



Phase Two Environmental Site Assessment

2960 and 2980 Teston Road, Vaughan, Ontario

Client:

*The Regional Municipality of York
145 Harry Walker Parkway North
Newmarket, ON
L3Y 7B3*

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2960 and 2980 Teston Road,
Vaughan, Ontario

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Summary Sheet

1. Site and Adjacent Land Conditions

Land Use	Former Residential, currently vacant
Date of Soil Sampling	November 16, 2021
Date of Ground Water Sampling	November 26, 2021
Number of Test Holes Drilled	Three (TH201 to TH203)
Number of Monitoring Wells Installed	One (TH201)
Type of OVM Meter	RKI Eagle 2
Adjacent Land Use (current)	North – Residential South – Residential/commercial East – Agricultural West – Agricultural
Aquifer Usage in 250 metre Radius	Yes

2. Site Soil Conditions

Soil Type	Maximum Depths (mbgs)	Comments
Top Soil	0.23	Black and dry
Sand Silt(fill)	2.29	trace gravel
Silt	10.97	trace gravel, transitioning to grey, some sand

3. Ground Water

Depth (mbgs)	9.19 to 9.66 mbgs
Ground Water Flow Direction	Southwesterly
Liquid Petroleum Detected	No

4. Selected Soil and Ground Water Standards

Regulation 153/04, as amended, Table 2 (residential/parkland/institutional property use and coarse textured soils in a potable ground water condition)

5. Analytical Results (Samples exceeding applicable Regulation 153/04 standards)

None

1 Legal Notification

This report was prepared by EXP Services Inc. for the account of the Regional Municipality of York.

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. EXP Services Inc. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

2 Executive Summary

The executive summary is a short synopsis of the report and should not be read in lieu of reading the report in its entirety. The Regional Municipality of York retained EXP Services Inc. (EXP) to conduct a Phase Two Environmental Site Assessment (ESA) at 2960 and 2980 Teston Road in Vaughan, Ontario (henceforth referred to as the Phase Two property or Site).

The Phase Two Property is located at the northeast corner of Teston Road and Jane Street, and is bounded by residential properties to the north, and agricultural land to the east in Vaughan, Ontario. The Site measures approximately 0.26 hectares (0.64 acres) in area. Based on the historical records review, it appears both 2960 and 2980 Teston Road were developed for residential use prior to the 1940s.

The objective of the Phase Two ESA was to gain an understanding of subsurface conditions at Phase Two property and to evaluate soil and ground water on the Site for due diligence purposes to aid in the approval of the Site Plan from the City of Vaughan for the planned construction works of the new Paramedic Station. The Phase Two ESA involved a soil and ground water sampling program. Parameters chosen for analysis during the Phase Two ESA were based upon the results of the Phase One for the Site completed by EXP.

Three test holes were drilled on the Phase Two property and soil samples were submitted for analysis of polycyclic aromatic hydrocarbon (PAH), metals, and inorganic parameters. All soil samples were within the applicable Table 2 Site Condition Standards (SCS) for all parameters analyzed.

One ground water monitor was installed. Ground water samples were collected from the new and existing monitoring wells and submitted for analysis of benzene, toluene, ethylbenzene, and xylene (BTEX), petroleum hydrocarbons (PHC) F1 to F4, and lead parameters. Ground water samples were within the applicable Table 2 SCS for all parameters analyzed.

3 Introduction

The Regional Municipality of York retained EXP Services Inc. (EXP) to conduct a Phase Two Environmental Site Assessment (ESA) at 2960 and 2980 Teston Road in Vaughan, Ontario (henceforth referred to as the Phase Two property or Site). A locality plan is provided as Figure 1 and a site plan showing the property is provided as Figure 2.

The objective of the Phase Two ESA was to gain an understanding of subsurface conditions at Phase Two property and to evaluate soil and ground water on the Site for due diligence purposes to aid in the approval of the Site Plan from the City of Vaughan for the planned construction works of the new Paramedic Station. The Phase Two ESA involved a soil and ground water sampling program. Parameters chosen for analysis during the Phase Two ESA were based upon the results of the Phase One for the Site completed by EXP.

The environmental assessment standards for the Phase Two property were determined using Ontario Regulation 153/04, as amended (Regulation 153/04), under Part XV.1 of the Environmental Protection Act. Soil and ground water samples were collected, preserved, and submitted to the Mississauga facility of Bureau Veritas Laboratories Inc. (BV Labs) and AGAT Laboratories (AGAT), which are accredited to ISO/IEC 17025:2005.

This Phase Two ESA was conducted in accordance with the mandatory requirements for Phase Two ESA as defined by Ontario Regulation 153/04 and is in accordance with generally accepted professional practices. Subject to this standard of care, EXP makes no express or implied warranties regarding its services and no third party beneficiaries are intended. Limitation of liability, scope of report and third party reliance are outlined in Appendix A.

3.1 Site Description

The Phase Two Property is located at the northeast corner of Teston Road and Jane Street, and is bounded by residential properties to the north, and agricultural land to the east in Vaughan, Ontario. The Site measures approximately 0.26 hectares (0.64 acres) in area. The Site is zoned as agricultural land use (A), according to the Comprehensive Zoning By-Law number 1-88 for the City of Vaughan. The Site is currently vacant.

At the time of the investigation, the site was owned by the Regional Municipality of York.

EXP was retained to conduct the Phase One ESA by the Regional Municipal of York located 145 Harry Walker Parkway North, Newmarket, Ontario.

The legal descriptions and property identification numbers (PINs) for the Site are provided below:

Legal Description for 2960 Teston Road: PART LOT 26 CONCESSION 4 AS IN R275257, EXCEPT PART 1, EXPROPRIATED PLAN D943; VAUGHAN – 03344-0192 (LT)

Legal Description for 2980 Teston Road: PART LOT 26 CONCESSION 4 VAUGHAN, PARTS 1, 2 & 3 EXPROPRIATED PLAN D949, VAUGHAN – 03344-0193 (LT)

The approximate Universal Transverse Mercator (UTM) coordinates for the site centroid are NAD83 17- 4858345N, 617289E. The UTM coordinates were based on Global Positioning System (GPS) measurements obtained from Google Earth. A survey plan of the site was completed by J.D. Barnes Limited in 2020. A copy of the Survey Plan is provided in Appendix B.

3.2 Property Ownership

The Phase Two property is currently owned by the Regional Municipality of York.

3.3 Current and Proposed Future Uses

The Phase Two property is currently vacant and was most recently used for residential property use. The proposed future development is for use as a Paramedic Response Station. Therefore, under Section 168.3.1 of the Environmental Protection Act, filing of a record of site condition is not required.

3.4 Applicable Site Condition Standard

Ontario Regulation 153/04, under Part XV.1 of the Environmental Protection Act, provides generic site condition standards based on land use (agricultural, residential/parkland/ institutional, or industrial/commercial/community), ground water use (non-potable or potable), soil type (coarse or fine-medium textured), and restoration depth (full or stratified).

Regulation 153/04 also provides alternate methods for assessment and remediation based on either restoring soil and/or ground water to background conditions or the use of a risk assessment. Generic standards for both soil and ground water are outlined in a document entitled Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act, April 15, 2011. These standards became effective on July 1, 2011.

According to Regulation 153/04, a property is considered to be an environmentally sensitive area if one or more of the following applies:

- a) The property is:
 - i) within an area of natural significance,
 - ii) includes or is adjacent to an area of natural significance or part of such an area, or,
 - iii) includes land that is within 30 metres of an area of natural significance or part of such an area.
- b) The soil at the property has a pH value as follows:
 - i) for surface soil, less than 5 or greater than 9
 - ii) for sub-surface soil, less than 5 or greater than 11
- c) A qualified person is of the opinion that, given the characteristics of the property and the certification the qualified person would be required to make in a record of site condition in relation to the property as specified in Schedule A of Ontario Regulation 153/04, it is appropriate to deem the property environmentally sensitive.

An “area of natural significance” means any of the following:

1. An area reserved or set apart as a provincial park or conservation reserve under the Provincial Parks and Conservation Reserves Act, 2006
2. An area of natural and scientific interest (life science or earth science) identified by the Ministry of Natural Resources and Forestry as having provincial significance
3. A wetland identified by the Ministry of Natural Resources and Forestry as having provincial significance

4. An area designated by a municipality in its official plan as environmentally significant, however expressed, including designations of areas as environmentally sensitive, as being of environmental concern and as being ecologically significant
5. An area designated as an escarpment natural area or an escarpment protection area by the Niagara Escarpment Plan under the Niagara Escarpment Planning and Development Act
6. An area identified by the Ministry of Natural Resources and Forestry as significant habitat of a threatened or endangered species
7. An area which is habitat of a species that is classified under section 7 of the Endangered Species Act, 2007 as a threatened or endangered species
8. Property within an area designated as a natural core area or natural linkage area within the area to which the Oak Ridges Moraine Conservation Plan under the Oak Ridges Moraine Conservation Act, 2001 applies
9. An area set apart as a wilderness area under the Wilderness Areas Act

The Phase Two property would not be considered environmentally sensitive as none of the conditions above apply, and the use of the generic standards is therefore appropriate.

In addition, the site condition standards for a shallow soil property or a surface water body in or near the Phase Two property are not applicable for the Phase Two property. The Phase Two property has more than 2/3 area of soil greater than 2 metres in depth beneath the ground surface. The Phase Two property does not include all or part of a water body, is not adjacent to a water body, and does not include land within 30 metres of a water body.

Based on the proposed land use of the Phase Two property, the soil texture was not determined during the current investigation, as such a conservative approach has been used to deem soils on the Site as coarse textured. Based on the Site environmental setting data shown in Table 1, the Phase Two property would be classified as having residential/ parkland / institutional property use with potable ground water. Thus, Ontario Regulation 153/04 Table 2 standards for residential/parkland/institutional property use and coarse textured soils (hereinafter referred to as Table 2 SCS) are appropriate for evaluating soil and ground water conditions at the Phase Two property.

4 Background Information

4.1 Physical Setting

The Site is located in the physiographic region known as the South Slope. The native soils are predominantly clayey silt tills and sand silt tills (*Physiography of Southern Ontario*, Chapman and Putnam, 1984). Based on the stratigraphy reported in the 2018 Phase Two ESA, the native soil is primarily sandy silt to sand.

According to the Ontario Geological Survey map of the area (Geological Highway Map, *Southern Ontario, Map 2441, Scale 1:800,000, 1990*), the underlying bedrock geology comprises of grey shale with siltstone interbeds and minor limestone of the Georgian Bay Formation of the Upper Ordovician period. Bedrock was not encountered during the Phase Two ESA (up to 11.3 mbgs) or in any of the well records from the Phase One study area (up to 29 mbgs).

The topography in the vicinity of the subject property is relatively flat. Based on the regional topography, groundwater is expected to flow southeast towards the West Branch of the Don River located approximately 100 metres east of the Site. An Ontario Base Map Series, a topographic map of the Phase One Study Area was reviewed (Natural Resource Canada, 2013). Based on the regional topography, groundwater is expected to flow east towards the Don River West Branch, a tributary to the Don River, located approximately 100 metres to the east. Table 1 summarizes the environmental setting and site characteristics. The hydraulic conductivity of the coarse sandy silt soils is estimated to be 1.1×10^{-1} cm/s as shown on Table 2.

The Site is neither on nor adjacent to any area of natural significance.

4.2 Past Investigations

A report entitled: *“Phase Two Environmental Site Assessment, 2960 Teston Road, Vaughan, Ontario”* dated August 10, 2018, prepared for the Regional Municipality of York, by EXP, was reviewed. Below is a summary of the pertinent findings:

- EXP was retained to assess subsurface environmental conditions at 2960 Teston Road on the Site with respect to the potential contaminating activities identified in the 2018 Phase One ESA.
- Three test holes (BH-1, BH-2 and BH-11) were advanced in June 2018 to a maximum depth of 8.2 metres below ground surface (mbgs). Although monitoring wells were installed in all three test holes, all three were found to be dry in August 2018. Three additional test holes (BH-1D, BH-2D and BH-11D) were advanced adjacent to the existing test holes to a maximum depth of 11.3 mbgs.
- Stratigraphy encountered was generally comprised of sandy silt to fine sand. Approximately 0.6 m to 1.9 m of sand and gravel to silt fill was noted.
- Grain size analysis was completed on three soil samples representative of the native soil at the Site (BH1 – 2.3 to 2.9 mbgs; TH2 – 3.0 to 3.5 mbgs; TH11 – 3.0 to 3.6 mbgs). The native soil at the Site is classified as medium and fine textured.
- Soil samples were collected for benzene, toluene, ethylbenzene, xylenes (BTEX), volatile organic compounds (VOC), petroleum hydrocarbon fractions (PHC) F1 to F4, polycyclic aromatic hydrocarbons (PAH), polychlorinated biphenyls (PCB), metals and/or inorganics. Soil samples were completed to the Regulation 153/04 Table 2 standards for industrial/commercial/community (ICC) property use and medium and fine textured soils. All soil samples met the MECP Table 2 ICC SCS for all parameters analyzed except one sample collected from BH1 which exceeded for sodium absorption ratio and conductivity.
- Groundwater samples were collected from three of the six monitoring wells (BH-1D, BH-2D and BH-11D). Groundwater samples were submitted for analysis of VOC, PHC F1 to F4, PAH, PCB, metals and/or inorganics. All groundwater samples met the MECP Table 2 ICC SCS for all parameters analyzed.
- Depth to groundwater in BH-1D, BH-2D and BH-11D was approximately 9.5 mbgs. The remaining three monitors (BH-1, BH-2 and BH-11) were dry. Groundwater flow was interpreted to be southwesterly.

A report entitled: *“Geotechnical Investigation, Proposed Paramedic Response Station, 2960 Teston Road, Vaughan, Ontario”* dated August 3, 2018, prepared for the Regional Municipality of York, by EXP, was reviewed. Below is a summary of the pertinent findings:

- EXP was retained to determine the subsurface geotechnical conditions at the Site. No groundwater monitors were installed.
- The Site has an area of approximately 0.64 acres (2960 Teston Road – 0.22 acres; 2980 Teston Road – 0.42 acres).
- Ten test holes (BH1 to BH10) were advanced to a maximum depth of 8.3 mbgs.
- Stratigraphy encountered was generally comprised of sandy silt to silt till. Fill material extended to depths of approximately 1.4 to 2.9 mbgs.
- No soil or groundwater samples were submitted for environmental analysis.

5 Scope of the Investigation

5.1 Overview of Site Investigation

The investigation included the following activities:

- Inspecting subsurface conditions by drilling three test holes on the Phase Two property Site and installing a ground water monitor in only one test hole locations (on 2980 Teston Road).
- Field screening of all recovered soil samples for the presence of environmental impact (i.e. soil headspace volatile vapour measurements, physical observations)
- Submitting selected soil samples for analysis of the potential contaminants of concern (PCOC) and contaminants of concern (COC) identified in the current Phase One ESA
- Monitoring ground water levels in the newly installed monitors to determine ground water elevations.
- Submitting ground water samples from the monitor for laboratory analysis of PCOC identified during the 2018 investigation to confirm Site conditions have remained the same
- Conducting ground water sampling in accordance with the Ministry of the Environment, Conservation and Parks (MECP) Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario, dated December 1996, in accordance with the MECP Protocol for Analytical Methods used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act, March 2004, as amended, and per EXP Standard Operating Procedures (SOPs), and generally accepted professional practices.
- Comparing the results of the soil and ground water analyses to the applicable Standards

All work was carried out following the Quality Management, Control and Assurance procedures outlined in Appendix C.

5.2 Media Investigated

The objective of the current investigation was to assess the soil and ground water quality at the Phase Two property based on the Phase One investigations by EXP (2018 and 2021). An overview of the field investigation is provided in Section 5.1.

No sediment sample were retrieved in the Phase Two ESA due to no water body located within the Site.

5.3 Phase One Conceptual Site Model

During the Phase One ESA, a conceptual site model (CSM) was formulated. The CSM from the Phase One has been updated and is presented in the Phase Two ESA report. The locations of potential contaminant sources that may have affected the Phase Two property, is provided as Figure 3. Areas of Potential Environmental Concern (APEC) that may have affected the Phase Two property is provided as Figure 4.

Three Potentially Contaminating Activities (PCA) were identified within the Phase One and Phase Two Property; two were considered to contribute to an onsite APEC. Two onsite PCAs (S1 to S2), considered to contribute to APECs, were identified on the Phase Two property:

- S1: (30) Importation of Fill Material of Unknown Quality; (2960 Teston Road; onsite)
- S2: (30) Importation of Fill Material of Unknown Quality; (2980 Teston Road; onsite)

The ground water flow direction is southwesterly.

5.4 Deviations from Sampling and Analysis Plan

The sampling and analysis plan is outlined in Sections 5 and 6 of this report. No deviations were noted from the sampling and analysis plan during the Phase Two ESA. The original sampling and analysis plans are included in Appendix D. Following the phase Two ESA.

5.5 Impediments

The sampling and analysis plan is outlined in Sections 5 and 6 of this report. No impediments to the sampling and analysis plan were encountered during the Phase Two ESA. The sampling and analysis plan is included in Appendix D.

6 Investigation Method

6.1 General

EXP performed the phase Two ESA following requirements given under Ontario Regulation 153/04 and in accordance with generally accepted professional practices. The investigation was completed following the relevant EXP SOP.

6.2 Drilling

The drilling investigation was conducted on November 16, 2021. Profile Drilling Inc (Profile) was contracted by EXP to drill three test holes on the Phase Two property. Test holes were drilled to a maximum depth of 11 metres below ground surface (mbgs) using a direct push rig. Bedrock was not encountered. A dual tube soil sleeves were used to collect soil samples as drilling progressed.

For field screening purposes, soil samples were collected using samples sleeves in the drilled portion of the test holes. All soil samples were examined for geologic information and for physical evidence of chemical impact.

Soil samples were submitted to the laboratory from specific depth intervals as specified in the sampling plan and based on contaminant indicators.

After each sample collection, PVC sample sleeves were discarded. Auger flights were cleaned with a brush between test hole locations. Following the conclusion of the drilling investigation, the drill rig was steam cleaned to decontaminate the equipment. The test hole logs for TH101 to TH103 are provided in Appendix E.

6.3 Soil: Sampling

Soil samples were collected as the drilling progressed from the sample sleeves in 5ft intervals at depths below grade. These samples were examined for geologic information and for physical evidence of chemical impact.

A description of geological soil conditions at the Phase Two property is included in Section 7.1.

6.4 Field Screening Measurements

Readings of petroleum vapour concentrations in the soil samples collected during the drilling investigation were recorded using an RKI Eagle 2, where there was sufficient recovery. These instruments are designed to detect and measure concentrations of combustible gas in the atmosphere to within 5 parts per million by volume (ppmv) from 0 ppmv to 200 ppmv, 10 ppmv increments from 200 ppmv to 1,000 ppmv, 50 ppmv increments from 1,000 ppmv to 10,000 ppmv, and 250 ppmv increments above 10,000 ppmv. They are equipped with two ranges of measurement, reading concentrations in ppmv

or in percentage lower explosive limit (% LEL). The RKI Eagle 2 instrument can determine combustible vapour concentrations in the range equivalent to 0 to 11,000 ppmv of hexane.

The instrument was configured to eliminate any response from methane for all sampling conducted at the subject property. Instrument calibration is checked on a daily basis in both the ppmv range and % LEL range using standard gases comprised of known concentrations of hexane (400 ppmv, 40% LEL) in air. If the instrument readings are within $\pm 10\%$ of the standard gas value, then the instrument is deemed to be calibrated, however if the readings are greater than $\pm 10\%$ of the standard gas value then the instrument is re-calibrated prior to use.

Soil samples were collected from a soil dual tube sleeves. The samples are left to equilibrate within the bag at a temperature above 15°C for 30 minutes before measurement of the peak headspace concentration is taken. Petroleum vapours ranged from 5 ppmv to 10 ppmv.

6.5 Ground Water: Monitor Well Installation

Only test hole TH101 was completed as subsurface monitor. The remaining two wells drilled were back fill with soil cuttings. The procedures for minimizing cross-contamination and the process for selecting samples for analysis are included in Section 6.2.

The monitor was constructed of 50 millimetre diameter threaded PVC pipe. The lower section of pipe was slotted (0.254 millimetre slot) above and below the water table, as observed during drilling. The upper section of the pipe is a solid riser. The lower part of the annulus of the hole was backfilled with clean sand (fine graded silica sand with a uniformity coefficient of 1.1-1.7 and an effective size of 1.5-3.0 mm, usually K&E Well Pack #3 Silica Sand) up to approximately 0.3 metres above the top of the slotted section. A bentonite seal (dry chipped sodium montmorillonite in 3/8-inch diameter chips) was placed above the sand to just below grade. Concrete was used to seal the monitors at grade. The monitors were equipped with protective casings and locking lids. A diagram showing a typical monitor installation, along with MECP well records are provided in Appendix E.

Following the conclusion of the drilling investigation and installation of the new monitor, the monitor and two existing monitors onsite were developed by purging and surging a minimum of three well volumes of water, where water recovery was present.

6.6 Ground Water: Field Measurement of Water Quality Parameters

Field measurement of water quality parameters is described in Section 7.2.

6.7 Ground Water: Sampling

Ground water samples were collected from two existing wells (BH-11D, BH-2D) and TH101 using a low flow sampling technique. The low flow sampling technique involves pumping ground water at low rates, typically less than 500 mL per minute, to minimize drawdown.

Prior to collecting the ground water samples, the monitor was purged with the low flow sampling equipment and field parameters (pH, conductivity, turbidity, dissolved oxygen, temperature and oxidation reduction potential) were monitored until stable readings were achieved. These parameters are considered to be stable when three consecutive readings are within 10% of one another. When stabilization occurs, equilibrium between ground water within a monitor and the surrounding formation water is attained. As such, samples collected when stabilization occurs are considered to be representative of formation water.

Note all other monitors on the Site were decommissioned prior to the current investigation and were not sampled during this investigation.

6.8 Analytical Testing

All laboratory analyses of ground water samples were completed by the Mississauga facility of BV Labs and AGAT SCC accredited laboratory. BV Lab and AGAT performed the work following formal written methods and procedures. These methods include all the minimum requirements as specified in the Protocol for Analytical Methods used in the Assessment of Properties under Part XV.I of the Environmental Protection Act (March 9, 2004), as amended July 1, 2011.

6.9 Residue Management Procedures

Soil cuttings from the test hole drilling were distributed across the Site. Purge water collected from the monitor during sampling activities was returned to ground onsite at the location of the monitor.

6.10 Elevation Surveying

The monitor was surveyed by EXP on November 26, 2021 and are related to an Elevations are relative to geodetic benchmark MNRF Station #00819688062 with elevation of 239.226 masl.

6.11 Quality Assurance and Quality Control Measures

Quality assurance and quality control measures are discussed in Appendix C, Quality Management, Control and Assurance. A description of equipment cleaning procedures during soil sampling is provided in Section 5.2. Dedicated low flow sample tubing and pump bladders were used for collecting the ground water sample. A description of ground water monitoring equipment cleaning is provided in Section 7.2.

7 Review and Evaluation

7.1 Geology

The current drilling investigation has revealed that the subsurface soil at the Phase Two property consists of sand/sandy silt fill to coarse sand overburden. According to the Ontario Geological Survey map of Toronto and the Surrounding Area, the bedrock elevation of the Site is at 75 metres above sea level (masl).

The ground water depth between 9.19 to 9.66 mbgs and the hydraulic conductivity of the coarse sand soils is estimated to be 1.1×10^{-1} cm/s.

A Cross Section Plan is provided as Figure 5. Cross-sections of the Phase Two property, including elevations of geologic units, are discussed in Section 7 and shown on Figures 6, 7 and 11.

7.2 Ground Water: Elevations and Flow Direction

The monitors installed on the Phase Two property were completed to assess possible ground water impacts from onsite and surrounding PCA. On November 26, 2021, the monitoring wells were inspected for general physical condition, ground water depth, the presence of phase-separated liquid petroleum and vapour concentrations.

All measurements of ground water and phase-separated liquid petroleum depth were made with a Solinst Model 122 oil/water interface probe. Both the probe and the measuring tape that come into contact with liquids within a monitor are cleaned with phosphate-free soap and water, rinsed with distilled water and then methanol after each measurement.

For all monitors in which phase-separated liquid petroleum is detected with the interface probe, the presence of liquid petroleum is verified with a bailer. If there is measurable or observable phase-separated liquid petroleum in the bailer, then a ground water sample is not submitted for laboratory analysis from this location.

Following calibration of the RKI Eagle 2, as described in Section 6.4, the ground water vapour concentrations were measured by placing the nozzle inside the monitoring well casing no less than six inches and no more than twelve inches below the top of pipe, immediately after the water well cap was removed.

The vapour ranged from non-detectable to 130 ppmv. No phase-separated liquid petroleum was detected in any of the monitor. The depth to the ground water ranged from table 9.16 to 9.66 mbgs in wells with recovery (BH-2D, BH1-D, BH-11D, and TH101). The ground water monitoring and elevation data is provided in Table 3.

A ground water contour plan is provided as Figure 10. Based on the data, the ground water flow direction at the Phase Two property is interpreted to be southwesterly.

Since there is little variation in ground water levels and inferred ground water flow directions, climatic and meteorological conditions are not expected to have a significant influence on distribution and migration of contaminants.

The Phase Two property is currently vacant, all previous above ground and below ground structures and utilities have been removed from Site.

7.3 Ground Water: Hydraulic Gradients

The horizontal gradient was calculated based on the ground water contour plan provided in Figure 10. The hydraulic gradient is approximately 0.001 m/m (change in hydraulic head per unit distance) towards the southeast.

Table 2 shows the Darcy's Law calculation of the estimated ground water flow velocity at the Site Using 1×10^{-4} cm/s for the hydraulic conductivity of coarse Sand (Freeze and Cherry, 1979), a gradient of 0.001 m/m, and 30% for effective porosity, Darcy's Law calculations were made to determine the potential groundwater flow velocity at the Site. The groundwater flow velocity was calculated to be approximately 1.05×10^{-1} metres per year in the sand onsite based on the current investigation.

7.4 Coarse Texture Soil

Per Regulation 153/04, to be classified as medium to fine textured soil, at least 2/3 of the soil on a site must contain 50% or more particles with a diameter less than 75 microns.

No grain size analysis was collected during this investigation. However, during the previous investigation on 2960 Teston Road in 2018 soil textures was determined to be medium to fine textured. As the Site includes both 2980 and 2960 Teston Road, a conservative approach has been used to classify soils at the Site at coarse textured.

7.5 Soil: Field Screening

The methodology for the collection of soil vapour concentration measurements is described in Section 6.4. Vapour concentrations collected during the current investigation were all non-detectable.

7.6 Soil Quality

Seven soil samples were collected from all newly drilled test holes (TH101 to TH103) during this investigation and submitted to BV Labs for analysis of one or more of the following parameters: PAH, metals, and inorganics. A field blank for PAH was also submitted.

All work was carried out following the Quality Management, Control and Assurance procedures outlined in Appendix C.

The results of the soil chemical analysis for PAHs are provided in Table 4, along with the applicable Ontario Regulation 153/04 Table 2 standards and soil sample depths. All of the soil samples were within the applicable Table 2 SCS for all parameters analyzed.

The results of the soil chemical analysis for metals and inorganic parameters are provided in Table 5, along with the applicable Ontario Regulation 153/04 Table 2 standards and soil sample depths. All of the soil samples were within the applicable Table 2 SCS for all parameters analyzed.

The results of the soil chemical analysis for pH are provided in Table 6, along with the applicable Regulation 153/04 range. All soil samples were within the applicable range specified by Regulation 153/04.

The results of the current and historical soil sampling for the COC and PCOC are provided in Figures 8 to 9, and also discussed in Section 7.

There is no indication of the occurrence of contaminants related to the chemical or biological transformation of the contaminants analyzed. Based on the previous and current soil and ground water concentrations, there is no evidence that light non-aqueous phase liquids (LNAPL) or dense non-aqueous phase liquids (DNAPL) are present.

Copies of the laboratory Certificates of Analysis are provided in Appendix F.

7.7 Ground Water Quality

Three ground water samples (BH-2D, BH-11D and TH101) were collected and submitted to the Mississauga facility of AGAT, an SCC accredited laboratory, for analysis of the following parameters: VOC and PHC F1 to F4. A field blank and a trip blank were also submitted for analysis of these parameters. All work was carried out following the Quality Management, Control and Assurance procedures outlined in Appendix C.

The results of the ground water chemical analysis for VOC, PHC F1 to F4 are provided in Table 7, along with the appropriate Regulation 153/04 Table 2 standards and screen interval depths. All ground water samples collected were within the Table 2 Site Condition Standards (SCS) for all parameters analyzed. Copies of the laboratory Certificates of Analysis are provided in Appendix F.

The results of the current and historical ground water sampling for the COC and PCOC are provided in Figure 11 and 12, and also discussed in Section 7.

There is no indication of the occurrence of contaminants related to the chemical or biological transformation of the contaminants analyzed. Based on the previous and current soil and ground water concentrations, there is no evidence that LNAPL or DNAPL are present.

7.8 Quality Assurance and Quality Control Results

The quality assurance and quality control results are discussed in Appendix C, Quality Management, Control and Assurance.

8 Phase Two Conceptual Site Model

A Phase Two conceptual site model (CSM) was developed for the Phase Two property using information collected during the current investigation.

During the current investigation, EXP collected soil and ground water samples at three locations across the Site.

The CSM is a simplification of reality, which aims to identify the potentially contaminating activities (PCA), areas of potential environmental concern (APEC), contaminant transport and exposure pathways, and receptors. The CSM is a compilation of narrative description, diagrams, cross-sections and figures illustrating the current condition of the Phase Two property as well as the intended future use.

The Phase Two Property is located at the northeast corner of Teston Road and Jane Street, and is bounded by residential properties to the north, and agricultural land to the east in Vaughan, Ontario. The Site measures approximately 0.26 hectares (0.64 acres) in area. The Site is zoned as agricultural land use (A), according to the Comprehensive Zoning By-Law number 1-88 for the City of Vaughan. The Site is currently vacant.

The legal descriptions and property identification numbers (PINs) for the Site are provided below:

Legal Description for 2960 Teston Road: PART LOT 26 CONCESSION 4 AS IN R275257, EXCEPT PART 1, EXPROPRIATED PLAN D943; VAUGHAN – 03344-0192 (LT)

Legal Description for 2980 Teston Road: PART LOT 26 CONCESSION 4 VAUGHAN, PARTS 1, 2 & 3 EXPROPRIATED PLAN D949, VAUGHAN – 03344-0193 (LT)

Based on the historical records review, it appears both 2960 and 2980 Teston Road were developed for residential use prior to the 1940s.

A locality plan is provided as Figure 1 and a site plan showing the RSC property is provided as Figure 2.

8.1 Potentially Contaminating Activities and Areas of Potential Environmental Concern

Two (2) PCAs were considered to result in APECs on the property. The APEC and associated PCA are outlined below.

The locations of all PCAs and APECs are shown on Figures 3 and 4, respectively.

APECs A - This area includes the northeast portion of the Site and is associated with the following PCAs:

S1 (30) IMPORTATION OF FILL MATERIAL OF UNKNOWN QUALITY

Based on the 2018 Phase Two ESA, up to 1.9 m of fill material is present at 2960 Teston Road. Although fill material was assessed during the Phase Two investigation, the garage on the north portion of 2960 Teston Road was removed since that report was issued. The source and quality of the fill is unknown

APEC B - This area includes the west portion of the Site and is associated with the following PCAs:

S2 (30) IMPORTATION OF FILL MATERIAL OF UNKNOWN QUALITY

Based on the 2018 Geotechnical report, up to 2.4 m of fill material is present at 2980 Teston Road. The source and quality of the fill is unknown

The PCAs that contribute to an APEC are summarized in Table 8-1 below, named and numbered as per Schedule D of O. Reg. 153/04. Where an activity is not listed under Schedule D, it is identified as “other”.

The locations of all PCAs and APECs are shown on Figures 3 and 4, respectively.

