ESA would be recommended to investigate the APECs that have been identified on the property.

Report Title	Phase Two Environmental Site Assessment 16114 Airport Road, Caledon, Ontario
Report Date	February 8, 2017
Prepared By	Terraprobe Inc. (Report Authors- Shama M. Qureshi, P.Eng., P.Geo., $QP_{RA,}$ Muhammad Shahid, P. Geo, QP_{ESA}, and Ahmad Sarwar, B.Sc., G.I.T.)
Prepared For	Shacca Caledon Holdings c/o Glen Schnarr & Associates Inc.

- The Phase Two Environmental Site Assessment (ESA) was completed for a larger property including the Property as per the requirement of O.Reg. 153/04. The Phase Two ESA was conducted to investigate the two APECs identified the Property during the Phase One ESA.
- The investigation consisted of drilling of twenty one (21) boreholes and installation of nine (9) monitoring wells on the Property. The soil stratigraphy generally consisted of surficial layer of topsoil underlain by silty sand to sandy silt earth fill, which is underlain by native deposits of sand, sandy silt to silt and sand.
- The ground water elevation contours indicated that the direction of ground water flow is towards east/southeast.
- The applicable Site Condition Standards (SCS) are the Ontario Ministry of the Environment, Conservation and Parks (MECP) Standards identified as Table 2 Standards for Residential/Parkland/Institutional Property Use in a potable ground water condition.
- The parameters analysed for soil samples included: petroleum hydrocarbons (fraction F1 to F4), BTEX compounds, metals and inorganics and pH.
- All analytical soil sample results met the MECP Table 2 Site Condition Standards (SCS) for Residential Property Use for the analysed parameters.
- The ground water samples were collected from three (3) monitoring wells and analysed for PHCs and BTEX. The results of the ground water samples met the applicable Table 2 Standards for all analysed parameters.

- Based on the findings of the Phase Two ESA, the environmental status of the Property is considered to meet the applicable MECP Table 2 SCS.

Report Title	Updated Phase One Environmental Site Assessment 16114 Airport Road, Caledon, Ontario
Report Date	December 4, 2019
Prepared By	Terraprobe Inc. (Report Authors- Muhammad Shahid, P. Geo, QP_{ESA}, and Jessie Hui Chung Wu, M. Env. Sc.)
Prepared For	Shacca Caledon Holdings c/o Glen Schnarr & Associates Inc.

- An Updated Phase One Environmental Site Assessment (ESA) was completed for the larger property including the Property (Block 7, 8, 9 & 10) as per the requirement of O.Reg. 153/04.
- A Geophysical Survey was conducted on the Property in the vicinity of the building and identified a suspected underground storage tank (UST). Based on the geophysical survey, a potential UST anomaly was detected approximately 2 m south and 1.4 m west of southeast corner of the building.
- An excavation was conducted to remove the suspected UST on December 3, 2019. Upon excavation, the buried tank was identified to be an abandoned historical septic tank and not a fuel oil tank. The abandoned septic tank was decommissioned and removed off site. The excavation was filled and graded using soil on-site from adjacent areas.
- Off-site PCA - #28 - Gasoline and Associated Products Storage in Fixed Tanks. An above ground storage tank was observed adjacent to the south-central portion of the Property at 7 Walker Road.
- The off-site PCA cause an Area of potential Environmental Concern (APEC) on the Property that need to be investigated through a Phase Two ESA prior to filing of a Record of Site Condition (RSC).

Report Title	Updated Phase Two Environmental Site Assessment 16114 Airport Road, Caledon, Ontario
Report Date	December 13, 2019
Prepared By	Terraprobe Inc. (Report Authors- Muhammad I. Shahid, P. Geo, QP_{ESA}, and Jessie Hui Chung Wu, M. Env. Sc.)
Prepared For	Shacca Caledon Holdings c/o Glen Schnarr & Associates Inc.

- The Updated Phase Two Environmental Site Assessment (ESA) was completed for a larger property including the Property as per the requirement of O.Reg. 153/04. The Updated Phase Two ESA included additional investigation to address the additional APEC identified at the property during the Updated Phase One ESA (noted above) and to address the Region of Peel's comments on the previous Phase Two ESA report.

- The additional investigation consisted of drilling of additional six (6) boreholes that were equipped with monitoring wells. The soil stratigraphy generally consisted of surficial layer of topsoil underlain by native deposits of sand, sandy silt to silt and sand.
- The ground water elevation contours indicated that the direction of ground water flow is towards east/southeast.
- The applicable Site Condition Standards (SCS) were considered to be the MECP Standards identified as Table 1 Full Depth Background Site Condition Standards for Residential/Parkland/Institutional/Industrial/Commercial/Community land use.
- The parameters analysed for soil samples included: petroleum hydrocarbons (fraction F1 to F4), BTEX compounds, metals and inorganics and pH.
- All analytical soil sample results met the MECP Table 1 Site Condition Standards (SCS) for Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use for the analysed parameters.
- The ground water samples were collected from nine (9) monitoring wells (3 previous and 6 newly installed wells) and analysed for PHCs and BTEX. The results of the ground water samples met the applicable Table 1 Standards for all analysed parameters.
- The Phase Two ESA also addressed the off-site PCA - #28 - Gasoline and Associated Products Storage on the ad

Based on the findings of the Updated Phase Two ESA, the environmental status of the property was considered to meet the applicable MECP Table 1 SCS.

4.0 SCOPE OF THE INVESTIGATION

4.1 Overview of Site Investigation

The scope of the Phase Two ESA was determined to assess the soil and ground water quality at the Property, based on the findings of the Phase One ESA completed at the Property.

Terraprobe conducted the following work at the Property as part of the Phase Two ESA:

2016 Investigation

- Drilling of a total of twenty one (21) boreholes on the larger site which included the Phase Two Property. The drilling was carried out in conjunction with the geotechnical and hydrogeological investigations. Two (2) boreholes (BH2 and BH3D) were located within the Phase Two Property (conveyance land - Block 7 to 10).
- Borehole BH3D was also installed with a monitoring well to determine ground water direction on the Property.

2019 Investigation

- Drilling of a total of three (3) boreholes on the Property. The drilling was carried out in conjunction with the subsurface investigations conducted on a larger property which included the Phase Two Property.

- Installation of a ground water monitoring well in three (3) boreholes to investigate the ground water condition at the Property.
- Analysed ten (10) selected soil samples including quality control/quality assurance (QC/QA), petroleum hydrocarbons (PHCs F1 to F4), BTEX, metals & inorganics, and pH.
- Submission of four (4) ground water samples from three (3) installed monitoring wells, including QC/QA to AGAT Laboratories for chemical analysis of PHCs (F1-F4), benzene, toluene, ethylbenzene and xylene (BTEX).
- Surveying the monitoring wells and measuring the ground water levels for identification of the ground water flow direction.
- Reviewing the analytical results and comparing with the applicable MECP Standards.
- Summarizing the result of investigation in a report format.

4.2 Media Investigated

Sampling was conducted for soil and ground water on the subject Property. No surface water was present on the Property; therefore, surface water or sediment sampling was not conducted. Soil sampling was conducted during the drilling program by Percussion Dual Tube Sampler (PDTS). Ground water samples were obtained from the monitoring wells using conventional sampling techniques. The seasonal variation in concentrations was not monitored, as only one set of ground water samples was collected during this investigation. However, no significant variations in concentrations are anticipated.

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 B. and the PCA and APEC locations are provided in Figure 2.

4.4 Deviations from Sampling and Analysis Plan

No deviations from the sampling and analysis plan were made during the investigation. Sample and Analysis Plan is provided in Appendix C.

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 Field Investigation Protocol is presented in Appendix D.

5.2 Drilling

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

Borehole	BH2, BH3D	BH1-19 to BH3-19
Monitoring Wells	BH3D	BH1-19 to BH3-19
Date of Work	October 4 and 6, 2016	October 1 and 2, 2019
Name of Contractor	DBW Drilling Ltd.	Kodiak Drilling
Equipment Used	CME 55 track mounted, split spoon sampling	Geoprobe track mounted, dual tube sampling
Decontamination Measures	Split spoons are washed between samples. New dual tube samplers are used between samples.	
Sampling Frequency	Please refer to the borehole logs in Appendix E for the sampling frequency	

5.3 Soil Sampling

5.3.1 Equipment Used

- Laboratory supplied sampling containers
- Nitrile gloves
- Cooler with loose ice
- Mini Rae Photo-Ionization Detector (PID)

5.3.2 Geological Description of Soil

Please refer to the borehole logs in Appendix E 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, Conservation and Parks.

Samples were screened using a Mini Rae Photo-Ionization Detector. The monitor has a range of 0 parts per million (ppm) to 10,000 ppm and an accuracy of +/- 5%. The monitor was calibrated with isobutylene gas prior to field screening as per the calibration procedure outlined by RAE Systems in "*Mini Rae 2000 Portable VOC Monitor Operation and Maintenance Manual, Rev. E*" released May, 2005.

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 E.

5.5 Ground Water Monitoring Well Installation

A total of four (4) groundwater monitoring wells were installed for ground water monitoring and environmental sampling. One monitoring wells were installed by DBW Drilling Ltd. in 2016 and the three (3) monitoring wells were installed by Kodiak Drilling in 2019. Both were licensed well contractor. This was performed under the full-time supervision of a Terraprobe field technician.

The well construction materials consisted of 2" (50 mm) diameter PVC well materials (bottom caps, 3 m long well screen and appropriate lengths of riser pipe). The PVC well construction materials were received on-site in individually wrapped and sealed plastic sleeves. Filter sand was placed around the well screen to approximately 600 mm above the top of the screen. The remainder of the well was backfilled with bentonite to the ground surface. The monitoring wells were completed with an above ground stickup pipe.

Upon completion the wells were tagged and filed with the Ontario Ministry of the Environment, Conservation and Parks (MECP). The monitoring well installation details are provided on borehole logs in Appendix E. The monitoring well locations are provided on Figure 3.

5.6 Ground Water Field Measurement of Water Quality Parameters

Field measurement 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.

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. No requirement for sediment sampling was identified as there was no surface water bodies (creeks, ponds, lakes) found on the Property.

5.9 Analytical Testing

The soil and ground water analyses were completed by AGAT Laboratories, located at 5835 Coopers Avenue in Mississauga, Ontario. AGAT Laboratories is accredited of approved for specific analyses by the following national or provincial (Ontario) agencies:

The Canadian Association for Laboratory Accreditation (CALA)

The Standards Council of Canada (SCC)

Canadian Council of Ministers of the Environment (CCME)

Ontario Ministry of the Environment, Conservation and Parks

Ontario Ministry of Environment Drinking Water Testing License Laboratories Limited

5.10 Residue Management Procedures

Soil cuttings from the drilling were placed on the Property. The development and purge water generated during the ground water sampling events was disposed of to the ground surface.

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 E.

5.12 Quality Assurance and Quality Control Measures

5.12.1 Containers, Labelling, Handling and Chain of Custody

Containers

The following laboratory supplied sample containers were used for all sampling conducted on the Property.

Soil Parameters	**Container**
Chloride, electrical conductivity	250 mL glass jar, Teflon lined lid
Cyanide (CN−)	250 mL glass jar, Teflon lined lid
Hexavalent chromium	250 mL glass jar, Teflon lined lid
Metals (includes hydride-forming metals, SAR, HWS boron, calcium, magnesium, sodium)	250 mL glass jar, Teflon lined lid
Mercury, methyl mercury	250 mL glass jar, Teflon lined lid
pH	250 mL glass jar, Teflon lined lid
BTEX, PHCs (F1), THMs, VOCs	40–60 mL glass vial (charged with methanol preservative, pre- weighed) and glass jar (for moisture content)
PHCs (F2–F4)	120 mL glass jar, Teflon lined lid
Ground Water Parameters	**Container**
BTEX, PHCs (F1),THMs, VOCs;	40–60 mL glass vials (minimum of 2)
PHCs (F2–F4)	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.
- Where ground water samples are to be analyzed for volatile organic compounds one trip blank sample was submitted for laboratory analysis with each laboratory submission.
- 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 prior to 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 E. 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 Material in Geological Units

Surficial Materials

A surficial layer of topsoil was encountered at all borehole location. The thickness of the topsoil is ranged between 50-220 mm. The topsoil layer was underlain by native soils.

Earth Fill

No earth fill was encountered during the Phase Two investigation.

Native Soils

Native soil deposits were encountered underlying the topsoil at all borehole location and extended to full depth of investigation (up to 5.9m below ground surface). The native soils generally consisted of silty sand to sand and silt. The native soils were compact to dense, brown to grey and moist to wet.

Bedrock

Bedrock was not encountered during the Phase Two investigation.

6.1.4 Properties of Aquifers and Aquitards

Native Soil

The native soil consisting of cohesionless deposit of silty sand to sand and silt layer is considered to be an aquifer. Recharge into the aquifer will be primarily through rain fall events and migration from the north adjoining properties. The water elevation taken within each of the three monitoring wells indicated that the silty sand to sand layer is an aquifer.

6.1.5 Rationale for Choice of Aquifers and Aquitards Investigated

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

- The likelihood of vertical migration of water from the fill material downward
- 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 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 Thickness of Free Flowing Product

No free flowing product was encountered on the Property.

6.2.4 Ground Water Elevations

Ground water elevations are presented on Table 3.

6.2.5 Interpreted Direction of Ground Water Flow

Based on the October 9, 2019 readings, the interpreted direction of ground water flow is to the south/southeast. It should be noted that the water levels may not have stabilized. The inferred ground water direction is expected to be southeast towards the Lake Ontario. Ground water flow direction and ground water elevation contours are presented on Figure 4.

6.3 Ground Water Hydraulic Gradients

Horizontal hydraulic gradient was estimated for the water table aquifer based on the ground water elevation contour prepared for the Property to assess the groundwater flow direction.

The horizontal hydraulic gradient is calculated using the following equation:

$$i = \Delta h/\Delta s$$

Where,

i = horizontal hydraulic gradient;

Δh (m) = groundwater elevation difference; and,

Δs (m) = separation distance.

Based on the available information, horizontal hydraulic gradient of ground water is estimated at 0.003 in a southeast direction.

It is noted that vertical hydraulic gradients were not evaluated for the Property as a second water bearing unit was not encountered at the depths investigated at the Property.

6.4 Soil Texture

Fine-medium soil texture was not used during the Phase Two ESA. All chemical results were compared to the coarse textured standards.

6.5 Soil Field Screening

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 significant concentration of volatile compounds. The maximum headspace reading recorded during this investigation was less than 30 ppm. The headspace readings are shown on the borehole logs in Appendix E.

6.6 Soil Quality

6.6.1 Location and Depth of Samples

Soil sampling was conducted during October 1, 2019. Based on scope of work and the field screening, a total of 8 soil samples were submitted for chemical analysis of petroleum hydrocarbons PHCs (F1-F4), metals, hydride-forming metals (As, Sb, Se), boron, hot-water soluble (B-HWS), cyanide (CN-), mercury (Hg), chromium hexavalent (Cr(VI)), pH, benzene, toluene, ethylbenzene, and xylene (BTEX) parameters. A summary of the soil samples and selected analyses is presented below.

No.	Sample ID	Sample Depth		Parameter Analysed (O.Reg. 153/04 as amended)
		(mbgs)*	(masl)*	
1	BH1-19/CS#1A and DUP#1	0 – 0.8	294.5 – 293.8	Metals, As, Sb, Se, B-HWS, CN-, Hg, Cr(VI), pH
2	BH2-19/CS#1A	0 – 0.8	292.7 – 292	Metals, As, Sb, Se, B-HWS, CN-, Hg, Cr(VI), pH
3	BH3-19/CS#1A	0 – 0.8	291.7 – 290.9	Metals, As, Sb, Se, B-HWS, CN-, Hg, Cr(VI), pH
4	BH3-19/CS#4B and DUP1	5.2 – 5.8	286.5 – 285.9	pH
5	BH1-19/CS#3 and DUP#2	3.0 – 3.8	291.5 – 290.7	PHCs (F1 to F4), BTEX
6	BH2-19/CS#3A	3.0 – 3.8	289.7-288.9	PHCs (F1 to F4), BTEX
7	BH3-19/CS#2B	2.3 – 3.0	289.4 – 288.6	PHCs (F1 to F4), BTEX

Note: mbgs – metre below ground surface; masl – metre above sea level

6.6.2 Comparison to Applicable Standards (Soil)

Select soil samples were analysed for the Potential Contaminants of Concern (PCoCs). PCoCs include:

- Hydride-forming Metals
  - As, Sb, Se
- Selected Other Regulated Parameters (ORPs)
  - B-HWS, CN-, Hg, Cr(VI), pH
- Petroleum Hydrocarbons (PHCs)
- Benzene, Toluene, Ethylbenzene, Xylene (BTEX)

The results of the analysis were compared to the applicable MECP site condition standard for the Property (Table 1 RPI). The chemical results indicated that all analyzed parameters in the soil samples met the Table 1 RPI standards. The laboratory certificates of analysis are provided in Appendix G, and the results of the soil chemical analysis are provided in Tables 4 to 5.

6.6.3 Contaminants of Concern (Soil)

No Contaminants of Concern (CoCs) are associated with the soil on the Property.

6.6.4 Chemical or Biological Transformations

No chemical or biological transformations are likely to occur on the Property.

6.6.5 Contamination Impact On Other Media

It is unlikely that contamination impact on other media will occur on the Property.

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.

6.7 Ground Water Quality

6.7.1 Location and Depth of Sample Locations (Ground Water)

Ground water sampling was completed for the three monitoring wells (BH1-19, BH2-19 & BH3-19) on the Property. Ground water samples were analysed for parameters including PHCs and BTEX. The laboratory certificates of analysis are provided in Appendix G.

Sample ID	Screen/Sample Depth		Parameter Analysed (O.Reg. 153/04 as amended)
	(mbgs)	(masl)	

Sample ID	Screen/Sample Depth		Parameter Analysed (O.Reg. 153/04 as amended)
	(mbgs)	(masl)	
BH1-19	2.3 – 5.3	292.2 – 289.2	PHC (F1-F4) + BTEX
BH2-19 and DUP#1	1.5 – 4.6	291.2 – 288.1	PHC (F1-F4) + BTEX
BH3-19	2.3 – 5.4	289.4 – 286.3	PHC (F1-F4) + BTEX

Note: mbgs – metre below ground surface; masl – metre above sea level

6.7.2 Field Filtering

No field filtering was required for ground water sampling.

6.7.3 Comparison to Applicable Standards (Ground Water)

Ground water samples were analysed for the PCoCs. PCoCs include:

- Petroleum Hydrocarbons (PHCs)
- Benzene, Toluene, Ethylbenzene, Xylene (BTEX)

The results of the analysis were compared to the applicable site condition standard for the Property (Table 2). The laboratory certificates of analysis are provided in Appendix G, and the results of the ground water chemical analysis are provided in Tables 6 and 7.