Table 8-1: Areas of Potential Environmental Concern Related to Potentially Contaminating Activities

Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity ¹	Location of PCA (onsite or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (ground water, soil and/or sediment)
APEC A	Eastern Portion of the Site	S1: (30) Importation of Fill Material of Unknown Quality	Onsite	PAH, Metals, B-HWS, Cr (VI), Hg, EC, SAR	Soil
APEC B	Western Portion of the Site	S2: (30) Importation of Fill Material of Unknown Quality	Onsite	PAH, Metals, B-HWS, Cr (VI), Hg, EC, SAR	Soil

PCA name and number as listed in Table 2 of Schedule D of O. Reg. 153/04. (*) PCA not identified in Table 2 of Schedule D of Reg. 153/04

PAH = polycyclic aromatic hydrocarbons; B-HWS = hot water-soluble boron; Cr (VI) – chromium VI; EC- electrical conductivity; SAR = sodium adsorption ratio

Please note that groundwater is not a media potentially impacted based on the findings of Phase One ESA. The groundwater analysis was conducted in this Phase Two ESA to determine general environmental quality of the groundwater within the Site.

8.2 Subsurface Structures and Utilities

The RSC property is currently vacant, all previous above ground and below ground structures and utilities have been removed from Site. According to York Region, the surrounding properties to the south across Teston Road are serviced by municipal water from either Lake Ontario or groundwater sources and properties to the north are serviced by private water wells. York Region supplies sanitary and storm sewers for the surrounding properties. Based on locations of manholes and catch basins, storm and sanitary utilities are along Teston Road. There are no well head protection zones within the vicinity of the Site.

Given the depth of the ground water table at the Site (between 9.16 to 9.66 mbgs) and typical depths of sewer trenches (1.5 to 2.0 mbgs), there is likely no potential for migration of dissolved phase (i.e. groundwater) contaminants of concern (COC) along preferential flow paths associated with sewer bedding materials off-site. Further details pertaining to contaminant migration is provided in Section 8.7.

8.3 Physical Setting

Stratigraphy

Regional and Local Geology

The Site is located in the physiographic region known as the South Slope. The native soils are predominantly clayey silt tills and sand silt tills (*Physiography of Southern Ontario*, Chapman and Putnam, 1984). Based on the stratigraphy reported in the 2018 Phase Two ESA, the native soil is primarily sandy silt to sand. Based on the current drilling investigation, stratigraphy generally consisted of sandy silt to silt fill overlying native silt till.

According to the Ontario Geological Survey map of the area (Geological Highway Map, *Southern Ontario, Map 2441, Scale 1:800,000, 1990*), the underlying bedrock geology comprises of grey shale with siltstone interbeds and minor limestone of the Georgian Bay Formation of the Upper Ordovician period. Bedrock was not encountered during the current investigation (up to 11.0 mbgs) or in any of the well records from the Phase One study area (up to 29 mbgs).

The topography in the vicinity of the Site is relatively flat. An Ontario Base Map Series, a topographic map of the Phase One Study Area was reviewed (Natural Resource Canada, 2013). Based on the regional topography, groundwater is expected to flow southeast towards the West Branch of the Don River located approximately 100 metres east of the Site.

Approximate Depth to Bedrock

Based on the surface elevation of the Site obtained from an Ontario Base Map reviewed during the Phase One ESA and the observed depth to bedrock at the Site, the bedrock elevation of the Site is at approximately 230 metres above sea level (masl).

Bedrock was not encountered during the current investigation (up to 11.0 mbgs) or in any of the well records from the Phase One study area (up to 29 mbgs).

8.4 Hydrogeological Characteristics and Approximate Depth to Water Table

Regional Hydrogeology

An Ontario Base Map Series, a topographic map of the Phase One Study Area was reviewed (Natural Resource Canada, 2013). Based on the regional topography, groundwater is expected to flow southeast towards the West Branch of the Don River located approximately 100 metres east of the Site. Ground water elevation measurements conducted during the current indicated that the ground water flows southwesterly, as shown in Figure 12.

The horizontal gradient was calculated based on the ground water contour plan provided in Figure 12. The hydraulic gradient is approximately 0.001 m/m (change in hydraulic head per unit distance) towards the southwest.

Based on the estimated hydraulic conductivity (Freeze and Cherry, 1979) in overburden and literature porosity of coarse sand and the hydraulic gradient determined during the current investigation, the ground water flow velocity was estimated to be approximately 1.1×10^{-1} metres per year in the silt onsite.

8.5 Considerations with Respect to Section 35, 41 or 43.1 of the Regulation and Applicable Site Condition Standards

The RSC property is not considered environmentally sensitive as none of the conditions as defined under Sections 35, 41 or 43.1 of Regulation 153/04 apply to this Site, and the use of the Table 2 Standards is therefore appropriate for assessment purposes.

The Site is not located in near any registered ANSI sites, according to the Ministry of Natural Resources Natural Heritage website. The Site is not located within a “natural heritage system”, an “environmentally significant area”, or “areas of natural and scientific interest” according to the Comprehensive Zoning By-Law number 1-88 for the City of Vaughan.

In addition, the site condition standards for a shallow soil property or a surface water body in or near the phase two property are not applicable for the RSC property. The RSC property has more than 2/3 area of soil greater than 2 metres in depth beneath the ground surface. The RSC property does not include all or part of a water body, is not adjacent to a water body, and does not include land within 30 metres of a water body.

Several samples of soil were collected from the Site and analyzed for pH as part of the 2018 Investigation. All soil samples analyzed were between 5 and 9 for surface soils and between 5 to 11 for subsurface soils.

The Section 35 is related to the potable site condition for the RSC property. Section 35 does not apply to RSC property because water supply well records are located within 250 m from the RSC property boundary.

Based on the proposed land use of the RSC property, the availability of municipal water in the surrounding area, and the soil texture, the Site is classified as having residential/parkland/institutional property use with potable ground water. Thus, Ontario Regulation 153/04 Table 2 Standards for residential/parkland/institutional property use and coarse textured soils are appropriate for evaluating soil and ground water conditions at the Site.

Areas Where Soil Has Been Brought from Another Property

Based on the current test hole drilling investigations, up to 2.3 m of sandy silt to silt fill material is present at on the Site.

The footprints of the former residential buildings and garage structure are known areas where imported fill was brought to the Site. The area of fill of unknown quality is shown in cross section Figures 6 to 7, and 11.

No fill material has been brought to the RSC property during the Phase II ESA.

Approximate Locations of Proposed Building and Other Structures, if Any

Currently the Site is vacant. The RSC property is intended to be redeveloped as a Paramedic Response Station, however, no information about the locations or structural details of future buildings was available at the time of preparation of the CSM.

8.6 Areas of Contamination

The Phase Two Property was first developed for residential use prior to the 1940s. Before this, the use of the Site is not known. There were no COCs present at locations above the applicable Table 2 SCS on the Site during the current investigation.

The PCOC identified in soil at the Site included PAH, metals, hydride forming metals, Cr (VI), B-HWS, Hg, CN-, SAR, and EC. Although not identified as COPCs associated with the APECs at the Phase Two property, ground water samples were also submitted for analysis of volatile organic compounds (VOCs) and petroleum hydrocarbons (PHC) to confirm the findings of the 2018 Phase II ESA were still present on the Site. Figures 8 and 9 present the scope of assessment and analytical results of the COPCs in soil. Figure 12 present the scope of assessment and analytical results of the COPCs in ground water.

Contaminants of Concern

During the current investigation, all tested parameters in the soil and groundwater samples were either non-detected or detected below their applicable MECP Table 2 RPI SCS.

However, during the 2018 Phase II ESA, the following parameters in excess of Table 2 SCS were retained as COCs for the RSC property (EXP 2018):

Soil

EC and SAR in BH-1

Elevated EC and SAR in the soil samples BH-1, at the parking lot was measured above the Table 2 SCS. Based on the results of the Phase Two ESA, the elevated EC and SAR in soil is likely associated with road salt application on the paved parking lot for road safety of vehicular or pedestrian traffic under conditions of snow or ice or both. As such, the elevated EC and SAR in soil is deemed not to be exceeded the Table 3 SCS based on the section 49.1 of O.Reg. 407/19. Therefore, EC and SAR are not considered as COCs for the Site.

The current and historical concentration of the COCs in soil are provided in plain view in Figures 8 to 9, and in cross section view in Figures 6 to 7.

8.7 Distribution of Contamination on the Phase Two Property

A cross-section plan is provided as Figure 5.

There are no areas on the Site where COCs were present during the current investigation at concentrations above the Table 2 SCS as shown on Figures 6 and 7, and in cross sectional view on Figures 8 and 9.

No LNAPL or DNAPL have been observed or detected in either soil or ground water at any test hole or monitor locations.

Migration of Contaminants

Ground water flow directions has been interpreted as southwesterly.

Based on the former 2018 Investigation by EXP. As the impacts for EC and SAR are likely due to road salt use, these contaminants are not considered contaminants of concern (CoC) for the Site based on Reg 153/04 (2011). Therefore, their migration poses low environmental risk to the Site.

Soil Vapour Intrusion

As there are no CoC for the site soil vapour intrusion into future buildings through heating/ventilation systems, foundations and via subsurface utilities were not required during current investigation.

8.9 Uncertainty in the Phase Two Investigation

The investigation undertaken by EXP, and any conclusions or recommendations resulting from the work, reflect EXP's judgment based on the Site conditions observed at the time of EXP's site inspections and on information available at the time of preparation of the work. EXP has confirmed neither the completeness nor the accuracy of the records that were provided by others; as such, the historical records review is identified as a potential source of uncertainty during the investigation. The CSM is developed using multiple lines of evidence, searches and source information to make every reasonable attempt to ensure that findings of environmental significance are captured.

To reduce uncertainty in the analytical results obtained during the Phase Two ESA, a documented quality assurance/quality control (QA/QC) program, including Field QA/QC and Laboratory QA/QC components, was implemented. Written field and laboratory sampling procedures for soil and groundwater developed by EXP were used to ensure consistency in sample collection and preparation of samples for submission to the laboratory. The MECP document entitled Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario (1996) was used as a reference. Sampling analysis was performed using generally accepted principles and with appropriate sampling equipment. The staff involved in the field sampling have participated in regular, ongoing EXP training programs and were qualified and experienced in collecting, describing, and preparing environmental samples for laboratory analysis.

Data quality objectives for the parameters of concern were set to meet acceptable Reporting Detection Limits (RDLs) to achieve the goal of defining areas where such parameters are present at levels in excess of applicable generic Standards. A field QA/QC program including blind field duplicate samples, trip blank sample and trip spike sample was implemented to reduce uncertainty related to the QA/QC. Relative percent differences (RPDs) were calculated for each of the sample/field duplicate sets and compared to acceptable alert limit criteria for each parameter. No exceedances of the alert criteria were measured, and no issues were identified during QA/QC checks that would increase uncertainty with respect to the findings of the environmental work.

Any uncertainty or absence of information in the records review, interviews, and site reconnaissance components of the Phase One investigation, or any uncertainty or absence of information within the Phase Two or subsequent investigations, are not anticipated to materially affect the validity of the Phase Two CSM.

9 Conclusions

During the Phase Two ESA, soil and ground water quality at the Phase Two property was investigated by collecting soil and ground water samples. The results of the soil and ground water sampling were compared to the Regulation 153/04 Table 2 standards for residential/parkland/institutional property use and coarse textured soils in potable ground water condition. Soil samples were analyzed for PAH, metals and inorganics and ground water samples were analyzed for VOC and PHC F1 to F4.

All soil and GW samples were within the Table 2 SCS for all parameters analyzed during the current investigation. Soil maximum concentrations are provided in Table 8. Ground water maximum concentration data are provided in Table 9.

9.1 Signatures



Daina Schreiber, P.Geo.
Project Manager
Environmental Services



Tanya Fernandes-Peters M.Sc (Env. P)
Team Lead/ Senior Project Manager
Environmental Services



Samuel Lee, P.Geo.
Senior Project Manager
Environmental Services



The above Qualified Person(s) can confirm that the Phase Two Environmental Site Assessment was conducted per the requirements of Regulation 153/04 and in accordance with generally accepted professional practices.

10 References

Chapman, L.J. and D.F. Putnam, The Physiography of Southern Ontario, Third Edition, Ontario Ministry of Natural Resources, 1984

EXP Services Inc., Phase One Environmental Assessment, 2960 and 2980 Teston Road, Vaughan, Ontario, November 15, 2021

EXP Energy Services Ltd., Phase Two Environmental Assessment, 2960 Teston Road, Vaughan, Ontario, November 8, 2018

EXP Services Inc., Geotechnical Investigation, Proposed Paramedic Response Station, 2960 Teston Road, Vaughan, Ontario, August 3, 2018

Fetter C.W. Applied Hydrogeology, Fourth Edition. Prentice-Hall Inc. New Jersey, USA, 2001

Freeze, R.A. and J.A. Cherry, Groundwater, Prentice-Hall of Canada Ltd., 1979

Geological Survey of Canada, Southern Ontario, 1:1000000 Scale, Sheet 30S, Map 1355A, 1971

Natural Resources Canada; Toporama interactive mapping (www.atlas.gc.ca)

Ontario Geological Survey, Burlington, 1:50000, Quaternary Geology, Map 2441, 1990

Ontario Regulation 153/04 made under Part XV.1 of the Environmental Protection Act, April 15, 2011

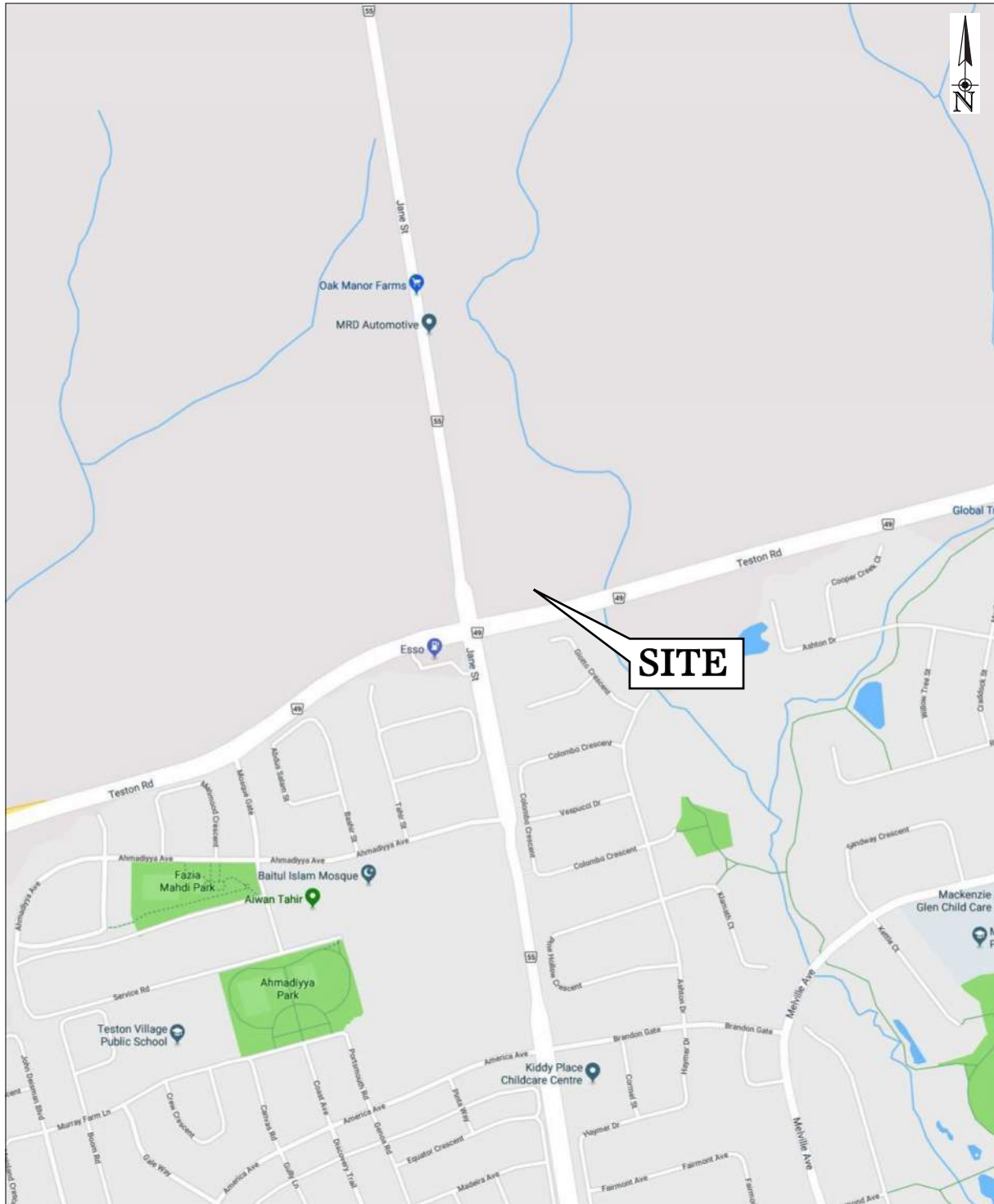
Ontario Ministry of the Environment and Climate Change, Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011

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

Ontario Ministry of the Environment and Climate Change, Protocol for Analytical Methods used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (March 9, 2004), as amended July 1, 2011

Ontario Ministry of Natural Resources and Forestry; Biodiversity Explorer website (<https://www.ontario.ca/environment-and-energy/make-natural-heritage-area-map>)

Figures



SCALE:

0 200 400m

SOURCE:

GOOGLE MAPS

LOCALITY PLAN

FIGURE

1

2960 AND 2980 TESTON ROAD,
VAUGHAN, ONTARIO



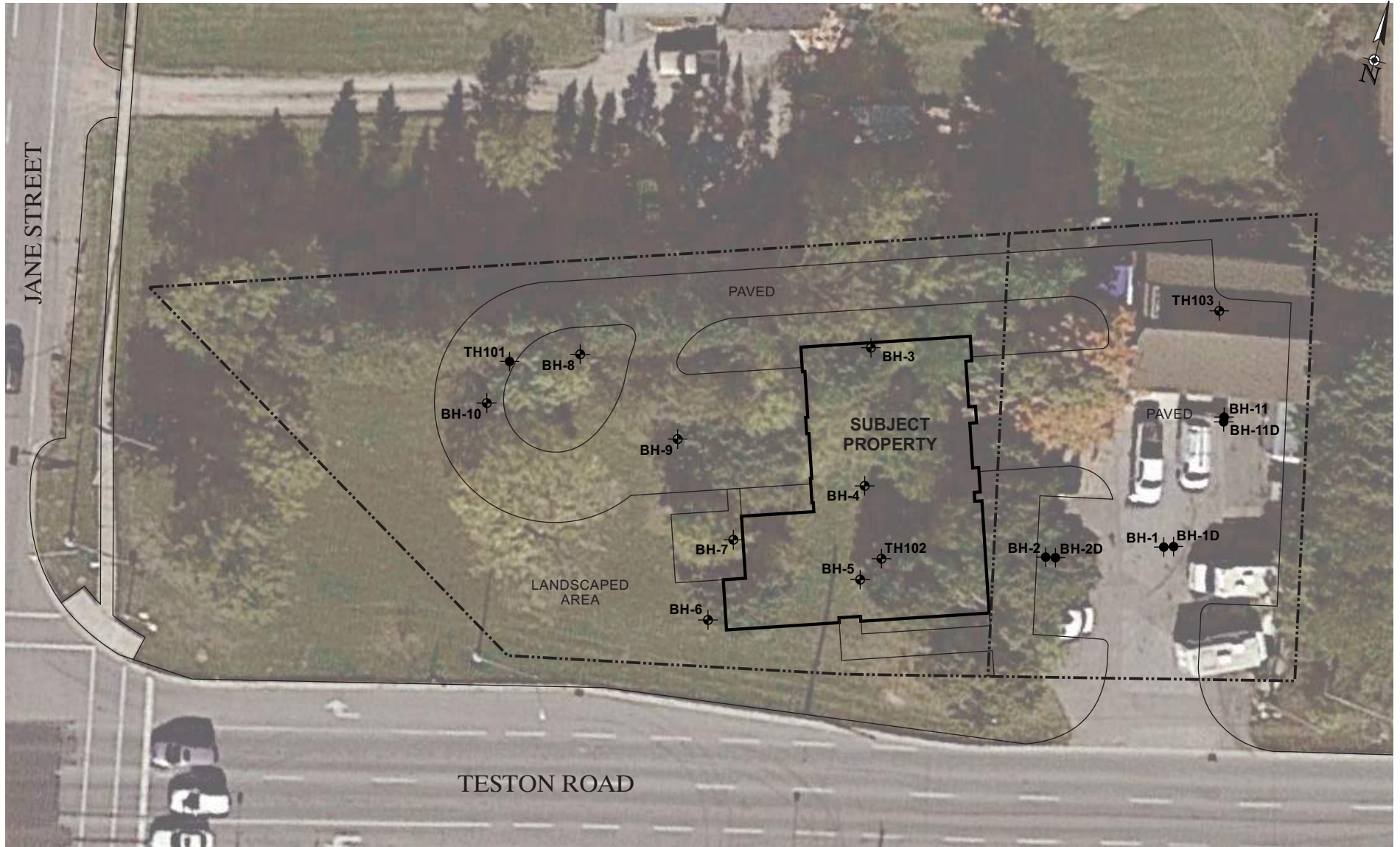
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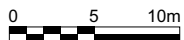
K.G.

D.S.

PROJECT NUMBER: 21020546



SCALE:



SOURCE:

BASED ON SURVEY PLAN BY
THOMASBROWN
ARCHITECTS, PROJECT
NUMBER: 1509, DATED JUNE
6, 2017, GOOGLE EARTH
IMAGE, DATE OCT. 9, 2016 AND
FIELD MEASUREMENTS
BY EXP STAFF

LEGEND:

- PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR
BH SERIES (EXP, 2018)
TH SERIES (EXP, 2021)
- TEST HOLE
BH SERIES (EXP, 2018)
TH SERIES (EXP, 2021)

SITE PLAN

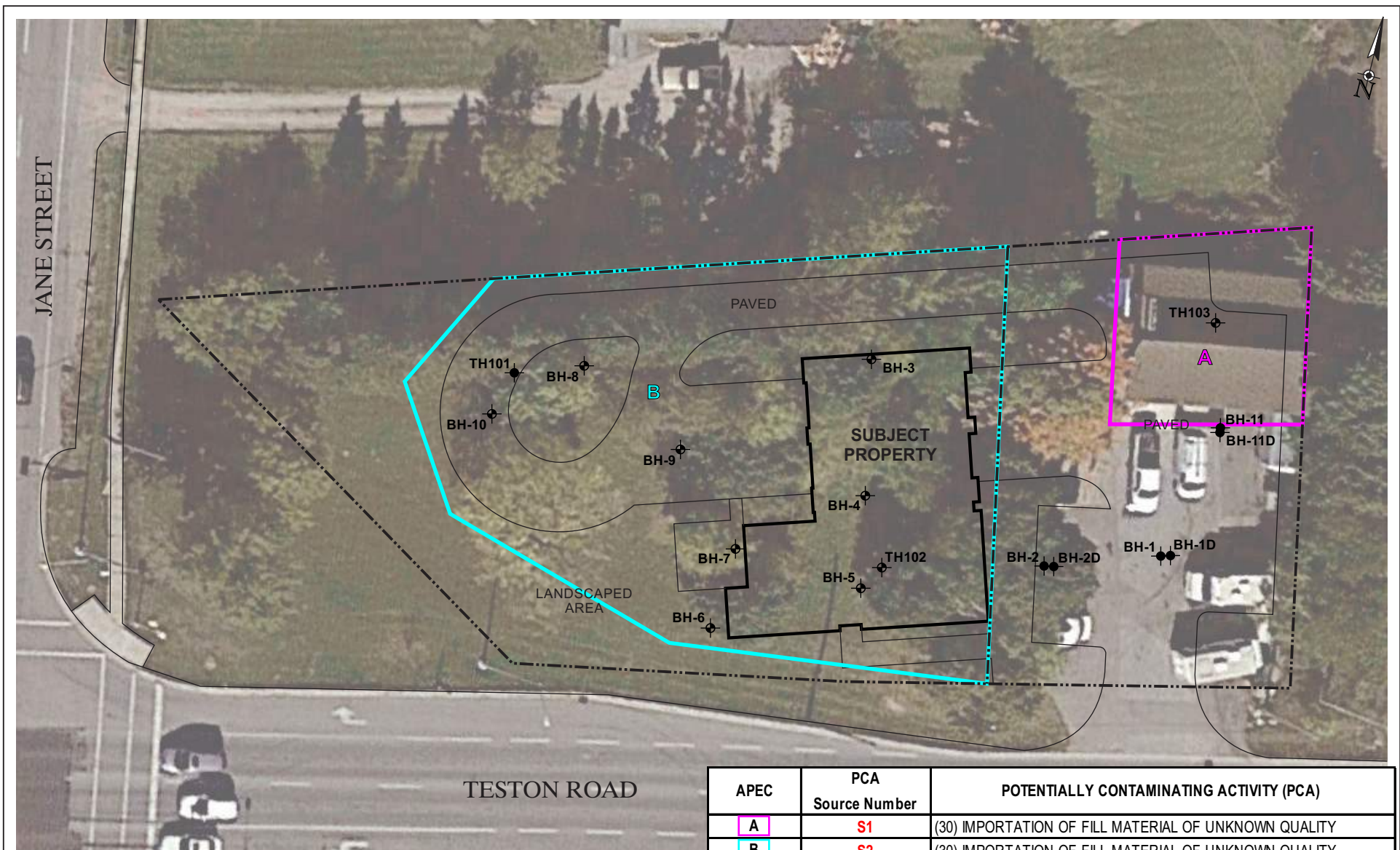
FIGURE

2

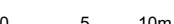



2960 AND 2980 TESTON ROAD,
VAUGHAN, ONTARIO

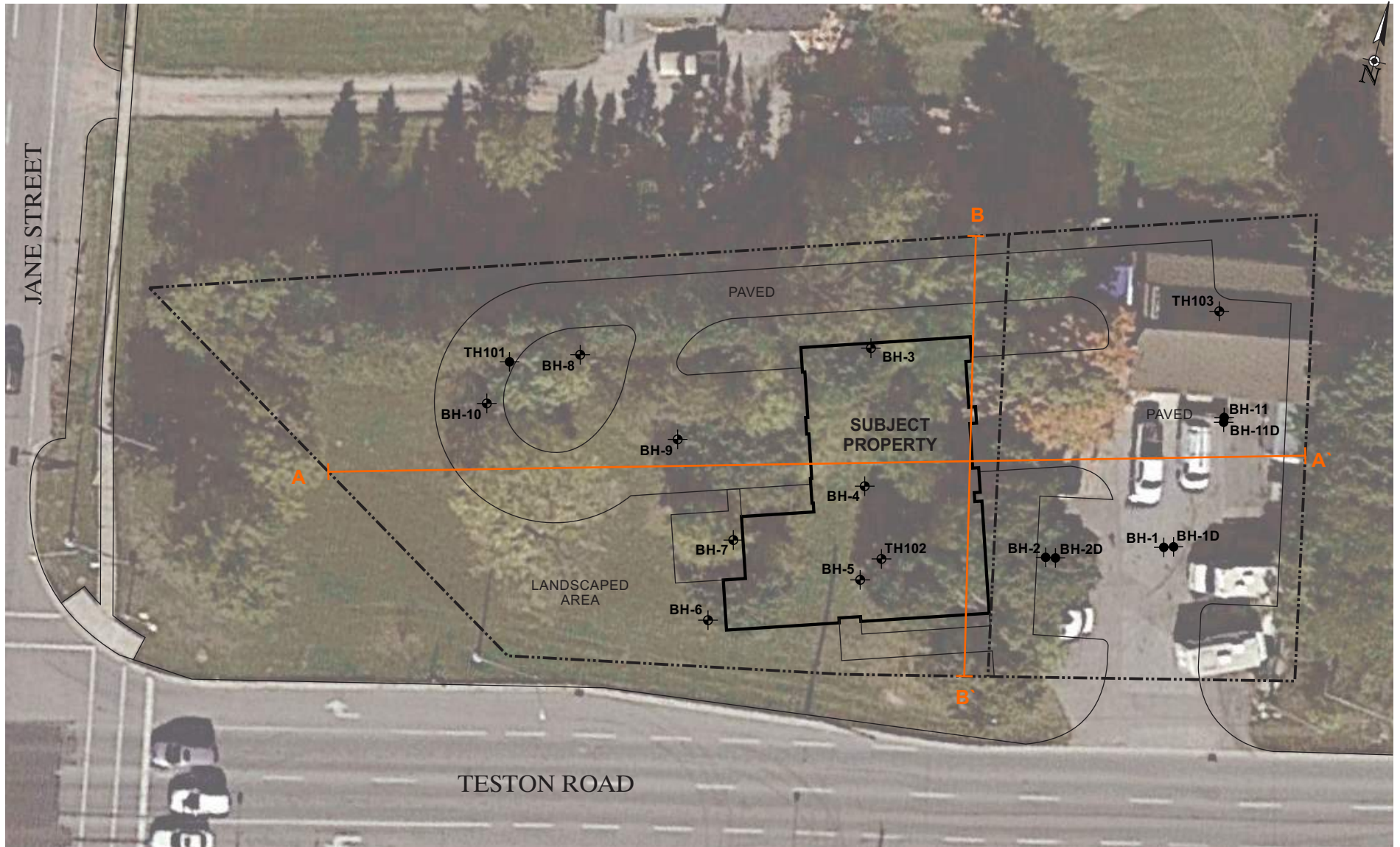
PROJECT NUMBER: 21020546 | DATE: DECEMBER 2021

exp.	DRAWN BY	CHECKED BY
	K.G.	D.S.