6.7.4 Contaminants of Concern (Ground Water)

No Contaminants of Concern associated with the ground water on the Property at the locations investigated.

6.7.5 Chemical or Biological Transformations

No Contaminants of Concern associated with the ground water on the Property at the locations investigated and 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 at the locations investigated.

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

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. In general, 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. Overall quality of the field data from the investigation was good, and the objectives of the investigation were met.

6.9.2 Samples Not Handled in Accordance with the Analytical Methods

Holding Time

All samples met the holding times as specified in Ontario Ministry of the Environment and Climate Change (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 G to the Phase Two ESA report.

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 ground water 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.

6.10 Phase Two Conceptual Site Model

This Phase Two Conceptual Site Model (CSM) provides a narrative, graphical and tabulated description integrating information related to the Site geologic and hydrogeologic conditions, Potentially Contaminating Activities (PCAs) and Areas of Potential Environmental Concern (APECs), and the presence and distribution of potential contaminants of concern. The presentation of the Phase Two CSM makes reference to the attached Figures 1 to 7 and is shown in Appendix H.

7.0 CONCLUSIONS

The scope of work for the Phase Two ESA was developed based on the results of the previous Phase One ESA and Phase Two ESA completed at the larger property by Terraprobe in 2017 and the Updated Phase One ESA completed in December 2019. A total of five (5) boreholes were advanced on the Property and four (4) boreholes were also installed with monitoring wells.

Based upon the results of the Phase Two ESA, the following conclusions are presented:

- The general stratigraphy at the Property, as observed in the boreholes, consists of a surficial layer of topsoil underlain by native deposits of silty sand to sand and silt, which extended to the full depth of investigation.
- The depth to ground water in monitoring wells installed on the Property ranged between approximately 1.7 m to 3.5 m below grade. Based on the groundwater elevation contours, the direction of ground water flow is towards the south/southeast.
- The applicable Site Condition Standards (SCS) are the Ontario Ministry of the Environment, Conservation and Parks Standards identified as Table 1 Full Depth Background Site Condition Standards for Residential/Parkland/Institutional land use.
- The parameters analysed for soil samples included: petroleum hydrocarbons (fraction F1 to F4), BTEX compounds, metals and inorganics and pH.
- All analytical soil sample results met the MECP Table 1 Site Condition Standards (SCS) for Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use for the analysed parameters.
- The ground water samples were collected from three (3) monitoring wells and analysed for PHCs and BTEX. The results of the ground water samples met the applicable Table 1 Standards for all analysed parameters.

Based on the results of the Phase Two ESA, there is no soil and ground water samples with contaminants found at levels exceeding the SCS, therefore, no contaminants are found in, at or under the Property. Based on the findings of the Phase Two ESA, the environmental status of the Property is considered to meet the applicable MECP Table 1 SCS. A Record of Site Condition can be filed for the Property at this time.

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

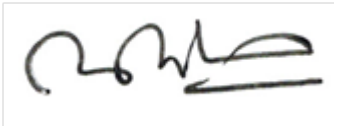
7.1 Signatures

The Phase Two ESA has been completed under the direction and supervision of Muhammad I. Shahid, P.Geo., QP_{ESA}. The findings and conclusions presented in this report have been determined on the basis of the information that was obtained and reviewed, and on an assessment of the existing conditions on the Property.

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

Yours truly,

Terraprobe Inc.



Jessie Hui Chung Wu, M. Env. Sc.,
Project Manager

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

8.0 REFERENCES

This study was conducted in accordance with the applicable Regulations, Guidelines, Policies, Standards, Protocols and Objectives administered by the MECP. Specific reference is made to the following:

- "*Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario,*" Ministry of the Environment of Ontario, December 1996;
- *The Ontario Water Resources Act - R.R.O. 1990, Regulation 903 - Amended to O. Reg. 128/03*, August 2003;
- *"Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act,"* April 15, 2011;
- *"Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act,"* March 2004 (amended as of July 1, 2011);
- *Ontario Regulation 153/04 (made under the Environmental Protection Act),* May 2004 (as amended by O. Reg. 511/09 and O. Reg. 179/11;
- *Environmental Protection Act*, R.S.O. 1990, Chapter E.19, as amended, September 2004; and
- *Ontario Regulation 511/09 (made under the Environmental Protection Act),* July 2011 (MOE)
- Terraprobe Inc. *"Updated Phase One Environmental Site Assessment 16114 Airport Road, Caledon, Ontario"*, August 30, 2019, Revised December 4, 2019

9.0 LIMITATIONS

This report was prepared for the exclusive use of Shacca Caledon Holding c/o Glen Schnarr & Associates Inc., and is intended to provide an assessment of the environmental conditions on the Property identified as Block 7, 8, 9 & 10, Caledon, Ontario. The report was prepared for the purpose of identifying potential environmental concerns, including an assessment of the likelihood that the environmental quality of the soil and ground water at the site may have been adversely affected by past and present practices at the site, and/or those of the surrounding properties prior to 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 investigation conducted by Terraprobe Inc. It is based on conditions at the subject 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 subject 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 an absolute guarantee.

In the event that during future work new information regarding the environmental condition of the subject Property is encountered, or in the event that the outstanding responses from the regulatory agencies indicate outstanding issues on file with respect to the subject Property, Terraprobe should be notified in order that we may re-evaluate the findings of this assessment and provide amendments, as required.

TABLES

TERRAPROBE INC.

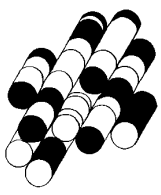


TABLE 1
Geological Units
16114 Airport Rd. Caledon
Project #1-16-0543-42.3

Borehole	BH 1			BH 2			BH 3S			BH 3D		
	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)
Top Soil	291.7	291.4	0.3	291.3	291	0.3	291.1	290.9	0.2	291.1	290.9	0.2
Native Soil (Silty Sand to Sand)	291.4	290.9	0.5	291	290.5	0.5	290.9	290.3	0.6	290.9	290.3	0.6
Native Soil (Silt)	290.9	285.1	5.8	290.5	284.7	5.8	290.3	284.5	5.8	290.3	284.5	5.8
Bedrock (weathered)	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 1
Geological Units
16114 Airport Rd. Caledon
Project #1-16-0543-42.3

Borehole	BH 4			BH 5			BH 6			BH 7		
	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)
Top Soil	291.3	291.1	0.2	291.5	291.2	0.3	291.5	291	0.5	291.9	291.6	0.3
Native Soil (Silty Sand to Sand)	291.1	290.5	0.6	291.2	290.7	0.5	291	290.7	0.3	291.6	291.1	0.5
Native Soil (Silt)	290.5	284.7	5.8	290.7	284.9	5.8	290.7	284.9	5.8	291.1	285.3	5.8
Bedrock (weathered)	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 1
Geological Units
16114 Airport Rd. Caledon
Project #1-16-0543-42.3

Borehole	BH 8			BH 9			BH 11			BH 12		
	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)
Top Soil	293.2	292.9	0.3	292.8	292.5	0.3	294.1	293.9	0.2	294.5	294.2	0.3
Native Soil (Silty Sand to Sand)	292.9	292.3	0.6	292.5	292	0.5	293.9	292.9	1	294.2	293	1.2
Native Soil (Silt)	292.3	286.5	5.8	292	286.2	5.8	292.9	289.1	3.8	293	287.9	5.1
Bedrock (weathered)	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 1
Geological Units
16114 Airport Rd. Caledon
Project #1-16-0543-42.3

Borehole	BH 13			BH 15			BH 16			BH 17		
	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)
Top Soil	294.9	294.7	0.2	293.8	293.6	0.2	297.7	297.5	0.2	295.1	294.8	0.3
Native Soil (Silty Sand to Sand)	294.7	294	0.7	293.6	293	0.6	297.5	296.9	0.6	294.8	293.6	1.2
Native Soil (Silt)	294	291.9	2.1	293	288.8	4.2	296.9	291.1	5.8	293.6	288.5	5.1
Bedrock (weathered)	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 1
Geological Units
16114 Airport Rd. Caledon
Project #1-16-0543-42.3

Borehole	BH 18			BH 19			BH 20			BH 21		
	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)
Top Soil	292.8	292.6	0.2	293.6	293.4	0.2	294.7	294.3	0.4	292.7	292.4	0.3
Native Soil (Silty Sand to Sand)	292.6	292	0.6	293.4	292.8	0.6	294.3	293.2	1.1	292.4	291.9	0.5
Native Soil (Silt)	292	286.7	5.3	292.8	286	6.8	293.2	289.7	3.5	291.9	286.1	5.8
Bedrock (weathered)	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 1
Geological Units
16114 Airport Rd. Caledon
Project #1-16-0543-42.3

Borehole	BH 22			BH1-19			BH2-19			BH3-19		
	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)
Top Soil	293.9	293.7	0.2	294.5	294.4	0.1	292.7	292.6	0.1	291.7	291.5	0.2
Native Soil (Silty Sand to Sand)	293.7	293.1	0.6	294.4	292.1	2.3	292.6	287.5	5.1	291.5	285.9	5.6
Native Soil (Silt)	293.1	288.9	4.2	292.1	288.6	3.5	287.5	286.9	0.6	-	-	-
Bedrock (weathered)	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 1
Geological Units
16114 Airport Rd. Caledon
Project #1-16-0543-42.3

Borehole	BH4-19			BH5-19			BH6-19		
	Elev. Top (masl)	Elev. Bottom (masl)	Thickness (m)	Elev. Top (masl)	Elev. Bottom (masl)	Thickness (m)	Elev. Top (masl)	Elev. Bottom (masl)	Thickness (m)
Top Soil	-	-	-	-	-	-	293.5	293.3	0.2
Native Soil (Silty Sand to Sand)	293	288.4	4.6	293.1	287.3	5.8	293.3	287.4	5.9
Native Soil (Silt)	288.4	287.1	1.3	-	-	-	-	-	-
Bedrock (weathered)	-	-	-	-	-	-	-	-	-

TABLE 2
Monitoring Well Construction
16114 Airport Rd., Caledon
Project #1-16-0543-42.3

Well ID	BH/MW3D		BH/MW3S		BH/MW6		BH/MW13		BH/MW15		BH/MW18		BH/MW19		BH/MW20		BH/MW22		BH/MW1-19		BH/MW2-19		BH/MW3-19	
Stick Up (m)	0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		1.04		0.00		1.26	
Ground Elev. (masl)	291.1		291.1		291.5		294.9		293.8		292.8		293.6		294.7		293.9		294.5		292.7		291.7	
Well Componant	**Depth (m)**	**Elev. (masl)**	**Depth (m)**	**Elev. (masl)**	**Depth (m)**	**Elev. (masl)**	**Depth (m)**	**Elev. (masl)**	**Depth (m)**	**Elev. (masl)**	**Depth (m)**	**Elev. (masl)**	**Depth (m)**	**Elev. (masl)**	**Depth (m)**	**Elev. (masl)**	**Depth (m)**	**Elev. (masl)**	**Depth (m)**	**Elev. (masl)**	**Depth (m)**	**Elev. (masl)**	**Depth (m)**	**Elev. (masl)**
Concrete - Top																								
Sand - Top	0.00	291.10	0.00	291.10	0.00	291.50	0.00	294.90	0.00	293.80	0.00	292.80	0.00	293.60	0.00	294.70	0.00	293.90	0.00	294.50	0.00	292.70	0.00	291.70
Bentonitie - Top	0.30	290.80	0.30	290.80	0.30	291.20	0.30	294.60	0.30	293.50	0.30	292.50	0.30	293.30	0.30	294.40	0.30	293.60	0.30	294.20	0.30	292.40	0.30	291.40
Bentonitie - Bottom	10.06	281.04	0.61	290.49	2.74	288.76	0.91	293.99	0.91	292.89	0.91	291.89	2.44	291.16	0.91	293.79	0.91	292.99	2.06	292.44	1.22	291.48	1.83	289.87
Sand - Top	10.06	281.04	0.61	290.49	2.74	288.76	0.91	293.99	0.91	292.89	0.91	291.89	2.44	291.16	0.91	293.79	0.91	292.99	2.06	292.44	1.22	291.48	1.83	289.87
Screen - Top	10.67	280.43	1.07	290.03	3.05	288.45	1.52	293.38	1.52	292.28	1.52	291.28	3.05	290.55	1.52	293.18	1.52	292.38	2.29	292.21	1.52	291.18	2.33	289.37
Screen - Bottom	13.72	277.38	4.11	286.99	6.10	285.40	4.57	290.33	4.57	289.23	4.57	288.23	6.10	287.50	4.57	290.13	4.57	289.33	5.33	289.17	4.57	288.13	5.38	286.32
Sand - Bottom	13.72	277.38	4.11	286.99	6.55	284.95	5.03	289.87	5.03	288.77	6.10	286.70	7.62	285.98	5.03	289.67	5.03	288.87	5.94	288.56	5.79	286.91	5.79	285.91

Note: N/A = Not available

TABLE 3
Ground Water Elevations
16114 Aiport Rd., Caledon
Project #1-16-0543-42.3

Well ID	**BH/MW3D**		**BH/MW1-19**		**BH/MW2-19**		**BH/MW3-19**		**BH/MW4-19**		**BH/MW5-19**		**BH/MW6-19**	
Stick Up (m)	0.95		1.04		0.00		1.26		0.79		0.90		0.86	
Depth (mbgs)	12.06		6.08		4.61		6.42		5.86		5.95		6.19	
Ground Elev. (masl)	291.1		294.5		292.7		291.7		293		293.1		293.5	
Date	WL (m)	Elev. (masl)	WL (m)	Elev. (masl)	WL (m)	Elev. (masl)	WL (m)	Elev. (masl)	WL (m)	Elev. (masl)	WL (m)	Elev. (masl)	WL (m)	Elev. (masl)
2016-10-26	5.60	286.45	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2019-10-09	2.59	289.46	4.56	290.98	2.67	290.03	4.14	288.82	4.18	289.61	4.29	289.71	4.63	289.73

NA - Not Applicable
NM - Not Measured

TABLE 4
Metals and ORPs (Soil)
16114 Aiport Rd., Caledon
Project #1-16-0543

Sample Name	Unit	Table 1	BH1-19/CS#1A	BH2-19/CS#1A	BH2-19/CS#1A	BH3-19/CS#1A	BH3-19/CS#4B
AGAT WO#			19T526103	19T526103	19T528815	19T526103	19T528815
AGAT ID#			584025	584027	604301	584029	604302
Date			2019-10-02	2019-10-02	2019-10-02	2019-10-02	2019-10-01
Parameter/Depth of Sample (mbgs/masl)			0-0.8/294.5-293.8	0-0.8/292.7-292	0-0.8/292.7-292	0-0.8/291.7-290.9	5.2-5.8/286.5-285.9
Antimony	µg/g	1.3	<0.8	<0.8	NA	<0.8	NA
Arsenic	µg/g	18	2	1	NA	1	NA
Barium	µg/g	220	48	27	NA	23	NA
Beryllium	µg/g	2.5	<0.5	<0.5	NA	<0.5	NA
Boron	µg/g	36	<5	<5	NA	<5	NA
Boron (Hot Water Soluble)	µg/g	NA	0.16	0.14	NA	0.17	NA
Cadmium	µg/g	1.2	<0.5	<0.5	NA	<0.5	NA
Chromium	µg/g	70	11	8	NA	9	NA
Cobalt	µg/g	21	3.8	2.6	NA	3	NA
Copper	µg/g	92	8	7	NA	3	NA
Lead	µg/g	120	9	18	NA	4	NA
Molybdenum	µg/g	2	<0.5	<0.5	NA	<0.5	NA
Nickel	µg/g	82	7.0	5.0	NA	5.0	NA
Selenium	µg/g	1.5	<0.4	<0.4	NA	<0.4	NA
Silver	µg/g	0.5	<0.2	<0.2	NA	<0.2	NA
Thallium	µg/g	1	<0.4	<0.4	NA	<0.4	NA
Uranium	µg/g	2.5	<0.5	<0.5	NA	<0.5	NA
Vanadium	µg/g	86	20.0	16.0	NA	18.0	NA
Zinc	µg/g	290	30.0	22.0	NA	13.0	NA
Chromium VI	µg/g	0.66	<0.2	<0.2	NA	<0.2	NA
Cyanide	µg/g	0.051	<0.040	<0.040	NA	<0.040	NA
Mercury	µg/g	0.27	<0.10	<0.10	NA	<0.10	NA
pH, 2:1 CaCl2 Extraction	NV	NV	7.52	7.43	7.99	7.20	8.07

Comments:
Results compared to MECP2011 Table 1 Site Condition Standards for Residential/Park/Institutional Land Use in All -Textured Soil Condition
RDL - Reported Detection Limit; G / S - Guideline / Standard
<150 Detection limit exceeded Standard
150 Sample result exceeded Standard
EC & SAR were 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.
NV- No Val * estimated elevation
NA-Not Analyzed

TABLE 5
PHCs F1 - F4 (&BTEX) (Soil)
16114 Airport Rd., Caledon
Project #1-16-0543

Sample Name	Unit	Table 1	BH1-19/CS#3	BH2-19/CS#3A	BH3-19/CS#2B
AGAT wo#			19T526103	19T526103	19T526103
AGAT ID#			584026	584028	584030
Date			2019-10-02	2019-10-02	2019-10-02
Parameter/Depth of Sample (masl)			3-3.8/291.5-290.7	3-3.8/289.7-288.9	2.3-3/289.4-288.6
Benzene	µg/g	0.02	<0.02	<0.02	<0.02
Toluene	µg/g	0.2	<0.05	<0.05	<0.05
Ethylbenzene	µg/g	0.05	<0.05	<0.05	<0.05
Xylene Mixture	µg/g	0.05	<0.05	<0.05	<0.05
F1 (C6 to C10)	µg/g	25	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	25	<5	<5	<5
F2 (C10 to C16)	µg/g	10	<10	<10	<10
F3 (C16 to C34)	µg/g	240	<50	<50	<50
F4 (C34 to C50)	µg/g	120	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	120	NA	NA	NA
Moisture Content	%	NV	17.6	15.6	20.2
Terphenyl	%	NV	113	100	104

Comments:
Results compared to MECP2011 Table 1 Site Condition Standards for Residential/Park/Institutional Land Use in All -Textured Soil Condition
RDL - Reported Detection Limit; G / S - Guideline / Standard
<150 Detection limit exceeded Standard
150 Sample result exceeded Standard
Results are based on sample dry weight.
The C6-C10 fraction is calculated using toluene response factor.
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.
Total C6 - C50 results are corrected for BTEX contributions.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.
Fractions 1-4 are quantified with the contribution of PAHs. Under Ontario Regulation 153, results are considered valid without determining the PAH contribution if not requested by the client.
Quality Control Data is available upon request.
NV- No Value
NA-Not Analyzed