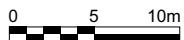


APEC	PCA Source Number	POTENTIALLY CONTAMINATING ACTIVITY (PCA)
A	S1	(30) IMPORTATION OF FILL MATERIAL OF UNKNOWN QUALITY
B	S2	(30) IMPORTATION OF FILL MATERIAL OF UNKNOWN QUALITY

SCALE:			SOURCE:		LEGEND:				FIGURE		
			BASED ON SURVEY PLAN BY THOMASBROWN ARCHITECTS, PROJECT NUMBER: 1509, DATED JUNE 6, 2017, GOOGLE EARTH IMAGE, DATE OCT. 9, 2016 AND FIELD MEASUREMENTS BY EXP STAFF		- - - - - PROPERTY BOUNDARY		PCA - POTENTIALLY CONTAMINATING ACTIVITY APEC - AREA OF POTENTIAL ENVIRONMENTAL CONCERN (52) INDICATES ITEM NUMBER OF O. REG. 153/04 SCHEDULE D, TABLE 2		Area of Potential Environmental Concern		4
					 TEST HOLE WITH MONITOR BH SERIES (EXP, 2018) TH SERIES (EXP, 2021)				 TEST HOLE BH SERIES (EXP, 2018) TH SERIES (EXP, 2021)		2960 AND 2980 TESTON ROAD, VAUGHAN, ONTARIO
DRAWN BY K.G.			CHECKED BY D.S.					PROJECT NUMBER: 21020546		DATE: DECEMBER 2021	



SCALE:



SOURCE:

BASED ON SURVEY PLAN BY
THOMASBROWN
ARCHITECTS, PROJECT
NUMBER: 1509, DATED JUNE
6, 2017, GOOGLE EARTH
IMAGE, DATE OCT. 9, 2016 AND
FIELD MEASUREMENTS
BY EXP STAFF

LEGEND:

- PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR
BH SERIES (EXP, 2018)
TH SERIES (EXP, 2021)
- TEST HOLE
BH SERIES (EXP, 2018)
TH SERIES (EXP, 2021)

CROSS SECTION LOCATION

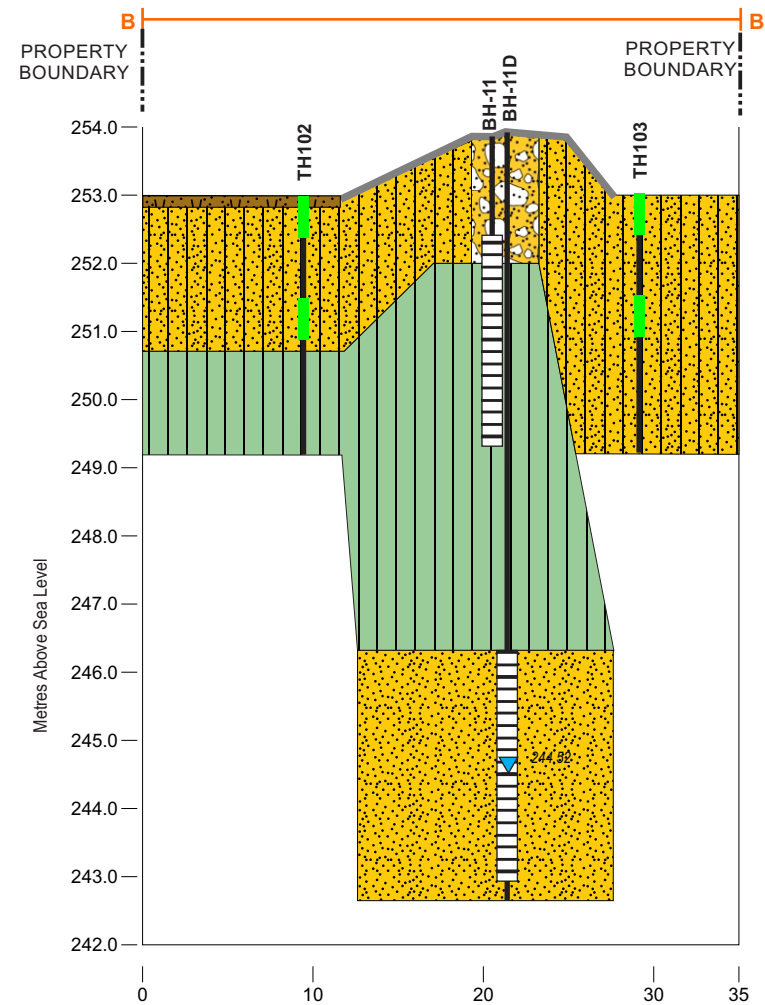
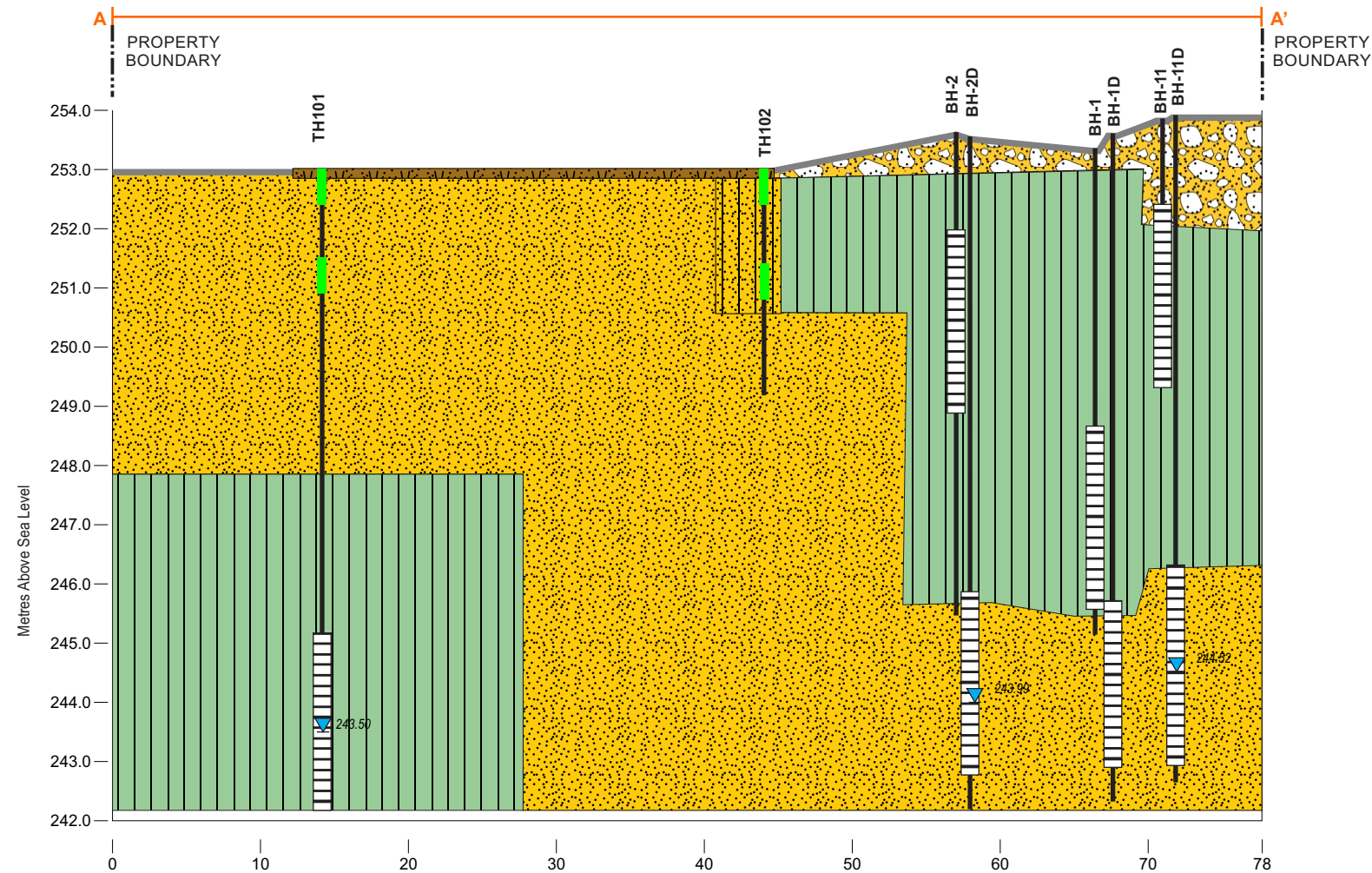
**CROSS SECTION
PLAN**

5

2960 AND 2980 TESTON ROAD,
VAUGHAN, ONTARIO

PROJECT NUMBER: 21020546 | DATE: DECEMBER 2021

	DRAWN BY	CHECKED BY
	K.G.	D.S.



PARAMETERS*	ABBREVIATION	REG 153/04 TABLE 2 STANDARDS*
ACENAPHTHENE	Ace	29
ACENAPHTHYLENE	AcI	0.17
ANTHRACENE	An	0.74
BENZO(a)ANTHRACENE	B(a)A	0.96
BENZO(a)PYRENE	B(a)P	0.3
BENZO(b)FLUORANTHENE	B(b)F	0.96
BENZO(g,h,i)PERYLENE	B(ghi)P	9.6
BENZO(k)FLUORANTHENE	B(k)F	0.96
CHRYSENE	C	9.6
DIBENZ(a,h)ANTHRACENE	DA	0.1
FLUORANTHENE	Fe	9.6
FLUORENE	F	69
INDENO(1,2,3-cd)PYRENE	I(123)P	0.95
1-METHYLNAPHTHALENE	1-MN	42
2-METHYLNAPHTHALENE	2-MN	42
TOTAL METHYLNAPHTHALENE	T-MN	42
NAPHTHALENE	N	28
PHENANTHRENE	P	16
PYRENE	Py	96
TOTAL PCB	PCB	1.1

SCALE:

4 x VERTICAL EXAGGERATION

SOURCE:

BASED FIELD MEASUREMENTS BY
EXP STAFF



DRAWN BY	CHECKED BY
M.S.	T.F.P.

LEGEND:



TEST HOLE



SCREEN INTERVAL



GROUND WATER ELEVATION
(DATE OF MONITORING NOV. 23, 2021)



METRES ABOVE SEA LEVEL

ASPHALT

 TOPSOIL FILL SANDY SILT TO SILT FILL SAND & GRAVEL TO SILT SILT

SAND

* STANDARDS SHOWN ARE FOR AN RESIDENTIAL/PARK PROPERTY USE FOR COARSE TEXTURED SOILS IN A POTABLE GROUND WATER CONDITION
(DUP) INDICATES FIELD DUPLICATE SAMPLE
NA - NOT ANALYZED
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/g, UNLESS OTHERWISE NOTED

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 2 STANDARDS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN

LOCATION WHERE SAMPLE EXCEEDS O. REG. 153/04 TABLE 2 STANDARDS FOR AT LEAST ONE PARAMETER IS SHOWN IN RED
CONCENTRATION OF CONTAMINANT EXCEEDING TABLE 2 STANDARD SHOWN IN TEXT AS RED BOLD

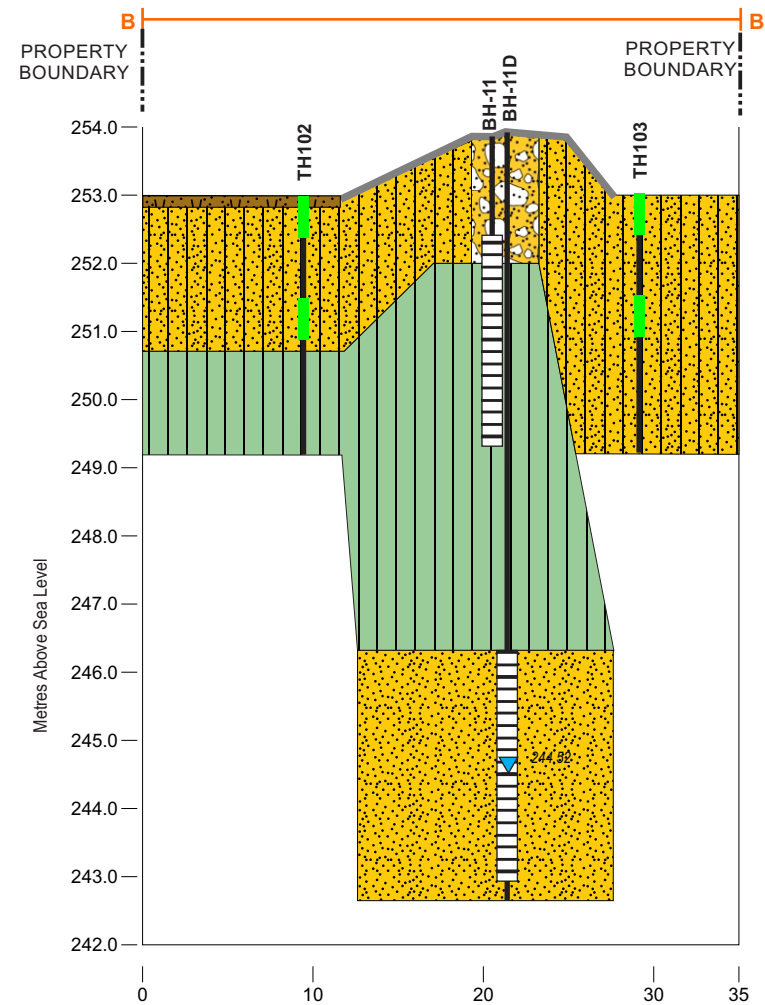
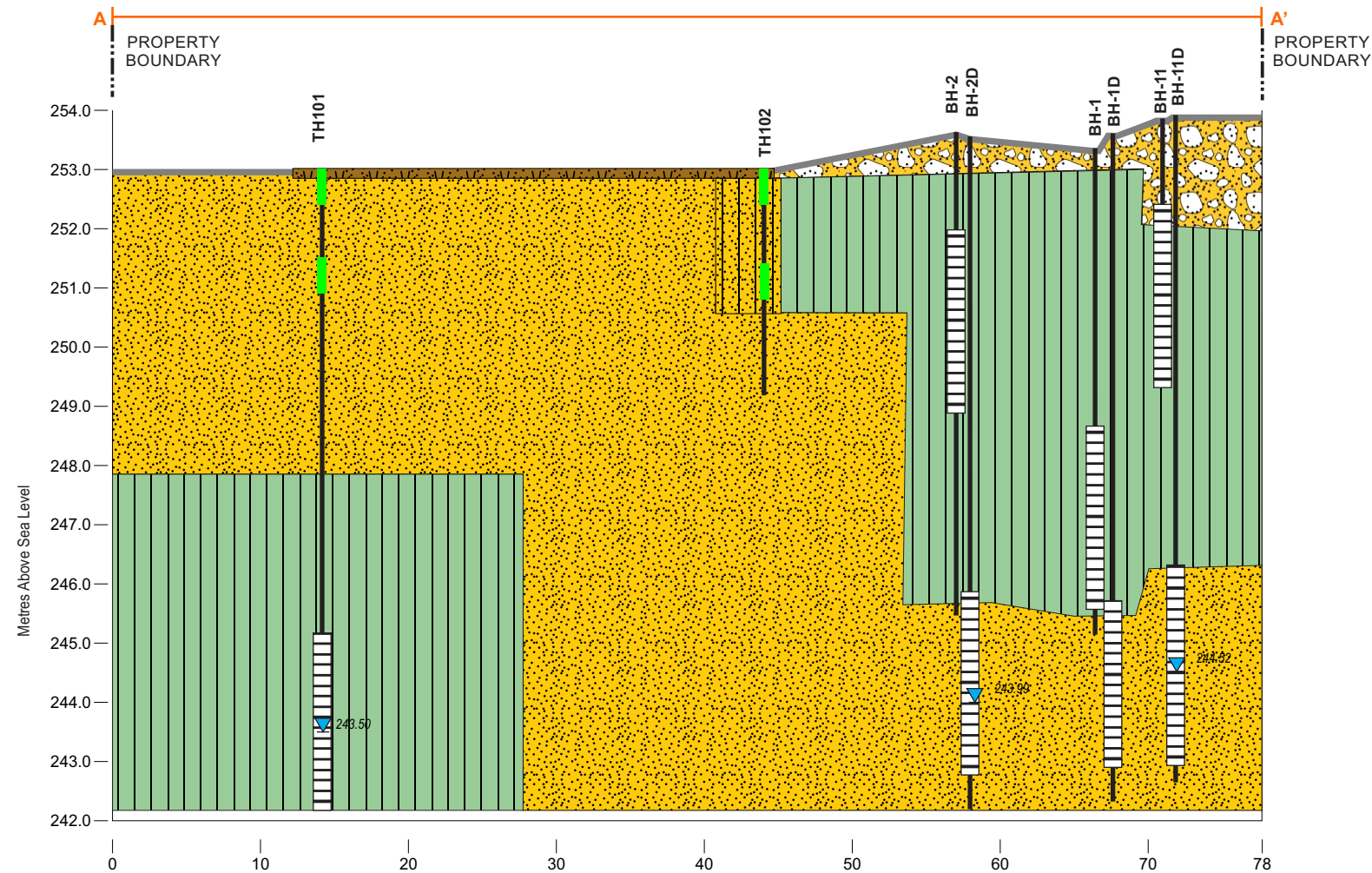
CURRENT & HISTORICAL SOIL ANALYTICAL RESULTS – POLYCYCLIC AROMATIC HYDROCARBONS

2960 AND 2980 TESTON ROAD,
VAUGHAN, ONTARIO

PROJECT NUMBER: 21020546	DATE: DECEMBER 2021
--------------------------	---------------------

FIGURE

6




PARAMETERS*	ABBREVIATION	REG 153/04 TABLE 2 STANDARDS*
ANTIMONY	Sb	50
ARSENIC	As	18
BARIUM	Ba	670
BERYLLIUM	Be	10
BORON	B	120
HOT WATER SOLUBLE BORON	HWB	2
CADMIUM	Cd	1.9
CHROMIUM	Cr	180
CHROMIUM VI	Cr(VI)	10
COBALT	Co	100
CONDUCTIVITY (mS/cm)	Cond	1.4
COPPER	Cu	300
CYANIDE	CN	0.051
LEAD	Pb	120
MERCURY	Hg	20
MOLYBDENUM	Mo	40
NICKEL	Ni	340
SELENIUM	Se	5.5
SILVER	Ag	12
SODIUM ADSORPTION RATIO	SAR	50
THALLIUM	Tl	3.3
URANIUM	U	33
VANADIUM	V	86
ZINC	Zn	340
pH	pH	5.0-9.0**

SCALE:

4 x VERTICAL EXAGGERATION

SOURCE:

BASED FIELD MEASUREMENTS BY
EXP STAFF

	DRAWN BY	CHECKED BY
	M.S.	T.F.P.

LEGEND:

1

TEST HOLE

SCREEN INTERVAL

GROUND WATER ELEVATION
(DATE OF MONITORING NOV 23, 2021)

masl

METRES ABOVE SEA LEVEL

ASPHALT

 TOPSOIL FILL SANDY SILT TO SILT FILL SAND & GRAVEL TO SILT SILT

SAND

* STANDARDS SHOWN ARE FOR AN RESIDENTIAL/PARK PROPERTY USE FOR COARSE TEXTURED SOILS IN A POTABLE GROUND WATER CONDITION
(DUP) INDICATES FIELD DUPLICATE SAMPLE
NA - NOT ANALYZED
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/g, UNLESS OTHERWISE NOTED

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 2 STANDARDS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN

LOCATION WHERE SAMPLE EXCEEDS O. REG. 153/04 TABLE 2 STANDARDS FOR AT LEAST ONE PARAMETER IS SHOWN IN RED
CONCENTRATION OF CONTAMINANT EXCEEDING TABLE 2 STANDARD SHOWN IN TEXT AS RED BOLD

CURRENT & HISTORICAL SOIL ANALYTICAL RESULTS – INORGANIC PARAMETERS

2960 AND 2980 TESTON ROAD,
VAUGHAN, ONTARIO

PROJECT NUMBER: 21020546	DATE: DECEMBER 2021
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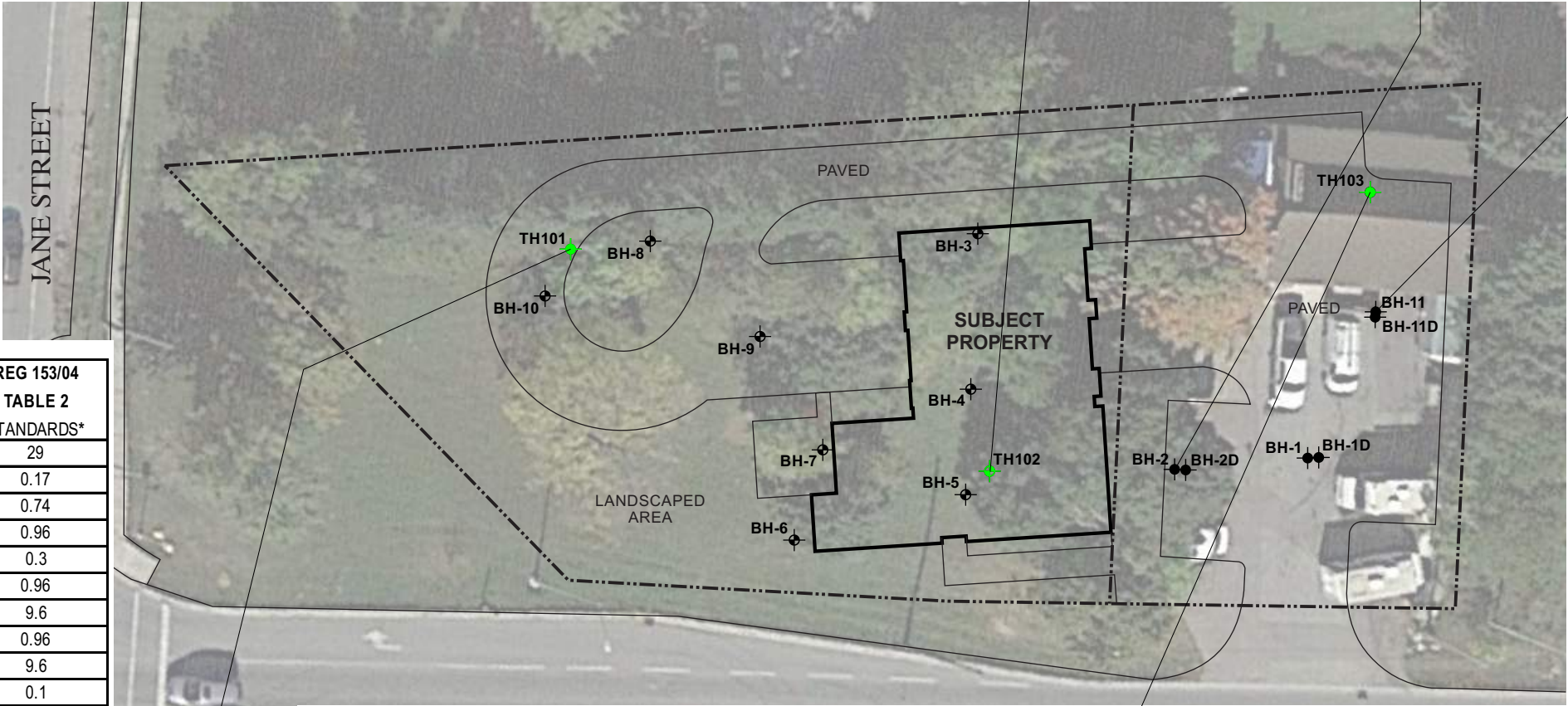
FIGURE

7

BH-11																			JUN13/18	
DEPTH (mbgs)	Ace	Acl	An	B(a)A	B(a)P	B(b/j)F	B(ghi)P	B(k)F	C	DA	Fe	F	I(123)P	1-MN	2-MN	T-MN	N	P	Py	PCB
0.0 to 0.6	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0069	0.0079	<0.0050	<0.0050	<0.0050	0.0090	<0.0050	<0.0050	<0.0050	<0.0050	<0.0071	<0.0050	0.0050	0.0084	<0.010
0.0 to 0.6(DUP)	<0.0050	<0.0050	<0.0050	0.0059	0.0069	0.0090	0.011	<0.0050	0.0057	<0.0050	0.015	<0.0050	0.0070	<0.0050	<0.0050	<0.0071	<0.0050	0.0085	0.014	<0.010

BH-2																			JUN13/18	
DEPTH (mbgs)	Ace	Acl	An	B(a)A	B(a)P	B(b/j)F	B(ghi)P	B(k)F	C	DA	Fe	F	I(123)P	1-MN	2-MN	T-MN	N	P	Py	PCB
0.0 to 0.6	<0.050	<0.050	0.064	0.13	0.14	0.18	0.12	0.063	0.11	<0.050	0.34	<0.050	0.10	<0.050	<0.050	<0.071	<0.050	0.25	0.27	<0.010

TH102																			NOV16/21	
DEPTH (mbgs)	Ace	Acl	An	B(a)A	B(a)P	B(b/j)F	B(ghi)P	B(k)F	C	DA	Fe	F	I(123)P	1-MN	2-MN	T-MN	N	P	Py	PCB
0.0 to 0.6	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0071	<0.005	<0.005	<0.005	<0.010
0.0 to 0.6(DUP)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0071	<0.005	<0.005	<0.005	<0.010
1.5 to 2.3	<0.005	<0.005	<0.005	<0.005	<0.005	0.01	<0.005	<0.005	<0.005	<0.005	0.00	<0.005	<0.005	<0.005	<0.005	<0.0071	<0.005	<0.005	0.00	<0.010



TH103																			NOV16/21	
DEPTH (mbgs)	Ace	Acl	An	B(a)A	B(a)P	B(b/j)F	B(ghi)P	B(k)F	C	DA	Fe	F	I(123)P	1-MN	2-MN	T-MN	N	P	Py	PCB
0.0 to 0.6	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0071	<0.005	<0.005	<0.005	<0.010
1.5 to 2.3	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0071	<0.005	<0.005	<0.005	<0.010

TH101																			NOV16/21	
DEPTH (mbgs)	Ace	Acl	An	B(a)A	B(a)P	B(b/j)F	B(ghi)P	B(k)F	C	DA	Fe	F	I(123)P	1-MN	2-MN	T-MN	N	P	Py	PCB
0.0 to 0.6	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0071	<0.005	<0.005	<0.005	<0.010
1.5 to 2.3	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0071	<0.005	<0.005	<0.005	<0.010

PARAMETERS*	ABBREVIATION	REG 153/04 TABLE 2 STANDARDS*
ACENAPHTHENE	Ace	29
ACENAPHTHYLENE	Acl	0.17
ANTHRACENE	An	0.74
BENZO(a)ANTHRACENE	B(a)A	0.96
BENZO(a)PYRENE	B(a)P	0.3
BENZO(b/j)FLUORANTHENE	B(b/j)F	0.96
BENZO(g,h,i)PERYLENE	B(ghi)P	9.6
BENZO(k)FLUORANTHENE	B(k)F	0.96
CHRYSENE	C	9.6
DIBENZ(a,h)ANTHRACENE	DA	0.1
FLUORANTHENE	Fe	9.6
FLUORENE	F	69
INDENO(1,2,3-cd)PYRENE	I(123)P	0.95
1-METHYLNAPHTHALENE	1-MN	42
2-METHYLNAPHTHALENE	2-MN	42
TOTAL METHYLNAPHTHALENE	T-MN	42
NAPHTHALENE	N	28
PHENANTHRENE	P	16
PYRENE	Py	96
TOTAL PCB	PCB	1.1

SCALE:
0 5 10m

SOURCE:
BASED ON SURVEY PLAN BY THOMASBROWN ARCHITECTS, PROJECT NUMBER: 1509, DATED JUNE 6, 2017, GOOGLE EARTH IMAGE, DATE OCT. 9, 2016 AND FIELD MEASUREMENTS BY EXP STAFF

exp.	DRAWN BY	CHECKED BY
	M.S.	T.F.P.

LEGEND:
- - - - - PROPERTY BOUNDARY
BH SERIES (EXP, 2018)
TH SERIES (EXP, 2021)
BH SERIES (EXP, 2018)
TH SERIES (EXP, 2021)

* STANDARDS SHOWN ARE FOR AN RESIDENTIAL/PARK PROPERTY USE FOR COARSE TEXTURED SOILS IN A POTABLE GROUND WATER CONDITION (DUP) INDICATES FIELD DUPLICATE SAMPLE
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LOCATION WHERE SAMPLE EXCEEDS O. REG. 153/04 TABLE 2 STANDARDS FOR AT LEAST ONE PARAMETER IS SHOWN IN RED
CONCENTRATION OF CONTAMINANT EXCEEDING TABLE 2 STANDARD SHOWN IN TEXT AS RED BOLD

CURRENT & HISTORICAL
SOIL ANALYTICAL
RESULTS – POLYCYCLIC
AROMATIC
HYDROCARBONS

2960 AND 2980 TESTON ROAD,
VAUGHAN, ONTARIO
PROJECT NUMBER: 21020546 | DATE: DECEMBER 2021

FIGURE

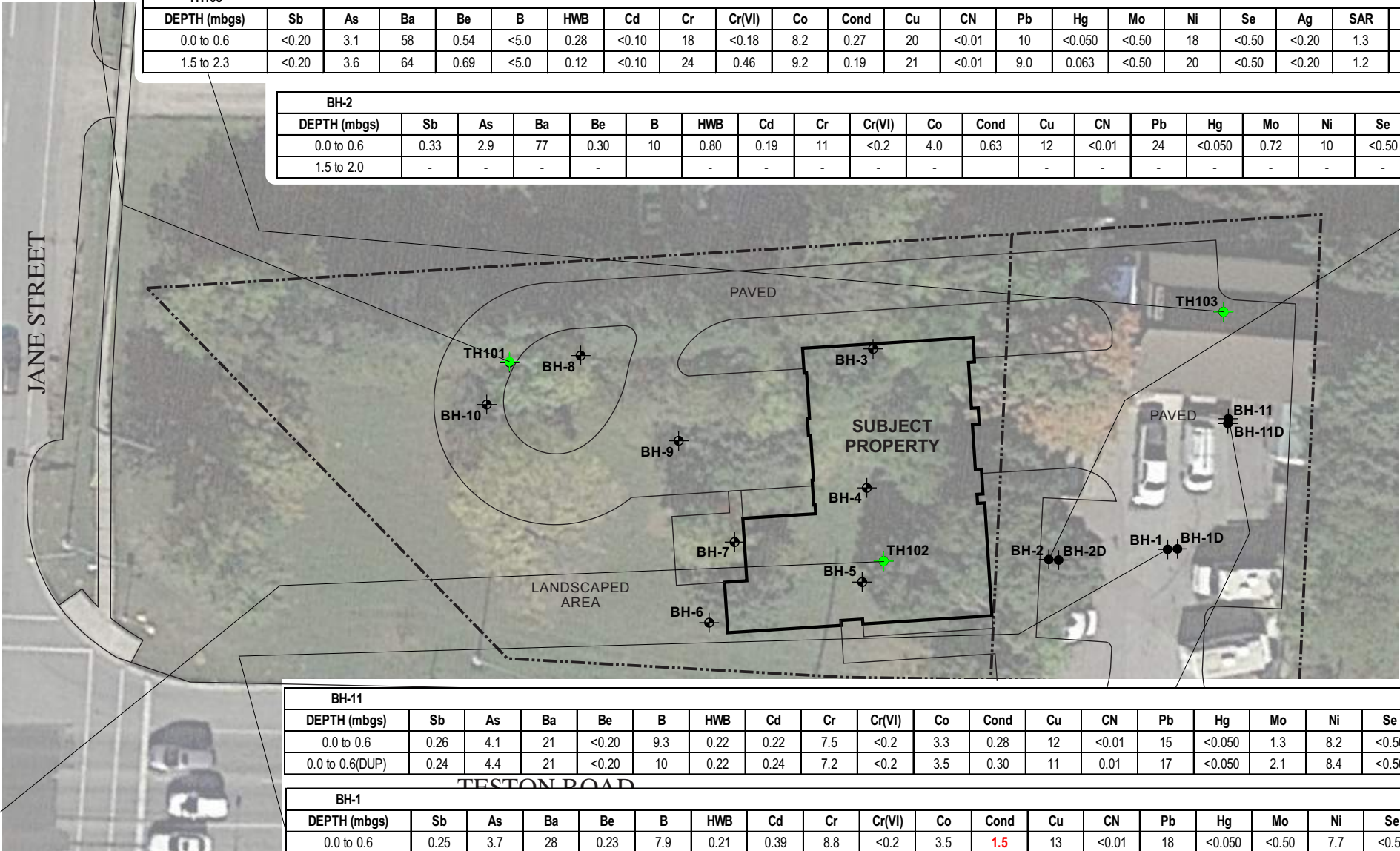
8

TH101																								NOV16/21	
DEPTH (mbgs)	Sb	As	Ba	Be	B	HWB	Cd	Cr	Cr(VI)	Co	Cond	Cu	CN	Pb	Hg	Mo	Ni	Se	Ag	SAR	TI	U	V	Zn	pH
0.0 to 0.6	<0.20	2.6	64	0.60	<5.0	0.16	<0.10	21	0.44	8.7	0.19	18	<0.01	8.5	<0.050	<0.50	18	<0.50	<0.20	0.43	0.12	0.42	31	42	7.08
1.5 to 2.3	<0.20	2.5	52	0.45	<5.0	<0.050	<0.10	17	<0.18	8.4	0.13	15	<0.01	7.5	<0.050	<0.50	17	<0.50	<0.20	0.3	0.12	0.43	25	34	7.62

TH103																								NOV16/21	
DEPTH (mbgs)	Sb	As	Ba	Be	B	HWB	Cd	Cr	Cr(VI)	Co	Cond	Cu	CN	Pb	Hg	Mo	Ni	Se	Ag	SAR	TI	U	V	Zn	pH
0.0 to 0.6	<0.20	3.1	58	0.54	<5.0	0.28	<0.10	18	<0.18	8.2	0.27	20	<0.01	10	<0.050	<0.50	18	<0.50	<0.20	1.3	0.11	0.45	27	46	7.62
1.5 to 2.3	<0.20	3.6	64	0.69	<5.0	0.12	<0.10	24	0.46	9.2	0.19	21	<0.01	9.0	0.063	<0.50	20	<0.50	<0.20	1.2	0.14	0.41	35	44	7.53

PARAMETERS*	ABBREVIATION	REG 153/04 TABLE 2 STANDARDS*
ANTIMONY	Sb	50
ARSENIC	As	18
BARIUM	Ba	670
BERYLLIUM	Be	10
BORON	B	120
HOT WATER SOLUBLE BORON	HWB	2
CADMIUM	Cd	1.9
CHROMIUM	Cr	160
CHROMIUM VI	Cr(VI)	10
COBALT	Co	100
CONDUCTIVITY (mS/cm)	Cond	1.4
COPPER	Cu	300
CYANIDE	CN	0.051
LEAD	Pb	120
MERCURY	Hg	20
MOLYBDENUM	Mo	40
NICKEL	Ni	340
SELENIUM	Se	5.5
SILVER	Ag	12
SODIUM ADSORPTION RATIO	SAR	50
THALLIUM	TI	3.3
URANIUM	U	33
VANADIUM	V	86
ZINC	Zn	340
pH	pH	5.0-9.0**

BH-2																								JUN13/18	
DEPTH (mbgs)	Sb	As	Ba	Be	B	HWB	Cd	Cr	Cr(VI)	Co	Cond	Cu	CN	Pb	Hg	Mo	Ni	Se	Ag	SAR	TI	U	V	Zn	pH
0.0 to 0.6	0.33	2.9	77	0.30	10	0.80	0.19	11	<0.2	4.0	0.63	12	<0.01	24	<0.050	0.72	10	<0.50	<0.20	3.4	0.076	0.45	15	66	8.39
1.5 to 2.0	-	-	-	-		-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	7.79



BH-11																								JUN13/18	
DEPTH (mbgs)	Sb	As	Ba	Be	B	HWB	Cd	Cr	Cr(VI)	Co	Cond	Cu	CN	Pb	Hg	Mo	Ni	Se	Ag	SAR	TI	U	V	Zn	pH
0.0 to 0.6	0.26	4.1	21	<0.20	9.3	0.22	0.22	7.5	<0.2	3.3	0.28	12	<0.01	15	<0.050	1.3	8.2	<0.50	<0.20	4.5	0.082	0.35	11	72	8.33
0.0 to 0.6(DUP)	0.24	4.4	21	<0.20	10	0.22	0.24	7.2	<0.2	3.5	0.30	11	0.01	17	<0.050	2.1	8.4	<0.50	<0.20	4.0	0.089	0.43	9.4	120	8.19

BH-1																								JUN12/18	
DEPTH (mbgs)	Sb	As	Ba	Be	B	HWB	Cd	Cr	Cr(VI)	Co	Cond	Cu	CN	Pb	Hg	Mo	Ni	Se	Ag	SAR	TI	U	V	Zn	pH
0.0 to 0.6	0.25	3.7	28	0.23	7.9	0.21	0.39	8.8	<0.2	3.5	1.5	13	<0.01	18	<0.050	<0.50	7.7	<0.50	<0.20	30	0.070	0.39	14	120	8.07
6.8 to 7.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.98

TH102																								NOV16/21	
DEPTH (mbgs)	Sb	As	Ba	Be	B	HWB	Cd	Cr	Cr(VI)	Co	Cond	Cu	CN	Pb	Hg	Mo	Ni	Se	Ag	SAR	TI	U	V	Zn	pH
0.0 to 0.6	0.33	3.0	63	0.48	<5.0	0.60	0.14	18	<0.18	7.1	0.20	18	<0.01	20	0.063	<0.50	14	<0.50	<0.20	0.23	0.10	0.35	27	60	7.43
0.0 to 0.6(DUP)	<0.20	2.8	58	0.42	<5.0	0.43	0.16	16	<0.18	6.8	0.18	17	<0.01	18	0.061	<0.50	13	<0.50	<0.20	0.27	0.092	0.35	25	54	7.53
1.5 to 2.3	<0.20	2.8	61	0.54	<5.0	0.44	<0.10	20	<0.18	7.7	0.35	21	<0.01	8.7	<0.050	<0.50	17	<0.50	<0.20	1.4	0.13	0.43	29	44	7.46

SCALE:
0 5 10m

SOURCE:
BASED ON SURVEY PLAN BY THOMASBROWN ARCHITECTS, PROJECT NUMBER: 1509, DATED JUNE 6, 2017, GOOGLE EARTH IMAGE, DATE OCT. 9, 2016 AND FIELD MEASUREMENTS BY EXP STAFF

exp.	DRAWN BY	CHECKED BY
	M.S.	T.F.P.

LEGEND:
----- PROPERTY BOUNDARY
● TEST HOLE WITH MONITOR
BH SERIES (EXP, 2018)
TH SERIES (EXP, 2021)
● TEST HOLE
BH SERIES (EXP, 2018)
TH SERIES (EXP, 2021)

* STANDARDS SHOWN ARE FOR AN RESIDENTIAL/PARK PROPERTY USE FOR COARSE TEXTURED SOILS IN A POTABLE GROUND WATER CONDITION
(DUP) INDICATES FIELD DUPLICATE SAMPLE
NA - NOT ANALYZED
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/g, UNLESS OTHERWISE NOTED

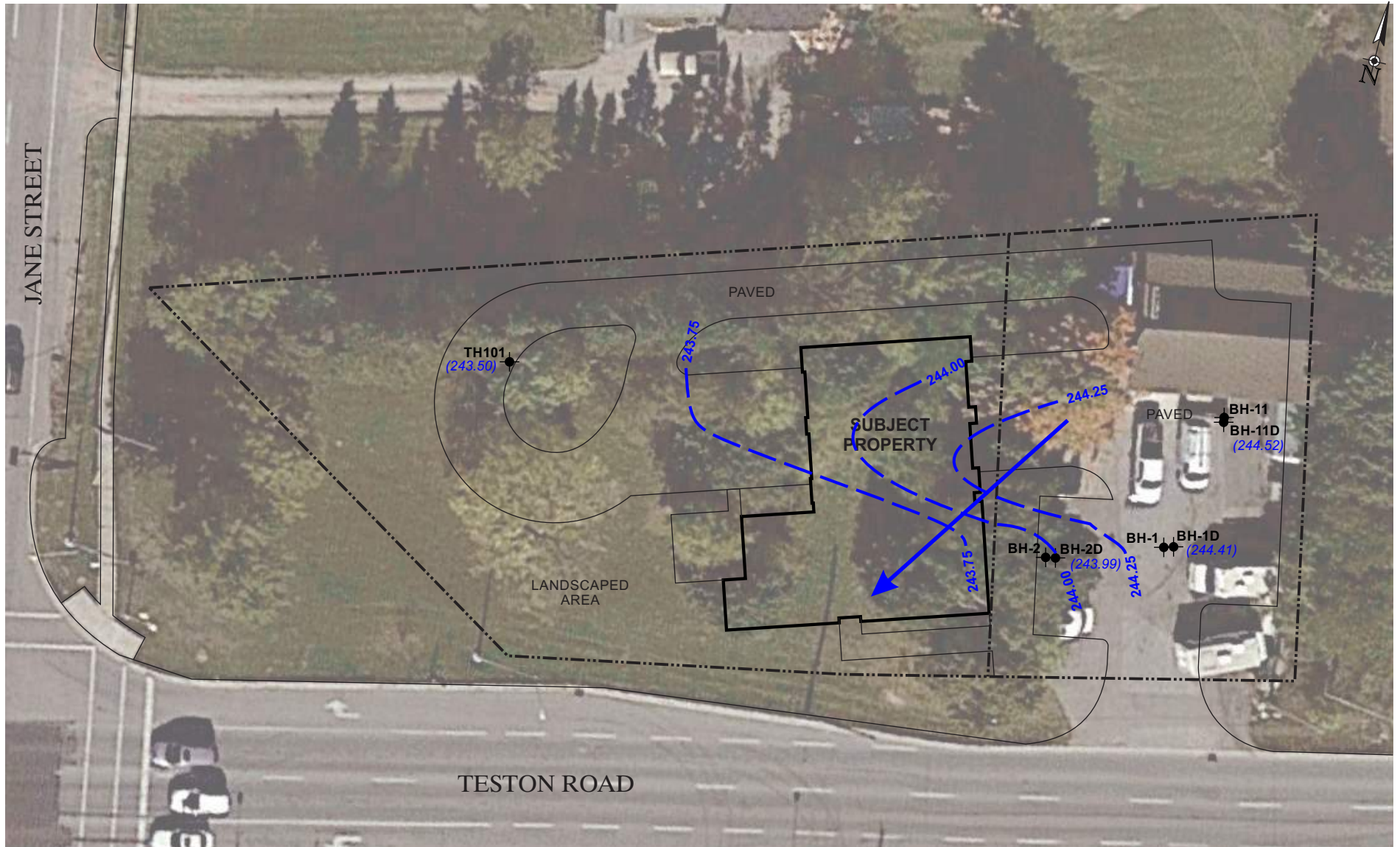
LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 2 STANDARDS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN
LOCATION WHERE SAMPLE EXCEEDS O. REG. 153/04 TABLE 2 STANDARDS FOR AT LEAST ONE PARAMETER IS SHOWN IN RED
CONCENTRATION OF CONTAMINANT EXCEEDING TABLE 2 STANDARD SHOWN IN TEXT AS RED BOLD

CURRENT & HISTORICAL
SOIL ANALYTICAL
RESULTS – INORGANIC
PARAMETERS

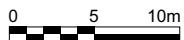
2960 AND 2980 TESTON ROAD,
VAUGHAN, ONTARIO
PROJECT NUMBER: 21020546 | DATE: DECEMBER 2021

FIGURE

9



SCALE:



SOURCE:

BASED ON SURVEY PLAN BY
THOMASBROWN
ARCHITECTS, PROJECT
NUMBER: 1509, DATED JUNE
6, 2017, GOOGLE EARTH
IMAGE, DATE OCT. 9, 2016 AND
FIELD MEASUREMENTS
BY EXP STAFF

LEGEND:

- PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR
BH SERIES (EXP, 2018)
TH SERIES (EXP, 2021)

- (100.00) GROUND WATER ELEVATION (m)
- (100.00)* GROUND WATER ELEVATION
NOT USED IN CONTOURING (m)
- 100.00 — GROUND WATER ELEVATION
CONTOUR (m)
- GROUND WATER FLOW DIRECTION
- (NM) NOT MONITORED
- (NA) NOT ACCESSIBLE

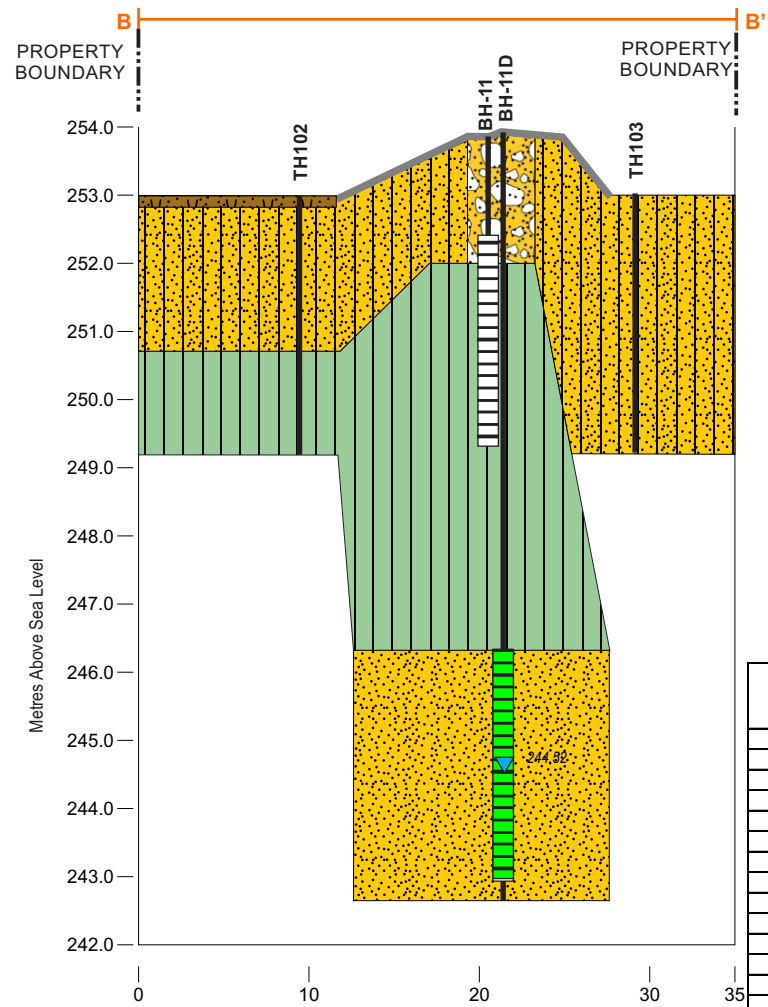
**GROUND WATER
CONTOUR PLAN
(NOVEMBER 23, 2021)**

10

2960 AND 2980 TESTON ROAD,
VAUGHAN, ONTARIO

PROJECT NUMBER: 21020546 DATE: DECEMBER 2021

exp.	DRAWN BY	CHECKED BY
	K.G.	D.S.



PARAMETERS*	ABBREVIATION	REG 153/04 TABLE 2 STANDARDS*
ACETONE	Ace	2700
BENZENE		5
BROMODICHLOROMETHANE	BDCM	16
BROMOFORM	BF	25
BROMOMETHANE	BM	0.89
CARBON TETRACHLORIDE	CTC	5
CHLOROBENZENE	CB	30
CHLOROFORM	CF	22
DIBROMOCHLOROMETHANE	DBCM	25
1,2-DICHLOROBENZENE	1,2-DCB	3
1,3-DICHLOROBENZENE	1,3-DCB	59
1,4-DICHLOROBENZENE	1,4-DCB	1
DICHLOROFLUOROMETHANE	DCFM	590
1,1-DICHLOROETHANE	1,1-DCA	5
1,2-DICHLOROETHANE	1,2-DCA	5
1,1-DICHLOROETHYLENE	1,1-DCE	14
cis-1,2-DICHLOROETHYLENE	C-1,2-DCE	17
trans-1,2-DICHLOROETHYLENE	T-1,2-DCE	17
1,2-DICHLOROPROPANE	1,2-DCP	5
1,3-DICHLOROPROPENE	1,3-DCP	0.5
ETHYLBENZENE		2.4
ETHYLENE DIBROMIDE	EDB	0.2
HEXANE	H	520
METHYLENE CHLORIDE	MC	50
METHYL ISOBUTYL KETONE	MIKB	640
METHYL ETHYL KETONE	MEK	1800
METHYL T-BUTYL ETHER	MTBE	15
STYRENE	ST	5.4
1,1,1,2-TETRACHLOROETHANE	1,1,1,2-TCOA	1.1
1,1,2,2-TETRACHLOROETHANE	1,1,2,2-TCOA	1
TETRACHLOROETHYLENE	PCE	17
TOLUENE		24
1,1,1-TRICHLOROETHANE	1,1,1-TCA	200
1,1,2-TRICHLOROETHANE	1,1,2-TCA	5
TRICHLOROETHYLENE	TCE	5
VINYL CHLORIDE	VC	1.7
TRICHLOROFLUOROMETHANE	TCFM	300
XYLENES	X	150
F1 (C6-C10) - BTEX	F1	750
F2 (C10-C18)	F2	150
F3 (C18-C30)	F3	500
F4 (C30-C50)	F4	500

CURRENT & HISTORICAL
GROUND WATER
ANALYTICAL RESULTS –
PETROLEUM
HYDROCARBON
PARAMETERS AND
VOLATILE ORGANIC

2960 AND 2980 TESTON ROAD,
VAUGHAN, ONTARIO


PROJECT NUMBER: 21020546	DATE: DECEMBER 2021
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FIGURE
11




SCALE:
4 x VERTICAL EXAGGERATION







SOURCE:

BASED FIELD MEASUREMENTS BY
EXP STAFF

	DRAWN BY	CHECKED BY
	M.S.	T.F.P.

LEGEND:

	TEST HOLE
	SCREEN INTERVAL
	GROUND WATER ELEVATION (DATE OF MONITORING NOV. 23, 2021)
<i>masl</i>	METRES ABOVE SEA LEVEL

	ASPHALT
	TOPSOIL
	FILL SANDY SILT TO SILT
	FILL SAND & GRAVEL TO SILT
	SILT
	SAND

* STANDARDS SHOWN ARE FOR ALL TYPE OF PROPERTY USE FOR COARSE TEXTURED SOILS IN A POTABLE GROUND WATER
CONDITION
(DUP) INDICATES FIELD DUPLICATE SAMPLE
NA - NOT ANALYZED
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/L, UNLESS OTHERWISE NOTED

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 2 STANDARDS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN

LOCATION WHERE SAMPLE EXCEEDS O. REG. 153/04 TABLE 2 STANDARDS FOR AT LEAST ONE PARAMETER IS SHOWN IN RED
CONCENTRATION OF CONTAMINANT EXCEEDING TABLE 2 STANDARD SHOWN IN TEXT AS RED BOLD

BH-1																																Screen Interval: 7.6 to 10.6 mbg										
DATE	Ace	B	BDCM	BF	BM	CTC	CB	CF	DBCM	1,2-DCB	1,3-DCB	1,4-DCB	DCFM	1,1-DCA	1,2-DCA	1,1-DCE	C-1,2-DCE	T-1,2-DCE	1,2-DCP	1,3-DCP	E	EDB	H	MC	MIBK	MEK	MTBE	ST	1,1,1,2-TTCA	1,1,2,2-TTCA	PCE	T	1,1,1-TCA	1,1,2-TCA	TCE	TCFM	X	VC	F1	F2	F3	F4
SEP26/18	-	<0.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.20	-	-	-	-	-	-	-	-	-	-	<0.20	-	-	-	-	<0.40	-	<25	<100	<200	<200

BH-2D																																Screen Interval: 7.6 to 10.6 mbg											
DATE	Ace	B	BDCM	BF	BM	CTC	CB	CF	DBCM	1,2-DCB	1,3-DCB	1,4-DCB	DCFM	1,1-DCA	1,2-DCA	1,1-DCE	C-1,2-DCE	T-1,2-DCE	1,2-DCP	1,3-DCP	E	EDB	H	MC	MIBK	MEK	MTBE	ST	1,1,1,2-TTCA	1,1,2,2-TTCA	PCE	T	1,1,1-TCA	1,1,2-TCA	TCE	TCFM	X	VC	F1	F2	F3	F4	
SEP26/18	<10	<0.20	<0.50	<1.0	<0.50	<0.20	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<1.0	<0.20	<0.50	<0.20	<0.50	<0.50	<0.20	<0.50	<0.20	<0.20	<1.0	<2.0	<10	<5.0	<0.50	<0.50	<0.50	<0.20	<0.20	<0.20	<0.50	<0.20	<0.50	<0.20	<0.50	<0.20	<0.20	<25	<100	220	<200
NOV23/21	<1.0	<0.20	<0.20	<0.10	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.20	<0.30	<0.20	<0.30	<0.20	<0.20	<0.20	<0.30	<0.10	<0.10	<0.20	<0.30	<1.0	<1.0	<0.20	<0.10	<0.10	<0.20	<0.20	<0.30	<0.20	<0.20	<0.17	<0.20	<0.40	<25	<100	<100	<100		

BH-11D																																Screen Interval: 7.9 to 11.0 mbg											
DATE	Ace	B	BDCM	BF	BM	CTC	CB	CF	DBCM	1,2-DCB	1,3-DCB	1,4-DCB	DCFM	1,1-DCA	1,2-DCA	1,1-DCE	C-1,2-DCE	T-1,2-DCE	1,2-DCP	1,3-DCP	E	EDB	H	MC	MIBK	MEK	MTBE	ST	1,1,1,2-TTCA	1,1,2,2-TTCA	PCE	T	1,1,1-TCA	1,1,2-TCA	TCE	TCFM	X	VC	F1	F2	F3	F4	
SEP26/18	<10	<0.20	<0.50	<1.0	<0.50	<0.20	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<1.0	<0.20	<0.50	<0.20	<0.50	<0.50	<0.20	<0.50	<0.20	<0.20	<1.0	<2.0	<10	<5.0	<0.50	<0.50	<0.50	<0.20	<0.20	<0.20	<0.50	<0.20	<0.50	<0.20	<0.50	<0.20	<0.20	<25	<100	<200	<200
SEP26/18(DUP)	<10	<0.20	<0.50	<1.0	<0.50	<0.20	<0.20	<0.20	<0.50	<0.50	<0.50	<0.50	<1.0	<0.20	<0.50	<0.20	<0.50	<0.50	<0.20	<0.50	<0.20	<0.20	<1.0	<2.0	<10	<5.0	<0.50	<0.50	<0.50	<0.20	<0.20	<0.20	<0.50	<0.20	<0.50	<0.20	<0.50	<0.20	<0.20	<25	<100	<200	<200
NOV23/21	<1.0	<0.20	<0.20	<0.10	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.20	<0.30	<0.20	<0.30	<0.20	<0.20	<0.20	<0.30	<0.10	<0.10	<0.20	<0.30	<1.0	<1.0	<0.20	<0.10	<0.10	<0.20	<0.20	<0.30	<0.20	<0.20	<0.17	<0.20	<0.40	<25	<100	<100	<100		

TH101																																Screen Interval: 7.9 to 11.0 mbg										
DATE	Ace	B	BDCM	BF	BM	CTC	CB	CF	DBCM	1,2-DCB	1,3-DCB	1,4-DCB	DCFM	1,1-DCA	1,2-DCA	1,1-DCE	C-1,2-DCE	T-1,2-DCE	1,2-DCP	1,3-DCP	E	EDB	H	MC	MIBK	MEK	MTBE	ST	1,1,1,2-TTCA	1,1,2,2-TTCA	PCE	T	1,1,1-TCA	1,1,2-TCA	TCE	TCFM	X	VC	F1	F2	F3	F4
NOV23/21	<1.0	<0.20	<0.20	<0.10	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.20	<0.30	<0.20	<0.30	<0.20	<0.20	<0.20	<0.30	<0.10	<0.10	<0.20	<0.30	<1.0	<1.0	<0.20	<0.10	<0.10	<0.20	<0.20	<0.30	<0.20	<0.20	<0.17	<0.20	<0.40	<25	<100	<100	<100	
NOV23/21(DUP)	<1.0	<0.20	<0.20	<0.10	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.20	<0.30	<0.20	<0.30	<0.20	<0.20	<0.20	<0.30	<0.10	<0.10	<0.20	<0.30	<1.0	<1.0	<0.20	<0.10	<0.10	<0.20	<0.20	<0.30	<0.20	<0.20	<0.17	<0.20	<0.40	<25	<100	<100	<100	

PARAMETERS*	ABBREVIATION	REG 153/04 TABLE 2 STANDARDS*
ACETONE	Ace	2700
BENZENE		5
BROMODICHLOROMETHANE	BDCM	16
BROMOFORM	BF	25
BROMOMETHANE	BM	0.89
CARBON TETRACHLORIDE	CTC	5
CHLOROBENZENE	CB	30
CHLOROFORM	CF	22
DIBROMOCHLOROMETHANE	DBCM	25
1,2-DICHLOROBENZENE	1,2-DCB	3
1,3-DICHLOROBENZENE	1,3-DCB	59
1,4-DICHLOROBENZENE	1,4-DCB	1
DICHLORODIFLUOROMETHANE	DCFM	590
1,1-DICHLOROETHANE	1,1-DCA	5
1,2-DICHLOROETHANE	1,2-DCA	5
1,1-DICHLOROETHYLENE	1,1-DCE	14
cis-1,2-DICHLOROETHYLENE	C-1,2-DCE	17
trans-1,2-DICHLOROETHYLENE	T-1,2-DCE	17
1,2-DICHLOROPROPANE	1,2-DCP	5
1,3-DICHLOROPROPENE	1,3-DCP	0.5
ETHYLBENZENE		2.4
ETHYLENE DIBROMIDE	EDB	0.2
HEXANE	H	520
METHYLENE CHLORIDE	MC	50
METHYL ISOBUTYL KETONE	MIBK	640
METHYL ETHYL KETONE	MEK	1800
METHYL T-BUTYL ETHER	MTBE	15
STYRENE	ST	5.4
1,1,1,2-TETRACHLOROETHANE	1,1,1,2-TTCA	1.1
1,1,2,2-TETRACHLOROETHANE	1,1,2,2-TTCA	1
TETRACHLOROETHYLENE	PCE	17
TOLUENE		24
1,1,1-TRICHLOROETHANE	1,1,1-TCA	200
1,1,2-TRICHLOROETHANE	1,1,2-TCA	5
TRICHLOROETHYLENE	TCE	5
VINYL CHLORIDE	VC	1.7
TRICHLOROFLUOROMETHANE	TCFM	300
XYLENES	X	150
F1 (C6-C10) - BTEX	F1	750
F2 (C10-C16)	F2	150
F3 (C16-C34)	F3	500
F4 (C34-C50)	F4	500



SCALE:
0 5 10m

SOURCE:
BASED ON SURVEY PLAN BY THOMASBROWN ARCHITECTS, PROJECT NUMBER: 1509, DATED JUNE 6, 2017, GOOGLE EARTH IMAGE, DATE OCT. 9, 2016 AND FIELD MEASUREMENTS BY EXP STAFF

exp.	DRAWN BY	CHECKED BY
	M.S.	T.F.P.

LEGEND:
- - - - - PROPERTY BOUNDARY
BH SERIES (EXP, 2018)
TH SERIES (EXP, 2021)
BH SERIES (EXP, 2018)
TH SERIES (EXP, 2021)

* STANDARDS SHOWN ARE FOR ALL TYPE OF PROPERTY USE FOR COARSE TEXTURED SOILS IN A POTABLE GROUND WATER CONDITION
(DUP) INDICATES FIELD DUPLICATE SAMPLE
NA - NOT ANALYZED
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/L, UNLESS OTHERWISE NOTED

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 2 STANDARDS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN
LOCATION WHERE SAMPLE EXCEEDS O. REG. 153/04 TABLE 2 STANDARDS FOR AT LEAST ONE PARAMETER IS SHOWN IN RED
CONCENTRATION OF CONTAMINANT EXCEEDING TABLE 2 STANDARD SHOWN IN TEXT AS RED BOLD

CURRENT & HISTORICAL
GROUND WATER
ANALYTICAL RESULTS –
PETROLEUM
HYDROCARBON
PARAMETERS AND
VOLATILE ORGANIC

2960 AND 2980 TESTON ROAD,
VAUGHAN, ONTARIO

PROJECT NUMBER: 21020546 | DATE: DECEMBER 2021

FIGURE

12

Tables

Table 1: SITE ENVIRONMENTAL SETTING DATA

Page 1 of 1

2960 Teston Road, Vaughan, Ontario
Nov 2021

NATIVE SOIL

Type: Clayey and Sandy Silt Till
Hydraulic Conductivity (select range)
> 10^{-3} cm/s:
< 10^{-3} to > 10^{-6} cm/s: 1×10^{-4} cm/s
< 10^{-6} cm/s:
Soil Texture: Medium of Fine Textured
Estimated or Measured: Estimated

GROUND WATER

Depth to Water Table: 9.11 to 9.66 mbgs
Estimated or Measured: Measured
Direction of Flow: Southwesterly
Estimated or Measured: Estimated

MUNICIPAL SERVICES

Piped Water: City of Vaughan
Ground Water Source: Lake Ontario
Distance to Well: NA
Surface Water Source: NA
Sanitary Sewer: York Region
Storm Sewer: York Region

PRIVATE SERVICES

Distance to Nearest Well: 20 m
Approximate Depth of Well: 23 m
Private Sanitary Sewage: No

SURFACE WATER

Name of water body: Don River West Branch
Distance from site: 100 m
Elevation drop from site: 2.5 m
Direct Drainage from site: No



21020546

Table 2: DARCY'S LAW CALCULATIONS

Page 1 of 1

2980 and 2960 Teston Road, Vaughan, Ontario
Nov 2021

$$Q=kiA \quad v=ki/n \quad t=T/v$$

Permeability k (m/sec) = $1.00E-06$
 (cm/sec) = $1.00E-04$
 Gradient i (m/m) = 0.001
 Effective Porosity n = 0.30
 Thickness T (m) = NA

Permeability for silty sand based on published values (Freeze and Cherry, 1979).
 Effective porosity based on published values (McWhorter and Sunada, 1977).
 Gradient estimated based on slope of land.