TABLE 6
VOCs (Ground Water)
16114 Airport Rd. Caledon
Project #1-16-0543

Sample Name	Unit	Table 1	BH 1-19	BH 2-19	BH 3-19
AGAT WO#			19T528817	19T528817	19T528817
AGAT ID#			604338	604339	604340
Date			2019-10-09	2019-10-09	2019-10-09
Parameter/Depth of Sample (masl)			289-292	288-291	286-289
Benzene	µg/L	0.5	<0.20	<0.20	<0.20
Toluene	µg/L	0.8	<0.20	<0.20	<0.20
Ethylbenzene	µg/L	0.5	<0.10	<0.10	<0.10
Xylene Mixture	µg/L	72	<0.20	<0.20	<0.20

Comments:
Results compared to MECP 2011 Table 1 Site Condition Standards for All Land Use
RDL - Reported Detection Limit; G / S - Guideline / Standard
<150 Detection limit exceeded Standard
150 Sample result exceeded Standard
The sample was analysed 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.
NV- No Value
NA-Not Analyzed

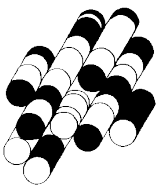
TABLE 7
PHCs F1 - F4 (-BTEX) (Groundwater)
16114 Airport Rd. Caledon
Project #1-16-0543

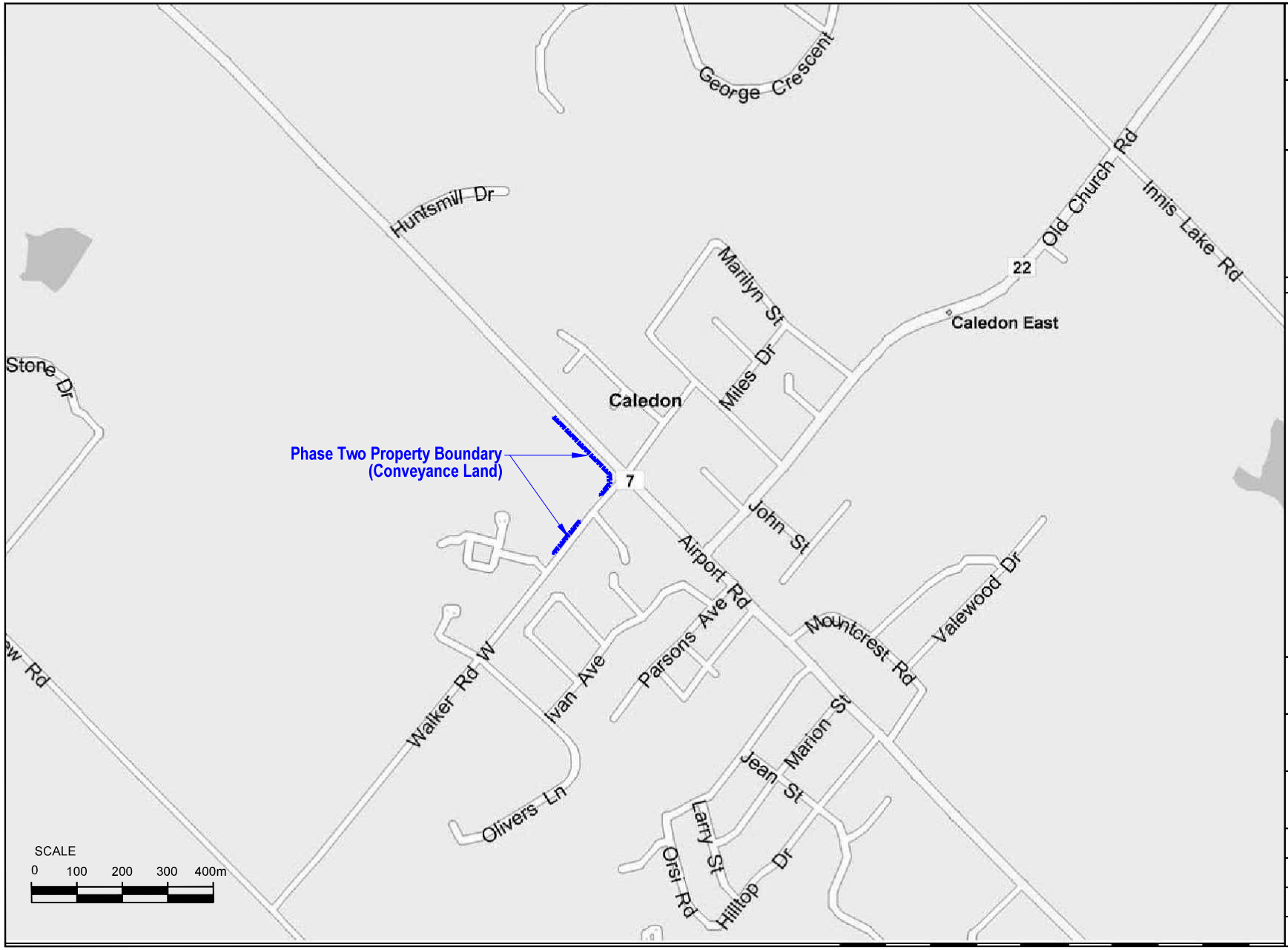
Sample Name	Unit	Table 1	BH 1-19	BH 2-19	BH 3-19	DUP #1 [BH2-19]
AGAT WO#			**19T528817**	**19T528817**	**19T528817**	**19T528817**
AGAT ID#			**604338**	**604339**	**604340**	**604341**
Date			**2019-10-09**	**2019-10-09**	**2019-10-09**	**2019-10-09**
Parameter/Depth of Screens (masl)			**289-292**	**288-291**	**286-289**	**288-291**
F1 (C6 to C10)	µg/L	420	<25	<25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L	420	<25	<25	<25	<25
F2 (C10 to C16)	µg/L	150	<100	<100	<100	<100
F3 (C16 to C34)	µg/L	500	<100	<100	<100	<100
F4 (C34 to C50)	µg/L	500	<100	<100	<100	<100
Gravimetric Heavy Hydrocarbons	µg/L	500	NA	NA	NA	NA
Terphenyl	%	NV	77	82	64	101

Comments:
Results compared to MECP 2011 Table 1 Site Condition Standards for Residential/Park/Institutional Land Use in a PGW Coarse-Textured Soil Condition
RDL - Reported Detection Limit; G / S - Guideline / Standard
<150 Detection limit exceeded Standard
150 Sample result exceeded Standard
Results are based on sample dry weight.
The C6-C10 fraction is calculated using toluene response factor.
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.
Total C6 - C50 results are corrected for BTEX contributions.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.
Fractions 1-4 are quantified with the contribution of PAHs. Under Ontario Regulation 153, results are considered valid without determining the PAH contribution if not requested by the client.
Quality Control Data is available upon request.
NV- No Value
NA-Not Analyzed

FIGURES

TERRAPROBE INC.





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

Reference:
Microsoft Streets & Trips 2011

Notes:

Legend:
Phase Two Property Boundary (Conveyance Land)

Project Title:
Phase Two Environmental Site Assessment

Site Location:
16114 Airport Road (Conveyance Land), Caledon, Ontario

Figure Title:
SITE LOCATION PLAN

Designed By: JW	*File No.:* 1-16-0543-42.1
Drawn By: MV	*Scale:* As Shown
Reviewed By: MS	*Figure No.:* 1
Date: December 2019	

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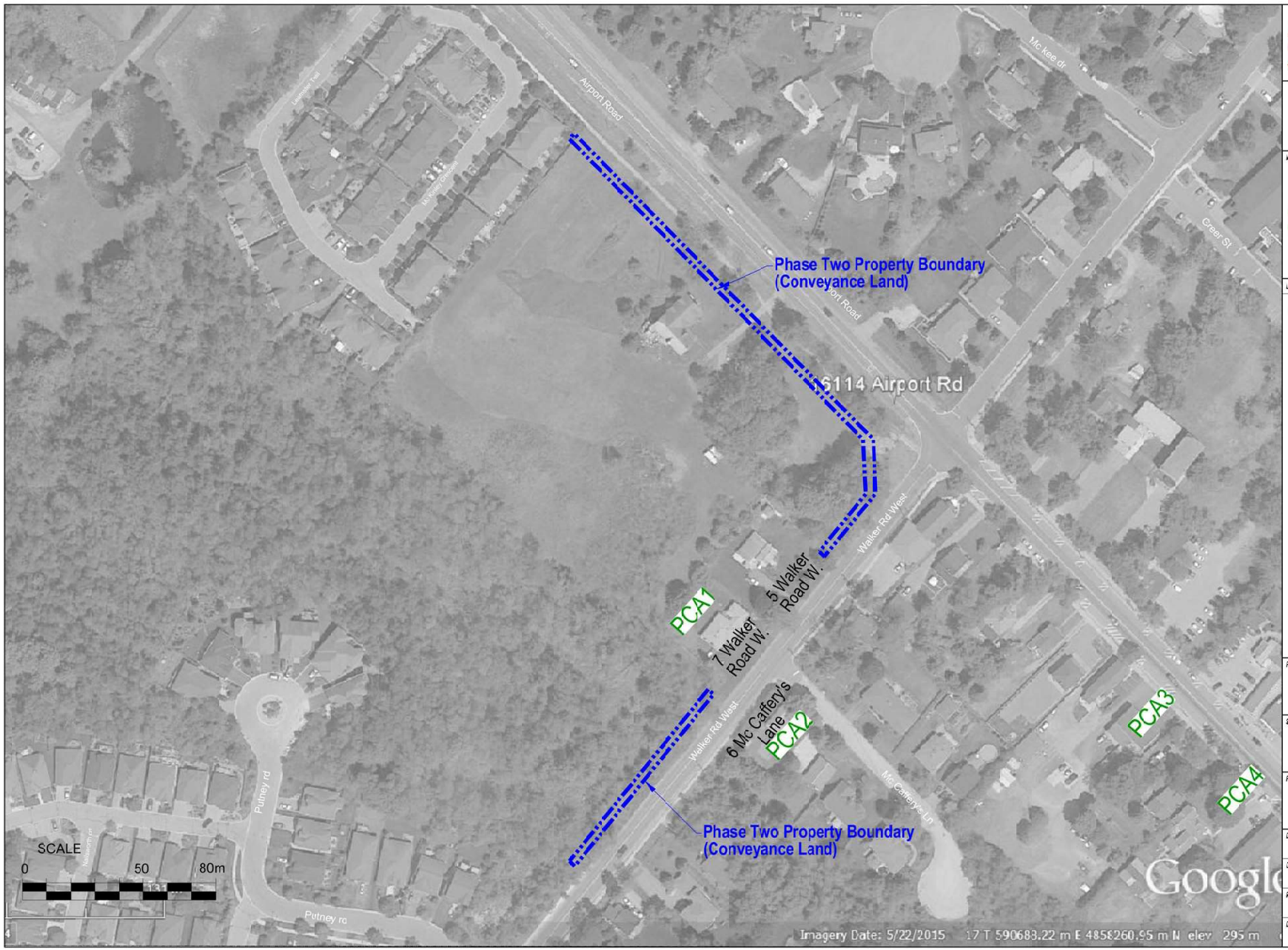

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Construction Materials Inspection & Testing
11 Indell Lane - Brampton Ontario L6T 3Y3 (905) 796-2650

Reference:
Google Earth

Notes:
APEC - Areas of Potential Environmental Concern
PCA - Potentially Contaminating Activity
#00 PCA Causing APEC
#00 PCA Not Causing APEC

Legend:

	Phase Two Property Boundary (Conveyance Land)
PCA1	#28 -Gasoline and Associated Products Storage in Fixed Tanks
PCA2	Other 1- Ontario Spills
PCA3	Other 2- Retail Storage Tank and O.Reg. 347 Waste Generator Summary
PCA4	Other 3- Pesticide Register & O.Reg. 347 Waste Generator Summary

Project Title:
Phase Two Environmental Site Assessment

Site Location:
16114 Airport Road (Conveyance Land), Caledon, Ontario

Figure Title:
PCA AND APEC LOCATIONS

Designed By: JW	File No.: 1-16-0543-42.1
Drawn By: MV	Scale: As Shown
Reviewed By: MS	Figure No.: 2
Date: December 2019	

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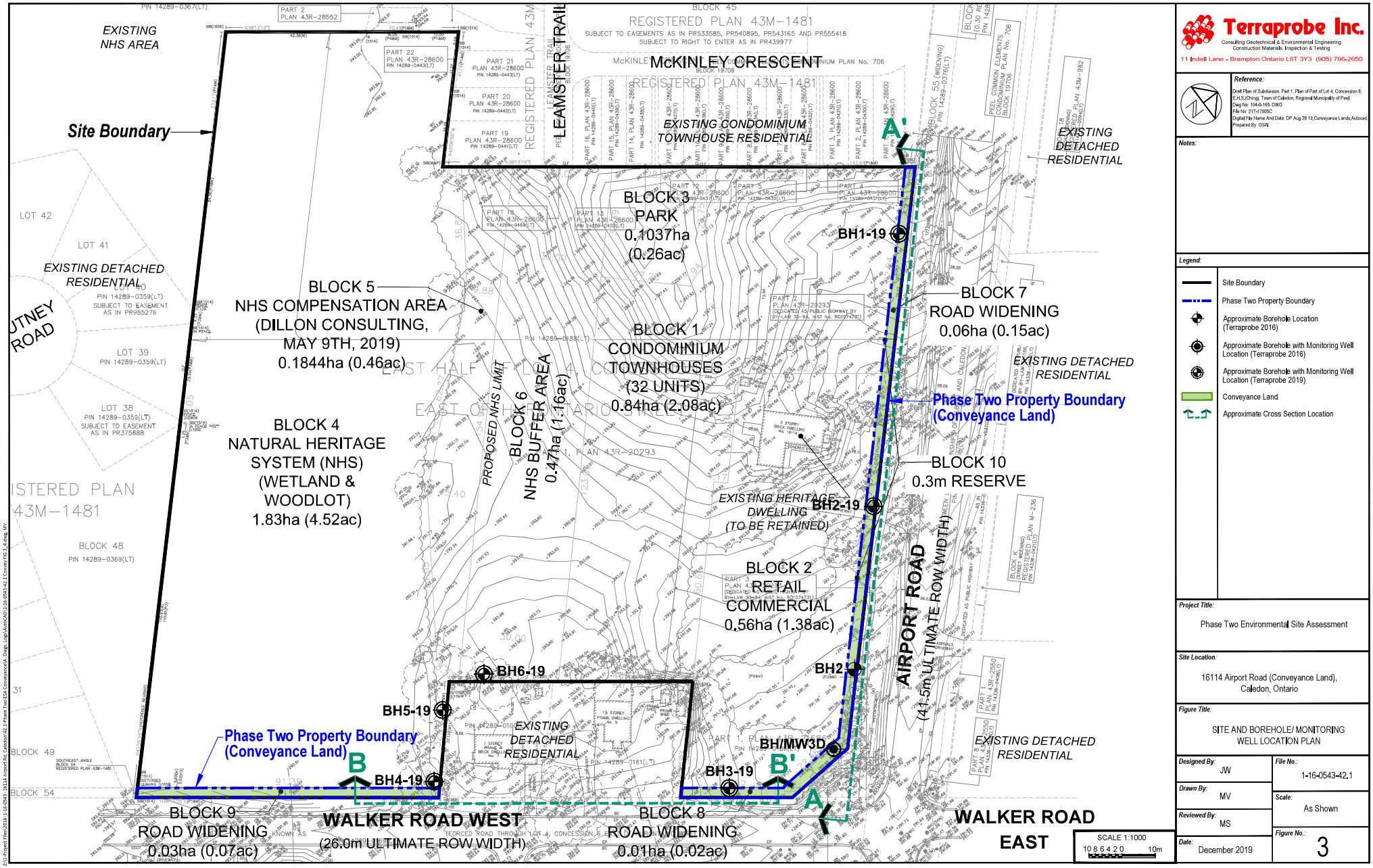

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Construction Materials, Inspection & Testing
11 Indell Lane – Brampton Ontario L6T 3Y3 (905) 796-2650

Reference:
Draft Plan of Subdivision, Part 1, Plan of Part of Lot 4, Concession 6, E.H.S.(Chinq), Town of Caledon, Regional Municipality of Peel
Dwg No: 1044-169. DWG
File No: 21T-17005C
Digital File Name And Date: DP Aug 28 19;Conveyance Lands;Autocad.
Prepared By: GSAI

Notes:

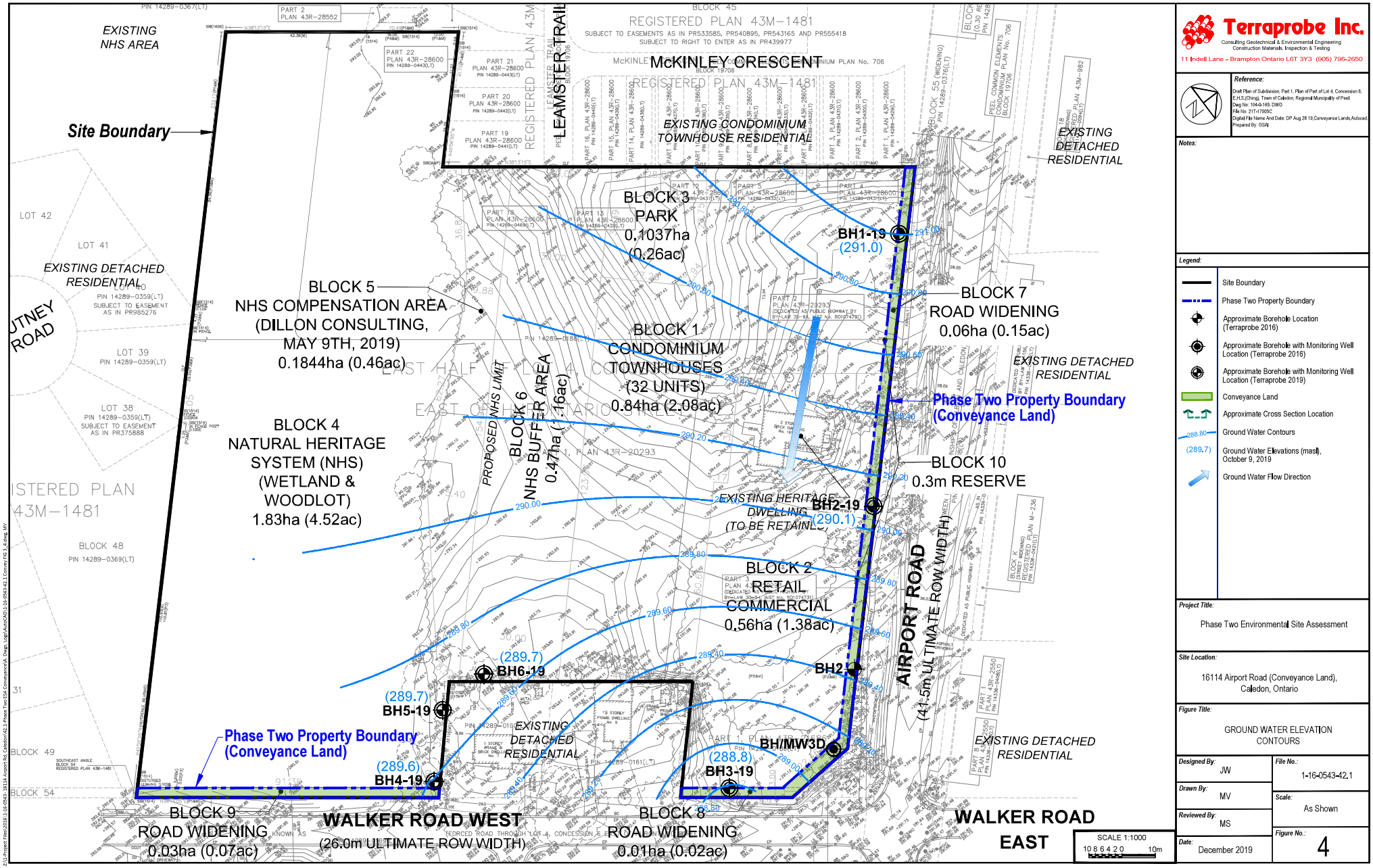
Legend:
- Site Boundary
- Phase Two Property Boundary
- Approximate Borehole Location (Terraprobe 2016)
- Approximate Borehole with Monitoring Well Location (Terraprobe 2016)
- Approximate Borehole with Monitoring Well Location (Terraprobe 2019)
- Conveyance Land
- Approximate Cross Section Location

Project Title:
Phase Two Environmental Site Assessment

Site Location:
16114 Airport Road (Conveyance Land), Caledon, Ontario

Figure Title:
SITE AND BOREHOLE/ MONITORING WELL LOCATION PLAN

Designed By: JW	**File No.:** 1-16-0543-42.1
Drawn By: MV	**Scale:** As Shown
Reviewed By: MS	**Figure No.:** 3
Date: December 2019	



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

Reference:
Draft Plan of Subdivision, Part 1, Plan of Part of Lot 4, Concession 6, E.H.S.(Chinq), Town of Caledon, Regional Municipality of Peel
Dwg No: 1044-169. DWG
File No: 21T-17005C
Digital File Name And Date: DP Aug.28 19;Conveyance Lands;Autocad.
Prepared By: GSAI

Notes:

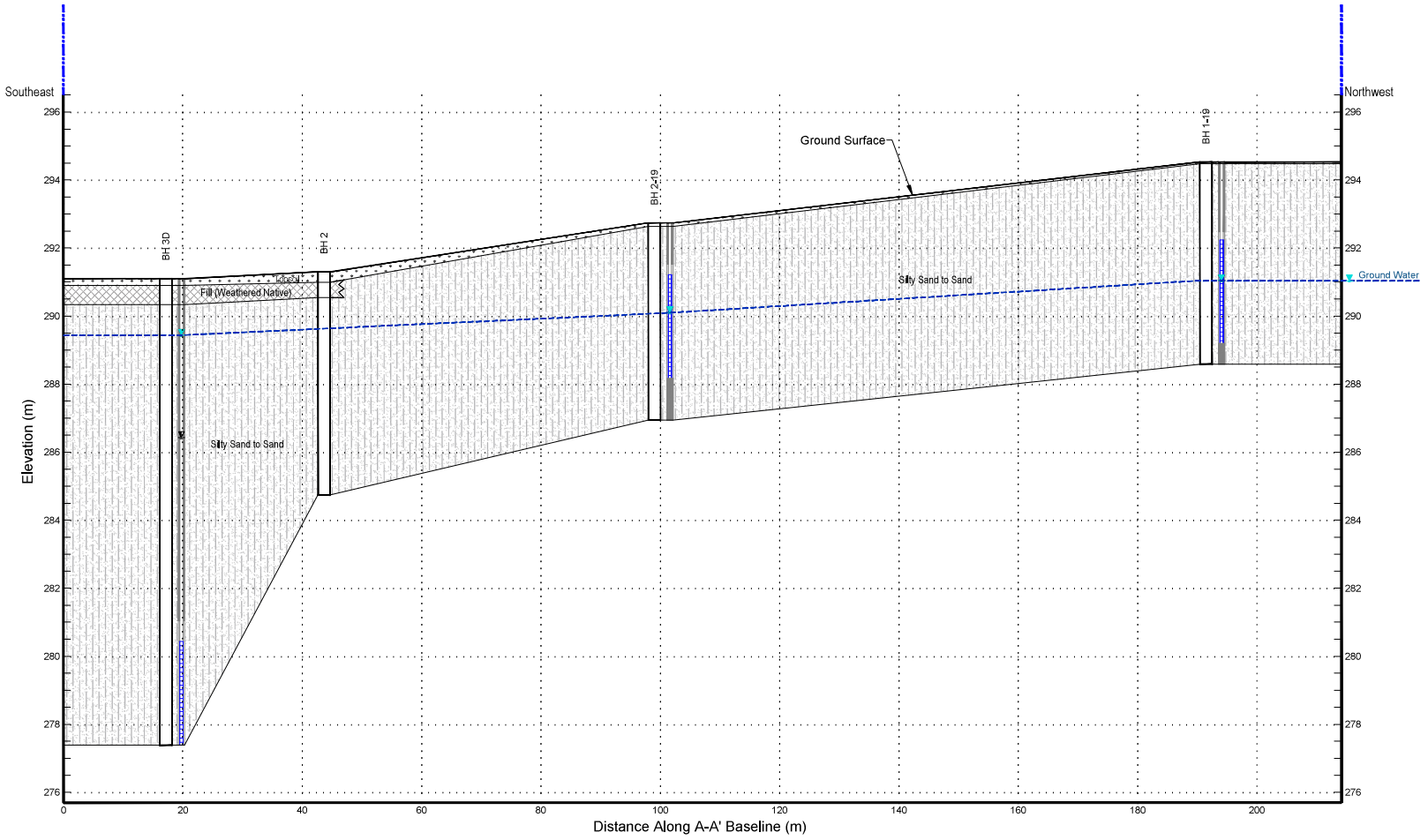
Legend:
- Site Boundary
- Phase Two Property Boundary
- Approximate Borehole Location (Terraprobe 2016)
- Approximate Borehole with Monitoring Well Location (Terraprobe 2016)
- Approximate Borehole with Monitoring Well Location (Terraprobe 2019)
- Conveyance Land
- Approximate Cross Section Location
- Ground Water Contours
- (289.7) Ground Water Elevations (masl), October 9, 2019
- Ground Water Flow Direction

Project Title:
Phase Two Environmental Site Assessment

Site Location:
16114 Airport Road (Conveyance Land), Caledon, Ontario

Figure Title:
GROUND WATER ELEVATION CONTOURS

Designed By: JW	**File No.:** 1-16-0543-42.1
Drawn By: MV	**Scale:** As Shown
Reviewed By: MS	**Figure No.:** 4
Date: December 2019	



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

Reference:

Notes:

Legend:

- Property Boundary
- Topsoil
- Fill (Weathered Native)
- Silty Sand to Sand
- Monitoring Well Screen
- Elevation of Ground Water Table (masl), October 9, 2019

Project Title:
Phase Two Environmental Site Assessment

Site Location:
16114 Airport Road (Conveyance Land), Caledon, Ontario

Figure Title:
CROSS SECTION A-A'

Designed By: JW	**File No.:** 1-16-0543-42.1
Drawn By: MV	**Scale:** As Shown
Reviewed By: MS	**Figure No.:** 5A
Date: December 2019	

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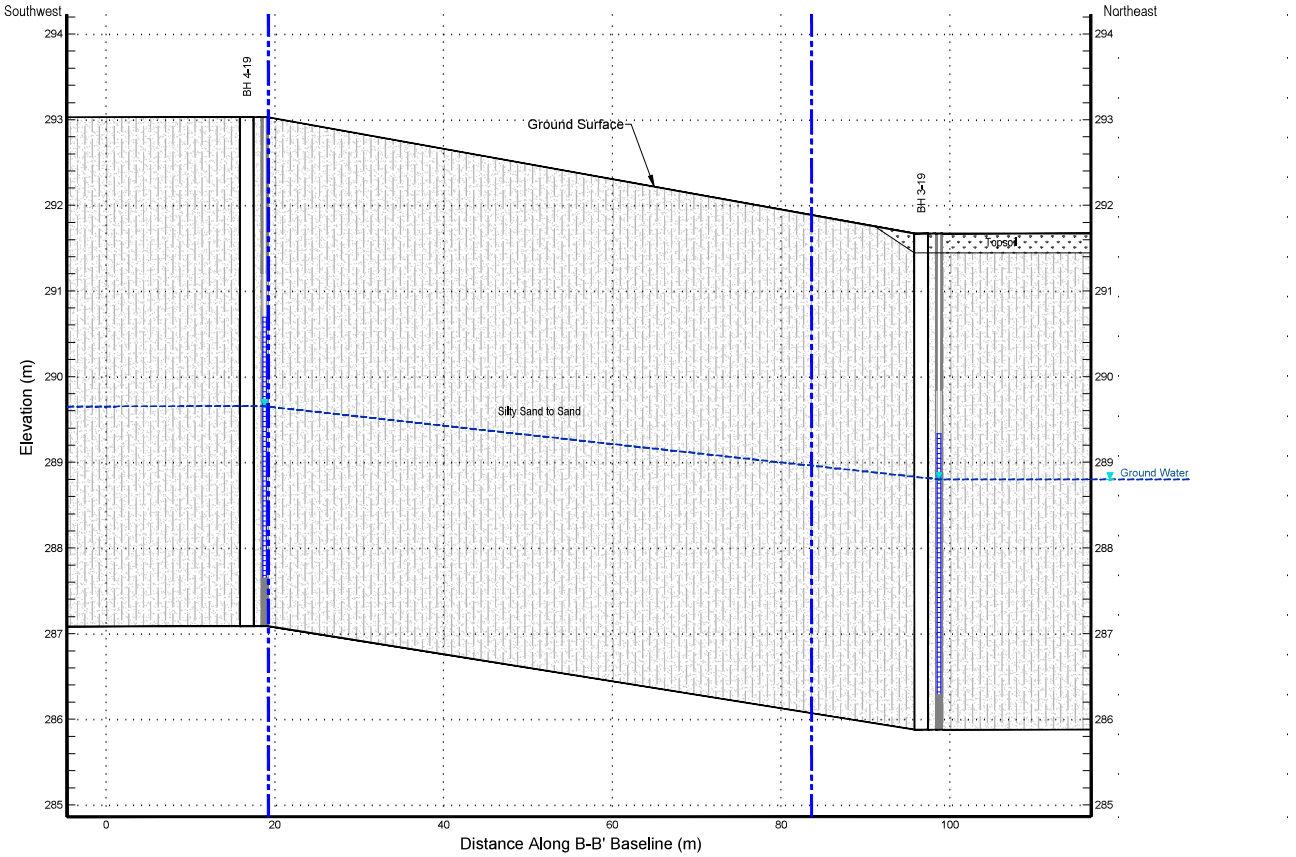

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11 Indell Lane – Brampton Ontario L6T 3Y3 (905) 796-2650

Reference:

Notes:

Legend:

- Property Boundary
- Topsoil
- Fill (Weathered Native)
- Silty Sand to Sand
- Monitoring Well Screen
- Elevation of Ground Water Table (masl), October 9, 2019

Project Title:
Phase Two Environmental Site Assessment

Site Location:
16114 Airport Road (Conveyance Land), Caledon, Ontario

Figure Title:
CROSS SECTION B-B'

Designed By: JW	*File No.:* 1-16-0543-42.1
Drawn By: MV	*Scale:* As Shown
Reviewed By: MS	*Figure No.:* 5B
Date: December 2019	

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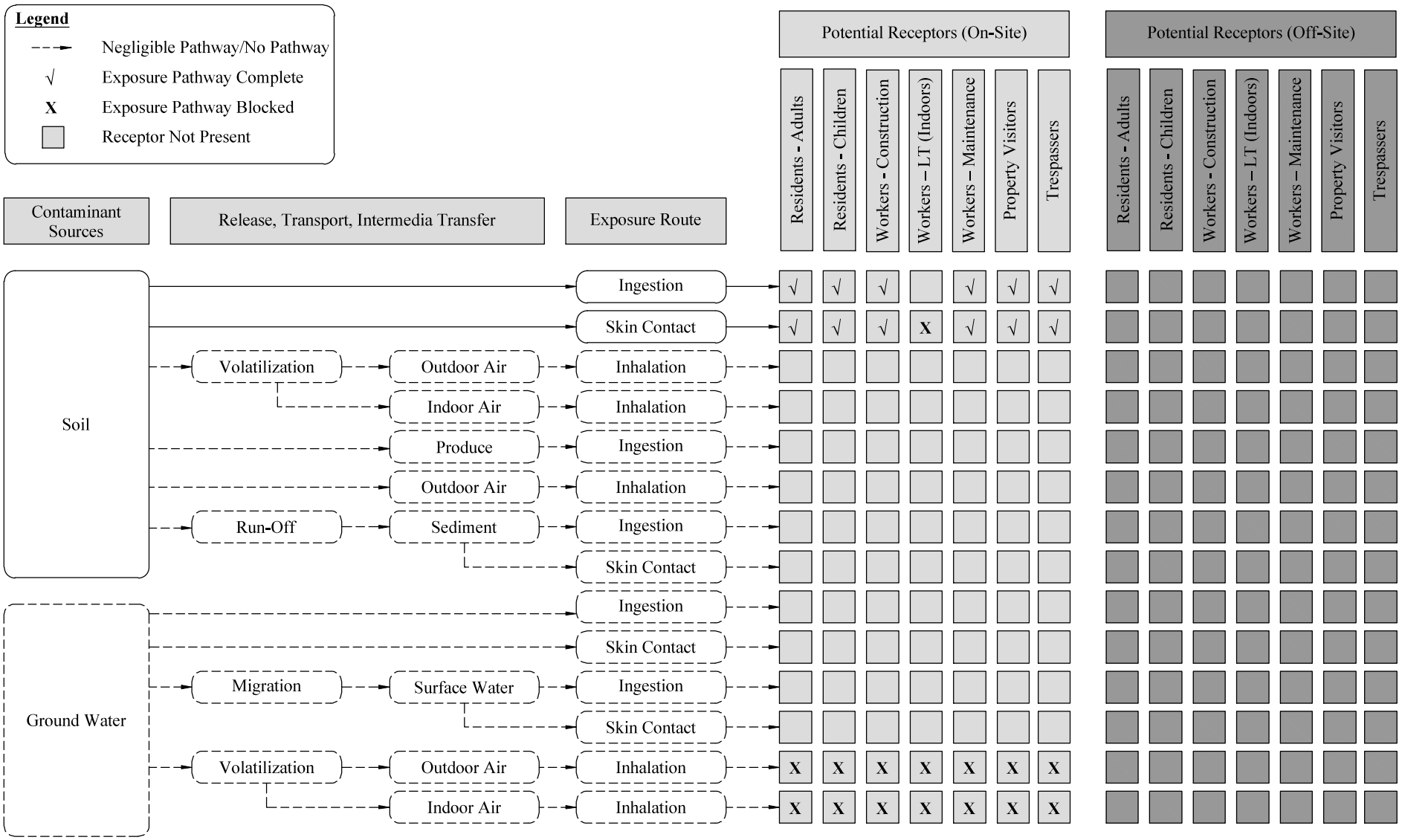

Terraprobe
11 Indell Lane, Brampton, Ontario, L6T 3Y3
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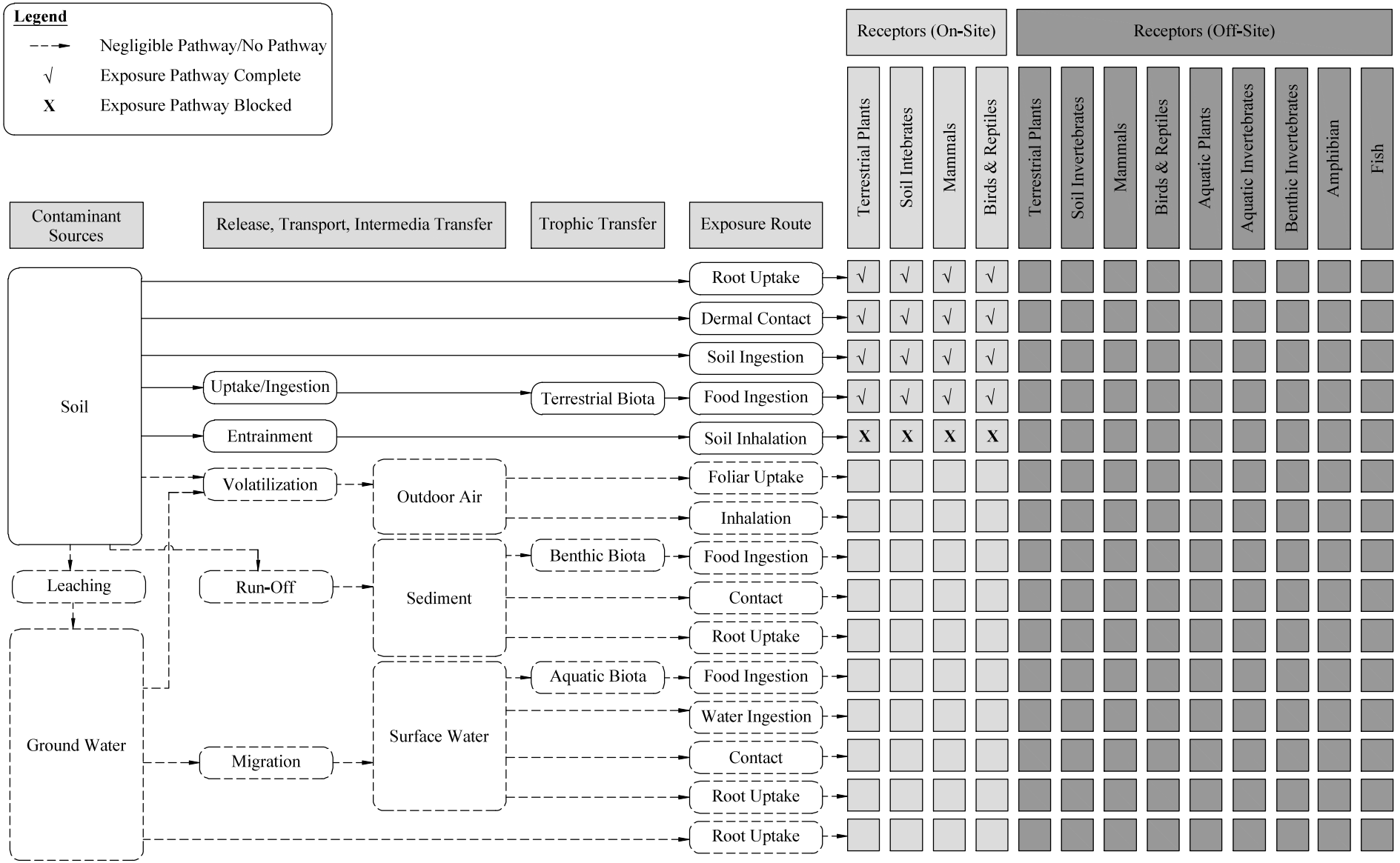
Title: HUMAN HEALTH CONCEPTUAL SITE MODEL