Velocity v (m/sec) = $3.33E-09$
 (feet/sec) = $1.09E-08$
 (feet/day) = $9.45E-04$
 (feet/year) = $3.45E-01$
 (metres/year) = $1.05E-01$



21020546

GROUND WATER MONITORING DATA

2960 and 2980 Teston Road, Vaughan, Ontario

Table 3

Page 1 of 1

Monitor	Top of Pipe Elevation (masl)	Ground Surface Elevation (masl)	Screen Interval (mbgs)	Date	Petroleum Vapour Concentrations	Liquid Petroleum Thickness (m)*	Water Depth (mbgs)	Water Table Elevation (masl)
BH-1	253.22	253.36	4.7 to 7.8	28-Jun-18 7-Aug-18 23-Nov-21	nd nd nd	nd nd nd	DRY DRY DRY	n/a n/a n/a
BH-2	253.40	253.55	1.5 to 4.6	28-Jun-18 7-Aug-18 23-Nov-21	6% na nd	nd na nd	DRY n/a DRY	n/a n/a n/a
BH-11	253.75	253.88	1.5 to 4.6	28-Jun-18 7-Aug-18 23-Nov-21	100 100 nd	nd nd nd	DRY DRY DRY	n/a n/a n/a
BH-1D	253.37	253.60	7.6 to 10.7	26-Sep-18 23-Nov-21	nd nd	nd nd	9.36 9.19	244.24 244.41
BH-2D	253.35	253.47	7.6 to 10.7	26-Sep-18 23-Nov-21	nd nd	nd nd	9.51 9.48	243.95 243.99
BH-11D	253.82	253.92	7.9 to 11.0	26-Sep-18 23-Nov-21	10 nd	nd nd	9.43 9.40	244.49 244.52
TH101	253.03	253.16	7.9 to 11.0	23-Nov-21	130 ppmv	nd	9.66	243.50

Note:

All measurements shown in metres (m)

Elevations are relative to geodetic benchmark MNRF Station #00819688062 (Concrete bridge carrying Teston Sideroad over Hwy 400, 2.1 km north of Hwy 400 and Major Mackenzie Dr. interchange and 2.1 km south of Kirby Sideroad. Tablet is set horizontally in west face of east concrete abutment, 5.03 m north of SW corner, 0.61 m above ground level and 14.3 m east of centerline of Hwy 400) with elevation of 239.226 masl (EXP, 2018 and EXP, 2021)

nd means "not detected"; nm means "not monitored"; na means "not accessible"; n/a means "not applicable"; mbgs means "metres below ground surface"

Vapour concentrations measured using RKI Eagle 2 operated in methane elimination mode

Petroleum vapour concentrations <500 ppmv shown in parts per million volume (ppmv), >500 ppmv shown in percent of lower explosive limit (% LEL)

* If liquid petroleum was measured, the water table elevations were corrected assuming a liquid petroleum specific gravity of 0.75

SOIL CHEMICAL ANALYSIS - Polycyclic Aromatic Hydrocarbons

2960 and 2980 Teston Road, Vaughan, ON

Sample	Test Hole	Test Hole	Test Hole	Test Hole	Test Hole	Test Hole	Ontario Regulation
Depth (mbgs)	TH101-1	TH101-3	TH102-1	DUP (TH102-1)	TH102-3	TH103-1	153/04
Soil Type	0.0 to 0.6	1.5 to 2.3	0.0 to 0.6	0.0 to 0.6	1.5 to 2.3	0.0 to 0.6	Table 2
Sample Date	Sandy Silt (fill)	Silt (fill)	Silt (fill)	Silt (fill)	Silt (fill)	Sandy Silt (fill)	Soil Standards*
Bureau Veritas I.D.	16-Nov-21	16-Nov-21	16-Nov-21	16-Nov-21	16-Nov-21	16-Nov-21	
Bureau Veritas Job #	RGH625	RGH626	RGH627	RGH628	RGH629	RGH630	
Field Vapour Reading	C1X8543	C1X8543	C1X8543	C1X8543	C1X8543	C1X8543	
	5 ppmv	10 ppmv	5 ppmv	5 ppmv	5 ppmv	5 ppmv	
PARAMETERS							
Acenaphthene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	7.9
Acenaphthylene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.15
Anthracene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.67
Benzo(a)anthracene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.5
Benzo(a)pyrene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.3
Benzo(b,j)fluoranthene	<0.005	<0.005	<0.005	<0.005	0.0052	<0.005	0.78
Benzo(g,h,i)perylene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	6.6
Benzo(k)fluoranthene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.78
Chrysene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	7
Dibenz(a,h)anthracene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.1
Fluoranthene	<0.005	<0.005	<0.005	<0.005	0.0049	<0.005	0.69
Fluorene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	62
Indeno(1,2,3-cd)pyrene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.38
1-Methylnaphthalene**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.99
2-Methylnaphthalene**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.99
Total Methylnaphthalene	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	0.99
Naphthalene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.6
Phenanthrene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	6.2
Pyrene	<0.005	<0.005	<0.005	<0.005	0.0042	<0.005	78

Analysis by Bureau Veritas Lab

All results in ppm (ug/g) on dry weight basis; mbgs means "metres below ground surface"; <RDL means not detected at reporting detection limit (RDL); na means "not analysed"

RDL are shown for non-detected results; for RDL of reportable results, see the respective laboratory certificate of analysis (refer to Bureau Veritas Job #)

* Standards shown are for an residential/park property use and coarse textured soils in a potable ground water condition

** The sum of 1- and 2-Methylnaphthalene concentrations must not exceed the standard if both are detected

Exceedances of Table 3 standards are shown in **bold**

SOIL CHEMICAL ANALYSIS - Polycyclic Aromatic Hydrocarbons

2960 and 2980 Teston Road, Vaughan, ON

Table 4

Page 2 of 2

Sample	Test Hole						
Depth (mbgs)	TH103-3						
Soil Type	1.5 to 2.3						
Sample Date	Sandy Silt (fill)						
Bureau Veritas I.D.	16-Nov-21						
Bureau Veritas Job #	RGH631						
Field Vapour Reading	C1X8543						
	5 ppmv						Ontario Regulation 153/04 Table 2 Soil Standards*
PARAMETERS							
Acenaphthene	<0.005						7.9
Acenaphthylene	<0.005						0.15
Anthracene	<0.005						0.67
Benzo(a)anthracene	<0.005						0.5
Benzo(a)pyrene	<0.005						0.3
Benzo(b,j)fluoranthene	<0.005						0.78
Benzo(g,h,i)perylene	<0.005						6.6
Benzo(k)fluoranthene	<0.005						0.78
Chrysene	<0.005						7
Dibenz(a,h)anthracene	<0.005						0.1
Fluoranthene	<0.005						0.69
Fluorene	<0.005						62
Indeno(1,2,3-cd)pyrene	<0.005						0.38
1-Methylnaphthalene**	<0.005						0.99
2-Methylnaphthalene**	<0.005						0.99
Total Methylnaphthalene	<0.0071						0.99
Naphthalene	<0.005						0.6
Phenanthrene	<0.005						6.2
Pyrene	<0.005						78

Analysis by Bureau Veritas Lab

All results in ppm (ug/g) on dry weight basis; mbgs means "metres below ground surface"; <RDL means not detected at reporting detection limit (RDL); na means "not analysed"

RDL are shown for non-detected results; for RDL of reportable results, see the respective laboratory certificate of analysis (refer to Bureau Veritas Job #)

* Standards shown are for an residential/park property use and coarse textured soils in a potable ground water condition

** The sum of 1- and 2-Methylnaphthalene concentrations must not exceed the standard if both are detected

Exceedances of Table 3 standards are shown in **bold**

SOIL CHEMICAL ANALYSIS - Inorganic Parameters

2960 and 2980 Teston Road, Vaughan, ON

Sample	Test Hole TH101-1	Test Hole TH101-3	Test Hole TH102-1	Test Hole DUP (TH102-1)	Test Hole TH102-3	Test Hole TH103-1	Ontario Regulation 153/04 Table 2 Soil Standards *
Depth (mbgs)	0.0 to 0.6	1.5 to 2.3	0.0 to 0.6	0.0 to 0.6	1.5 to 2.3	0.0 to 0.6	
Soil Type	Sandy Silt (fill)	Silt (fill)	Silt (fill)	Silt (fill)	Silt (fill)	Sandy Silt (fill)	
Sample Date	16-Nov-21	16-Nov-21	16-Nov-21	16-Nov-21	16-Nov-21	16-Nov-21	
Bureau Veritas I.D.	RGH625	RGH626	RGH627	RGH628	RGH629	RGH630	
Bureau Veritas Job #	C1X8543	C1X8543	C1X8543	C1X8543	C1X8543	C1X8543	
Field Vapour Reading	5 ppmv	10 ppmv	5 ppmv	5 ppmv	5 ppmv	5 ppmv	
PARAMETERS							
Antimony	<0.20	<0.20	0.33	<0.20	<0.20	<0.20	7.5
Arsenic	2.6	2.5	3.0	2.8	2.8	3.1	18
Barium	64	52	63	58	61	58	390
Beryllium	0.60	0.45	0.48	0.42	0.54	0.54	4
Boron	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	120
Hot Water Boron (HWS)	0.16	<0.050	0.60	0.43	0.44	0.28	1.5
Cadmium	<0.10	<0.10	0.14	0.16	<0.10	<0.10	1.2
Chromium	21	17	18	16	20	18	160
Chromium (VI)	0.44	<0.18	<0.18	<0.18	<0.18	<0.18	8
Cobalt	8.7	8.4	7.1	6.8	7.7	8.2	22
Copper	18	15	18	17	21	20	140
Cyanide	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.051
Lead	8.5	7.5	20	18	8.7	10	120
Mercury	<0.050	<0.050	0.063	0.061	<0.050	<0.050	0.27
Molybdenum	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	6.9
Nickel	18	17	14	13	17	18	100
Selenium	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	2.4
Silver	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	20
Thallium	0.12	0.12	0.10	0.092	0.13	0.11	1
Uranium	0.42	0.43	0.35	0.35	0.43	0.45	23
Vanadium	31	25	27	25	29	27	86
Zinc	42	34	60	54	44	46	340
Electrical Conductivity (EC)	0.19	0.13	0.20	0.18	0.35	0.27	0.7
Sodium Absorption Ratio (SAR)	0.43	0.30	0.23	0.27	1.4	1.3	5

Analysis by Bureau Veritas Lab

All results in ppm (ug/g) on dry weight basis; mbgs means "metres below ground surface"; <RDL means not detected at reporting detection limit (RDL); na means "not analysed"

RDL are shown for non-detected results; for RDL of reportable results, see the respective laboratory certificate of analysis (refer to Bureau Veritas Job #)

* Standards shown are for an residential/park property use and coarse textured soils in a potable ground water condition

Exceedances of Table 2 standards are shown in **bold**

** Sodium was not detected. To report SAR the sodium detection limit was used in the calculation, this value represents a maximum ratio.

SOIL CHEMICAL ANALYSIS - Inorganic Parameters

2960 and 2980 Teston Road, Vaughan, ON

Sample	Test Hole						
Depth (mbgs)	TH103-3						
Soil Type	1.5 to 2.3						
Sample Date	Sandy Silt (fill)						
Bureau Veritas I.D.	16-Nov-21						
Bureau Veritas Job #	RGH631						
Field Vapour Reading	C1X8543						
	5 ppmv						Ontario Regulation 153/04 Table 2 Soil Standards *
PARAMETERS							
Antimony	<0.20						7.5
Arsenic	3.6						18
Barium	64						390
Beryllium	0.69						4
Boron	<5.0						120
Hot Water Boron (HWS)	0.12						1.5
Cadmium	<0.10						1.2
Chromium	24						160
Chromium (VI)	0.46						8
Cobalt	9.2						22
Copper	21						140
Cyanide	<0.01						0.051
Lead	9.0						120
Mercury	0.063						0.27
Molybdenum	<0.50						6.9
Nickel	20						100
Selenium	<0.50						2.4
Silver	<0.20						20
Thallium	0.14						1
Uranium	0.41						23
Vanadium	35						86
Zinc	44						340
Electrical Conductivity (EC)	0.19						0.7
Sodium Absorption Ratio (SAR)	1.2						5

Analysis by Bureau Veritas Lab

All results in ppm (ug/g) on dry weight basis; mbgs means "metres below ground surface"; <RDL means not detected at reporting detection limit (RDL); na means "not analysed"

RDL are shown for non-detected results; for RDL of reportable results, see the respective laboratory certificate of analysis (refer to Bureau Veritas Job #)

* Standards shown are for an residential/park property use and coarse textured soils in a potable ground water condition

Exceedances of Table 2 standards are shown in **bold**

** Sodium was not detected. To report SAR the sodium detection limit was used in the calculation, this value represents a maximum ratio.

SOIL CHEMICAL ANALYSIS - pH

2960 and 2980 Teston Road Teston Road, Vaughan, Ontari

Sample	Test Hole TH101-1	Test Hole TH101-3	Test Hole TH102-1	Test Hole DUP (TH102-1)	Test Hole TH102-3	Test Hole TH103-1	Ontario Regulation 153/04 Soil Standards
Depth (mbgs)	0.0 to 0.6	1.5 to 2.3	0.0 to 0.6	0.0 to 0.6	1.5 to 2.3	0.0 to 0.6	
Soil Type	Sandy Silt (fill)	Silt (fill)	Silt (fill)	Silt (fill)	Silt (fill)	Sandy Silt (fill)	
Sample Date	16-Nov-21	16-Nov-21	16-Nov-21	16-Nov-21	16-Nov-21	16-Nov-21	
Bureau Veritas I.D.	RGH625	RGH626	RGH627	RGH628	RGH629	RGH630	
Bureau Veritas Job #	C1X8543	C1X8543	C1X8543	C1X8543	C1X8543	C1X8543	
pH	7.08	7.62	7.43	7.53	7.46	7.62	Soil depth 0 - 1.5 mbgs: pH range 5.0 - 9.0 Soil depth > 1.5 mbgs: pH range 5.0 - 11.0

Analysis by Bureau Veritas Lab

mbgs means "metres below ground surface"; na means "not analysed"

Surface soil values outside pH range 5.0 to 9.0 are shown in **bold**Sub-surface soil values outside pH range 5.0 to 11.0 are shown in **bold**

SOIL CHEMICAL ANALYSIS - pH

2960 and 2980 Teston Road Teston Road, Vaughan, Ontari

Sample	Test Hole TH103-3						
Depth (mbgs)	1.5 to 2.3						
Soil Type	Sandy Silt (fill)						Ontario Regulation 153/04 Soil Standards
Sample Date	16-Nov-21						
Bureau Veritas I.D.	RGH631						
Bureau Veritas Job #	C1X8543						
pH	7.53						Soil depth 0 - 1.5 mbgs: pH range 5.0 - 9.0 Soil depth > 1.5 mbgs: pH range 5.0 - 11.0

Analysis by Bureau Veritas Lab

mbgs means "metres below ground surface"; na means "not analysed"

Surface soil values outside pH range 5.0 to 9.0 are shown in **bold**Sub-surface soil values outside pH range 5.0 to 11.0 are shown in **bold**

Table 7

GROUND WATER CHEMICAL ANALYSIS - Petroleum Related Parameters and Volatile Organic Compounds

2960 and 2980 Teston Road, Vaughan, ON

Page 1 of 1

Sample	Monitor BH-11D 7.9 to 11	Monitor BH-2D 7.6 to 10.7	Monitor TH101 7.9 to 11	Monitor TH101 (DUP1) 7.9 to 11		Ontario Regulation 153/04 Table 2 Ground Water Standards*
Screen Interval (mbgs)						
Sample Date	26-Nov-21	26-Nov-21	26-Nov-21	26-Nov-21		
AGAT I.D.	3260897	3260916	3260917	3260918		
AGAT Job #	21T836167	21T836167	21T836167	21T836167		
PARAMETERS						
<u>Volatile Organic Compounds</u>						
Acetone	<1.0	<1.0	<1.0	<1.0		2700
Benzene	<0.20	<0.20	<0.20	<0.20		5
Bromodichloromethane	<0.20	<0.20	<0.20	<0.20		16
Bromoform	<0.10	<0.10	<0.10	<0.10		25
Bromomethane	<0.20	<0.20	<0.20	<0.20		0.89
Carbon Tetrachloride	<0.20	<0.20	<0.20	<0.20		5
Chlorobenzene	<0.10	<0.10	<0.10	<0.10		30
Chloroform	<0.20	<0.20	<0.20	<0.20		22
Dibromochloromethane	<0.10	<0.10	<0.10	<0.10		25
Dichlorobenzene, - 1,2	<0.10	<0.10	<0.10	<0.10		3
Dichlorobenzene, - 1,3	<0.10	<0.10	<0.10	<0.10		59
Dichlorobenzene, - 1,4	<0.10	<0.10	<0.10	<0.10		1
Dichlorodifluoromethane (FREON 12)	<0.20	<0.20	<0.20	<0.20		590
Dichloroethane, - 1,1	<0.30	<0.30	<0.30	<0.30		5
Dichloroethane, - 1,2	<0.20	<0.20	<0.20	<0.20		5
Dichloroethylene, - 1,1	<0.30	<0.30	<0.30	<0.30		14
Dichloroethylene, <i>cis</i> - 1,2	<0.20	<0.20	<0.20	<0.20		17
Dichloroethylene, <i>trans</i> - 1,2	<0.20	<0.20	<0.20	<0.20		17
Dichloropropane, - 1,2	<0.20	<0.20	<0.20	<0.20		5
Dichloropropene, - 1,3 (total**)	<0.30	<0.30	<0.30	<0.30		0.5
Ethylbenzene	<0.10	<0.10	<0.10	<0.10		2.4
Ethylene Dibromide	<0.10	<0.10	<0.10	<0.10		0.2
Hexane	<0.20	<0.20	<0.20	<0.20		520
Methylene Chloride	<0.30	<0.30	<0.30	<0.30		50
Methyl Isobutyl Ketone	<1.0	<1.0	<1.0	<1.0		640
Methyl Ethyl Ketone	<1.0	<1.0	<1.0	<1.0		1800
Methyl t-Butyl Ether	<0.20	<0.20	<0.20	<0.20		15
Styrene	<0.10	<0.10	<0.10	<0.10		5.4
Tetrachloroethane, - 1,1,1,2	<0.10	<0.10	<0.10	<0.10		1.1
Tetrachloroethane, - 1,1,2,2	<0.10	<0.10	<0.10	<0.10		1
Tetrachloroethylene	<0.20	<0.20	<0.20	<0.20		17
Toluene	<0.20	<0.20	<0.20	<0.20		24
Trichloroethane, - 1,1,1	<0.30	<0.30	<0.30	<0.30		200
Trichloroethane, - 1,1,2	<0.20	<0.20	<0.20	<0.20		5
Trichloroethylene	<0.20	<0.20	<0.20	<0.20		5
Vinyl Chloride	<0.17	<0.17	<0.17	<0.17		1.7
Xylenes	<0.20	<0.20	<0.20	<0.20		300
Trichlorofluoromethane (FREON 11)	<0.40	<0.40	<0.40	<0.40		150
<u>Petroleum Hydrocarbons</u>						
F1 (C6 to C10 - BTEX)	<25	<25	<25	<25		750
F2 (C10 to C16)	<100	<100	<100	<100		150
F3 (C16 to C34)	<100	<100	<100	<100		500
F4 (C34 to C50)	<100	<100	<100	<100		500

Analysis by AGAT Laboratories

All results in ppb (ug/L); mbgs means "metres below ground surface"; <RDL means not detected at reporting detection limit (RDL); na means "not analysed"

RDL are shown for non-detected results; for RDL of reportable results, see the respective laboratory certificate of analysis (refer to AGAT Job #)

* Standards shown are for all types of property use and medium and fine textured soils in a potable ground water condition

** Sum of *cis*-1,3 and *trans*-1,3 dichloropropene concentrations

*** F4G (gravimetric determination) result shown because chromatograph did not return to baseline and F4G result is larger than F4 (GC determination) result

Exceedances of Table 2 standards are shown in **bold**

SOIL ANALYTICAL MAXIMUM CONCENTRATION DATA				
2960 and 2980 Teston Road, Vaughan, ON				
Page 1 of 1				
Parameter	Sample Location	Sample Depth (mbgs)	Concentration	Ontario Regulation 153/04 Table 2 Soil Standards*
<u>Volatile Organic Compounds</u>				
Benzene	na	na	na	0.21
Ethylbenzene	na	na	na	1.1
Toluene	na	na	na	2.3
Xylenes	na	na	na	25
<u>Petroleum Hydrocarbons</u>				
F1 (C6 to C10 - BTEX)	na	na	na	55
F2 (C10 to C16)	na	na	na	98
F3 (C16 to C34)	na	na	na	300
F4 (C34 to C50)	na	na	na	2800
<u>Polycyclic Aromatic Hydrocarbons</u>				
Acenaphthene	All	na	<0.0050	7.9
Acenaphthylene	All	na	<0.0050	0.15
Anthracene	All	na	<0.0050	0.67
Benzo(a)anthracene	All	na	<0.0050	0.5
Benzo(a)pyrene	All	na	<0.0050	0.3
Benzo(b,j)fluoranthene	TH102-3	1.5 to 2.3	0.0052	0.78
Benzo(g,h,i)perylene	All	na	<0.0050	6.6
Benzo(k)fluoranthene	All	na	<0.0050	0.78
Chrysene	All	na	<0.0050	7
Dibenz(a,h)anthracene	All	na	<0.0050	0.1
Fluoranthene	TH102-3	1.5 to 2.3	0.0049	0.69
Fluorene	All	na	<0.0050	62
Indeno(1,2,3-cd)pyrene	All	na	<0.0050	0.38
1-Methylnaphthalene A	All	na	<0.0050	0.99
2-Methylnaphthalene A	All	na	<0.0050	0.99
Total Methylnaphthalene	All	na	<0.0071	0.99
Naphthalene	All	na	<0.0050	0.6
Phenanthrene	All	na	<0.0050	6.2
Pyrene	TH102-3	1.5 to 2.3	0.0042	78
<u>Inorganic Parameters</u>				
Antimony	TH102-1	0.0 to 0.6	0.33	7.5
Arsenic	TH103-3	1.5 to 2.3	3.6	18
Barium	TH101-1, TH103-3	na	64	390
Beryllium	TH103-3	1.5 to 2.3	0.69	4
Boron	All	na	<5.0	120
Hot Water Boron (HWS)	TH102-1	0.0 to 0.6	0.060	1.5
Cadmium	TH102-1(DUP)	0.0 to 0.6	0.16	1.2
Chromium	TH103-3	1.5 to 2.3	24	160
Chromium (VI)	TH103-3	1.5 to 2.3	0.46	8
Cobalt	TH103-3	1.5 to 2.3	9.2	22
Copper	TH102-3, TH103-3	na	21	140
Cyanide	All	na	<0.01	0.051
Lead	TH102-1	0.0 to 0.6	20	120
Mercury	TH102-1, TH103-3	na	0.063	0.27
Molybdenum	All	na	<0.50	6.9
Nickel	TH103-3	1.5 to 2.3	20	100
Selenium	All	na	<0.50	2.4
Silver	All	na	<0.20	20
Thallium	TH103-3	1.5 to 2.3	0.14	1
Uranium	TH103-1	0.0 to 0.6	0.45	23
Vanadium	TH103-3	1.5 to 2.3	35	86
Zinc	TH102-1	0.0 to 0.6	60	340
Electrical Conductivity (EC)	TH103-3	1.5 to 2.3	0.19	0.7
Sodium Absorption Ratio (SAR)	TH102-3	1.5 to 2.3	1.4	5
Analysis by Bureau Veritas Lab All results in ppm (ug/g) on dry weight basis; <RDL means not detected at reporting detection limit (RDL); na means "not applicable"; mbgs means "metres below ground surface" RDL are shown for non-detected results * Standards shown are for an residential/park property use and coarse soils in a potable ground water condition Exceedances of Table 2 standards are shown in bold Notes for Page 2: A The sum of 1- and 2-Methylnaphthalene concentrations must not exceed the standard if both are detected ** Sodium was not detected. To report SAR the sodium dection limit was used in the calculation, this value represents a maximum ratio.				

GROUND WATER ANALYTICAL MAXIMUM CONCENTRATION DATA

2960 and 2980 Teston Road, Vaughan, ON

Parameter	Sample Location	Screen Interval (mbgs)	Concentration	Ontario Regulation 153/04 Table 2 Ground Water Standards*
<u>Volatile Organic Compounds</u>				
Acetone	All	n/a	<1.0	2700
Benzene	All	n/a	<0.20	5
Bromodichloromethane	All	n/a	<0.20	16
Bromoform	All	n/a	<0.10	25
Bromomethane	All	n/a	<0.20	0.89
Carbon Tetrachloride	All	n/a	<0.20	5
Chlorobenzene	All	n/a	<0.10	30
Chloroform	All	n/a	<0.20	22
Dibromochloromethane	All	n/a	<0.10	25
Dichlorobenzene, - 1,2	All	n/a	<0.10	3
Dichlorobenzene, - 1,3	All	n/a	<0.10	59
Dichlorobenzene, - 1,4	All	n/a	<0.10	1
Dichlorodifluoromethane (FREON 12)	All	n/a	<0.20	590
Dichloroethane, - 1,1	All	n/a	<0.30	5
Dichloroethane, - 1,2	All	n/a	<0.20	5
Dichloroethylene, - 1,1	All	n/a	<0.30	14
Dichloroethylene, <i>cis</i> - 1,2	All	n/a	<0.20	17
Dichloroethylene, <i>trans</i> - 1,2	All	n/a	<0.20	17
Dichloropropane, - 1,2	All	n/a	<0.20	5
Dichloropropene, - 1,3 (total**)	All	n/a	<0.30	0.5
Ethylbenzene	All	n/a	<0.10	2.4
Ethylene Dibromide	All	n/a	<0.10	0.2
Hexane	All	n/a	<0.20	520
Methylene Chloride	All	n/a	<0.30	50
Methyl Isobutyl Ketone	All	n/a	<1.0	640
Methyl Ethyl Ketone	All	n/a	<1.0	1800
Methyl t-Butyl Ether	All	n/a	<0.20	15
Styrene	All	n/a	<0.10	5.4
Tetrachloroethane, - 1,1,1,2	All	n/a	<0.10	1.1
Tetrachloroethane, - 1,1,2,2	All	n/a	<0.10	1
Tetrachloroethylene	All	n/a	<0.20	17
Toluene	All	n/a	<0.20	24
Trichloroethane, - 1,1,1	All	n/a	<0.30	200
Trichloroethane, - 1,1,2	All	n/a	<0.20	5
Trichloroethylene	All	n/a	<0.20	5
Vinyl Chloride	All	n/a	<0.17	1.7
Xylenes	All	n/a	<0.20	300
Trichlorofluoromethane (FREON 11)	All	n/a	<0.40	150
<u>Petroleum Hydrocarbons</u>				
F1 (C6 to C10 - BTEX)	All	n/a	<25	750
F2 (C10 to C16)	All	n/a	<100	150
F3 (C16 to C34)	All	n/a	<100	500
F4 (C34 to C50)	All	n/a	<100	500

Analysis by AGAT Laboratories

All results in ppb (ug/L); <RDL means not detected at reporting detection limit (RDL); na means "not applicable"; mbgs means "metres below ground surface"

RDL are shown for non-detected results

* Standards shown are for all types of property use and medium and fine textured soils in a potable ground water condition

Exceedances of Table 2 standards are shown in **bold**

Appendix A – Limitation of Liability, Scope of Report and Third Party Reliance

The Regional Municipality of York
Phase Two Environmental Site Assessment
2960 and 2980 Teston Road, Vaughan, ON
GTR-21020546-A0
December 22, 2021

Limitation of Liability, Scope of Report and Third Party Reliance

BASIS OF REPORT

The Report is based on site conditions known or inferred by the investigation undertaken as of the date of the Report. Should changes occur which potentially impact the condition of the site the recommendations of EXP Services Inc. (EXP) may require re-evaluation. Where special concerns exist, or the Client has special considerations or requirements, these should be disclosed to EXP to allow for additional or special investigations to be undertaken not otherwise within the scope of investigation conducted for the purpose of the Report.

Where applicable, recommended field services are the minimum necessary to ascertain that construction is being carried out in general conformity with building code guidelines, generally accepted practices and EXP's recommendations. Any reduction in the level of services recommended will result in EXP providing qualified opinions regarding the adequacy of the work. EXP can assist design professionals or contractors retained by the Client to review applicable plans, drawings, and specifications as they relate to the Report or to conduct field reviews during construction.

RELIANCE ON INFORMATION PROVIDED

The evaluation and conclusions contained in the Report are based on conditions in evidence at the time of site inspections and information provided to EXP by the Client and others. The Report has been prepared for the specific site, development, building, design or building assessment objectives and purpose as communicated by the Client. EXP has relied in good faith upon such representations, information and instructions and accepts no responsibility for any deficiency, misstatement or inaccuracy contained in the Report as a result of any misstatements, omissions, misrepresentation or fraudulent acts of persons providing information. Unless specifically stated otherwise, the applicability and reliability of the findings, recommendations, suggestions or opinions expressed in the Report are only valid to the extent that there has been no material alteration to or variation from any of the information provided to EXP.

STANDARD OF CARE

This report ("Report") has been prepared in a manner consistent with the degree of care and skill exercised by engineering consultants currently practicing under similar circumstances and locale. No other warranty, expressed or implied, is made. Unless specifically stated otherwise, the Report does not contain environmental consulting advice.

The Regional Municipality of York
Phase Two Environmental Site Assessment
2960 and 2980 Teston Road, Vaughan, ON
GTR-21020546-A0
December 22, 2021

COMPLETE REPORT

All documents, records, data and files, whether electronic or otherwise, generated as part of this assignment form part of the Report. This material includes, but is not limited to, the terms of reference given to EXP by the Client, communications between EXP and the Client, other reports, proposals or documents prepared by EXP for the Client in connection with the site described in the Report. In order to properly understand the suggestions, recommendations and opinions expressed in the Report, reference must be made to the Report in its entirety. EXP is not responsible for use by any party of portions of the Report.

USE OF REPORT

The information and opinions expressed in the Report, or any document forming part of the Report, are for the sole benefit of the Client. No other party may use or rely upon the Report in whole or in part without the written consent of EXP. Any use of the Report, or any portion of the Report, by a third party are the sole responsibility of such third party. EXP is not responsible for damages suffered by any third party resulting from unauthorised use of the Report.

REPORT FORMAT

Where EXP has submitted both electronic file and a hard copy of the Report, or any document forming part of the Report, only the signed and sealed hard copy shall be the original documents for record and working purposes. In the event of a dispute or discrepancy, the hard copy shall govern. Electronic files transmitted by EXP utilize specific software and hardware systems. EXP makes no representation about the compatibility of these files with the Client's current or future software and hardware systems. Regardless of format, the documents described herein are EXP's instruments of professional service and shall not be altered without the written consent of EXP.

Appendix B – Survey Plan

SEWER INVERT DATA TABLE

MH/CB	DIRECTION	DIAMETER	INVERT
CB#1	S	300	1.57
CB#2	N	300	2.20
CB#3	SE	300	1.95
CB#4	W	400	1.85
STM MH#1	NW	300	1.95
	SW	300	2.64
STM MH#2	N	300	1.76
	SW	300	2.49
STM MH#3	N	100	2.24
	SW	300	3.36
	W	300	2.55
	W	300	3.37
SAN MH#1	NW	425	2.22
	SW	425	2.22
SAN MH#2	N	200	4.88
	SW	200	3.69
	W	200	4.96
	W	200	4.94

CAP - CAPED LATERAL MEASUREMENTS
COULD NOT BE OBTAINED
INFORMATION COMPILED FROM RECORDS
PROVIDED BY THE CLIENT, PROJECT NO 1891

PLAN OF SURVEY OF
PART OF LOT 26
CONCESSION 4
GEOGRAPHIC TOWNSHIP OF VAUGHAN
NOW IN THE
CITY OF VAUGHAN
REGIONAL MUNICIPALITY OF YORK

SCALE 1 : 250
0 5 10 15 metres

J. D. BARNES LIMITED
© COPYRIGHT 2019

METRIC DISTANCES AND ELEVATIONS SHOWN ON THIS PLAN ARE IN METRES
AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

NOTES

BEARINGS ARE UTM GRID, DERIVED FROM REAL TIME NETWORK (RTN) OBSERVATIONS,
UTM ZONE 17, NAD 83 (CSRS) (2010.0).

DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY
THE COMBINED SCALED FACTOR OF 0.999735.

FOR BEARING COMPARISONS, A ROTATION OF 1°01'20" COUNTER-CLOCKWISE WAS
APPLIED TO BEARINGS ON P AND P1

FOR BEARING COMPARISONS, A ROTATION OF 1°02'55" COUNTER-CLOCKWISE WAS
APPLIED TO BEARINGS ON P2

ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODETIC DATUM(COVD-28:78)
AND ARE DERIVED FROM THE CITY OF VAUGHAN BENCH MARK NO. 34-9
HAVING A PUBLISHED ELEVATION OF 234.384 METRES

LEGEND

■	DENOTES SURVEY MONUMENT FOUND
□	DENOTES SURVEY MONUMENT SET
IB	DENOTES STANDARD IRON BAR
IB	DENOTES IRON BAR
M	DENOTES MEASURED
P	DENOTES PLAN 65R-25880
P1	DENOTES EXPROPRIATION PLAN D-949
P2	DENOTES SURVEYORS REAL PROPERTY REPORT BY R.G. McKIBBIN LTD. DATED
P3	DENOTES PLAN 65R-34541
LP	DENOTES LLOYD & PURCELL LTD. O.L.S.
1457	DENOTES R.J. STEWART, O.L.S.
NI	DENOTES NOT IDENTIFIABLE
JDB	DENOTES J.D. BARNES LIMITED
CB	DENOTES SINGLE CATCHBASIN
DCB	DENOTES DOUBLE CATCHBASIN
HW	DENOTES HANDWELL
MH	DENOTES MANHOLE
STM MH	DENOTES STORM MANHOLE
WMH	DENOTES WATER MANHOLE
HP	DENOTES HYDRO POLE
LS	DENOTES LIGHT STANDARD
TSC	DENOTES TRAFFIC SIGNAL CONTROL
TL	DENOTES TRAFFIC SIGNAL
H	DENOTES FIRE HYDRANT
WV	DENOTES WATER VALVE
C/L	DENOTES CENTERLINE
MW	DENOTES MONITORING WELL
○	DENOTES DECIDUOUS TREE
+	DENOTES MAILBOX
STM	DENOTES UNDERGROUND STORM SEWER
G	DENOTES UNDERGROUND GAS LINE
W	DENOTES UNDERGROUND WATER LINE
UE	DENOTES UNDERGROUND HYDRO LINE
E	DENOTES OVERHEAD HYDRO LINE
UT	DENOTES UNDERGROUND TELEPHONE LINE
FO	DENOTES UNDERGROUND FIBRE OPTIC LINE
T	DENOTES OVERHEAD TELEPHONE LINE
GLB	DENOTES GROUND LEVEL BOX
OHM	DENOTES HYDRO MANHOLE
PED	DENOTES TELEPHONE PEDESTAL
NPS	DENOTES NOMINAL PIPE SIZE
PE IP	DENOTES POLYETHYLENE INTERMEDIATE PRESSURE
PVC	DENOTES POLYVINYL CHLORIDE
CPP	DENOTES CONCRETE PRESSURE PIPE

ALL SET SSIB AND PB MONUMENTS WERE USED DUE TO LACK OF OVERBURDEN
AND/OR PROXIMITY OF UNDERGROUND UTILITIES IN ACCORDANCE WITH
SECTION 11 (4) OF O.R.G. 525/91.