File No. 1-16-0543-42.1

FIGURE NO.: 6



Terraprobe
11 Indell Lane, Brampton, Ontario, L6T 3Y3
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Title: ECOLOGICAL CONCEPTUAL SITE MODEL

File No. 1-16-0543-42.1

FIGURE NO.: 7

APPENDIX A

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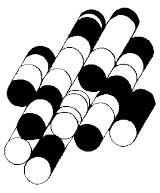


16114 AIRPORT ROAD, CALEDON, ONTARIO

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,	One double-storey residential building occupied the eastern portion of the Property at the time of the site inspection. A storage shed was also located on the western portion of the Property (Figure 2).
ii.	Identify and locate water bodies located in whole or in part on the Phase One Study Area	A review of topographic mapping indicates that there is no significant surface water body located within the study area.
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 and Forestry (MNRF) NHIC database and contacted the Toronto and Region Conservation Authority (TRCA). Based on the response from Nicholas Carscone from the TRCA, the western portion of the subject Property is classified as a Provincially Significant Wetland (PSW) by the TRCA. Based on the MNR NHIC database, an unevaluated wetland is present adjacently to the subject Property towards the south.
iv.	Locate any drinking water wells at the Phase One Property	No drinking water wells were identified on the Property during the site inspection. Five (5) monitoring wells were located on the Property.
v.	Show roads, including names, within the Phase One Study Area	The Property is bounded to the east by Airport Road and Walkers Road to the south. All roads and their corresponding names within the Study Area are presented in Figure 3.
vi.	Show use of properties adjacent to the Phase One Property	The land uses of the adjacent properties are shown in Figure 3. The surrounding properties are predominantly used for residential, commercial and institutional purposes. Conservation areas are present west and north of the subject Property.
vii.	Identify and locate area where any potentially contaminating activity has occurred, and show tanks in such areas	Potentially Contaminating Activities (PCAs) located on the Property and within the Study Area are presented on Figure 4.
viii.	Identify and locate any areas of potential environmental concern	Two (2) Areas of Potential Environmental Concern (APEC) were identified on the Property. The location of the APEC is presented on Figure 5, and the description of the APEC and potential Contaminants of Concern are described on the Table of Areas of Potential Environmental Concern.
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,	Two (2) PCA's have been identified that are either on or affecting the Phase One Property, and includes: • PCA-1: #28 Gasoline and Associated Products Storage in Fixed Tanks. An aboveground storage tank was observed on the neighboring site at 7 Walker Road West. • PCA-2: Other 1 Ontario Spills (Others). A spill of 150L of furnace oil on adjacent site to the south of the Property.
ii.	Any contaminants of potential concern,	Contaminants of Potential Concern (COPCs) identified the Property include: • PHCs • BTEX The COPCs have the potential to be present in the soil and ground water.
iii.	The potential for underground utilities, if any present, to affect contaminant distribution and transport,	The Property is serviced with underground water main, hydro, gas and bell/communication, and enters the Property from Airport Road. Storm sewer catch basins and manholes are located Walkers Road. It is likely that the underground utilities will affect contaminant distribution and transport.

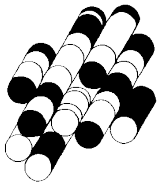
iv.	Available regional or site specific geological and hydrogeological information,	Topography • The approximate elevation of the Property is 295 masl and slopes gently to the east-southeast towards Innis Lake & Widget Lake. Hydrogeology • The nearest water body is Innis Lake and Widget Lake, which are located approximately 1.9 km southeast and 2.1 km east of the Site, respectively. The groundwater is expected to follow the local topography and flow towards the east-southeast. Geology (overburden) • The overburden on the Site is comprised of glaciofluvial ice deposits consisting of sand & gravel, with minor amounts of silt, clay and till. Geology (bedrock) • The bedrock on the Site is comprised of shale, limestone, dolostone and siltstone, part of the Queenston Formation (55a). Geology (depth to bedrock) • The depth to bedrock in the area is considered to be shallow. Based on the MECP Well Records, bedrock was encountered at approximately 24.0 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 – PCA Locations
Figure 5 – APEC Locations

APPENDIX B

TERRAPROBE INC.



Soil sampling was conducted during October 1, 2019. Based on scope of work and the field screening, a total of 8 soil samples were submitted for chemical analysis of petroleum hydrocarbons PHCs (F1-F4), metals, hydride-forming metals (As, Sb, Se), boron, hot-water soluble (B-HWS), cyanide (CN-), mercury (Hg), chromium hexavalent (Cr(VI)), pH, benzene, toluene, ethylbenzene, and xylene (BTEX) parameters. A summary of the soil samples and selected analyses is presented below.

No.	Sample ID	Sample Depth		Parameter Analysed (O.Reg. 153/04 as amended)
		(mbgs)*	(masl)*	
1	BH1-19/CS#1A and DUP#1	0 – 0.8	294.5 – 293.8	Metals, As, Sb, Se, B-HWS, CN-, Hg, Cr(VI), pH
2	BH2-19/CS#1A	0 – 0.8	292.7 – 292	Metals, As, Sb, Se, B-HWS, CN-, Hg, Cr(VI), pH
3	BH3-19/CS#1A	0 – 0.8	291.7 – 290.9	Metals, As, Sb, Se, B-HWS, CN-, Hg, Cr(VI), pH
4	BH3-19/CS#4B and DUP1	5.2 – 5.8	286.5 – 285.9	pH
5	BH1-19/CS#3 and DUP#2	3.0 – 3.8	291.5 – 290.7	PHCs (F1 to F4), BTEX
6	BH2-19/CS#3A	3.0 – 3.8	289.7-288.9	PHCs (F1 to F4), BTEX
7	BH3-19/CS#2B	2.3 – 3.0	289.4 – 288.6	PHCs (F1 to F4), BTEX

Note: mbgs – metre below ground surface; masl – metre above sea level

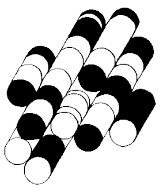
Ground water sampling was completed for the three monitoring wells (BH1-19, BH2-19 & BH3-19) on the Property. Ground water samples were analysed for parameters including PHCs and BTEX.

Sample ID	Screen/Sample Depth		Parameter Analysed (O.Reg. 153/04 as amended)
	(mbgs)	(masl)	
BH1-19	2.3 – 5.3	292.2 – 289.2	PHC (F1-F4) + BTEX
BH2-19 and DUP#1	1.5 – 4.6	291.2 – 288.1	PHC (F1-F4) + BTEX
BH3-19	2.3 – 5.4	289.4 – 286.3	PHC (F1-F4) + BTEX

Note: mbgs – metre below ground surface; masl – metre above sea level

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.

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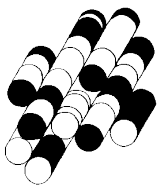
APPENDIX D

TERRAPROBE INC.



LOG OF BOREHOLE 1-19

Terraprobe

Project No. : 1-16-0543	Client : Shacca Caledon Holdings	Originated by : BR
Date started : October 2, 2019	Project : 16114 Airport Road	Compiled by : JW
Sheet No. : 1 of 1	Location : Caledon, Ontario	Checked by : MS

Position : E: 590686, N: 4858381 (UTM 17T) Elevation Datum : Geodetic

Rig type : Geoprobe, track-mounted Drilling Method : Direct push

Depth Scale (m)	Elev Depth (m)	Description	Graphic Log	Sample Number	Sample Type	SPT 'N' Value
0	294.5	**GROUND SURFACE**				
		50mm **TOPSOIL**				
		SILTY SAND to SAND, loose to compact, brown, moist		1A	DP	
1		...some gravel		1B	DP	
2				2A	DP	
	292.1 / 2.4	**SILT**, trace sand, dense, brown, wet		2B	DP	
3				3	DP	
4				4	SS	30
5	289.2 / 5.3	**SILTY SAND**, very dense, brown, wet		5	SS	61
	288.6 / 5.9	**END OF BOREHOLE**				

Elevation Scale (m): 294, 293, 292, 291, 290, 289

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) Natural Water Content (MC) Liquid Limit (LL); 10 20 30

Headspace Vapour (ppm): PID: 0, PID: 0.1, PID: 0, PID: 0, PID: 0.1, PID: 0, PID: 0

Instrument Details

Unstabilized Water Level

Lab Data and Comments

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

DP1A Analysis: M&I, DUP1

DP3 Analysis: BTEX, PHC, DUP2

Unstabilized water level measured at 4.6 m below ground surface; borehole caved to 5.3 m below ground surface upon completion of drilling.

50 mm dia. monitoring well installed.

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Oct 9, 2019	3.5	291.0

file: 1-16-0543 bh logs.gpj

LOG OF BOREHOLE 2-19

Terraprobe

Project No. : 1-16-0543	Client : Shacca Caledon Holdings	Originated by : BR
Date started : October 2, 2019	Project : 16114 Airport Road	Compiled by : JW
Sheet No. : 1 of 1	Location : Caledon, Ontario	Checked by : MS

Position : E: 590746, N: 4858324 (UTM 17T) Elevation Datum : Geodetic

Rig type : Geoprobe, track-mounted Drilling Method : Direct push

Depth Scale (m)	Elev Depth (m)	Description	Graphic Log	Sample Number	Sample Type	SPT 'N' Value
0	292.7	**GROUND SURFACE**				
		100mm **TOPSOIL**				
		SILTY SAND to SAND, some gravel, compact, brown, moist		1A	DP	
1				1B	DP	
2		...trace gravel		2A	DP	
		...wet		2B	DP	
3				3A	DP	
4		...dense		3B	DP	
				4A	DP	
5	287.5					
	5.2	**SILT**, trace sand, dense, brown, wet		4B	DP	
	286.9					
	5.8	**END OF BOREHOLE**				

Elevation Scale (m): 292, 291, 290, 289, 288, 287

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) Natural Water Content (MC) Liquid Limit (LL) 10 20 30

Headspace Vapour (ppm): PID: 0.1, PID: 0, PID: 0.1, PID: 0, PID: 0.1, PID: 0.1, PID: 0, PID: 0.1

Instrument Details

Unstabilized Water Level

Lab Data and Comments

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

DP1A Analysis: M&I, .pH

DP3A Analysis: BTEX, PHC

Unstabilized water level measured at 4.0 m below ground surface; borehole caved to 4.6 m below ground surface upon completion of drilling.

50 mm dia. monitoring well installed.

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Oct 9, 2019	2.7	290.1

file: 1-16-0543 bh logs.gpj

LOG OF BOREHOLE 3-19

Terraprobe

Project No. : 1-16-0543	Client : Shacca Caledon Holdings	Originated by : BR
Date started : October 1, 2019	Project : 16114 Airport Road	Compiled by : JW
Sheet No. : 1 of 1	Location : Caledon, Ontario	Checked by : MS

Position : E: 590785, N: 4858237 (UTM 17T) Elevation Datum : Geodetic

Rig type : Geoprobe, track-mounted Drilling Method : Direct push

Depth Scale (m)	Elev Depth (m)	Description	Graphic Log	Sample Number	Sample Type	SPT 'N' Value	Elevation Scale (m)	Penetration Test Values (Blows / 0.3m) / Undrained Shear Strength (kPa)	Moisture / Plasticity	Headspace Vapour (ppm)	Instrument Details	Lab Data and Comments
0	291.7	**GROUND SURFACE**					291	Dynamic Cone 10 20 30 40; Unconfined, Pocket Penetrometer, Field Vane, Lab Vane 40 80 120 160	Plastic Limit, Natural Water Content, Liquid Limit PL MC LL 10 20 30	PID: 0		
	291.5	220mm **TOPSOIL**										
	0.2	**SILTY SAND to SAND**, some silt, loose to compact, brown, moist		1A	DP					PID: 0		DP1A Analysis: M&I
1				1B	DP					PID: 0		
				2A	DP		290			PID: 0.1		
2		...wet		2B	DP		289			PID: 0.1		DP2B Analysis: BTEX, PHC
3		...dense		3A	DP					PID: 0.1		
							288					
4				3B	DP					PID: 0		
				4A	DP		287			PID: 0		
5				4B	DP					PID: 0		DP4B Analysis: .pH, DUP1
	285.9						286					
	5.8	**END OF BOREHOLE**										

Unstabilized water level measured at 4.9 m below ground surface; borehole caved to 5.3 m below ground surface upon completion of drilling.

50 mm dia. monitoring well installed.

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Oct 9, 2019	2.9	288.8

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

file: 1-16-0543 bh logs.gpj

LOG OF BOREHOLE 4-19

Terraprobe

Project No. : 1-16-0543	Client : Shacca Caledon Holdings	Originated by : BR
Date started : October 1, 2019	Project : 16114 Airport Road	Compiled by : JW
Sheet No. : 1 of 1	Location : Caledon, Ontario	Checked by : MS

Position : E: 590727, N: 4858171 (UTM 17T) Elevation Datum : Geodetic

Rig type : Geoprobe, track-mounted Drilling Method : Direct push

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	Headspace Vapour (ppm)	Instrument Details	Unstabilized Water Level	Lab Data and Comments
0	293.0	**GROUND SURFACE**					293	Dynamic Cone 10 20 30 40; Unconfined, Pocket Penetrometer, Field Vane, Lab Vane 40 80 120 160	Plastic Limit, Natural Water Content, Liquid Limit PL MC LL 10 20 30				GRAIN SIZE DISTRIBUTION (%) (MIT) GR SA SI CL
		SILTY SAND to SAND, compact, brown, moist		1A	DP					PID: 4.1			DP1A Analysis: BTEX, PHC, DUP1
1				1B	DP		292			PID: 1.6			
2				2	DP		291			PID: 1.1			
				3	DP					PID: 0.4			
3				4	DP		290			PID: 0.4			DP4 Analysis: BTEX, PHC
4		...trace gravel, dense, wet		5	DP		289			PID: 0.1			
		...layer of gravel											
	288.4 4.6	**SILT**, some sand, dense, grey, wet		6	DP					PID: 0.1			
5				7	SS		288			PID: 0.1			
	287.1 5.9	**END OF BOREHOLE**											

Unstabilized water level measured at 3.4 m below ground surface; borehole caved to 5.4 m below ground surface upon completion of drilling.

50 mm dia. monitoring well installed.

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Oct 9, 2019	3.4	289.6

file: 1-16-0543 bh logs.gpj

LOG OF BOREHOLE 5-19

Terraprobe

Project No. : 1-16-0543	Client : Shacca Caledon Holdings	Originated by : BR
Date started : October 1, 2019	Project : 16114 Airport Road	Compiled by : JW
Sheet No. : 1 of 1	Location : Caledon, Ontario	Checked by : MS

Position : E: 590715, N: 4858185 (UTM 17T) Elevation Datum : Geodetic

Rig type : Geoprobe, track-mounted Drilling Method : Direct push

Depth Scale (m)	Elev / Depth (m)	Description	Graphic Log	Sample Number	Sample Type	SPT 'N' Value	Elevation Scale (m)	Penetration Test Values (Blows / 0.3m) / Undrained Shear Strength (kPa)	Moisture / Plasticity	Headspace Vapour (ppm)	Instrument Details	Lab Data and Comments
0	293.1 GROUND SURFACE						293					
		SILTY SAND to SAND, compact, brown, moist		1A	DP					PID: 0.7		DP1A Analysis: M&I
1				1B	DP		292			PID: 1.3		DP1B Analysis: BTEX, PHC, .pH
2				2A	DP		291			PID: 0.8		
				2B	DP					PID: 0.9		
3				3A	DP		290			PID: 1		DP3A Analysis: BTEX, PHC
		...trace gravel										
4		...gravelly, wet, dense, greyish brown		3B	DP		289			PID: 0.4		
				4A	DP					PID: 0.3		
5		...compact					288					
				4B	DP					PID: 0.1		
	287.3											
	5.8	**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), Natural Water Content (MC), Liquid Limit (LL) (10, 20, 30)

Unstabilized Water Level

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

Unstabilized water level measured at 3.8 m below ground surface; borehole caved to 5.2 m below ground surface upon completion of drilling.

50 mm dia. monitoring well installed.

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Oct 9, 2019	3.4	289.7

file: 1-16-0543 bh logs.gpj

LOG OF BOREHOLE 6-19

Terraprobe

Project No. : 1-16-0543	Client : Shacca Caledon Holdings	Originated by : BR
Date started : October 1, 2019	Project : 16114 Airport Road	Compiled by : JW
Sheet No. : 1 of 1	Location : Caledon, Ontario	Checked by : MS

Position : E: 590713, N: 4858200 (UTM 17T) Elevation Datum : Geodetic

Rig type : Geoprobe, track-mounted Drilling Method : Direct push

Depth Scale (m)	Elev Depth (m)	Description	Graphic Log	Sample Number	Sample Type	SPT 'N' Value	Elevation Scale (m)	Penetration Test Values (Blows / 0.3m) / Undrained Shear Strength (kPa)	Moisture / Plasticity	Headspace Vapour (ppm)	Instrument Details	Lab Data and Comments
0	**293.5**	**GROUND SURFACE**										
	293.3	200mm **TOPSOIL**										
	0.2	**SILTY SAND to SAND**, loose, brown, moist		1A	DP		293			PID: 0.4		
1		...compact		1B	DP					PID: 0.4		
				2A	DP		292			PID: 1.3		DP2A Analysis: BTEX, PHC
2		...wet		2B	DP		291			PID: 0.4		DP2B Analysis: BTEX, PHC
3		...dense		3A	DP		290			PID: 0.2		DP3A Analysis: .pH, DUP2
4		...gravelly		3B	DP		289			PID: 0.3		
5		...compact		4A	DP					PID: 0		
				4B	DP		288			PID: 0.1		
6	287.4											
	6.1	**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), Natural Water Content (MC), Liquid Limit (LL) — 10, 20, 30

Unstabilized Water Level

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

Unstabilized water level measured at 3.0 m below ground surface; borehole caved to 5.2 m below ground surface upon completion of drilling.

50 mm dia. monitoring well installed.

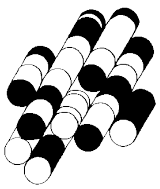
WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Oct 9, 2019	3.8	289.7

file: 1-16-0543 bh logs.gpj

APPENDIX E

TERRAPROBE INC.



AGAT Laboratories

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: Jessie Wu

PROJECT: 1-16-0543-42.1

AGAT WORK ORDER: 19T528817

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

DATE REPORTED: Oct 16, 2019

PAGES (INCLUDING COVER): 5

VERSION*: 1

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

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

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: 19T528817

PROJECT: 1-16-0543-42.1

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Jessie Wu

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2019-10-09

DATE REPORTED: 2019-10-16

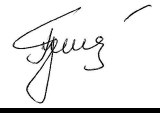
		SAMPLE DESCRIPTION:		BH 1-19	BH 2-19	BH 3-19	DUP #1
		SAMPLE TYPE:		Water	Water	Water	Water
		DATE SAMPLED:		2019-10-09	2019-10-09	2019-10-09	2019-10-09
Parameter	**Unit**	**G / S**	**RDL**	**604338**	**604339**	**604340**	**604341**
Benzene	µg/L	5.0	0.20	<0.20	<0.20	<0.20	<0.20
Toluene	µg/L	24	0.20	<0.20	<0.20	<0.20	<0.20
Ethylbenzene	µg/L	2.4	0.10	<0.10	<0.10	<0.10	<0.10
Xylene Mixture	µg/L	300	0.20	<0.20	<0.20	<0.20	<0.20
F1 (C6 - C10)	µg/L	750	25	<25	<25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L	750	25	<25	<25	<25	<25
F2 (C10 to C16)	µg/L	150	100	<100	<100	<100	<100
F3 (C16 to C34)	µg/L	500	100	<100	<100	<100	<100
F4 (C34 to C50)	µg/L	500	100	<100	<100	<100	<100
Gravimetric Heavy Hydrocarbons	µg/L	500	500	NA	NA	NA	NA
Surrogate	**Unit**	**Acceptable Limits**					
Terphenyl	%	60-140		77	82	64	101

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition - Potable Ground Water - All Types of Property Uses - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

604338-604341 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 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

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



AGAT Laboratories

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Quality Assurance

CLIENT NAME: TERRAPROBE INC.

AGAT WORK ORDER: 19T528817

PROJECT: 1-16-0543-42.1

ATTENTION TO: Jessie Wu

SAMPLING SITE:

SAMPLED BY:

Trace Organics Analysis

RPT Date: Oct 16, 2019			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 (Water)															
Benzene	585584		< 0.20	< 0.20	NA	< 0.20	116%	50%	140%	93%	60%	130%	82%	50%	140%
Toluene	585584		< 0.20	< 0.20	NA	< 0.20	100%	50%	140%	91%	60%	130%	92%	50%	140%
Ethylbenzene	585584		< 0.10	< 0.10	NA	< 0.10	94%	50%	140%	86%	60%	130%	90%	50%	140%
Xylene Mixture	585584		< 0.20	< 0.20	NA	< 0.20	86%	50%	140%	82%	60%	130%	84%	50%	140%
F1 (C6 - C10)	585584		< 25	< 25	NA	< 25	95%	60%	140%	89%	60%	140%	93%	60%	140%
F2 (C10 to C16)		TW	< 100	< 100	NA	< 100	90%	60%	140%	80%	60%	140%	82%	60%	140%
F3 (C16 to C34)		TW	< 100	< 100	NA	< 100	102%	60%	140%	110%	60%	140%	84%	60%	140%
F4 (C34 to C50)		TW	< 100	< 100	NA	< 100	108%	60%	140%	83%	60%	140%	84%	60%	140%

Comments: Tap water analysis has been performed as QC sample testing for duplicate and matrix spike due to insufficient sample volume.
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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Method Summary

CLIENT NAME: TERRAPROBE INC.

AGAT WORK ORDER: 19T528817

PROJECT: 1-16-0543-42.1

ATTENTION TO: Jessie Wu

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Benzene	VOL-91-5010	MOE PHC-E3421	P&T GC/MS
Toluene	VOL-91-5010	MOE PHC-E3421	P&T GC/MS
Ethylbenzene	VOL-91-5010	MOE PHC-E3421	P&T GC/MS
Xylene Mixture	VOL-91-5010	MOE PHC-E3421	P&T GC/MS
F1 (C6 - C10)	VOL-91- 5010	MOE PHC-E3421	P&T GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	MOE PHC-E3421	P&T GC/FID
F2 (C10 to C16)	VOL-91-5010	MOE PHC-E3421	GC/FID
F3 (C16 to C34)	VOL-91-5010	MOE PHC-E3421	GC/FID
F4 (C34 to C50)	VOL-91-5010	MOE PHC-E3421	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	MOE PHC-E3421	BALANCE
Terphenyl	VOL-91-5010	MOE PHC-E3421	GC/FID

AGAT Laboratories

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Chain of Custody Record

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

Laboratory Use Only
Work Order #: 19T528817

Cooler Quantity:
Arrival Temperatures: 6.3 | 6.1 | 5.9
Custody Seal Intact: ☐Yes ☐No ☐N/A
Notes: ice

Report Information:
Company: Terraprobe Inc.
Contact: Jessie Wu
Address: Brampton ON
Phone: Fax:
Reports to be sent to:
1. Email: jwu@terraprobe.ca
2. Email:

Regulatory Requirements:
☐ No Regulatory Requirement
(Please check all applicable boxes)

☑ Regulation 153/04
Table 2 (Indicate One)
☐ Ind/Com
☑ Res/Park
☐ Agriculture
Soil Texture (Check One)
☑ Coarse
☐ Fine

☐ Sewer Use
☐ Sanitary
☐ Storm
Region (Indicate One)
☐ MISA

☐ Regulation 558
☐ CCME
☐ Prov. Water Quality Objectives (PWQO)
☐ Other
(Indicate One)

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

Project Information:
Project: 1-16-0543-42.1
Site Location: 16114 Airport Rd.
Sampled By: B. Rocher
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Is this submission for a **Record of Site Condition?** ☑ Yes ☐ No
Report Guideline on *Certificate of Analysis* ☑ Yes ☐ No

Invoice Information:
Bill To Same: Yes ☑ No ☐
Company:
Contact: Lorena Rossi
Address:
Email: lrossi@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 Y/N	O. Reg 153: Metals and Inorganics	O. Reg 153: All Metals ☐ 153 Metals (excl. Hydrides)	O. Reg 153: Hydride Metals ☐ 153 Metals (incl. Hydrides)	O. Reg 153: ORPs: ☐ B-HWS ☐ Cl ☐ CN	O. Reg 153: ☐ Cr^{6+} ☐ EC ☐ FOC ☐ Hg	O. Reg 153: ☐ pH ☐ SAR	Full Metals Scan	Regulation/Custom Metals	Nutrients: ☐ TP ☐ NH_3 ☐ TKN	Nutrients: ☐ NO_3 ☐ NO_2 ☐ NO_3+NO_2	Volatiles: ☐ VOC ☐ THM ☐ BTEX	PHCs F1 - F4	ABNs	PAHs	PCBs: ☐ Total ☐ Aroclors	Organochlorine Pesticides	TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	Sewer Use						Potentially Hazardous or High Concentration (Y/N)
BH 1-19	OCT 9/19		4	GW													✓	✓												
BH 2-19	↓		4	↓													✓	✓												
BH 3-19			4														✓	✓												
DUP #1	↓		4	↓													✓	✓												

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Bob Rocher R.Rocher.	OCT 9/19	1400hrs	Sima	19/10/9	4:46
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 1 of 1
N°: T096027

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

ATTENTION TO: Jessie Wu

PROJECT: 1-16-0543-42.1

AGAT WORK ORDER: 19T526103

SOIL ANALYSIS REVIEWED BY: Amanjot Bhela, Inorganic Supervisor

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

DATE REPORTED: Oct 08, 2019

PAGES (INCLUDING COVER): 7

VERSION*: 1

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

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

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Certificate of Analysis

AGAT WORK ORDER: 19T526103

PROJECT: 1-16-0543-42.1

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Jessie Wu

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2019-10-03

DATE REPORTED: 2019-10-08

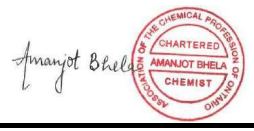
SAMPLE DESCRIPTION:				BH1-19/CS#1A	BH2-19/CS#1A	BH3-19/CS#1A	DUP #1
SAMPLE TYPE:				Soil	Soil	Soil	Soil
DATE SAMPLED:				2019-10-02	2019-10-02	2019-10-01	2019-10-02
Parameter	Unit	G / S	RDL	584025	584027	584029	584031
Antimony	µg/g	1.3	0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	1	2	1	1	2
Barium	µg/g	220	2	48	27	23	48
Beryllium	µg/g	2.5	0.5	<0.5	<0.5	<0.5	<0.5
Boron	µg/g	36	5	<5	<5	<5	<5
Boron (Hot Water Soluble)	µg/g	NA	0.10	0.16	0.14	0.17	0.16
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	70	2	11	8	9	11
Cobalt	µg/g	21	0.5	3.8	2.6	3.0	3.7
Copper	µg/g	92	1	8	7	3	10
Lead	µg/g	120	1	9	18	4	10
Molybdenum	µg/g	2	0.5	<0.5	<0.5	<0.5	<0.5
Nickel	µg/g	82	1	7	5	5	7
Selenium	µg/g	1.5	0.4	<0.4	<0.4	<0.4	<0.4
Silver	µg/g	0.5	0.2	<0.2	<0.2	<0.2	<0.2
Thallium	µg/g	1	0.4	<0.4	<0.4	<0.4	<0.4
Uranium	µg/g	2.5	0.5	<0.5	<0.5	<0.5	<0.5
Vanadium	µg/g	86	1	20	16	18	19
Zinc	µg/g	290	5	30	22	13	31
Chromium, Hexavalent	µg/g	0.66	0.2	<0.2	<0.2	<0.2	<0.2
Cyanide	µg/g	0.051	0.040	<0.040	<0.040	<0.040	<0.040
Mercury	µg/g	0.27	0.10	<0.10	<0.10	<0.10	<0.10
pH, 2:1 CaCl2 Extraction	pH Units		NA	7.52	7.43	7.20	7.45

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ON T1 S RPI/ICC
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.

584025-584031 pH was determined on the 0.01M CaCl2 extract prepared at 2:1 ratio.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



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Certificate of Analysis

AGAT WORK ORDER: 19T526103

PROJECT: 1-16-0543-42.1

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Jessie Wu

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2019-10-03

DATE REPORTED: 2019-10-08

		SAMPLE DESCRIPTION:		BH1-19/CS#3	BH2-19/CS#3A	BH3-19/CS#2B	DUP #2
		SAMPLE TYPE:		Soil	Soil	Soil	Soil
		DATE SAMPLED:		2019-10-02	2019-10-02	2019-10-01	2019-10-02
Parameter	Unit	G / S	RDL	584026	584028	584030	584032
Benzene	µg/g	0.02	0.02	<0.02	<0.02	<0.02	<0.02
Toluene	µg/g	0.2	0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05
Xylene Mixture	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05
F1 (C6 to C10)	µg/g	25	5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	25	5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g	10	10	<10	<10	<10	<10
F3 (C16 to C34)	µg/g	240	50	<50	<50	<50	<50
F4 (C34 to C50)	µg/g	120	50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	120	50	NA	NA	NA	NA
Moisture Content	%		0.1	17.6	15.6	20.2	17.0
Surrogate	Unit	Acceptable Limits					
Terphenyl	%	60-140		113	100	104	74

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ON T1 S RPI/ICC
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.

584026-584032 Results are based on sample dry weight.
The C6-C10 fraction is calculated using Toluene response factor.
Xylenes is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX contribution.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.
Fractions 1-4 are quantified with the contribution of PAHs. Under Ontario Regulation 153, results are considered valid without determining the PAH contribution if not requested by the client.
Quality Control Data is available upon request.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

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Quality Assurance

CLIENT NAME: TERRAPROBE INC.
PROJECT: 1-16-0543-42.1
SAMPLING SITE:

AGAT WORK ORDER: 19T526103
ATTENTION TO: Jessie Wu
SAMPLED BY:

Soil Analysis

RPT Date: Oct 08, 2019			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals & Inorganics (Soil)															
Antimony	579757		<0.8	<0.8	NA	< 0.8	97%	70%	130%	94%	80%	120%	92%	70%	130%
Arsenic	579757		2	2	NA	< 1	104%	70%	130%	99%	80%	120%	106%	70%	130%
Barium	579757		18	18	0.0%	< 2	99%	70%	130%	97%	80%	120%	105%	70%	130%
Beryllium	579757		<0.5	<0.5	NA	< 0.5	85%	70%	130%	111%	80%	120%	114%	70%	130%
Boron	579757		5	<5	NA	< 5	71%	70%	130%	110%	80%	120%	106%	70%	130%
Boron (Hot Water Soluble)	584025	584025	0.16	0.16	NA	< 0.10	105%	60%	140%	102%	70%	130%	99%	60%	140%
Cadmium	579757		<0.5	<0.5	NA	< 0.5	106%	70%	130%	103%	80%	120%	106%	70%	130%
Chromium	579757		7	7	NA	< 2	91%	70%	130%	106%	80%	120%	107%	70%	130%
Cobalt	579757		2.5	2.5	0.0%	< 0.5	89%	70%	130%	103%	80%	120%	103%	70%	130%
Copper	579757		8	8	0.0%	< 1	87%	70%	130%	102%	80%	120%	97%	70%	130%
Lead	579757		10	10	0.0%	< 1	99%	70%	130%	98%	80%	120%	96%	70%	130%
Molybdenum	579757		<0.5	<0.5	NA	< 0.5	103%	70%	130%	104%	80%	120%	107%	70%	130%
Nickel	579757		5	6	18.2%	< 1	92%	70%	130%	104%	80%	120%	101%	70%	130%
Selenium	579757		<0.4	<0.4	NA	< 0.4	100%	70%	130%	98%	80%	120%	107%	70%	130%
Silver	579757		<0.2	<0.2	NA	< 0.2	104%	70%	130%	100%	80%	120%	96%	70%	130%
Thallium	579757		<0.4	<0.4	NA	< 0.4	89%	70%	130%	99%	80%	120%	99%	70%	130%
Uranium	579757		<0.5	<0.5	NA	< 0.5	97%	70%	130%	97%	80%	120%	102%	70%	130%
Vanadium	579757		12	12	0.0%	< 1	93%	70%	130%	103%	80%	120%	107%	70%	130%
Zinc	579757		46	45	2.2%	< 5	94%	70%	130%	100%	80%	120%	108%	70%	130%
Chromium, Hexavalent	584482		< 0.2	< 0.2	NA	< 0.2	98%	80%	120%	86%	70%	130%	75%	70%	130%
Cyanide	583091		<0.040	<0.040	NA	< 0.040	103%	70%	130%	94%	80%	120%	100%	70%	130%
Mercury	579757		<0.10	<0.10	NA	< 0.10	102%	70%	130%	105%	80%	120%	106%	70%	130%
pH, 2:1 CaCl2 Extraction	584482		7.50	7.53	0.4%	NA	100%	80%	120%	NA			NA		

Comments: NA signifies Not Applicable.
Duplicate Qualifier: As the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL
pH duplicates QA acceptance criteria was met relative as stated in Table 5-15 of Analytical Protocol document.

Certified By:

Amanjot Bhela

ASSOCIATION OF THE CHEMICAL PROFESSION OF ONTARIO
CHARTERED
AMANJOT BHELA
CHEMIST

AGAT Laboratories

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Quality Assurance

CLIENT NAME: TERRAPROBE INC.