UNDERGROUND UTILITY NOTES

THE UTILITY DATA DEPICTED ON THIS DRAWING WERE ACQUIRED IN ACCORDANCE
WITH ASCE STANDARD 38-02. THE INFORMATION IS SHOWN BY ATTRIBUTED UTILITY
LEVELS WHICH ARE DEFINED AS FOLLOWS:

DATA QUALITY LEVEL

HIGHEST QUALITY	QUALITY LEVEL A
QUALITY LEVEL B	QUALITY LEVEL C
QUALITY LEVEL D	LOWEST QUALITY

QUALITY LEVEL "A" - INFORMATION OBTAINED BY ACTUAL PHYSICAL EXPOSURE
OF TARGETED UTILITIES AND SUBSEQUENT MEASUREMENT OF THE EXPOSED
PRECISE HORIZONTAL AND VERTICAL POSITION.

QUALITY LEVEL "B" - INFORMATION OBTAINED USING GEOPHYSICAL LOCATE
TECHNIQUES TO IDENTIFY THE EXISTENCE AND APPROXIMATE HORIZONTAL
POSITION OF THE DESIGNATED UTILITIES.

QUALITY LEVEL "C" - INFORMATION OBTAINED BY SURVEYING AND PLOTTING
UTILITY FEATURES BASED ON PROFESSIONAL JUDGMENT IN
CORRELATING THIS INFORMATION TO THE QUALITY "D" INFORMATION OBTAINED.

QUALITY LEVEL "D" - INFORMATION DERIVED FROM UTILITY RECORDS OR VERBAL
RECOLLECTIONS.

ALL SERVICES ARE QUALITY "D" UNLESS NOTED OTHERWISE.
LEVEL "D" RECORD INFORMATION SHOWN HAS BEEN PLOTTED
APPROXIMATELY AS PER THE RECORDS FOUND AND COULD NOT BE FIELD VERIFIED
WITHIN THE SCOPE OF THIS PROJECT. FURTHER VERIFICATION IS REQUIRED,
IT IS SUGGESTED THAT LEVEL "A" METHODOLOGIES BE EMPLOYED.

QUALITY LEVEL "D" INFORMATION OBTAINED FROM ENBRIDGE GAS
DISTRIBUTION INC. ESD FILE NO. 23323757; VIAMET INTERNET SOLUTIONS
PROJECT NO. 13-532, SHEET NO. 1C-UG-15; BELL CANADA MUNICIPAL
OPERATIONS CENTRE MARK UP NO. 79703.

CAUTION: CALL BEFORE YOU DIG

THIS PLAN IS INTENDED FOR DESIGN PURPOSES ONLY. OTHER BURIED UTILITIES MAY
EXIST WHICH ARE NOT SHOWN DUE TO INSUFFICIENT INFORMATION OR IMPROPER
INSTALLATION. CONTACT ALL POTENTIAL OWNERS OF UNDERGROUND UTILITIES PRIOR
TO CONSTRUCTION OR BREAKING GROUND.
IT IS THE RESPONSIBILITY OF THE CONTRACTOR/BUILDER TO ENSURE THE
APPROPRIATE LEGAL REQUIREMENTS ARE MET.

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

- THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS
ACT, THE SURVEYORS ACT AND THE LAND TITLES ACT AND THE REGULATIONS
MADE UNDER THEM.
- THE SURVEY WAS COMPLETED ON AUGUST 23, 2019.

JANUARY 25, 2020
DATE

J. D. BARNES LIMITED
J. D. BARNES
ONTOARIO LAND SURVEYOR

SUBSURFACE UTILITY FIELD WORK WAS COMPLETED ON THE 28th DAY OF AUGUST, 2019
AMENDED NOVEMBER 8, 2019 TO SHOW ADDITIONAL TOPOGRAPHY SOUTH OF TESTON ROAD
AND WEST OF JANE STREET.

ASSOCIATION OF ONTARIO
LAND SURVEYORS
PLAN SUBMISSION FORM
2083310



THIS PLAN IS NOT VALID
UNLESS IT IS AN EMBOSSSED
ORIGINAL COPY
ISSUED BY THE SURVEYOR
In accordance with Regulation 1004, Section 36(3)

J.D. BARNES LIMITED
LAND INFORMATION SPECIALISTS
140 BENTLEY DRIVE, SUITE 100, MARKHAM, ON L3R 6B3
T: (905) 477-3600 F: (905) 477-3882 www.jdbarnes.com

DRAWN BY: HM/SSM CHECKED BY: VK/GCR REFERENCE NO.: 19-21-356-00
FILE: G:\19-21-356\00\Drawings\19-21-356-00.dgn DATED: NOVEMBER 8, 2019
PLOTTED: 1/22/2020

Appendix C – Quality Management, Control and Assurance



1 QUALITY MANAGEMENT, CONTROL AND ASSURANCE

2 Project Quality Management

The field work documented in this report and the preparation of this report were overseen by a Qualified Person, as defined in Ontario Regulation 153/04, as amended (Regulation 153/04).

Sampling analysis was performed using generally accepted principles and with appropriate sampling equipment. Written field and laboratory sampling procedures for ground water developed by EXP Services Inc. (EXP) were used to ensure consistency in sample collection and preparation of samples for submission to the laboratory.

The staff involved in the field sampling have participated in regular, ongoing training programs and were qualified and experienced in collecting, describing, and preparing environmental samples for laboratory analysis.

Laboratory analysis was performed using generally accepted principles in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act, March 9, 2004 amended as of July 1, 2011 (Protocol).

Data quality objectives for the parameters of concern were set to meet acceptable RDLs to achieve the goal of defining areas where such parameters are present at levels in excess of applicable generic standards, as defined in Regulation 153/04. Sampling programs included providing written instruction to the analytical laboratory describing the required analyses on the Chain of Custody prepared and delivered with the samples.

3 Field Quality Assurance/ Quality Control

The soil sampling plan was prepared and executed based on the use of the site as a residential property and the professional judgment at the time of the investigation.

Field observations were made and documented in a field book in accordance with generally accepted practices and with the procedures developed and utilized by EXP.

EXP field sampling Quality Assurance and Quality Control (QA/QC) protocols are tailored to the investigation and include:

- For soil samples analyzed for volatile organic compounds, including BTEX, the collection of discrete samples directly into vials containing methanol
- For soil samples analyzed for all other parameters, the collection of discrete samples directly into jars
- For ground water samples, the collection of samples directly into vials or bottles with Teflon-lined lids containing an appropriate preservative, where required
- For ground water samples analyzed for dissolved metals, including mercury and hexavalent chromium, filtration of the sample in the field using a 45 micron disposable filter prior to collection in a bottle containing preservative
- For ground water samples analyzed for benzo(a)pyrene, where deemed necessary by the Qualified Person overseeing this work, the collection of an additional bottle for laboratory filtration prior to analysis

The Regional Municipality of York
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 2960 and 2980 Teston Road, Vaughan, Ontario
 Project Number: GTR-21020546-A0
 December 22, 2021

- The immediate placement, upon collection, of ground water samples into a cooler with free ice to lower the temperature to less than 10°C
- For soil sampling, the thorough cleaning of soil sampling equipment using soap and water, followed by a distilled water rinse and a methanol rinse between sample locations
- For ground water sampling, the use of dedicated sampling equipment at different monitors (including the use of dedicated tubing when low flow ground water sampling techniques are used)
- Ensuring that neither the bare hand nor latex glove comes into contact with the soil or ground water as it is being placed into the sample container
- All samples were shipped to the laboratory in custody sealed coolers, filled with ice at less than 10°C
- All sample shipments are accompanied by standard chain of custody forms
- For each analysis and matrix, Table C-1 describes the type of sample container and preservation technique used

4 Laboratory Quality Assurance/Quality Control

All Soil and ground water analyses were completed by the Mississauga facility of Bureau Veritas Laboratories Inc. (BV Labs) and AGAT Laboratories (AGAT). These laboratories have been accredited by the Standards Council of Canada (SCC) for all of the parameters that were analysed in accordance with the latest version of the International Standard ISO/IEC 17025 – “*General Requirement for the Competence of Testing and Calibration Laboratories*”. BV Labs and AGAT performed the work following formal written methods and procedures. These methods include all the minimum requirements as specified in the Protocol.

EXP has accepted the data provided by BV Labs and AGAT based on the assurance from BV Labs and AGAT that as a minimum, the following requirements have been met and documentation to demonstrate compliance can be produced on request:

- The method performance criteria identified in the Protocol were met
- Sample storage requirements, pre-analysis processing techniques, and holding times for all sample types as identified in the Protocol were met following receipt and sign-off of the samples from EXP staff
- The results of all laboratory QC samples were within statistically determined control limits and if not, reasons were provided
- Surrogate recoveries for organic analyses were monitored and recorded
- Details on the precision and accuracy of the data have been recorded and retained and are available from the laboratory should they be required as a result of a Ministry of the Environment and Conservation and Parks (MECP) audit
- The analytical data were reported without blank correction (unless the correction was clearly identified on the Certificate of Analysis)
- All laboratory QA/QC sample data, including method blanks, matrix spikes, matrix duplicates, laboratory control samples, and surrogate recoveries, were included in the Certificate of Analysis

All Certificates of Analysis were reviewed by the Qualified Person to ensure that data quality objectives have been met and that any anomalies have been identified. All Certificates of Analysis meet the requirements under Section 47(3) of Regulation 153/04.

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Project Number: GTR-21020546-A0
December 22, 2021*

5 Quality Assurance/Quality Control Program

The laboratory QA/QC program consisted of one or more of the following analysis: a) instrument and extraction surrogate recoveries for ground water samples that were analyzed and b) the analysis of a method blank, laboratory duplicate, matrix spike and/or laboratory control samples for the analytical batches that were analyzed. The laboratory QA/QC results are included in the certificates of analysis.

The soil field QA/QC program consisted of the following submission for laboratory analysis: one field duplicate samples were submitted; for PAH, inorganics, and one field blank for PAH.

The soil field blank data were compared to the alert limits and are provided in Tables C-2. All of the results were within the alert limits.

The ground water field QA/QC program consisted of the following submission for laboratory analysis: one field duplication for VOC, PHC F1 to F4; one field blank and trip blank for VOC, PHC F1 to F4.

The ground water trip blank and field blank data were compared to the alert limits and is provided in Table C-5. All of the results were within the alert limits.

For the field duplicate samples, evaluation of the QA/QC results were determined by calculating the relative percent difference (RPD) between the field duplicate and original sample results, and comparison of the RPD to designated alert limits. Consistent with laboratory practices and to permit reliable calculations, an RPD is only calculated when the original and duplicate sample concentrations are at least five times the reportable detection limits.

$$RPD = \left| \frac{(x_1 - x_2)}{\left(\frac{(x_1 + x_2)}{2}\right)} \right| \times 100\%$$

The RPD for the soil field duplicate samples are provided in Table C-3 to C-4, along with the designated field duplicate alert limits. All of the RPD were either within the alert limits or not calculable.

The RPD for the ground water field duplicate sample is provided in Table C-6, along with the designated field duplicate alert limits. All of the RPD were either within the alert limits or not calculable.

No field or laboratory QA/QC issues were identified that would affect the overall conclusions presented in this report. Overall, the results reported are considered to be reliable.

SAMPLE CONTAINERS AND PRESERVATIVES

2980 and 2960 Teston Road, Vaughan, ON

Parameter Group	Matrix	Container	Preservative
PAH	Soil	120 mL C/G	Less than 10°C
Metals and Inorganics	Soil	120 or 250 mL C/G	Less than 10°C
pH	Soil	120 ml C/G	Less than 10°C
VOC/F1	Ground Water	8 x 40 mL C/G TL septum cap vial	Less than 10°C 18% NaHSO ₄
PHC F2 to F4/ PAH	Ground Water	3 x 120ml L AG	Less than 10°C 18% NaHSO ₄
A/G means "amber glass"; C/G means "clear glass"; HDPE means "High Density Polyethylene"; TL means "Teflon-lined lid"			

SOIL CHEMICAL ANALYSIS - Polycyclic Aromatic Hydrocarbons

Field Blanks

2960 and 2980 Teston Road, Vaughan, ON

Sample	FIELD BLANK						Alert Limit
Sample Date	16-Nov-21						
Bureau Veritas I.D.	RGH526						
Bureau Veritas Job #	C1X8517						
PARAMETERS							
Acenaphthene	<0.0050						1X RDL
Acenaphthylene	<0.0050						1X RDL
Anthracene	<0.0050						1X RDL
Benzo(a)anthracene	<0.0050						1X RDL
Benzo(a)pyrene	<0.0050						1X RDL
Benzo(b/j)fluoranthene	<0.0050						1X RDL
Benzo(g,h,i)perylene	<0.0050						1X RDL
Benzo(k)fluoranthene	<0.0050						1X RDL
Chrysene	<0.0050						1X RDL
Dibenz(a,h)anthracene	<0.0050						1X RDL
Fluoranthene	<0.0050						1X RDL
Fluorene	<0.0050						1X RDL
Indeno(1,2,3-cd)pyrene	<0.0050						1X RDL
1-Methylnaphthalene	<0.0050						1X RDL
2-Methylnaphthalene	<0.0050						1X RDL
Total Methylnaphthalene	<0.0071						1X RDL
Naphthalene	<0.0050						1X RDL
Phenanthrene	<0.0050						1X RDL
Pyrene	<0.0050						1X RDL

Analysis by Bureau Veritas Lab

All results in ppm (ug/g) on dry weight basis; <RDL means not detected at reporting detection limit (RDL); na means "not analysed"

RDL are shown for non-detected results; for RDL of reportable results, see the respective laboratory certificate of analysis (refer to Bureau Veritas Job #)

Exceedances of alert limits are shown in **bold**

SOIL FIELD DUPLICATES

Relative Percent Differences - Polycyclic Aromatic Hydrocarbons

2960 and 2980 Teston Road, Vaughan, ON

Location Depth (mbgs) BV Labs I.D.		TH102-1 0.0 to 0.6 RGH627	DUP2 (TH102-1) 0.0 to 0.6 RGH628	RPD (%)	Alert Limit (%)
PARAMETERS	RDL*				
Acenaphthene	0.0050	<0.0050	<0.0050	nc	100
Acenaphthylene	0.0050	<0.0050	<0.0050	nc	100
Anthracene	0.0050	<0.0050	<0.0050	nc	100
Benzo(a)anthracene	0.0050	<0.0050	<0.0050	nc	100
Benzo(a)pyrene	0.0050	<0.0050	<0.0050	nc	100
Benzo(b/j)fluoranthene	0.0050	<0.0050	<0.0050	nc	100
Benzo(g,h,i)perylene	0.0050	<0.0050	<0.0050	nc	100
Benzo(k)fluoranthene	0.0050	<0.0050	<0.0050	nc	100
Chrysene	0.0050	<0.0050	<0.0050	nc	100
Dibenz(a,h)anthracene	0.0050	<0.0050	<0.0050	nc	100
Fluoranthene	0.0050	<0.0050	<0.0050	nc	100
Fluorene	0.0050	<0.0050	<0.0050	nc	100
Indeno(1,2,3-cd)pyrene	0.0050	<0.0050	<0.0050	nc	100
1-Methylnaphthalene	0.0050	<0.0050	<0.0050	nc	100
2-Methylnaphthalene	0.0050	<0.0050	<0.0050	nc	100
Total Methylnaphthalene	0.0071	<0.0071	<0.0071	nc	100
Naphthalene	0.0050	<0.0050	<0.0050	nc	100
Phenanthrene	0.0050	<0.0050	<0.0050	nc	100
Pyrene	0.0050	<0.0050	<0.0050	nc	100

Analysis by Bureau Veritas Lab

All results in ppm (ug/g) on dry weight basis; <RDL means not detected at reporting detection limit (RDL)

na means "not analysed"

nc means "not calculable" - one (or both) of the results are <5x RDL

mbgs means "metres below ground surface"

* Analytical RDL are shown for comparison with detectable results; if RDL differ for each sample, both are shown (sample RDL/duplicate RDL)

Exceedances of alert limits are shown in **bold**

SOIL FIELD DUPLICATES

Relative Percent Differences - Metals and Inorganic Parameters

2960 and 2980 Teston Road, Vaughan, ON

Page 1 of 1

Location Depth (mbgs) BV Labs I.D.		TH102-1 0.0 to 0.6 RGH627	DUP (TH102-1) 0.0 to 0.6 RGH628	RPD(%)	Alert Limit (%)
PARAMETERS	RDL*				
<u>Inorganic Parameters</u>					
Antimony	0.20	0.33	<0.20	nc	100
Arsenic	1.0	3.0	2.8	nc	100
Barium	0.50	63	58	8	100
Beryllium	0.20	0.48	0.42	nc	100
Boron	5	<5.0	<5.0	nc	100
Boron (Hot Water Soluble)	0.050	0.60	0.43	nc	100
Cadmium	0.10	0.14	0.16	nc	100
Chromium	1.0	18	16	nc	100
Chromium VI	0.18	<0.18	<0.18	nc	100
Cobalt	0.10	7.1	6.8	4	100
Copper	0.50	18	17	6	100
Cyanide	0.01	<0.01	<0.01	nc	100
Lead	1.0	20	18	11	100
Mercury	0.050	0.063	0.061	nc	100
Molybdenum	0.50	<0.50	<0.50	nc	100
Nickel	0.50	14	13	7	100
Selenium	0.50	<0.50	<0.50	nc	100
Silver	0.20	<0.20	<0.20	nc	100
Thallium	0.050	0.10	0.092	nc	100
Uranium	0.050	0.35	0.35	0	100
Vanadium	5.0	27	25	nc	100
Zinc	5.0	60	54	11	100
pH (pH Units)	nv	7.43	7.53	nc	100
Conductivity (ms/cm)	0.002	0.20	0.18	11	100
Sodium Adsorption Ratio	nv	0.23	0.27	nc	100

Analysis by Bureau Veritas Lab

All results in ppm (ug/g) on dry weight basis; <RDL means not detected at reporting detection limit (RDL); na means "not analysed"

nc means "not calculable"- one (or both) of the results are <5x RDL , - nv mean "no value"

mbgs means "metres below ground surface"

* Analytical RDL are shown for comparison with detectable results; if RDL differ for each sample, both are shown (sample RDL/duplicate RDL)

Exceedances of alert limits are shown in **bold**

GROUND WATER CHEMICAL ANALYSIS - Petroleum Related Parameters

Field Blanks and Trip Blanks

2960 and 2980 Teston Road, Vaughan, ON

Page 1 of 1

Sample	F. BLANK	TRIP BLANK				Alert Limit
Sample Date	26-Nov-21	26-Nov-21				
AGAT I.D.	3260994	3261011				
AGAT Job #	21T836153	21T836153				
PARAMETERS						
<u>Volatile Organic Compounds</u>						
Benzene	<0.20	<0.20				1X RDL
Ethylbenzene	<0.10	<0.10				1X RDL
Toluene	<0.20	<0.20				1X RDL
Xylenes	<0.20	<0.20				1X RDL
<u>Petroleum Hydrocarbons</u>						
F1 (C6 to C10 - BTEX)	<25	<25				2X RDL
F2 (C10 to C16)	<100	<100				2X RDL
F3 (C16 to C34)	<100	<100				2X RDL
F4 (C34 to C50)	<100	<100				2X RDL

Analysis by AGAT Laboratories

All results in ppb (ug/L) unless otherwise indicated; <RDL means not detected at reporting detection limit (RDL); na means "not analysed"

RDL are shown for non-detected results; for RDL of reportable results, see the respective laboratory certificate of analysis (refer to AGAT Job #)

Exceedances of alert limits are shown in **bold**

GROUND WATER FIELD DUPLICATES

Relative Percent Differences - Petroleum Related Parameters

2960 and 2980 Teston Road, Vaughan, ON

Page 1 of 1

Location AGAT I.D.		TH101 3260917	DUP1 (TH101) 3260918	RPD (%)	Alert Limit (%)
PARAMETERS	RDL*				
<u>Volatile Organic Compounds</u>					
Benzene	0.20	<0.20	<0.20	nc	80
Toluene	0.40	<0.20	<0.20	nc	80
Ethylbenzene	0.20	<0.10	<0.10	nc	80
Xylenes	0.20	<0.20	<0.20	nc	80
<u>Petroleum Hydrocarbons</u>					
F1 (C6 to C10 - BTEX)	25	<25	<25	nc	80
F2 (C10 to C16)	100	<100	<100	nc	80
F3 (C16 to C34)	200	<100	<100	nc	80
F4 (C34 to C50)	200	<100	<100	nc	80

Analysis by AGAT Laboratories

All results in ppb (ug/L) unless otherwise indicated; <RDL means not detected at reporting detection limit (RDL)

na means "not analysed"

nc means "not calculable" - one (or both) of the results are <5x RDL

* Analytical RDL are shown for comparison with detectable results; if RDL differ for each sample, both are shown (sample RDL/duplicate RDL)

Exceedances of alert limits are shown in **bold**

Appendix D – Sampling and Analysis Plan

Teston Site Investigation Sampling Plan Nov 2021

Test Hole	Max. Depth (mbgs)	Well Screen (mbgs)	Media	Rationale	Approximate soil sampling depths	Soil parameters	Ground water parameters
TH101	12 mbgs	29.4 to 39.4mbgs	SOIL & <u>GW*</u>	Confirm impacts in imported fill based on previous structures onsite; GW to be tested base on soil results	0.5 to 1.0 mbgs and 2.5 to 3.0mbgs (samples should only be taken where fill is ID)	PAH and metals and inorganics	VOC/F1, PHC F2 to F4 * PAH and metals and inorganics
TH102	3-3.5 mbgs	N/A	SOIL & <u>GW*</u>	Confirm impacts in imported fill based on previous structures onsite; GW to be tested base on soil results	0.5 to 1.0 mbgs and 2.5 to 3.0mbgs (samples should only be taken where fill is ID)	PAH and metals and inorganics	VOC/F1, PHC F2 to F4 * PAH and metals and inorganics
TH103	3-3.5 mbgs	N/A	SOIL & <u>GW*</u>	Confirm impacts in imported fill based on previous structures onsite; GW to be tested base on soil results	0.5 to 1.0 mbgs and 2.5 to 3.0mbgs (samples should only be taken where fill is ID)	PAH and metals and inorganics	VOC/F1, PHC F2 to F4 * PAH and metals and inorganics

*GW to be tested for Fill parameters only if confirmed in soil
See Boreholes from 2018 investigation for soil reference.

Appendix E – Test Hole Logs and MECP Well Record

LEGEND

EXP TEST HOLE LOGS

STANDARD INFORMATION (applies to all test holes on this project, unless otherwise noted in the legend or log)

Project Site & Number:	2960 and 2980 Teston Road, Vaughan, Ontario Job #21020546-A0
Drilling Contractor:	Profile Drilling Inc..
Test Hole Diameter:	216 mm
Monitor Details:	Casing Type = Steel Flush Mounted Casing Screen Type = PVC 50 mm diameter with a 0.254mm slot Riser Type = PVC 50 mm diameter (see typical monitor legend for further details)
Dedicated Sampling Equipment:	Low Flow Sampler
Site Benchmark:	Elevations are related to the benchmark, Elevations are relative to geodetic benchmark MNRF Station #00819688062 (EXP, 2021)
Other Notes:	The attached test hole logs are part of the complete report and are to be used only in conjunction with the report. The test holes were drilled using a Power Probe 9630 VTR PRO, direct push auger to the maximum depth of the investigation
Attached Graphical Legends:	Refer to Soil Symbol Identification Detail Refer to Typical Monitor Construction Detail



EXP Energy Services Ltd.
220 Commerce Valley Drive West
Markham, Ontario, L3T 0A8
Telephone: (905) 695-3217
Fax: (289) 695-2411

CONVENTIONS USED IN PARAMETER ANALYSIS

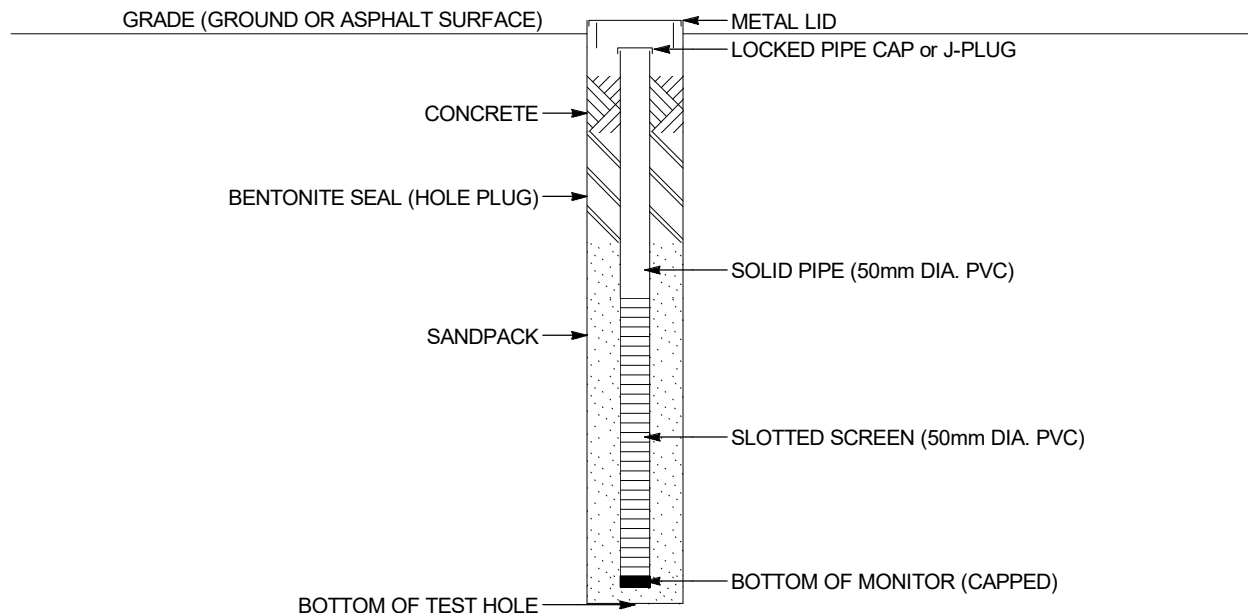
ABBREVIATIONS	PARAMETERS INCLUDED
F1-F4	Petroleum Hydrocarbon Fractions F1 to F4
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
BTEXH	Benzene, Toluene, Ethylbenzene, Xylenes, Hexane
VOC	Full Suite of Volatile Organic Compounds
CVOC	Chlorinated Volatile Organic Compounds (1,1-Dichloroethane, 1,2-Dichloroethane, 1,1-Dichloroethylene, cis-1,2-Dichloroethylene, trans-1,2-Dichloroethylene, Ethylene Dibromide, Methyl t-Butyl Ether, Tetrachloroethylene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethylene, Vinyl Chloride)
CFC	Chlorofluorocarbons (Dichlorodifluoromethane (FREON 12), Trichlorofluoromethane (FREON 11))
1,2-DCA, EDB, MTBE	1,2-Dichloroethane, Ethylene Dibromide, Methyl t-Butyl Ether only
Selected VOC	Any variation of Volatile Organic Parameters not listed above
SVOC	Semivolatile Organic Compounds (Includes PAH, CP, ABN)
PAH	Full Suite of Polycyclic Aromatic Hydrocarbons
2 & 3 Ring PAH	2- & 3- Ring Polycyclic Aromatic Hydrocarbons (Acenaphthene, Acenaphthylene, Anthracene, Fluoranthene, Fluorene, 1-Methylnaphthalene, 2-Methylnaphthalene, Total Methylnaphthalene, Naphthalene, Phenanthrene)
Selected PAH	Any variation of Polycyclic Aromatic Hydrocarbons not listed above
CP	Chlorophenols
ABN	Acid-Base Neutral Compounds
Metals	Full Suite of Metals (may or may not include Hot Water Boron and Mercury)
Pb	Lead only
6 Metals	Arsenic, Barium, Chromium, Copper, Lead, Zinc
Selected Metals	Any variation of Metal parameters not listed above
pH	Hydrogen Ion Concentration
OCP	Organochlorine Pesticides
PCB	Total Polychlorinated Biphenyls (includes Aroclor 1242, 1248, 1252, 1262)
1,4 - Dioxane	1,4 - Dioxane
D/F	Dioxins/Furans
SAR	Sodium Adsorption Ratio
FOC	Fraction of Organic Carbon



EXP Energy Services Ltd.
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Markham, Ontario, L3T 0A8
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Fax: (289) 695-2411

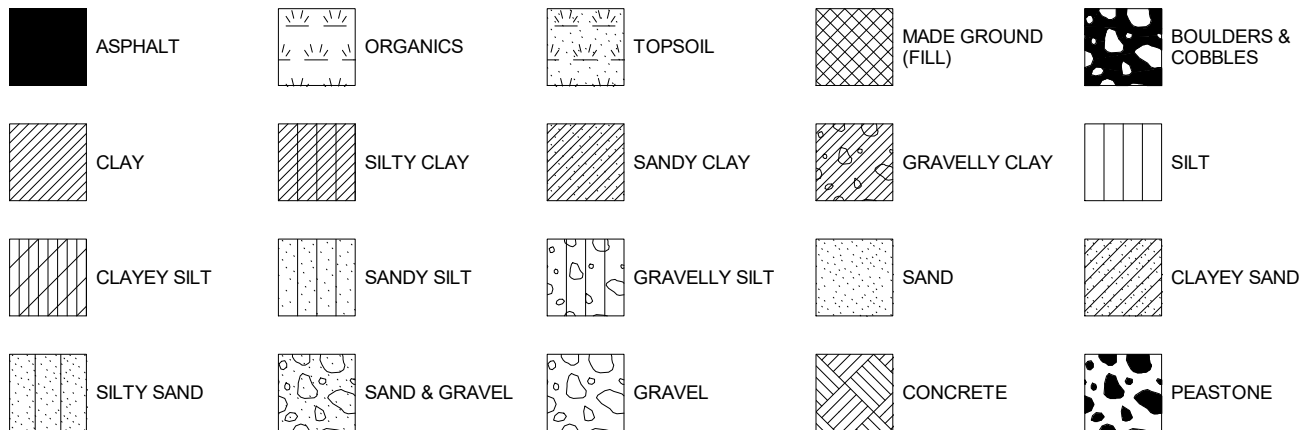
CONVENTIONS USED IN TEST HOLE LOGS

MONITOR INFORMATION



GEOLOGIC SYMBOLS

SOILS



ROCK



SAMPLE SYMBOLS



CLIENT The Regional Municipality of York

PROJECT LOCATION 2960 and 2980 Teston Road, Vaughan, Ontario
PROJECT NUMBER 21020546
DATE STARTED 16-Nov-21 **COMPLETED** 16-Nov-21 **WEATHER** Partly Cloudy **GAS METER TYPE** RKI Eagle 2
DRILLING CONTRACTOR Profile Drilling **GROUND ELEV.** 253.16 masl **TOP OF PIPE ELEV.** 253.03 masl
DRILLING EQUIPMENT Power Probe 9630 VTR Pro **DAYLIGHTING TO** n/a **MONITOR DIA** 0.05 m **TH DIA** 0.10 m
DRILLING METHOD Hollow Stem Auger **SCREEN INTERVAL** 7.9 to 11.0 mbgs
WATER LEVEL 9.90 mbgs / Elev 243.26 masl 23-Nov-21 **LIQUID PETROLEUM THICKNESS** n/a
FIELD STAFF ML **LOGGED BY** SA **CHECKED BY** TFP **NORTHING** 485 83 44 **EASTING** 61 72 65
BENCHMARK MNRF Station #00819688062, elev. = 239.23 masl (EXP 2021)

DEPTH (mbgs)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	ANALYSIS	GRAPHIC LOG	MATERIAL DESCRIPTION	SOIL VAPOUR CONCENTRATION (ppmv) ○ (nm) ⊗ (is)	SOIL VAPOUR CONCENTRATION (%LEL) 20 40 60 80	WELL CONSTRUCTION Flushmount	ELEVATION (masl)
0.5	SS TH101-1	67	1 2 2 4 (4)	PAH, Inorganics		Brown TOPSOIL, dry, no staining, no odour	5			253.0
0.76						Brown SANDY SILT (fill), moist, no staining, no odour				252.5
1.0	SS TH101-2	33	3 7 7 12 (14)			Brown SILT (fill), some gravel, moist, no staining, no odour	5			252.0
1.5										
2.0	SS TH101-3	100	4 9 10 11 (19)	PAH, Inorganics			10			251.5
2.5										251.0
2.5	SS TH101-4	75	8 11 16 20 (27)			Brown SILT, trace sand, trace gravel, moist, no staining, no odourwet from 8.4 to 10.9 mbgs	15			250.5
3.0										
3.5	SS TH101-5	100	18 17 18 16 (35)				5			250.0
4.0										249.5
4.0			8				5			