AGAT WORK ORDER: 19T526103

PROJECT: 1-16-0543-42.1

ATTENTION TO: Jessie Wu

SAMPLING SITE:

SAMPLED BY:

Trace Organics Analysis

RPT Date: Oct 08, 2019			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 (Soil)															
Benzene	587510		< 0.02	< 0.02	NA	< 0.02	98%	60%	130%	77%	60%	130%	71%	60%	130%
Toluene	587510		< 0.05	< 0.05	NA	< 0.05	92%	60%	130%	74%	60%	130%	86%	60%	130%
Ethylbenzene	587510		< 0.05	< 0.05	NA	< 0.05	95%	60%	130%	71%	60%	130%	91%	60%	130%
Xylene Mixture	587510		< 0.05	< 0.05	NA	< 0.05	104%	60%	130%	86%	60%	130%	98%	60%	130%
F1 (C6 to C10)	587510		< 5	< 5	NA	< 5	89%	60%	130%	108%	85%	115%	107%	70%	130%
F2 (C10 to C16)	569843		< 10	< 10	NA	< 10	102%	60%	130%	89%	80%	120%	77%	70%	130%
F3 (C16 to C34)	569843		< 50	< 50	NA	< 50	104%	60%	130%	104%	80%	120%	80%	70%	130%
F4 (C34 to C50)	569843		< 50	< 50	NA	< 50	110%	60%	130%	96%	80%	120%	107%	70%	130%

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

Certified By:

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: 19T526103

PROJECT: 1-16-0543-42.1

ATTENTION TO: Jessie Wu

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Antimony	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Arsenic	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Barium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Beryllium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Boron	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Boron (Hot Water Soluble)	MET-93-6104	EPA SW 846 6010C; MSA, Part 3, Ch.21	ICP/OES
Cadmium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Chromium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Cobalt	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Copper	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Lead	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Molybdenum	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Nickel	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Selenium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Silver	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Thallium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Uranium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Vanadium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Zinc	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Chromium, Hexavalent	INOR-93-6068	SW 846 Method 3060A; Method 7196A	SPECTROPHOTOMETER
Cyanide	INOR-93-6052	MOE CN-3015 & E 3009 A;SM 4500 CN	TECHNICON AUTO ANALYZER
Mercury	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
pH, 2:1 CaCl2 Extraction	INOR-93-6031	MSA part 3 & SM 4500-H+ B	PH METER
Trace Organics Analysis			
Benzene	VOL-91-5009	EPA SW-846 5035 & 8260D	P&T GC/MS
Toluene	VOL-91-5009	EPA SW-846 5035 & 8260D	P&T GC/MS
Ethylbenzene	VOL-91-5009	EPA SW-846 5035 & 8260D	P&T GC/MS
Xylene Mixture	VOL-91-5009	EPA SW-846 5035 & 8260D	P&T GC/MS
F1 (C6 to C10)	VOL-91-5009	CCME Tier 1 Method	P&T GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	CCME Tier 1 Method	P&T GC/FID
F2 (C10 to C16)	VOL-91-5009	CCME Tier 1 Method	GC/FID
F3 (C16 to C34)	VOL-91-5009	CCME Tier 1 Method	GC/FID
F4 (C34 to C50)	VOL-91-5009	CCME Tier 1 Method	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5009	CCME Tier 1 Method	BALANCE
Moisture Content	VOL-91-5009	CCME Tier 1 Method	BALANCE
Terphenyl	VOL-91-5009		GC/FID

AGAT Laboratories

1844

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 #: 19T526103
Cooler Quantity:
Arrival Temperatures: 6.9 | 7.1 | 7.1 / 8.7 | 6.9 | 6.9
Custody Seal Intact: ☐Yes ☐No ☐N/A
Notes:

Report Information:
Company: Terraprobe Inc.
Contact: Jessie Wu
Address: Brampton ON.
Phone: Fax:
Reports to be sent to:
1. Email: jwu@terraprobe.ca
2. Email:

Regulatory Requirements: ☐ No Regulatory Requirement
(Please check all applicable boxes)

☑ Regulation 153/04 — Table 2 (Indicate One) — ☐ Ind/Com ☑ Res/Park ☐ Agriculture
Soil Texture (Check One): ☑ Coarse ☐ Fine
☐ Sewer Use — ☐ Sanitary ☐ Storm — Region ____ (Indicate One) — ☐ MISA
☐ Regulation 558 ☐ CCME ☐ 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: 1-16-0543-42.1
Site Location: 16114 Airport Rd.
Sampled By: B. Racher
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: Lorena Rossi
Address:
Email: lrossi@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	Y/N
✓ BH 1 / CS #1A	Oct 2/19		1	SOIL	NO EC or SAR	
✓ BH 1 / CS #3	"		2	"		
✓ BH 2 / CS #1A	"		1	"	~ " ~	
✓ BH 2 / CS #3A	"		2	"		
BH 3 / CS #1A	Oct 1/19		1	"	~ " ~	
BH 3 / CS #2B	"		2	"		
✓ DUP #1	Oct 2/19		1	"	~ " ~	
✓ DUP #2	"		2	"		

Field Filtered - Metals, Hg, CrVI

O. Reg 153
- Metals and Inorganics: ☐ All Metals ☐ 153 Metals (excl. Hydrides) ☐ Hydride Metals ☐ 153 Metals (incl. Hydrides)
- ORPs: ☐ B-HWS ☐ Cl ☐ CN ☐ Cr^{6+} ☐ EC ☐ FOC ☐ Hg ☐ pH ☐ SAR
- Full Metals Scan
- Regulation/Custom Metals
- Nutrients: ☐ TP ☐ NH_3 ☐ TKN ☐ NO_3 ☐ NO_2 ☐ NO_3+NO_2
- Volatiles: ☐ VOC ● BTEX ☐ THM
- PHCs F1 - F4
- ABNs
- PAHs
- PCBs: ☐ Total ☐ Aroclors
- Organochlorine Pesticides
- TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs
- Sewer Use
- Potentially Hazardous or High Concentration (Y/N)

Sample Identification	Metals and Inorganics	Volatiles	PHCs F1 - F4
✓ BH 1 / CS #1A	X	✓	✓
✓ BH 1 / CS #3		✓	✓
✓ BH 2 / CS #1A	X		
✓ BH 2 / CS #3A		✓	✓
BH 3 / CS #1A	X		
BH 3 / CS #2B		✓	✓
✓ DUP #1	X		
✓ DUP #2		✓	✓

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Bob Racher	Oct 2/19	1400 hrs	2019/10/03		12:30
2019/10/03		1:45			

Page 1 of 1
N°: T095377

AGAT Laboratories

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: Jessie Wu

PROJECT: 1-16-0543-42.1

AGAT WORK ORDER: 19T528815

SOIL ANALYSIS REVIEWED BY: Nivine Basily, Inorganics Report Writer

DATE REPORTED: Oct 16, 2019

PAGES (INCLUDING COVER): 5

VERSION*: 2

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

*NOTES

VERSION 2:Revised report issued October 17, 2019.

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

AGAT Laboratories

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

Certificate of Analysis

AGAT WORK ORDER: 19T528815

PROJECT: 1-16-0543-42.1

CLIENT NAME: TERRAPROBE INC.

ATTENTION TO: Jessie Wu

SAMPLING SITE:

SAMPLED BY:

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

DATE RECEIVED: 2019-10-09

DATE REPORTED: 2019-10-16

SAMPLE DESCRIPTION:				BH2-19 CS#1A	BH3-19 CS4B	DUP 1
SAMPLE TYPE:				Soil	Soil	Soil
DATE SAMPLED:				2019-10-02	2019-10-01	2019-10-01
Parameter	Unit	G / S	RDL	604301	604302	604303
pH, 2:1 CaCl2 Extraction	pH Units		NA	7.99	8.07	8.03

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

604301-604303 pH was determined on the 0.01M CaCl2 extract obtained from 2:1 leaching procedure (2 parts extraction fluid:1 part wet soil).

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: Divine Basily

AGAT Laboratories

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

Quality Assurance

CLIENT NAME: TERRAPROBE INC.

AGAT WORK ORDER: 19T528815

PROJECT: 1-16-0543-42.1

ATTENTION TO: Jessie Wu

SAMPLING SITE:

SAMPLED BY:

Soil Analysis

RPT Date: Oct 16, 2019			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) - ORPs (Soil)															
pH, 2:1 CaCl2 Extraction	608229		11.4	11.4	0.3%	NA	100%	90%	110%						

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

Certified By: Divine Basily

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: 19T528815

PROJECT: 1-16-0543-42.1

ATTENTION TO: Jessie Wu

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
pH, 2:1 CaCl2 Extraction	INOR-93-6031	MSA part 3 & SM 4500-H+ B	pH METER

AGAT Laboratories

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

Chain of Custody Record

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

Laboratory Use Only
Work Order #: 19T528815

Cooler Quantity:
Arrival Temperatures: 6.3 | 6.1 | 5.9
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes: on ice

Report Information:
Company: Terraprobe
Contact: Jessie Wu
Address: 11 Indell Lane
Brampton
Phone: 905-796-2650 Fax:
Reports to be sent to:
1. Email: jwu@terraprobe.ca
2. Email:

Regulatory Requirements: ☐ No Regulatory Requirement
(Please check all applicable boxes)

☐ Regulation 153/04
Table 2 (Indicate One)
☐ Ind/Com
☒ Res/Park
☐ Agriculture
Soil Texture (Check One)
☐ Coarse
☐ Fine

☐ Sewer Use
☐ Sanitary
☐ Storm
Region ____ (Indicate One)
☐ MISA

☐ Regulation 558
☐ CCME
☐ 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: 1-16-0543-42-1
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: Terraprobe
Contact: Jessie Wu
Address: 11 Indell Lane Brampton
Email: lrossi@terraprobe.ca
jwu@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	Y / N
BH2 CS#1A	Oct 7/19		1	Soil		
BH3-CS4B	↓		↓	↓		
Dup 1	↓		↓	↓		

Field Filtered - Metals, Hg, CrVI

O. Reg 153
- Metals and Inorganics ☐ All Metals ☐ 153 Metals (excl. Hydrides) ☐ Hydride Metals ☐ 153 Metals (incl. Hydrides)
- ORPs: ☐ B-HWS ☐ Cl⁻ ☐ CN ☐ Cr^{6+} ☐ EC ☐ FOC ☐ Hg ☐ pH ☐ SAR
- Full Metals Scan
- Regulation/Custom Metals
- Nutrients: ☐ TP ☐ NH_3 ☐ TKN ☐ NO_3 ☐ NO_2 ☐ NO_3+NO_2
- Volatiles: ☐ VOC ☐ BTEX ☐ THM
- PHCs F1 - F4
- ABNs
- PAHs
- PCBs: ☐ Total ☐ Aroclors
- Organochlorine Pesticides
- TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs
- Sewer Use
- AC ✓ ✓ ✓
- Potentially Hazardous or High Concentration (Y/N)

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Bob Rachel R Rachel.	Oct 7/19	16:45	Simin	19/10/9	4:45
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

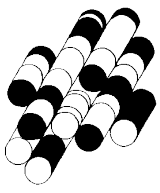
Page 1 of 1

N°: T 089823

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

APPENDIX F

TERRAPROBE INC.



CONCEPTUAL SITE MODEL
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
PART OF LOT 4, CONCESSION 6, PART 1, PLAN 43R-20293, BLOCK 7, 8, 9 & 10 (CONVEYANCE LAND), CALEDON, ONTARIO

The following are included in this Conceptual Site Model

- **Phase Two Conceptual Site Model –** From Terraprobe Report *"Phase Two Environmental Site Assessment, Part of Lot 4, Concession 6, Part 1, Plan 43R-20293, Block 7,8,9,10 (Conveyance Land), Caledon, Ontario"* (Terraprobe 2019)

TABLE OF CONTENTS

SECTION PAGE

FIGURES

1.0 INTRODUCTION

The following document is the Phase Two Conceptual Site Model (Phase Two CSM) for the Phase Two Property (Property) identified as Part of Lot 4, Concession 6, Part 1, Plan 43R-20293, Block 7, 8, 9, and 10 (Conveyance Land), Caledon, Ontario.

The Phase Two CSM comprises Section 6.10 of the report titled *"Phase Two Environmental Site Assessment Part of Lot 4, Concession 6, Part 1, Plan 43R-20293, Block 7,8,9 & 10 (Conveyance Land), Caledon, Ontario"*. The Phase Two CSM and larger report, of which it is a part, was prepared by Terraprobe Inc. for Trig Investments Inc. c/o Glen Schnarr & Associates Inc. The investigations were conducted under the direction and supervision of Muhammad I. Shahid, P.Geo., QP_{ESA}, who was acting as the Qualified Person for the Property, as defined under Ontario Regulation 153/04 (O.Reg. 153/04).

1.1 Property Description

The Property is irregular in shape, and covers an area of approximately 0.1 ha (approximately 0.25 acres) The Property is currently an undeveloped vacant land comprised of landscaped and wooded areas. The surrounding area is predominantly used for residential purposes. The Property is currently undeveloped/vacant in land and considered to be "Agricultural or Other Use" as per Ontario Regulation 153/04 (O.Reg. 153/04). The Property is to be conveyed to the Region of Peel (the "Region") for road widening. The Region has identified the requirements for a Phase One and Phase Two ESA completed in accordance with O. Reg 153/04, as amended, as a condition for site plan approval process.

The Property information is as below.

Legal Description	Part Lot 4 Con 6, EHS, Part 1, Plan 43R-20293, Block 7, 8, 9 & 10, Town of Caledon, Regional Municipality of Peel
PIN	14289-0188 (LT) and 14289-0186 (LT)
Municipal Address	N/A
Assessment Roll No.	N/A
Area	0.1 ha

The ownership information for the Phase Two Property is as below.

Property Owner Information	Shacca Caledon Holdings 210 Drumline Circle, Unit #1, Concord, Ontario Contact: Ugo Gulia

Current Land Use

The Property is currently an undeveloped land comprised of landscaped and wooded areas. The Property is currently in agricultural or other land use per Ontario Regulation 153/04. The location and extent of the Phase Two Property is identified on Figures 1 and 2.

Future Land Use

It is understood that the Property will be conveyed to the Region for road widening as part of the proposed development. Under O.Reg.153/04, the future Land Use of the Property would be considered community land use.

1.2 Summary of Previous Investigations

Previous investigations for the Property, which were completed by Terraprobe, are summarized below:

Report Title	Phase One Environmental Site Assessment 16114 Airport Road, Caledon, Ontario
Report Date	January 5, 2017
Prepared By	Terraprobe Inc. (Report Authors- Shama M. Qureshi, P.Eng., P.Geo., $QP_{RA,}$ Muhammad Shahid, P. Geo, QP_{ESA}, and Ahmad Sarwar, B.Sc., G.I.T.)
Prepared For	Shacca Caledon Holdings c/o Glen Schnarr & Associates Inc.

- A Phase One ESA was completed for a larger property including the Property as per the requirement of O.Reg. 153/04. The Phase One Environmental Site Assessment (ESA) identified the following Areas of Potential Environmental Concern (APEC) on the Phase One Property:

APEC	Location of APEC on the property	Details	Potential Contaminants of Concern (PCoCs)	Media Potentially Impacted
APEC 1	Eastern Portion of the property	PCA # 30 - Importation of Fill Material of Unknown Quality	Metals & Inorganics	Soil
APEC 2	South Central Portion of property	Other 1 - Ontario Spills	Petroleum Hydrocarbons (PHCs) + BTEX	Soil & Ground Water

- A Phase Two ESA would be recommended to investigate the APECs that have been identified on the property.

Report Title	Phase Two Environmental Site Assessment 16114 Airport Road, Caledon, Ontario
Report Date	February 8, 2017
Prepared By	Terraprobe Inc. (Report Authors- Shama M. Qureshi, P.Eng., P.Geo., $QP_{RA,}$ Muhammad Shahid, P. Geo, QP_{ESA}, and Ahmad Sarwar, B.Sc., G.I.T.)
Prepared For	Shacca Caledon Holdings c/o Glen Schnarr & Associates Inc.

- The Phase Two Environmental Site Assessment (ESA) was completed for a larger property including the Property as per the requirement of O.Reg. 153/04. The Phase Two ESA was conducted to investigate the two APECs identified the Property during the Phase One ESA.
- The investigation consisted of drilling of twenty one (21) boreholes and installation of nine (9) monitoring wells on the Property. The soil stratigraphy generally consisted of surficial layer of topsoil underlain by silty sand to sandy silt earth fill, which is underlain by native deposits of sand, sandy silt to silt and sand.
- The ground water elevation contours indicated that the direction of ground water flow is towards east/southeast.
- The applicable Site Condition Standards (SCS) are the Ontario Ministry of the Environment, Conservation and Parks (MECP) Standards identified as Table 2 Standards for Residential/Parkland/Institutional Property Use in a potable ground water condition.
- The parameters analysed for soil samples included: petroleum hydrocarbons (fraction F1 to F4), BTEX compounds, metals and inorganics and pH.
- All analytical soil sample results met the MECP Table 2 Site Condition Standards (SCS) for Residential Property Use for the analysed parameters.
- The ground water samples were collected from three (3) monitoring wells and analysed for PHCs and BTEX. The results of the ground water samples met the applicable Table 2 Standards for all analysed parameters.
- Based on the findings of the Phase Two ESA, the environmental status of the Property is considered to meet the applicable MECP Table 2 SCS.

Report Title	Updated Phase One Environmental Site Assessment 16114 Airport Road, Caledon, Ontario
Report Date	December 4, 2019
Prepared By	Terraprobe Inc. (Report Authors- Muhammad Shahid, P. Geo, QP_{ESA}, and Jessie Hui Chung Wu, M. Env. Sc.)
Prepared For	Shacca Caledon Holdings c/o Glen Schnarr & Associates Inc.

- An Updated Phase One Environmental Site Assessment (ESA) was completed for the larger property including the Property (Block 7, 8, 9 & 10) as per the requirement of O.Reg. 153/04.
- A Geophysical Survey was conducted on the Property in the vicinity of the building and identified a suspected underground storage tank (UST). Based on the geophysical survey, a potential UST anomaly was detected approximately 2 m south and 1.4 m west of southeast corner of the building.
- An excavation was conducted to remove the suspected UST on December 3, 2019. Upon excavation, the buried tank was identified to be an abandoned historical septic tank and not a fuel oil tank. The abandoned septic tank was decommissioned and removed off site. The excavation was filled and graded using soil on-site from adjacent areas.
- Off-site PCA - #28 - Gasoline and Associated Products Storage in Fixed Tanks. An above ground storage tank was observed adjacent to the south-central portion of the Property at 7 Walker Road.

- The off-site PCA cause an Area of potential Environmental Concern (APEC) on the Property that need to be investigated through a Phase Two ESA prior to filing of a Record of Site Condition (RSC).

Report Title	Updated Phase Two Environmental Site Assessment 16114 Airport Road, Caledon, Ontario
Report Date	December 13, 2019
Prepared By	Terraprobe Inc. (Report Authors- Muhammad I. Shahid, P. Geo, QP_{ESA}, and Jessie Hui Chung Wu, M. Env. Sc.)
Prepared For	Shacca Caledon Holdings c/o Glen Schnarr & Associates Inc.

- The Updated Phase Two Environmental Site Assessment (ESA) was completed for a larger property including the Property as per the requirement of O.Reg. 153/04. The Updated Phase Two ESA included additional investigation to address the additional APEC identified at the property during the Updated Phase One ESA (noted above) and to address the Region of Peel's comments on the previous Phase Two ESA report.
- The additional investigation consisted of drilling of additional six (6) boreholes that were equipped with monitoring wells. The soil stratigraphy generally consisted of surficial layer of topsoil underlain by native deposits of sand, sandy silt to silt and sand.
- The ground water elevation contours indicated that the direction of ground water flow is towards east/southeast.
- The applicable Site Condition Standards (SCS) were considered to be the MECP Standards identified as Table 1 Full Depth Background Site Condition Standards for Residential/Parkland/Institutional/Industrial/Commercial/Community land use.
- The parameters analysed for soil samples included: petroleum hydrocarbons (fraction F1 to F4), BTEX compounds, metals and inorganics and pH.
- All analytical soil sample results met the MECP Table 1 Site Condition Standards (SCS) for Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use for the analysed parameters.
- The ground water samples were collected from nine (9) monitoring wells (3 previous and 6 newly installed wells) and analysed for PHCs and BTEX. The results of the ground water samples met the applicable Table 1 Standards for all analysed parameters.

Based on the findings of the Updated Phase Two ESA, the environmental status of the property was considered to meet the applicable MECP Table 1 SCS.

2.0 INFORMATION FROM THE PHASE ONE ENVIRONMENTAL SITE ASSESSMENT

2.1 Areas Where Potentially Contaminating Activity has occurred

Potentially Contaminating Activities (PCAs) were identified on the Phase One ESA Property. The detailed locations of the PCAs are shown in Figure 2. These PCAs were considered to have the potential to impact the Property. The APECs associated with these PCAs were investigated and addressed in the Updated Phase Two ESA (Section 1.2 above). As such, no APEC remains on the Property as result of PCAs.