CLIENT The Regional Municipality of York

PROJECT LOCATION 2960 and 2980 Teston Road, Vaughan, Ontario

PROJECT NUMBER 21020546

DEPTH (mbgs)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	ANALYSIS	GRAPHIC LOG	MATERIAL DESCRIPTION	◆ SOIL VAPOUR CONCENTRATION (ppmv) ○ (nm) ⊗ (is) 100 200 300 400	● SOIL VAPOUR CONCENTRATION (%LEL) 20 40 60 80	WELL CONSTRUCTION Flushmount	ELEVATION (masl)
4.5	SS TH101-6	75	13 25 30 (38)			Brown SILT, trace sand, trace gravel, moist, no staining, no odour wet from 8.4 to 10.9 mbgs (continued)				249.0
5.0	SS TH101-7	100	11 17 25 31 (42)				◆ 10			248.5
5.5	SS TH101-8	83	7 17 30 38 (47)				◆ 5			248.0
6.0	SS TH101-9	92	8 11 15 19 (26)				◆ 5			247.5
6.5	SS TH101-10	67	20 26 29 35 (55)				◆ 10			247.0
7.0	SS TH101-11	100	8 16 19 24 (35)				◆ 15			246.5
7.5	SS TH101-12	75	14 13 13				◆ 15			246.0
8.0										245.5
8.5										245.0
										244.5

COMBINED DATA TEMPLATE - 2018-05-28 GDT, Project File updated - 2021-12-23

CLIENT The Regional Municipality of York

PROJECT LOCATION 2960 and 2980 Teston Road, Vaughan, Ontario

PROJECT NUMBER 21020546

DEPTH (mbgs)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	ANALYSIS	GRAPHIC LOG	MATERIAL DESCRIPTION	◆ SOIL VAPOUR CONCENTRATION (ppmv) ○ (nm) ⊗ (is) 100 200 300 400	● SOIL VAPOUR CONCENTRATION (%LEL) 20 40 60 80	WELL CONSTRUCTION Flushmount	ELEVATION (masl)
9.0			15 (26)			mbgs				
9.5	SS TH101-13	83	10 14 16 17 (30)			Brown SILT, trace sand, trace gravel, moist, no staining, no odourwet from 8.4 to 10.9 mbgs (continued)	◆ 10			244.0
10.0							◆ 5			243.5
10.5	SS TH101-14	67	7 10 10 12 (20)							243.0
										242.5
						10.97				

CLIENT The Regional Municipality of York

PROJECT LOCATION 2960 and 2980 Teston Road, Vaughan, Ontario
PROJECT NUMBER 21020546
DATE STARTED 16-Nov-21 **COMPLETED** 16-Nov-21 **WEATHER** Partly Cloudy **GAS METER TYPE** RKI Eagle 2
DRILLING CONTRACTOR Profile Drilling **GROUND ELEV.** n/a **TOP OF PIPE ELEV.** n/a
DRILLING EQUIPMENT Power Probe 9630 VTR Pro **DAYLIGHTING TO** n/a **MONITOR DIA** n/a **TH DIA** 0.10 m
DRILLING METHOD Hollow Stem Auger **SCREEN INTERVAL** n/a
WATER LEVEL n/a **LIQUID PETROLEUM THICKNESS** n/a
FIELD STAFF ML **LOGGED BY** SA **CHECKED BY** TFP **NORTHING** 485 83 36 **EASTING** 61 73 06

DEPTH (mbgs)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	ANALYSIS	GRAPHIC LOG	MATERIAL DESCRIPTION	◆ SOIL VAPOUR CONCENTRATION (ppmv) ○ (nm) ⊗ (is)	⊛ SOIL VAPOUR CONCENTRATION (%LEL)	BACKFILL MATERIAL
						mbgs	100 200 300 400	20 40 60 80	
0.5	SS TH102-1	83	2 3 2 4 (5)	PAH, Inorganics		0.15 Blackish brown TOPSOIL, dry, no staining, no odour	◆ 5		
1.0	SS TH102-2	100	4 5 6 6 (11)			Brown SILT (fill), moist, no staining, no odour	◆ 5		
1.5									
2.0	SS TH102-3	42	2 6 10 20 (16)	PAH, Inorganics			◆ 5		
2.5									
2.5	SS TH102-4	83	13 11 9 14 (20)			2.29 Brown SILT, trace sand, trace gravel, moist, no staining, no odour	◆ 5		
3.0									
3.5	SS TH102-5	75	13 12 9 13 (21)				◆ 10		
3.81									

COMBINED DATA TEMPLATE - 2018-05-28 GDT, Project File updated - 2021-1-12-23

CLIENT The Regional Municipality of York

PROJECT LOCATION 2960 and 2980 Teston Road, Vaughan, Ontario
PROJECT NUMBER 21020546
DATE STARTED 16-Nov-21 **COMPLETED** 16-Nov-21 **WEATHER** Partly Cloudy **GAS METER TYPE** RKL Eagle 2
DRILLING CONTRACTOR Profile Drilling **GROUND ELEV.** n/a **TOP OF PIPE ELEV.** n/a
DRILLING EQUIPMENT Power Probe 9630 VTR Pro **DAYLIGHTING TO** n/a **MONITOR DIA** n/a **TH DIA** 0.10 m
DRILLING METHOD Hollow Stem Auger **SCREEN INTERVAL** n/a
WATER LEVEL n/a **LIQUID PETROLEUM THICKNESS** n/a
FIELD STAFF ML **LOGGED BY** SA **CHECKED BY** TFP **NORTHING** 485 83 60 **EASTING** 61 73 27

DEPTH (mbgs)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	ANALYSIS	GRAPHIC LOG	MATERIAL DESCRIPTION	◆ SOIL VAPOUR CONCENTRATION (ppmv) ○ (nm) ⊗ (is)	⊗ SOIL VAPOUR CONCENTRATION (%LEL)	BACKFILL MATERIAL
						mbgs	100 200 300 400	20 40 60 80	
0.5	SS TH103-1	92	2 6 3 6 (9)	PAH, Inorganics		Brown SANDY SILT (fill), trace gravel, moist, no staining, no odour	◆ 5		
1.0	SS TH103-2	50	3 4 4 3 (8)				◆ 5		
1.5									
2.0	SS TH103-3	92	2 2 2 3 (4)	PAH, Inorganics			◆ 5		
2.5									
2.5	SS TH103-4	75	7 7 10 15 (17)			Brown SILT, trace gravel, moist, no staining, no odour	◆ 5		
3.0									
3.5	SS TH103-5	83	11 16 12 14 (28)				◆ 5		
3.81									

COMBINED DATA TEMPLATE - 2018-05-28 GDT, Project File updated - 2021-1-12-23



Measurements recorded in: ☐ Metric ☒ Imperial

A335801

Regulation 903 Ontario Water Resources Act

Page 1 of 1

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	<input type="checkbox"/> Well Constructed by Well Owner
	The Regional Municipality of York		
Mailing Address (Street Number/Name)	Municipality	Province	Postal Code
17250 Yonge St.	Newmarket	ON	L3Y6Z1

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
2960 TESTON RD			
County/District/Municipality	City/Town/Village	Province	Postal Code
	VAUGHN	Ontario	
UTM Coordinates	Zone	Easting	Northing
NAD	8	3	176172664858337
Municipal Plan and Sublot Number		Other	

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft)
BROWN	FILL			From To
BROWN	TILL	SILT		0' 7'
				7' 36'

Annular Space

Depth Set at (m/ft)	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
From To		
36' 25'	NECC SAND #2	
25' 2'	BENTONITE	

Results of Well Yield Testing

After test of well yield, water was: <input type="checkbox"/> Clear and sand free <input type="checkbox"/> Other, <i>specify</i> _____	Draw Down		Recovery	
	Time (min)	Water Level (m/ft)	Time (min)	Water Level (m/ft)
If pumping discontinued, give reason: _____	Static Level			
	1		1	
Pump intake set at (m/ft)	2		2	
Pumping rate (l/min / GPM)	3		3	
Duration of pumping _____ hrs + _____ min	4		4	
Final water level end of pumping (m/ft)	5		5	
If flowing give rate (l/min / GPM)	10		10	
	15		15	
Recommended pump depth (m/ft)	20		20	
	25		25	
Recommended pump rate (l/min / GPM)	30		30	
Well production (l/min / GPM)	40		40	
	50		50	
Disinfected? <input type="checkbox"/> Yes <input type="checkbox"/> No	60		60	

Method of Construction

<input checked="" type="checkbox"/> Cable Tool <input checked="" type="checkbox"/> Rotary (Conventional) <input type="checkbox"/> Rotary (Reverse) <input type="checkbox"/> Boring <input type="checkbox"/> Air percussion <input type="checkbox"/> Other, specify	<input type="checkbox"/> Diamond <input type="checkbox"/> Jetting <input type="checkbox"/> Driving <input type="checkbox"/> Digging	<input type="checkbox"/> Public <input type="checkbox"/> Domestic <input type="checkbox"/> Livestock <input type="checkbox"/> Irrigation <input type="checkbox"/> Industrial <input type="checkbox"/> Other, specify	<input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Municipal <input type="checkbox"/> Test Hole <input type="checkbox"/> Cooling & Air Conditioning <input type="checkbox"/> Not used <input type="checkbox"/> Dewatering <input type="checkbox"/> Monitoring
---	--	---	--

Well Use

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)	Status of Well
			From To	
2"	PVC		26' 0'	<input type="checkbox"/> Water Supply <input type="checkbox"/> Replacement Well <input checked="" type="checkbox"/> Test Hole <input type="checkbox"/> Recharge Well <input type="checkbox"/> Dewatering Well <input checked="" type="checkbox"/> Observation and/or Monitoring Hole <input type="checkbox"/> Alteration (Construction) <input type="checkbox"/> Abandoned, Insufficient Supply <input type="checkbox"/> Abandoned, Poor Water Quality <input type="checkbox"/> Abandoned, other, specify <input type="checkbox"/> Other, specify

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)
			From To
2"	PVC	10	36' 26'

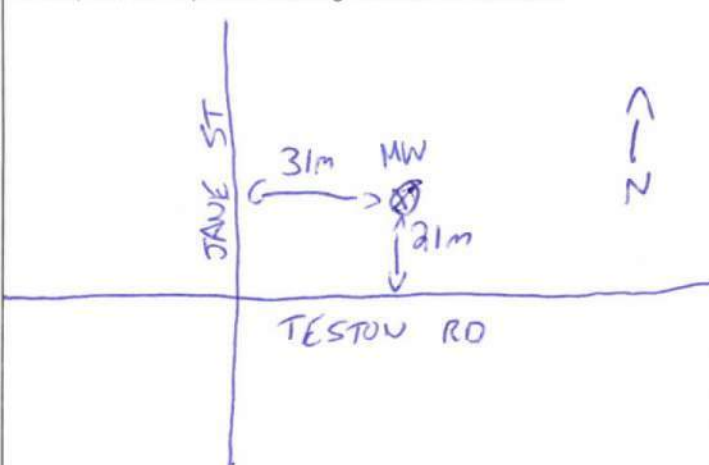
Water Details

Water found at Depth (m/ft)	Kind of Water: <input type="checkbox"/> Fresh <input checked="" type="checkbox"/> Untested	Depth (m/ft)	Diameter (cm/in)
32' 0"	<input type="checkbox"/> Gas <input type="checkbox"/> Other, specify	From To	
		0' 36'	9"
Water found at Depth (m/ft)	Kind of Water: <input type="checkbox"/> Fresh <input type="checkbox"/> Untested		
	<input type="checkbox"/> Gas <input type="checkbox"/> Other, specify		
Water found at Depth (m/ft)	Kind of Water: <input type="checkbox"/> Fresh <input type="checkbox"/> Untested		
	<input type="checkbox"/> Gas <input type="checkbox"/> Other, specify		

Hole Diameter

Map of Well Location

Please provide a map below following instructions on the back.



Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.	
PROFILE DRILLING INC	7215	
Business Address (Street Number/Name)	Municipality	
6525 NORTHAM DR	MISSISSAUGA	
Province	Postal Code	Business E-mail Address
ON	L4V1S2	info@profiledrilling.com
Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)	
4166506444	Slocki, Adam	
Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3767		20211117

Comments:

Well owner's information package delivered <input type="checkbox"/> Yes <input type="checkbox"/> No	Date Package Delivered Y Y Y Y M M D D 20211116	Date Work Completed 20211116	Ministry Use Only Audit No. 2326528 Received
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Appendix F – Laboratory Certificates of Analysis



Your Project #: MRK-2102546-AO-200
Your C.O.C. #: 856605-05-01

Attention: Tanya Fernandes-Peters

EXP Energy Services Limited
220 Commerce Valley Dr W
Suite 110
Markham, ON
Canada L3T 0A8

Report Date: 2021/12/08
Report #: R6912222
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1X8517

Received: 2021/11/17, 14:10

Sample Matrix: Soil
Samples Received: 1

Analyses	Date		Laboratory Method	Analytical Method
	Quantity	Date Extracted	Date Analyzed	
Methylnaphthalene Sum	1	N/A	2021/12/06	EPA 8270D m
Moisture	1	N/A	2021/11/18	Carter 2nd ed 51.2 m
PAH Compounds in Soil by GC/MS (SIM)	1	2021/11/19	2021/11/20	EPA 8270D m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.



Your Project #: MRK-2102546-AO-200
Your C.O.C. #: 856605-05-01

Attention: Tanya Fernandes-Peters

EXP Energy Services Limited
220 Commerce Valley Dr W
Suite 110
Markham, ON
Canada L3T 0A8

Report Date: 2021/12/08
Report #: R6912222
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1X8517

Received: 2021/11/17, 14:10

Encryption Key

Ashton Gibson
Project Manager
08 Dec 2021 14:07:01

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Ashton Gibson, Project Manager
Email: Ashton.Gibson@bureauveritas.com
Phone# (905)817-5765

=====

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Bureau Veritas Job #: C1X8517
Report Date: 2021/12/08

EXP Energy Services Limited
Client Project #: MRK-2102546-AO-200

RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID		RGH526		
Sampling Date		2021/11/16 15:00		
COC Number		856605-05-01		
	UNITS	FIELD BLANK	RDL	QC Batch
Inorganics				
Moisture	%	<1.0	1.0	7709413
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



SEMI-VOLATILE ORGANICS BY GC-MS (SOIL)

Bureau Veritas ID		RGH526		
Sampling Date		2021/11/16 15:00		
COC Number		856605-05-01		
	UNITS	FIELD BLANK	RDL	QC Batch
Calculated Parameters				
Methylnaphthalene, 2-(1-)	ug/g	<0.0071	0.0071	7708112
Polyaromatic Hydrocarbons				
Acenaphthene	ug/g	<0.0050	0.0050	7711811
Acenaphthylene	ug/g	<0.0050	0.0050	7711811
Anthracene	ug/g	<0.0050	0.0050	7711811
Benzo(a)anthracene	ug/g	<0.0050	0.0050	7711811
Benzo(a)pyrene	ug/g	<0.0050	0.0050	7711811
Benzo(b,j)fluoranthene	ug/g	<0.0050	0.0050	7711811
Benzo(g,h,i)perylene	ug/g	<0.0050	0.0050	7711811
Benzo(k)fluoranthene	ug/g	<0.0050	0.0050	7711811
Chrysene	ug/g	<0.0050	0.0050	7711811
Dibenzo(a,h)anthracene	ug/g	<0.0050	0.0050	7711811
Fluoranthene	ug/g	<0.0050	0.0050	7711811
Fluorene	ug/g	<0.0050	0.0050	7711811
Indeno(1,2,3-cd)pyrene	ug/g	<0.0050	0.0050	7711811
1-Methylnaphthalene	ug/g	<0.0050	0.0050	7711811
2-Methylnaphthalene	ug/g	<0.0050	0.0050	7711811
Naphthalene	ug/g	<0.0050	0.0050	7711811
Phenanthrene	ug/g	<0.0050	0.0050	7711811
Pyrene	ug/g	<0.0050	0.0050	7711811
Surrogate Recovery (%)				
D10-Anthracene	%	117		7711811
D14-Terphenyl (FS)	%	89		7711811
D8-Acenaphthylene	%	89		7711811
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



Bureau Veritas Job #: C1X8517
Report Date: 2021/12/08

EXP Energy Services Limited
Client Project #: MRK-2102546-AO-200

TEST SUMMARY

Bureau Veritas ID: RGH526
Sample ID: FIELD BLANK
Matrix: Soil

Collected: 2021/11/16
Shipped:
Received: 2021/11/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	7708112	N/A	2021/12/06	Automated Statchk
Moisture	BAL	7709413	N/A	2021/11/18	Kruti Jitesh Patel
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	7711811	2021/11/19	2021/11/20	Mitesh Raj



Bureau Veritas Job #: C1X8517
Report Date: 2021/12/08

EXP Energy Services Limited
Client Project #: MRK-2102546-AO-200

GENERAL COMMENTS

Results relate only to the items tested.



QUALITY ASSURANCE REPORT

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
	7709413	MBW	RPD	Moisture	2021/11/18	5.0		%	20
	7711811	RAJ	Matrix Spike	D10-Anthracene	2021/11/19		101	%	50 - 130
				D14-Terphenyl (FS)	2021/11/19		81	%	50 - 130
				D8-Acenaphthylene	2021/11/19		79	%	50 - 130
				Acenaphthene	2021/11/19		95	%	50 - 130
				Acenaphthylene	2021/11/19		89	%	50 - 130
				Anthracene	2021/11/19		104	%	50 - 130
				Benzo(a)anthracene	2021/11/19		99	%	50 - 130
				Benzo(a)pyrene	2021/11/19		99	%	50 - 130
				Benzo(b/j)fluoranthene	2021/11/19		104	%	50 - 130
				Benzo(g,h,i)perylene	2021/11/19		94	%	50 - 130
				Benzo(k)fluoranthene	2021/11/19		105	%	50 - 130
				Chrysene	2021/11/19		102	%	50 - 130
				Dibenzo(a,h)anthracene	2021/11/19		107	%	50 - 130
				Fluoranthene	2021/11/19		98	%	50 - 130
				Fluorene	2021/11/19		98	%	50 - 130
				Indeno(1,2,3-cd)pyrene	2021/11/19		98	%	50 - 130
				1-Methylnaphthalene	2021/11/19		101	%	50 - 130
				2-Methylnaphthalene	2021/11/19		93	%	50 - 130
				Naphthalene	2021/11/19		80	%	50 - 130
				Phenanthrene	2021/11/19		101	%	50 - 130
				Pyrene	2021/11/19		97	%	50 - 130
	7711811	RAJ	Spiked Blank	D10-Anthracene	2021/11/19		109	%	50 - 130
				D14-Terphenyl (FS)	2021/11/19		93	%	50 - 130
				D8-Acenaphthylene	2021/11/19		94	%	50 - 130
				Acenaphthene	2021/11/19		98	%	50 - 130
				Acenaphthylene	2021/11/19		93	%	50 - 130
				Anthracene	2021/11/19		106	%	50 - 130
				Benzo(a)anthracene	2021/11/19		103	%	50 - 130
				Benzo(a)pyrene	2021/11/19		104	%	50 - 130
				Benzo(b/j)fluoranthene	2021/11/19		108	%	50 - 130
				Benzo(g,h,i)perylene	2021/11/19		97	%	50 - 130
				Benzo(k)fluoranthene	2021/11/19		110	%	50 - 130
				Chrysene	2021/11/19		105	%	50 - 130
				Dibenzo(a,h)anthracene	2021/11/19		107	%	50 - 130
				Fluoranthene	2021/11/19		104	%	50 - 130
				Fluorene	2021/11/19		102	%	50 - 130
				Indeno(1,2,3-cd)pyrene	2021/11/19		100	%	50 - 130
				1-Methylnaphthalene	2021/11/19		107	%	50 - 130
				2-Methylnaphthalene	2021/11/19		101	%	50 - 130
				Naphthalene	2021/11/19		89	%	50 - 130
				Phenanthrene	2021/11/19		104	%	50 - 130
				Pyrene	2021/11/19		103	%	50 - 130
	7711811	RAJ	Method Blank	D10-Anthracene	2021/11/19		109	%	50 - 130
				D14-Terphenyl (FS)	2021/11/19		90	%	50 - 130
				D8-Acenaphthylene	2021/11/19		86	%	50 - 130
				Acenaphthene	2021/11/19	<0.0050		ug/g	
				Acenaphthylene	2021/11/19	<0.0050		ug/g	
				Anthracene	2021/11/19	<0.0050		ug/g	
				Benzo(a)anthracene	2021/11/19	<0.0050		ug/g	
				Benzo(a)pyrene	2021/11/19	<0.0050		ug/g	
				Benzo(b/j)fluoranthene	2021/11/19	<0.0050		ug/g	
				Benzo(g,h,i)perylene	2021/11/19	<0.0050		ug/g	



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7711811	RAJ	RPD		Benzo(k)fluoranthene	2021/11/19	<0.0050		ug/g	
				Chrysene	2021/11/19	<0.0050		ug/g	
				Dibenzo(a,h)anthracene	2021/11/19	<0.0050		ug/g	
				Fluoranthene	2021/11/19	<0.0050		ug/g	
				Fluorene	2021/11/19	<0.0050		ug/g	
				Indeno(1,2,3-cd)pyrene	2021/11/19	<0.0050		ug/g	
				1-Methylnaphthalene	2021/11/19	<0.0050		ug/g	
				2-Methylnaphthalene	2021/11/19	<0.0050		ug/g	
				Naphthalene	2021/11/19	<0.0050		ug/g	
				Phenanthrene	2021/11/19	<0.0050		ug/g	
				Pyrene	2021/11/19	<0.0050		ug/g	
				Acenaphthene	2021/11/19	NC		%	40
				Acenaphthylene	2021/11/19	NC		%	40
				Anthracene	2021/11/19	NC		%	40
				Benzo(a)anthracene	2021/11/19	NC		%	40
				Benzo(a)pyrene	2021/11/19	NC		%	40
				Benzo(b/j)fluoranthene	2021/11/19	NC		%	40
				Benzo(g,h,i)perylene	2021/11/19	NC		%	40
				Benzo(k)fluoranthene	2021/11/19	NC		%	40
				Chrysene	2021/11/19	NC		%	40
				Dibenzo(a,h)anthracene	2021/11/19	NC		%	40
				Fluoranthene	2021/11/19	NC		%	40
				Fluorene	2021/11/19	NC		%	40
				Indeno(1,2,3-cd)pyrene	2021/11/19	NC		%	40
				1-Methylnaphthalene	2021/11/19	NC		%	40
				2-Methylnaphthalene	2021/11/19	NC		%	40
				Naphthalene	2021/11/19	NC		%	40
				Phenanthrene	2021/11/19	NC		%	40
				Pyrene	2021/11/19	NC		%	40

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference $\leq 2 \times \text{RDL}$).



Bureau Veritas Job #: C1X8517
Report Date: 2021/12/08

EXP Energy Services Limited
Client Project #: MRK-2102546-AO-200

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

A handwritten signature in black ink, appearing to read "BN", written over a horizontal line.

Brad Newman, B.Sc., C.Chem., Scientific Service Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Bureau Veritas Laboratories
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel: (905) 817-5700 Toll-free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:		
Company Name: #32538 EXP Services Inc.	Company Name: #26732 EXP Energy Services Limited	Quotation #: B91718	Bureau Veritas Job #:			Bottle Order #:		
Attention: Accounts Payable (Inv)	Attention: Tanya Fernandes-Peters	P.O. #:					Barcode	
Address: 220 Commerce Valley Drive West Suite 110	Address: 220 Commerce Valley Dr W Suite 110	Project: MRK-2102546-AO-200			COC #:		Project Manager:	
Markham ON L3T 0A8	Markham ON L3T 0A8	Project Name:			Barcode		Ashton Gibson	
Tel: (905) 695-3217 Ext: 3611 Fax:	Tel: (905) 695-3217 Fax:	Site #:			C#656605-05-01			
Email: AP@exp.com; Karen.Burke@exp.com	Email: Tanya.Fernandes@exp.com	Sampled By: M.L.						
MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY								
Regulation 153 (2011)		Other Regulations		Special Instructions				
<input type="checkbox"/> Table 1 <input type="checkbox"/> Res/Park <input type="checkbox"/> Medium/Fine	<input type="checkbox"/> CCME <input type="checkbox"/> Sanitary Sewer Bylaw			<i>Stream 3 Pressure</i>				
<input checked="" type="checkbox"/> Table 2 <input checked="" type="checkbox"/> Ind/Comm <input type="checkbox"/> Coarse	<input type="checkbox"/> Reg 558 <input type="checkbox"/> Storm Sewer Bylaw							
<input type="checkbox"/> Table 3 <input type="checkbox"/> Agri/Other <input checked="" type="checkbox"/> For RSC	<input type="checkbox"/> MISA Municipality							
<input type="checkbox"/> Table	<input type="checkbox"/> PWOO <input type="checkbox"/> Reg 406 Table							
Include Criteria on Certificate of Analysis (Y/N)?								
Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix				
1	Field Blank	2/11/16	15:00	Other				
2								
3								
4								
5								
6								
7								
8								
9								
10								
* RELINQUISHED BY: (Signature/Print)				RECEIVED BY: (Signature/Print)		Laboratory Use Only		
Mike Luey				Kavithaselvan LK		Temperature (°C) on Recd: 6/213		
Date: (YY/MM/DD) 2/11/16				Date: (YY/MM/DD) 204/11/17		Custody Seal Present: Yes		
Time: 17:00				Time: 14:10		Intact: Yes		
						No		
* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.						White: Bureau Veritas Yellow: Client		
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.								
** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.								

Bureau Veritas Canada (2019) Inc.

Dr Drive



Your Project #: MRK-2102546-AO-200
Your C.O.C. #: 856605-07-01

Attention: Tanya Fernandes-Peters

EXP Energy Services Limited
220 Commerce Valley Dr W
Suite 110
Markham, ON
Canada L3T 0A8

Report Date: 2021/12/10
Report #: R6914633
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1X8543

Received: 2021/11/17, 14:10

Sample Matrix: Soil
Samples Received: 7

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Hot Water Extractable Boron	7	2021/11/19	2021/11/19	CAM SOP-00408	R153 Ana. Prot. 2011
Free (WAD) Cyanide	5	2021/11/18	2021/11/19	CAM SOP-00457	OMOE E3015 m
Free (WAD) Cyanide	2	2021/11/19	2021/11/19	CAM SOP-00457	OMOE E3015 m
Conductivity	7	2021/11/19	2021/11/19	CAM SOP-00414	OMOE E3530 v1 m
Acid Extractable Metals by ICPMS	7	2021/11/19	2021/11/22	CAM SOP-00447	EPA 6020B m
pH CaCl ₂ EXTRACT	6	2021/11/18	2021/11/18	CAM SOP-00413	EPA 9045 D m
pH CaCl ₂ EXTRACT	1	2021/11/19	2021/11/19	CAM SOP-00413	EPA 9045 D m
Sodium Adsorption Ratio (SAR)	7	N/A	2021/12/10	CAM SOP-00102	EPA 6010C

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.



Your Project #: MRK-2102546-AO-200
Your C.O.C. #: 856605-07-01

Attention: Tanya Fernandes-Peters

EXP Energy Services Limited
220 Commerce Valley Dr W
Suite 110
Markham, ON
Canada L3T 0A8

Report Date: 2021/12/10
Report #: R6914633
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1X8543

Received: 2021/11/17, 14:10

Encryption Key

Ashton Gibson
Project Manager
10 Dec 2021 16:31:28

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Ashton Gibson, Project Manager
Email: Ashton.Gibson@bureauveritas.com
Phone# (905)817-5765

=====

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID		RGH625	RGH626	RGH627		RGH628		
Sampling Date		2021/11/16 10:00	2021/11/16 10:00	2021/11/16 14:00		2021/11/16 14:00		
COC Number		856605-07-01	856605-07-01	856605-07-01		856605-07-01		
	UNITS	TH101-1	TH101-3	TH102-1	QC Batch	DUP	RDL	QC Batch
Calculated Parameters								
Sodium Adsorption Ratio	N/A	0.43	0.30 (1)	0.23 (1)	7705993	0.27		7705993
Inorganics								
Conductivity	mS/cm	0.19	0.13	0.20	7711319	0.18	0.002	7711319
Available (CaCl ₂) pH	pH	7.08	7.62	7.43	7708680	7.53		7710646
WAD Cyanide (Free)	ug/g	<0.01	<0.01	<0.01	7708693	<0.01	0.01	7708693
RDL = Reportable Detection Limit QC Batch = Quality Control Batch (1) Sodium was not detected. To report SAR the sodium detection limit was used in the calculation. This value represents a maximum ratio.								