2.2 Areas of Potential Environmental Concern

There was no APEC identified on the Property.

The Phase Two ESA was conducted to assess the soil and ground water quality at the Property (conveyance lands) proposed to be conveyed to the Region.

2.3 Subsurface Structures and Utilities

The Phase One inspection of the Property found the following information regarding utilities and services at the Property. There were underground utilities (water, gas, telephone, storm and sanitary sewer) located on the Property, which have a potential to transport contaminants at the Phase One Property. However, no contaminants remain on the Property, therefore the subsurface structure and utilities are unlikely to cause the contaminant distribution and transport in future.

3.0 PHYSICAL SETTING OF THE PHASE TWO PROPERTY

3.1 Site Stratigraphy

Detailed geological information for the site is summarized below. The borehole locations are presented in Figure 3. The geological stratigraphy is shown in Figures 5A and 5B.

3.1.1 Geological Units – Thickness and Elevations

The geological unit elevations and original thicknesses are summarized below.

Borehole	BH 1-19		
	Elev. Top (masl)	Elev. Bottom (masl)	Thickness (m)
Asphaltic concrete/Top Soil	294.5	294	0.05
Earth Fill	-	-	-

Native Soil (Silty Sand to Sand)	294	292.1	1.9
Native Soil (Silt, trace sand)	292.1	289.2	2.9
Native Soil (Silt Sand)	289.2	288.6	0.6
Bedrock (weathered)	-	-	-

Borehole	**BH 2-19**		
	Elev. Top (masl)	Elev. Bottom (masl)	Thickness (m)
Asphaltic concrete/Top Soil	292.7	291.7	0.1
Earth Fill	-	-	-
Native Soil (Silty Sand to Sand)	291.7	287.5	4.2
Native Soil (Silt)	287.5	286.9	0.6
Bedrock (weathered)	-	-	-

Borehole	**BH 3-19**		
	Elev. Top (masl)	Elev. Bottom (masl)	Thickness (m)
Asphaltic concrete/Top Soil	291.7	291.5	0.22
Earth Fill	-	-	-
Native Soil (Silty Sand to Sand)	291.5	285.9	5.6
Bedrock (weathered)	-	-	-

Borehole	**BH 4-19**		
	Elev. Top (masl)	Elev. Bottom (masl)	Thickness (m)
Asphaltic concrete/Top Soil	-	-	-
Earth Fill	-	-	-
Native Soil (Silty Sand to Sand)	293	288.4	4.6
Native Soil (Silt)	288.4	287.1	1.3
Bedrock (weathered)	-	-	-

Borehole	BH2		
	Elev. Top (masl)	Elev. Bottom (masl)	Thickness (m)
Asphaltic concrete/Top Soil	291.3	291	0.3
Earth Fill	291	290.5	0.5
Native Soil (Sand)	290.5	289.8	0.7
Native Soil (Sandy Silt to Silt and Sand)	289.8	284.7	5.1
Bedrock (weathered)	-	-	-

Borehole	BH 3D		
	Elev. Top (masl)	Elev. Bottom (masl)	Thickness (m)
Asphaltic concrete/Top Soil	291.1	290.9	0.2
Earth Fill	290.9	290.3	0.6
Native Soil (Sand)	290.3	288.8	1.5
Native Soil (Sandy Silt to Silt and Sand)	288.8	284.5	4.3
Bedrock (weathered)	-	-	-

3.1.2 Material in Geological Units

Surficial Materials/Topsoil

Surficial material consisting of asphaltic concrete and aggregate was observed at borehole location BH2 with approximately 0.2 m thickness. Topsoil was observed along the western Property boundary at borehole locations BH9-18 to BH12-18 with thickness between 80 to 175 mm.

Earth Fill

A layer of earth fill material was encountered at BH2 and BH3D from previous investigations. The earth fill layer is reworked native material. The reworked native materials generally consisted of silty sand, trace clay, dark brown, and moist.

Native Soil

Underlying the surficial material, a cohesionless deposit of silty sand to sand was encountered and extended to a depth of 0.1 to 6.6 m (Elev. 293.5 to 284.7 masl) at all borehole locations.

Bedrock

Bedrock was not encountered during the Phase Two investigation.

3.2 Approximate Depth to Water Table

The Property ground surface elevation is approximately 290 metres geodetic. Ground water levels were measured in all the monitoring wells. All ground water levels were taken with a Solinst interface probe. The monitoring well location is presented in Figure 3. The ground water levels for all monitoring wells are presented below and on Figure 5.

Well ID	BH/MW 1-19		BH/MW 2-19		BH/MW 3-19	
Stick Up (m)	1.04		0.00		1.26	
Depth (mbgs)	6.08		4.61		6.42	
Ground Elev. (masl)	294.5		292.7		291.7	
Date	WL (m)	Elev. (masl)	WL (m)	Elev. (masl)	WL (m)	Elev. (masl)
2016/10/26	N/A	N/A	N/A	N/A	N/A	N/A
2019/10/09	4.56	290.98	2.67	290.03	4.14	288.82

A total of three (3) monitoring wells installed by Terraprobe were used to identify the general direction of the ground water flow. The locations of the wells were placed with sufficient spatial variation across the Property to estimate the ground water flow direction. Three (3) well screens installed by Terraprobe were installed in similar elevations within the native soils to capture the water table within the aquifer of interest. The well construction details are presented below.

Well ID	BH/MW 1-19		BH/MW 2-19		BH/MW 3-19	
Stick Up (m)	1.04		0.00		1.26	
Ground Elev. (masl)	294.5		292.7		291.7	
Well Component	**Depth (m)**	**Elev. (masl)**	**Depth (m)**	**Elev. (masl)**	**Depth (m)**	**Elev. (masl)**
Sand - Top	0.00	294.50	0.00	292.70	0.00	291.70
Bentonitie - Top	0.30	294.20	0.30	292.40	0.30	291.40
Bentonitie - Bottom	2.06	292.44	1.22	291.48	1.83	289.87
Sand - Top	2.06	292.44	1.22	291.48	1.83	289.87
Screen - Top	2.29	292.21	1.52	291.18	2.33	289.37
Screen - Bottom	5.33	289.17	4.57	288.13	5.38	286.32
Sand - Bottom	5.94	288.56	5.79	286.91	5.79	285.91

Based on the October 9, 2019 readings, the interpreted direction of ground water flow is to the southeast. The inferred ground water direction is expected to be southeast towards the Lake Ontario. Ground water flow direction and ground water elevation contours are presented on Figure 5. Locally, near-surface ground water flow may be influenced by underground structures (e.g. basement, service trenches).

The local ground water flow direction may fluctuate seasonally depending on the magnitude of precipitation and surface runoff, which will affect infiltration of surface water in particular at times such as significant snowmelt and rainfall events. Based on the local topography and development level of the Property and the surrounding properties, minor fluctuations of the natural ground water flow direction were encountered.

Based upon the ground water elevations there appears to be one aquifer present on the Property. The aquifer is an unconfined aquifer in the native silty sand to sand layer. Based on the current ground water levels, the ground water within the aquifer is encountered at an elevation of approximately 289 masl.

3.3 Site Hydrogeological Characteristics

According to Freeze and Cherry (1979), the typical hydraulic conductivity of the strata investigated at the Property are:

- Native Soil (Silty Sand to Sand) 10^{-4} m/s to 10^{-7} m/s

3.3.1 Horizontal Hydraulic Gradients

The ground water table is within the native silty sand to sand aquifer. Based on the current measured ground water levels, the horizontal hydraulic gradient of the ground water within the native soil layer at the Property from monitoring well BH/MW1-19 to BH/MW3D was determined to be approximately 0.003 m/m from the northwest towards the southeast.

Hydraulic Gradient = Difference in water levels/distance apart = 0.003

3.3.2 Vertical hydraulic Gradients

The vertical hydraulic gradient could not be reliably determined from the available data.

3.4 Approximate Depth to Bedrock

Bedrock was not encountered during the Phase Two ESA; however, bedrock in the area consists of shale, limestone, dolostone and siltstone of the Queenston Formation. Based on the published information, bedrock is located approximately 24 to 38 m below ground surface.

3.5 Section 41 or 43.1

Section 41 of the Regulation does <u>not</u> apply to the Phase Two Property based on the following rationale:

- The Property is not located within an area of natural significance,
- The Property does not include or is not adjacent to an area of natural significance,
- The Property does not include land that is within 30 meters of an area of natural significance or part of such an area
- The surface soil at the Property has a pH value that is not less than 5 or greater than 9; and
- The sub-surface soil at the Property has a pH value that is not less than 5 or greater than 11.

Section 43.1 of the Regulation does not apply to the Phase Two Property as the Property is not considered a shallow soil property and does not include all or part of a water body and is not adjacent to a water body and does not include land that is within 30 m of a water body.

3.6 Soils Placed On, In or Under the Phase Two Property

No soils have been imported or placed on, in or under the Phase Two Property since the start of environmental investigations on the Property (January, 2017).

3.7 Proposed Buildings

It is understood that the Property will not be developed and will be conveyed to the Region of Peel (the "Region").

4.0 CONTAMINATION IN OR UNDER THE PHASE TWO PROPERTY

4.1 Applicable Site Condition Standard

The applicable soil and ground water Standards for the Property were determined to be those in Table 1 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 Full Depth Background Site Condition Standards for Residential/ Parkland/ Institutional/ Industrial/ Commercial/ Community lane use (Table 1 Standards).

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

- The intended use for the Property is residential.
- The Property is located within a rural area, where domestic water use may be supplied from local groundwater
- The Property is not located within 30 m of a surface water body.
- Based on the published information, bedrock is located approximately 24 to 38 m below ground surface.
- Soil at the property was found to be coarse textured based on a review of the soil samples collected from the boreholes and the results of grain size analyses of representative soil samples on the Property.
- The soil pH was between 6 to 9 for surficial soils, and between 5 to 11 for subsurface soils.
- TRCA classified the western portion of the Property as a Locally Significant Wetland associated with the Caledon East Wetland Complex of the Humber River Watershed.

4.2 Media Investigated

Based on the Region's comments, it was decided that sampling and analysis was required to assess soil and ground water quality on the Property. Sample locations were selected for adequate coverage of the Property.

4.3 Sampling Rationale and Areas Where Contaminants are Present

There were no APECs identified on the Property. There were no contaminants of concern remaining on the Property.

4.3.1 Location and Depth of Soil Samples

Soil sampling was conducted during October 1, 2019. Based on scope of work and the field screening, a total of 8 soil samples were submitted for chemical analysis of petroleum hydrocarbons PHCs (F1-F4), metals, hydride-forming metals (As, Sb, Se), boron, hot-water soluble (B-HWS), cyanide (CN-), mercury (Hg), chromium hexavalent (Cr(VI)), pH, benzene, toluene, ethylbenzene, and xylene (BTEX) parameters. A summary of the soil samples and selected analyses is presented below.

No.	Sample ID	Sample Depth		Parameter Analysed (O.Reg. 153/04 as amended)
		(mbgs)*	(masl)*	
1	BH1-19/CS#1A and DUP#1	0 – 0.8	294.5 – 293.8	Metals, As, Sb, Se, B-HWS, CN-, Hg, Cr(VI), pH
2	BH2-19/CS#1A	0 – 0.8	292.7 – 292	Metals, As, Sb, Se, B-HWS, CN-, Hg, Cr(VI), pH
3	BH3-19/CS#1A	0 – 0.8	291.7 – 290.9	Metals, As, Sb, Se, B-HWS, CN-, Hg, Cr(VI), pH
4	BH3-19/CS#4B and DUP1	5.2 – 5.8	286.5 – 285.9	pH
5	BH1-19/CS#3 and DUP#2	3.0 – 3.8	291.5 – 290.7	PHCs (F1 to F4), BTEX
6	BH2-19/CS#3A	3.0 – 3.8	289.7-288.9	PHCs (F1 to F4), BTEX
7	BH3-19/CS#2B	2.3 – 3.0	289.4 – 288.6	PHCs (F1 to F4), BTEX

Note: mbgs – metre below ground surface; masl – metre above sea level

4.3.2 Location and Depth of Ground Water Samples

Ground water sampling was completed for the three monitoring wells (BH1-19, BH2-19 & BH3-19) on the Property. Ground water samples were analysed for parameters including PHCs and BTEX.

Sample ID	Screen/Sample Depth		Parameter Analysed (O.Reg. 153/04 as amended)
	(mbgs)	(masl)	
BH1-19	2.3 – 5.3	292.2 – 289.2	PHC (F1-F4) + BTEX
BH2-19 and DUP#1	1.5 – 4.6	291.2 – 288.1	PHC (F1-F4) + BTEX
BH3-19	2.3 – 5.4	289.4 – 286.3	PHC (F1-F4) + BTEX

Note: mbgs – metre below ground surface; masl – metre above sea level

4.4 Contaminants on the Property

No contaminants in the soil on the Property at the locations investigated

No Contaminants of Concern associated with the ground water on the Property at the locations investigated.

4.5 Medium in Which Contaminant are Associated

Contaminants are not associated with the soil and ground water on the Property.

4.6 Information Known at Property

Contaminants are not associated with the soil and ground water on the Property.

4.7 Distribution of Contaminant

Contaminants are not associated with the soil and ground water on the Property.

4.8 Reasons for Discharge of Contaminant

Contaminants are not associated with the soil and ground water on the Property.

4.9 Migration of Contaminant

Migration of contaminant on the Property is likely due to leaching from rail fall events. However, no exceedances were identified in the soils.

4.10 Climatic or Meteorological Influences on Migration

There is no possibility of migration of contaminants due to climatic or meteorological influences.

4.11 Soil Vapour Intrusion into Buildings

There is no possibility of soil vapour intrusion into buildings because there will be no development.

4.12 Relevant Construction Features of Buildings

There are no relevant construction features of buildings because there will be no development.

4.13 Building HVAC

There is no building HVAC because there will be no development.

4.14 Subsurface Structures and Utilities

There were underground utilities (water, telephone, gas, storm and sanitary sewer) located on the Property, which have a potential to transport contaminants at the Phase Two Property. However, no contaminants remain on the Property, therefore, the subsurface structure and utilities are unlikely to cause the contaminant distribution and transport.

5.0 POTENTIAL EXPOSURE PATHWAYS AND RECEPTORS

5.1 Description of All Components

Following is the list of all risk based components of the potential exposure pathways and receptors. These components are used in this section as well as the graphical representation of the pathways and receptors presented on Figures 7 and 8.

GW1 – Ground water for drinking water purposes

GW2 – Ground water for protection from movement to indoor air

GW3 – Ground water for protection of aquatic life

S1 – Soil for protection of a residential receptor from direct contact with surface soil

S2 – Soil for protection from direct soil contact for a lower frequency and intensity exposure than residential surface soil, such as commercial or industrial scenarios

S3 – Soil for direct soil contact for a low-frequency, high-intensity, human health exposure scenario without children present that is protective of a worker digging in the soil

S-IA – Soil for protection of movement to indoor air and human exposure

S-OA – Soil for protection of movement to outdoor air and human exposure

S-Odour – Soil for protection of excessive odours

S-GW1 – Soil for protection from movement to ground water for drinking water purposes

S-GW3 – Soil for protection from movement to ground water and then to aquatic life

Plants and Soil Organisms – Soil for protection against adverse effects to plants and soil dwelling organisms

Mammals and Birds – Soil for protection against adverse effects through direct soil and food ingestion to mammals and birds

5.2 Receptor Human Health

Potential Pathway	Potential Risks Sources	Contaminant of Concern from Phase One ESA	Potential Risks
GW1	Contamination not present in ground water	PHCs, BTEX, VOCs, PAHs	No Risk – No Source No Risk – No Pathway Risk – Receptor present
GW2	Contamination not present in ground water	PHCs, BTEX, VOCs, PAHs	No Risk – No Source No Risk – No Pathway Risk – Receptor present
S1	Contamination not present in soil	Metals, As, Sb, Se, B-HWS, CN-, Hg, Cr(VI), pH, PHCs, BTEX	No Risk – No Source No Risk – No Pathway Risk – Receptor present
S2	Contamination not present in soil	Metals, As, Sb, Se, B-HWS, CN-, Hg, Cr(VI), pH, PHCs, BTEX	No Risk – No Source No Risk – No Pathway No Risk – No Receptor
S3	Contamination not present in soil	Metals, As, Sb, Se, B-HWS, CN-, Hg, Cr(VI), pH, PHCs, BTEX	No Risk – No Source No Risk – No Pathway Risk – Receptor present
S-IA	Contamination not present in soil	Metals, As, Sb, Se, B-HWS, CN-, Hg, Cr(VI), pH, PHCs, BTEX	No Risk – No Source No Risk – No Pathway Risk – Receptor not present
S-OA	Contamination not present in soil	Metals, As, Sb, Se, B-HWS, CN-, Hg, Cr(VI), pH, PHCs, BTEX	No Risk – No Source No Risk – No Pathway Risk – Receptor present
S-Odour	Contamination not present in soil	Metals, As, Sb, Se, B-HWS, CN-, Hg, Cr(VI), pH, PHCs, BTEX	No Risk – No Source No Risk – No Pathway Risk – Receptor present
S-GW1	Contamination not present in soil	Metals, As, Sb, Se, B-HWS, CN-, Hg, Cr(VI), pH, PHCs, BTEX	No Risk – No Source No Risk – No Pathway Risk – Receptor present

5.3 Receptor Terrestrial Environment

Potential Pathway	Potential Risks Sources	Contaminant of Concern from Phase One ESA	Potential Risks
Plants and Soil Organisms	Contamination not present in soil	Metals, As, Sb, Se, B-HWS, CN-, Hg, Cr(VI), pH, PHCs, BTEX	No Risk – No Source No Risk – No Pathway Risk – Receptor present
Mammals and Birds	Contamination not present in soil	Metals, As, Sb, Se, B-HWS, CN-, Hg, Cr(VI), pH, PHCs, BTEX	No Risk – No Source No Risk – No Pathway Risk – Receptor present

5.4 Receptor Aquatic Environment

Potential Pathway	Potential Risks Sources	Contaminant of Concern from Phase One ESA	Potential Risks
GW3	Contamination not present in ground water	None	No Risk – No Source No Risk – No Pathway No Risk – No Receptor present
S-GW3	Contamination not present in soil	None	No Risk – No Source No Risk – Pathway Incomplete No Risk – No Receptor

5.5 Summary of Potential Receptor Risks

There were no contaminants of concern found to be present on the Property above the applicable full depth background Site Condition Standards. It is concluded by the Qualified Person that there are no potential risks associated with the Property in relation to the Human Receptor, the Terrestrial Environment or the Aquatic Environment.