Bureau Veritas ID		RGH629	RGH630			RGH630			RGH631		
Sampling Date		2021/11/16 14:00	2021/11/16 15:00			2021/11/16 15:00			2021/11/16 15:00		
COC Number		856605-07-01	856605-07-01			856605-07-01			856605-07-01		
	UNITS	TH102-3	TH103-1	RDL	QC Batch	TH103-1 Lab-Dup	RDL	QC Batch	TH103-3	RDL	QC Batch
Calculated Parameters											
Sodium Adsorption Ratio	N/A	1.4	1.3		7705993				1.2		7705993
Inorganics											
Conductivity	mS/cm	0.35	0.27	0.002	7711319				0.19	0.002	7711319
Available (CaCl ₂) pH	pH	7.46	7.62		7708680				7.53		7708706
WAD Cyanide (Free)	ug/g	<0.01	<0.01	0.01	7710345	<0.01	0.01	7710345	<0.01	0.01	7708693
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate											



ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID		RGH625		RGH626	RGH627	RGH628		
Sampling Date		2021/11/16 10:00		2021/11/16 10:00	2021/11/16 14:00	2021/11/16 14:00		
COC Number		856605-07-01		856605-07-01	856605-07-01	856605-07-01		
	UNITS	TH101-1	QC Batch	TH101-3	TH102-1	DUP	RDL	QC Batch
Metals								
Hot Water Ext. Boron (B)	ug/g	0.16	7710761	<0.050	0.60	0.43	0.050	7710455
Acid Extractable Antimony (Sb)	ug/g	<0.20	7710925	<0.20	0.33	<0.20	0.20	7710925
Acid Extractable Arsenic (As)	ug/g	2.6	7710925	2.5	3.0	2.8	1.0	7710925
Acid Extractable Barium (Ba)	ug/g	64	7710925	52	63	58	0.50	7710925
Acid Extractable Beryllium (Be)	ug/g	0.60	7710925	0.45	0.48	0.42	0.20	7710925
Acid Extractable Boron (B)	ug/g	<5.0	7710925	<5.0	<5.0	<5.0	5.0	7710925
Acid Extractable Cadmium (Cd)	ug/g	<0.10	7710925	<0.10	0.14	0.16	0.10	7710925
Acid Extractable Chromium (Cr)	ug/g	21	7710925	17	18	16	1.0	7710925
Acid Extractable Cobalt (Co)	ug/g	8.7	7710925	8.4	7.1	6.8	0.10	7710925
Acid Extractable Copper (Cu)	ug/g	18	7710925	15	18	17	0.50	7710925
Acid Extractable Lead (Pb)	ug/g	8.5	7710925	7.5	20	18	1.0	7710925
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	7710925	<0.50	<0.50	<0.50	0.50	7710925
Acid Extractable Nickel (Ni)	ug/g	18	7710925	17	14	13	0.50	7710925
Acid Extractable Selenium (Se)	ug/g	<0.50	7710925	<0.50	<0.50	<0.50	0.50	7710925
Acid Extractable Silver (Ag)	ug/g	<0.20	7710925	<0.20	<0.20	<0.20	0.20	7710925
Acid Extractable Thallium (Tl)	ug/g	0.12	7710925	0.12	0.10	0.092	0.050	7710925
Acid Extractable Uranium (U)	ug/g	0.42	7710925	0.43	0.35	0.35	0.050	7710925
Acid Extractable Vanadium (V)	ug/g	31	7710925	25	27	25	5.0	7710925
Acid Extractable Zinc (Zn)	ug/g	42	7710925	34	60	54	5.0	7710925
Acid Extractable Mercury (Hg)	ug/g	<0.050	7710925	<0.050	0.063	0.061	0.050	7710925
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								



ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID		RGH629		RGH630	RGH631		
Sampling Date		2021/11/16 14:00		2021/11/16 15:00	2021/11/16 15:00		
COC Number		856605-07-01		856605-07-01	856605-07-01		
	UNITS	TH102-3	QC Batch	TH103-1	TH103-3	RDL	QC Batch
Metals							
Hot Water Ext. Boron (B)	ug/g	0.44	7710761	0.28	0.12	0.050	7710455
Acid Extractable Antimony (Sb)	ug/g	<0.20	7710925	<0.20	<0.20	0.20	7710925
Acid Extractable Arsenic (As)	ug/g	2.8	7710925	3.1	3.6	1.0	7710925
Acid Extractable Barium (Ba)	ug/g	61	7710925	58	64	0.50	7710925
Acid Extractable Beryllium (Be)	ug/g	0.54	7710925	0.54	0.69	0.20	7710925
Acid Extractable Boron (B)	ug/g	<5.0	7710925	<5.0	<5.0	5.0	7710925
Acid Extractable Cadmium (Cd)	ug/g	<0.10	7710925	<0.10	<0.10	0.10	7710925
Acid Extractable Chromium (Cr)	ug/g	20	7710925	18	24	1.0	7710925
Acid Extractable Cobalt (Co)	ug/g	7.7	7710925	8.2	9.2	0.10	7710925
Acid Extractable Copper (Cu)	ug/g	21	7710925	20	21	0.50	7710925
Acid Extractable Lead (Pb)	ug/g	8.7	7710925	10	9.0	1.0	7710925
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	7710925	<0.50	<0.50	0.50	7710925
Acid Extractable Nickel (Ni)	ug/g	17	7710925	18	20	0.50	7710925
Acid Extractable Selenium (Se)	ug/g	<0.50	7710925	<0.50	<0.50	0.50	7710925
Acid Extractable Silver (Ag)	ug/g	<0.20	7710925	<0.20	<0.20	0.20	7710925
Acid Extractable Thallium (Tl)	ug/g	0.13	7710925	0.11	0.14	0.050	7710925
Acid Extractable Uranium (U)	ug/g	0.43	7710925	0.45	0.41	0.050	7710925
Acid Extractable Vanadium (V)	ug/g	29	7710925	27	35	5.0	7710925
Acid Extractable Zinc (Zn)	ug/g	44	7710925	46	44	5.0	7710925
Acid Extractable Mercury (Hg)	ug/g	<0.050	7710925	<0.050	0.063	0.050	7710925
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							



Bureau Veritas Job #: C1X8543
Report Date: 2021/12/10

EXP Energy Services Limited
Client Project #: MRK-2102546-AO-200
Sampler Initials: ML

TEST SUMMARY

Bureau Veritas ID: RGH625
Sample ID: TH101-1
Matrix: Soil

Collected: 2021/11/16
Shipped:
Received: 2021/11/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	7710761	2021/11/19	2021/11/19	Jolly John
Free (WAD) Cyanide	TECH	7708693	2021/11/18	2021/11/19	Louise Harding
Conductivity	AT	7711319	2021/11/19	2021/11/19	Kien Tran
Acid Extractable Metals by ICPMS	ICP/MS	7710925	2021/11/19	2021/11/22	Viviana Canzonieri
pH CaCl ₂ EXTRACT	AT	7708680	2021/11/18	2021/11/18	Taslina Aktar
Sodium Adsorption Ratio (SAR)	CALC/MET	7705993	N/A	2021/12/10	Automated Statchk

Bureau Veritas ID: RGH626
Sample ID: TH101-3
Matrix: Soil

Collected: 2021/11/16
Shipped:
Received: 2021/11/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	7710455	2021/11/19	2021/11/19	Marissa Oddi
Free (WAD) Cyanide	TECH	7708693	2021/11/18	2021/11/19	Louise Harding
Conductivity	AT	7711319	2021/11/19	2021/11/19	Kien Tran
Acid Extractable Metals by ICPMS	ICP/MS	7710925	2021/11/19	2021/11/22	Viviana Canzonieri
pH CaCl ₂ EXTRACT	AT	7708680	2021/11/18	2021/11/18	Taslina Aktar
Sodium Adsorption Ratio (SAR)	CALC/MET	7705993	N/A	2021/12/10	Automated Statchk

Bureau Veritas ID: RGH627
Sample ID: TH102-1
Matrix: Soil

Collected: 2021/11/16
Shipped:
Received: 2021/11/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	7710455	2021/11/19	2021/11/19	Marissa Oddi
Free (WAD) Cyanide	TECH	7708693	2021/11/18	2021/11/19	Louise Harding
Conductivity	AT	7711319	2021/11/19	2021/11/19	Kien Tran
Acid Extractable Metals by ICPMS	ICP/MS	7710925	2021/11/19	2021/11/22	Viviana Canzonieri
pH CaCl ₂ EXTRACT	AT	7708680	2021/11/18	2021/11/18	Taslina Aktar
Sodium Adsorption Ratio (SAR)	CALC/MET	7705993	N/A	2021/12/10	Automated Statchk

Bureau Veritas ID: RGH628
Sample ID: DUP
Matrix: Soil

Collected: 2021/11/16
Shipped:
Received: 2021/11/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	7710455	2021/11/19	2021/11/19	Marissa Oddi
Free (WAD) Cyanide	TECH	7708693	2021/11/18	2021/11/19	Louise Harding
Conductivity	AT	7711319	2021/11/19	2021/11/19	Kien Tran
Acid Extractable Metals by ICPMS	ICP/MS	7710925	2021/11/19	2021/11/22	Viviana Canzonieri
pH CaCl ₂ EXTRACT	AT	7710646	2021/11/19	2021/11/19	Surinder Rai
Sodium Adsorption Ratio (SAR)	CALC/MET	7705993	N/A	2021/12/10	Automated Statchk



Bureau Veritas Job #: C1X8543
Report Date: 2021/12/10

EXP Energy Services Limited
Client Project #: MRK-2102546-AO-200
Sampler Initials: ML

TEST SUMMARY

Bureau Veritas ID: RGH629
Sample ID: TH102-3
Matrix: Soil

Collected: 2021/11/16
Shipped:
Received: 2021/11/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	7710761	2021/11/19	2021/11/19	Jolly John
Free (WAD) Cyanide	TECH	7710345	2021/11/19	2021/11/19	Louise Harding
Conductivity	AT	7711319	2021/11/19	2021/11/19	Kien Tran
Acid Extractable Metals by ICPMS	ICP/MS	7710925	2021/11/19	2021/11/22	Viviana Canzonieri
pH CaCl ₂ EXTRACT	AT	7708680	2021/11/18	2021/11/18	Taslina Aktar
Sodium Adsorption Ratio (SAR)	CALC/MET	7705993	N/A	2021/12/10	Automated Statchk

Bureau Veritas ID: RGH630
Sample ID: TH103-1
Matrix: Soil

Collected: 2021/11/16
Shipped:
Received: 2021/11/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	7710455	2021/11/19	2021/11/19	Marissa Oddi
Free (WAD) Cyanide	TECH	7710345	2021/11/19	2021/11/19	Louise Harding
Conductivity	AT	7711319	2021/11/19	2021/11/19	Kien Tran
Acid Extractable Metals by ICPMS	ICP/MS	7710925	2021/11/19	2021/11/22	Viviana Canzonieri
pH CaCl ₂ EXTRACT	AT	7708680	2021/11/18	2021/11/18	Taslina Aktar
Sodium Adsorption Ratio (SAR)	CALC/MET	7705993	N/A	2021/12/10	Automated Statchk

Bureau Veritas ID: RGH630 Dup
Sample ID: TH103-1
Matrix: Soil

Collected: 2021/11/16
Shipped:
Received: 2021/11/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	TECH	7710345	2021/11/19	2021/11/19	Louise Harding

Bureau Veritas ID: RGH631
Sample ID: TH103-3
Matrix: Soil

Collected: 2021/11/16
Shipped:
Received: 2021/11/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	7710455	2021/11/19	2021/11/19	Marissa Oddi
Free (WAD) Cyanide	TECH	7708693	2021/11/18	2021/11/19	Louise Harding
Conductivity	AT	7711319	2021/11/19	2021/11/19	Kien Tran
Acid Extractable Metals by ICPMS	ICP/MS	7710925	2021/11/19	2021/11/22	Viviana Canzonieri
pH CaCl ₂ EXTRACT	AT	7708706	2021/11/18	2021/11/18	Taslina Aktar
Sodium Adsorption Ratio (SAR)	CALC/MET	7705993	N/A	2021/12/10	Automated Statchk



Bureau Veritas Job #: C1X8543
Report Date: 2021/12/10

EXP Energy Services Limited
Client Project #: MRK-2102546-AO-200
Sampler Initials: ML

GENERAL COMMENTS

Results relate only to the items tested.



QUALITY ASSURANCE REPORT

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7708680	TAK		Spiked Blank	Available (CaCl ₂) pH	2021/11/18		99	%	97 - 103
7708680	TAK		RPD	Available (CaCl ₂) pH	2021/11/18	0.84		%	N/A
7708693	LHA		Matrix Spike	WAD Cyanide (Free)	2021/11/19		96	%	75 - 125
7708693	LHA		Spiked Blank	WAD Cyanide (Free)	2021/11/19		97	%	80 - 120
7708693	LHA		Method Blank	WAD Cyanide (Free)	2021/11/19	<0.01		ug/g	
7708693	LHA		RPD	WAD Cyanide (Free)	2021/11/19	NC		%	35
7708706	TAK		Spiked Blank	Available (CaCl ₂) pH	2021/11/18		99	%	97 - 103
7708706	TAK		RPD	Available (CaCl ₂) pH	2021/11/18	0.74		%	N/A
7710345	LHA		Matrix Spike [RGH630-01]	WAD Cyanide (Free)	2021/11/19		95	%	75 - 125
7710345	LHA		Spiked Blank	WAD Cyanide (Free)	2021/11/19		94	%	80 - 120
7710345	LHA		Method Blank	WAD Cyanide (Free)	2021/11/19	<0.01		ug/g	
7710345	LHA		RPD [RGH630-01]	WAD Cyanide (Free)	2021/11/19	NC		%	35
7710455	MOD		Matrix Spike	Hot Water Ext. Boron (B)	2021/11/19		108	%	75 - 125
7710455	MOD		Spiked Blank	Hot Water Ext. Boron (B)	2021/11/19		106	%	75 - 125
7710455	MOD		Method Blank	Hot Water Ext. Boron (B)	2021/11/19	<0.050		ug/g	
7710455	MOD		RPD	Hot Water Ext. Boron (B)	2021/11/19	13		%	40
7710646	SAU		Spiked Blank	Available (CaCl ₂) pH	2021/11/19		100	%	97 - 103
7710646	SAU		RPD	Available (CaCl ₂) pH	2021/11/19	0.19		%	N/A
7710761	JOH		Matrix Spike	Hot Water Ext. Boron (B)	2021/11/19		93	%	75 - 125
7710761	JOH		Spiked Blank	Hot Water Ext. Boron (B)	2021/11/19		97	%	75 - 125
7710761	JOH		Method Blank	Hot Water Ext. Boron (B)	2021/11/19	<0.050		ug/g	
7710761	JOH		RPD	Hot Water Ext. Boron (B)	2021/11/19	NC		%	40
7710925	VIV		Matrix Spike	Acid Extractable Antimony (Sb)	2021/11/22		97	%	75 - 125
				Acid Extractable Arsenic (As)	2021/11/22		98	%	75 - 125
				Acid Extractable Barium (Ba)	2021/11/22		89	%	75 - 125
				Acid Extractable Beryllium (Be)	2021/11/22		98	%	75 - 125
				Acid Extractable Boron (B)	2021/11/22		93	%	75 - 125
				Acid Extractable Cadmium (Cd)	2021/11/22		97	%	75 - 125
				Acid Extractable Chromium (Cr)	2021/11/22		98	%	75 - 125
				Acid Extractable Cobalt (Co)	2021/11/22		95	%	75 - 125
				Acid Extractable Copper (Cu)	2021/11/22		94	%	75 - 125
				Acid Extractable Lead (Pb)	2021/11/22		94	%	75 - 125
				Acid Extractable Molybdenum (Mo)	2021/11/22		96	%	75 - 125
				Acid Extractable Nickel (Ni)	2021/11/22		92	%	75 - 125
				Acid Extractable Selenium (Se)	2021/11/22		97	%	75 - 125
				Acid Extractable Silver (Ag)	2021/11/22		96	%	75 - 125
				Acid Extractable Thallium (Tl)	2021/11/22		97	%	75 - 125
				Acid Extractable Uranium (U)	2021/11/22		93	%	75 - 125
				Acid Extractable Vanadium (V)	2021/11/22		93	%	75 - 125
				Acid Extractable Zinc (Zn)	2021/11/22		92	%	75 - 125
				Acid Extractable Mercury (Hg)	2021/11/22		78	%	75 - 125
7710925	VIV		Spiked Blank	Acid Extractable Antimony (Sb)	2021/11/22		104	%	80 - 120
				Acid Extractable Arsenic (As)	2021/11/22		100	%	80 - 120
				Acid Extractable Barium (Ba)	2021/11/22		110	%	80 - 120
				Acid Extractable Beryllium (Be)	2021/11/22		102	%	80 - 120
				Acid Extractable Boron (B)	2021/11/22		96	%	80 - 120
				Acid Extractable Cadmium (Cd)	2021/11/22		101	%	80 - 120
				Acid Extractable Chromium (Cr)	2021/11/22		103	%	80 - 120
				Acid Extractable Cobalt (Co)	2021/11/22		99	%	80 - 120
				Acid Extractable Copper (Cu)	2021/11/22		101	%	80 - 120
				Acid Extractable Lead (Pb)	2021/11/22		99	%	80 - 120
				Acid Extractable Molybdenum (Mo)	2021/11/22		98	%	80 - 120



Bureau Veritas Job #: C1X8543
Report Date: 2021/12/10

EXP Energy Services Limited
Client Project #: MRK-2102546-AO-200
Sampler Initials: ML

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
7710925	VIV	Method Blank	Acid Extractable Nickel (Ni)	2021/11/22		97	%	80 - 120
			Acid Extractable Selenium (Se)	2021/11/22		103	%	80 - 120
			Acid Extractable Silver (Ag)	2021/11/22		100	%	80 - 120
			Acid Extractable Thallium (Tl)	2021/11/22		100	%	80 - 120
			Acid Extractable Uranium (U)	2021/11/22		96	%	80 - 120
			Acid Extractable Vanadium (V)	2021/11/22		101	%	80 - 120
			Acid Extractable Zinc (Zn)	2021/11/22		97	%	80 - 120
			Acid Extractable Mercury (Hg)	2021/11/22		85	%	80 - 120
			Acid Extractable Antimony (Sb)	2021/11/22	<0.20		ug/g	
			Acid Extractable Arsenic (As)	2021/11/22	<1.0		ug/g	
			Acid Extractable Barium (Ba)	2021/11/22	<0.50		ug/g	
			Acid Extractable Beryllium (Be)	2021/11/22	<0.20		ug/g	
			Acid Extractable Boron (B)	2021/11/22	<5.0		ug/g	
			Acid Extractable Cadmium (Cd)	2021/11/22	<0.10		ug/g	
			Acid Extractable Chromium (Cr)	2021/11/22	<1.0		ug/g	
			Acid Extractable Cobalt (Co)	2021/11/22	<0.10		ug/g	
			Acid Extractable Copper (Cu)	2021/11/22	<0.50		ug/g	
			Acid Extractable Lead (Pb)	2021/11/22	<1.0		ug/g	
			Acid Extractable Molybdenum (Mo)	2021/11/22	<0.50		ug/g	
			Acid Extractable Nickel (Ni)	2021/11/22	<0.50		ug/g	
			Acid Extractable Selenium (Se)	2021/11/22	<0.50		ug/g	
			Acid Extractable Silver (Ag)	2021/11/22	<0.20		ug/g	
			Acid Extractable Thallium (Tl)	2021/11/22	<0.050		ug/g	
			Acid Extractable Uranium (U)	2021/11/22	<0.050		ug/g	
			Acid Extractable Vanadium (V)	2021/11/22	<5.0		ug/g	
			Acid Extractable Zinc (Zn)	2021/11/22	<5.0		ug/g	
			Acid Extractable Mercury (Hg)	2021/11/22	<0.050		ug/g	
7710925	VIV	RPD	Acid Extractable Antimony (Sb)	2021/11/22	NC		%	30
			Acid Extractable Arsenic (As)	2021/11/22	NC		%	30
			Acid Extractable Barium (Ba)	2021/11/22	2.3		%	30
			Acid Extractable Beryllium (Be)	2021/11/22	NC		%	30
			Acid Extractable Boron (B)	2021/11/22	NC		%	30
			Acid Extractable Cadmium (Cd)	2021/11/22	NC		%	30
			Acid Extractable Chromium (Cr)	2021/11/22	0.35		%	30
			Acid Extractable Cobalt (Co)	2021/11/22	2.9		%	30
			Acid Extractable Copper (Cu)	2021/11/22	0.79		%	30
			Acid Extractable Lead (Pb)	2021/11/22	1.1		%	30
			Acid Extractable Molybdenum (Mo)	2021/11/22	NC		%	30
			Acid Extractable Nickel (Ni)	2021/11/22	12		%	30
			Acid Extractable Selenium (Se)	2021/11/22	NC		%	30
			Acid Extractable Silver (Ag)	2021/11/22	NC		%	30
			Acid Extractable Thallium (Tl)	2021/11/22	NC		%	30
			Acid Extractable Uranium (U)	2021/11/22	10		%	30
			Acid Extractable Vanadium (V)	2021/11/22	1.0		%	30
			Acid Extractable Zinc (Zn)	2021/11/22	0.32		%	30
			Acid Extractable Mercury (Hg)	2021/11/22	NC		%	30
7711319	KIT	Spiked Blank	Conductivity	2021/11/19		99	%	90 - 110
7711319	KIT	Method Blank	Conductivity	2021/11/19	<0.002		mS/cm	



Bureau Veritas Job #: C1X8543
Report Date: 2021/12/10

EXP Energy Services Limited
Client Project #: MRK-2102546-AO-200
Sampler Initials: ML

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC									
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits	
7711319	KIT	RPD	Conductivity	2021/11/19	7.4		%	10	
N/A = Not Applicable									
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.									
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.									
Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.									
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.									
NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).									



Bureau Veritas Job #: C1X8543
Report Date: 2021/12/10

EXP Energy Services Limited
Client Project #: MRK-2102546-AO-200
Sampler Initials: ML

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

A handwritten signature in black ink, appearing to read "Brad Newman".

Brad Newman, B.Sc., C.Chem., Scientific Service Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



CHAIN OF CUSTODY RECORD

Page 1 of 1

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name: #32538 EXP Services Inc.		Company Name: #26732 EXP Energy Services Limited		B91718		Bureau Veritas Job #:	
Attention: Accounts Payable (Inv)		Attention: Tanya Fernandes-Peters		P.O. #:		Bottle Order #:	
Address: 220 Commerce Valley Drive West Suite 110		Address: 220 Commerce Valley Dr W Suite 110		Project: MRK-2102546-AO-200		COC #:	
Markham ON L3T 0A8		Markham ON L3T 0A8		Project Name:		Project Manager:	
Tel: (905) 695-3217 Ext: 3511		Tel: (905) 695-3217		Site #:		Ashton Gibson	
Email: AP@exp.com; Karen.Burke@exp.com		Email: Tanya.Fernandes@exp.com		Sampled By: M.L.		Turnaround Time (TAT) Required:	
MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY				Please provide advance notice for rush projects			
Regulation 153 (2011)		Other Regulations		Special Instructions		Regular (Standard) TAT:	
<input type="checkbox"/> Table 1 <input type="checkbox"/> Res/Park <input type="checkbox"/> Medium/Fine		<input type="checkbox"/> CCME <input type="checkbox"/> Sanitary Sewer Bylaw		Stream 3		(will be applied if Rush TAT is not specified)	
<input checked="" type="checkbox"/> Table 2 <input checked="" type="checkbox"/> Ind/Comm <input type="checkbox"/> Coarse		<input type="checkbox"/> Reg 558 <input type="checkbox"/> Storm Sewer Bylaw		Pump		Standard TAT = 5-7 Working days for most tests.	
<input type="checkbox"/> Table 3 <input type="checkbox"/> Agri/Other <input type="checkbox"/> For RSC		<input type="checkbox"/> MISA Municipality				Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.	
<input type="checkbox"/> Table		<input type="checkbox"/> PWQO <input type="checkbox"/> Reg 406 Table				Job Specific Rush TAT (if applies to entire submission)	
		<input type="checkbox"/> Other				Date Required: Time Required:	
Include Criteria on Certificate of Analysis (Y/N)?						Rush Confirmation Number: (call lab for #)	
Sample Barcode Label		Sample (Location) Identification		Date Sampled		Time Sampled	
1		TH101-1		21/11/16		10:00	
2		TH101-3				10:00	
3		TH102-1				14:00	
4		DUP				14:00	
5		TH102-3				14:00	
6		TH103-1				15:00	
7		TH103-3				15:00	
8							
9							
10							
* RELINQUISHED BY: (Signature/Print)		Date: (YY/MM/DD)		Time		RECEIVED BY: (Signature/Print)	
Mike Lury		21/11/16		17:00		Kavithaselvam	
						Date: (YY/MM/DD)	
						Time	
						# jars used and not submitted	
						Laboratory Use Only	
						Time Sensitive	
						Temperature (°C) on Recl	
						Custody Seal Present	
						Intact	
						Yes	
						No	
						White: Bureau Veritas Yellow: Client	
						SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS	
						* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.	
						* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.	
						* SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.	

Bureau Veritas Canada (2019) Inc. *Br Driver*

CLIENT NAME: EXP SERVICES INC**220 Commerce Valley Drive West, Suite 500
Markham, ON, ON L3T0A8
(905) 695-3217****ATTENTION TO: Tanya Fernandes Peters****PROJECT: 21020546-AO-200****AGAT WORK ORDER: 21T836153****TRACE ORGANICS REVIEWED BY: Oksana Gushyla, Trace Organics Lab Supervisor****DATE REPORTED: Dec 01, 2021****PAGES (INCLUDING COVER): 10****VERSION*: 1**

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

Notes*Disclaimer:**

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

Certificate of Analysis

AGAT WORK ORDER: 21T836153

PROJECT: 21020546-AO-200

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

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE: Teston

ATTENTION TO: Tanya Fernandes Peters

SAMPLED BY: Sulaimaan Ali

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

DATE RECEIVED: 2021-11-26

DATE REPORTED: 2021-12-01

SAMPLE DESCRIPTION:				F. Blank	TRIP BLANK
SAMPLE TYPE:				Water	Water
DATE SAMPLED:				2021-11-26 14:30	2021-11-26 15:00
Parameter	Unit	G / S	RDL	3260994	3261011
F1 (C6 - C10)	µg/L	750	25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L	750	25	<25	<25
F2 (C10 to C16)	µg/L	150	100	<100	<100
F3 (C16 to C34)	µg/L	500	100	<100	<100
F4 (C34 to C50)	µg/L	500	100	<100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500	NA	NA
Sediment				No	No
Surrogate	Unit	Acceptable Limits			
Toluene-d8	% Recovery	50-140			
Terphenyl	%	60-140			

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.

3260994-3261011 The C6-C10 fraction is calculated using Toluene response factor.
C6-C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16 - C50 and are only determined if the chromatogram of the C34 - C50 Hydrocarbons 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, results are considered valid without determining the PAH contribution if not requested by the client.
Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:





Certificate of Analysis

AGAT WORK ORDER: 21T836153

PROJECT: 21020546-AO-200

5835 COOPERS AVENUE
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CLIENT NAME: EXP SERVICES INC

SAMPLING SITE: Teston

ATTENTION TO: Tanya Fernandes Peters

SAMPLED BY: Sulaimaan Ali

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

DATE RECEIVED: 2021-11-26

DATE REPORTED: 2021-12-01

SAMPLE DESCRIPTION:				F. Blank	TRIP BLANK
SAMPLE TYPE:				Water	Water
DATE SAMPLED:				2021-11-26 14:30	2021-11-26 15:00
Parameter	Unit	G / S	RDL	3260994	3261011
Dichlorodifluoromethane	µg/L	590	0.20	<0.20	<0.20
Vinyl Chloride	µg/L	0.5	0.17	<0.17	<0.17
Bromomethane	µg/L	0.89	0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L	150	0.40	<0.40	<0.40
Acetone	µg/L	2700	1.0	<1.0	<1.0
1,1-Dichloroethylene	µg/L	1.6	0.30	<0.30	<0.30
Methylene Chloride	µg/L	50	0.30	<0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20
Methyl tert-butyl ether	µg/L	15	0.20	<0.20	<0.20
1,1-Dichloroethane	µg/L	5	0.30	<0.30	<0.30
Methyl Ethyl Ketone	µg/L	1800	1.0	<1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20
Chloroform	µg/L	2.4	0.20	11.3	<0.20
1,2-Dichloroethane	µg/L	1.6	0.20	<0.20	<0.20
1,1,1-Trichloroethane	µg/L	200	0.30	<0.30	<0.30
Carbon Tetrachloride	µg/L	0.79	0.20	<0.20	<0.20
Benzene	µg/L	5.0	0.20	<0.20	<0.20
1,2-Dichloropropane	µg/L	5	0.20	<0.20	<0.20
Trichloroethylene	µg/L	1.6	0.20	<0.20	<0.20
Bromodichloromethane	µg/L	16	0.20	<0.20	<0.20
Methyl Isobutyl Ketone	µg/L	640	1.0	<1.0	<1.0
1,1,2-Trichloroethane	µg/L	4.7	0.20	<0.20	<0.20
Toluene	µg/L	24	0.20	<0.20	<0.20
Dibromochloromethane	µg/L	25	0.10	<0.10	<0.10
Ethylene Dibromide	µg/L	0.2	0.10	<0.10	<0.10
Tetrachloroethylene	µg/L	1.6	0.20	<0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.10	<0.10	<0.10
Chlorobenzene	µg/L	30	0.10	<0.10	<0.10
Ethylbenzene	µg/L	2.4	0.10	<0.10	<0.10

Certified By:

Certificate of Analysis

AGAT WORK ORDER: 21T836153

PROJECT: 21020546-AO-200

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
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<http://www.agatlabs.com>

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE: Teston

ATTENTION TO: Tanya Fernandes Peters

SAMPLED BY: Sulaimaan Ali

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

DATE RECEIVED: 2021-11-26

DATE REPORTED: 2021-12-01

SAMPLE DESCRIPTION:				F. Blank	TRIP BLANK
SAMPLE TYPE:				Water	Water
DATE SAMPLED:				2021-11-26 14:30	2021-11-26 15:00
Parameter	Unit	G / S	RDL	3260994	3261011
m & p-Xylene	µg/L		0.20	<0.20	<0.20
Bromoform	µg/L	25	0.10	<0.10	<0.10
Styrene	µg/L	5.4	0.10	<0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	1	0.10	<0.10	<0.10
o-Xylene	µg/L		0.10	<0.10	<0.10
1,3-Dichlorobenzene	µg/L	59	0.10	<0.10	<0.10
1,4-Dichlorobenzene	µg/L	1	0.10	<0.10	<0.10
1,2-Dichlorobenzene	µg/L	3	0.10	<0.10	<0.10
1,3-Dichloropropene	µg/L	0.5	0.30	<0.30	<0.30
Xylenes (Total)	µg/L	300	0.20	<0.20	<0.20
n-Hexane	µg/L	51	0.20	<0.20	<0.20
Surrogate	Unit	Acceptable Limits			
Toluene-d8	% Recovery	50-140		98	96
4-Bromofluorobenzene	% Recovery	50-140		100	100

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition - 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.

3260994-3261011 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:





AGAT Laboratories

Exceedance Summary

AGAT WORK ORDER: 21T836153

PROJECT: 21020546-AO-200

5835 COOPERS AVENUE
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<http://www.agatlabs.com>

CLIENT NAME: EXP SERVICES INC

ATTENTION TO: Tanya Fernandes Peters

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
3260994	F. Blank	ON T2 PGW CT	O. Reg. 153(511) - VOCs (Water)	Chloroform	µg/L	2.4	11.3

Quality Assurance

CLIENT NAME: EXP SERVICES INC

PROJECT: 21020546-AO-200

SAMPLING SITE: Teston

AGAT WORK ORDER: 21T836153

ATTENTION TO: Tanya Fernandes Peters

SAMPLED BY: Sulaimaan Ali

Trace Organics Analysis

RPT Date: Dec 01, 2021			DUPLICATE			Method Blank	REFERENCE MATERIAL		METHOD BLANK SPIKE		MATRIX SPIKE				
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper

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

F1 (C6 - C10)	3259625		<25	<25	NA	< 25	93%	60%	140%	106%	60%	140%	98%	60%	140%
F2 (C10 to C16)	3260916		< 100	< 100	NA	< 100	109%	60%	140%	63%	60%	140%	80%	60%	140%
F3 (C16 to C34)	3260916		< 100	< 100	NA	< 100	106%	60%	140%	61%	60%	140%	69%	60%	140%
F4 (C34 to C50)	3260916		< 100	< 100	NA	< 100	99%	60%	140%	107%	60%	140%	87%	60%	140%

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

Dichlorodifluoromethane	3244237		<0.20	<0.20	NA	< 0.20	79%	50%	140%	98%	50%	140%	96%	50%	140%
Vinyl Chloride	3244237		<0.17	<0.17	NA	< 0.17	94%	50%	140%	100%	50%	140%	88%	50%	140%
Bromomethane	3244237		<0.20	<0.20	NA	< 0.20	84%	50%	140%	85%	50%	140%	85%	50%	140%
Trichlorofluoromethane	3244237		<0.40	<0.40	NA	< 0.40	71%	50%	140%	88%	50%	140%	98%	50%	140%
Acetone	3244237		<1.0	<1.0	NA	< 1.0	106%	50%	140%	98%	50%	140%	96%	50%	140%
1,1-Dichloroethylene	3244237		<0.30	<0.30	NA	< 0.30	100%	50%	140%	116%	60%	130%	92%	50%	140%
Methylene Chloride	3244237		<0.30	<0.30	NA	< 0.30	111%	50%	140%	72%	60%	130%	95%	50%	140%
trans- 1,2-Dichloroethylene	3244237		<0.20	<0.20	NA	< 0.20	112%	50%	140%	113%	60%	130%	103%	50%	140%
Methyl tert-butyl ether	3244237		<0.20	<0.20	NA	< 0.20	110%	50%	140%	88%	60%	130%	110%	50%	140%
1,1-Dichloroethane	3244237		<0.30	<0.30	NA	< 0.30	90%	50%	140%	103%	60%	130%	78%	50%	140%
Methyl Ethyl Ketone	3244237		215	171	23.1%	< 1.0	96%	50%	140%	96%	50%	140%	102%	50%	140%
cis- 1,2-Dichloroethylene	3244237		<0.20	<0.20	NA	< 0.20	86%	50%	140%	106%	60%	130%	104%	50%	140%
Chloroform	3244237		<0.20	<0.20	NA	< 0.20	118%	50%	140%	120%	60%	130%	100%	50%	140%
1,2-Dichloroethane	3244237		<0.20	<0.20	NA	< 0.20	90%	50%	140%	92%	60%	130%	114%	50%	140%
1,1,1-Trichloroethane	3244237		<0.30	<0.30	NA	< 0.30	98%	50%	140%	115%	60%	130%	117%	50%	140%
Carbon Tetrachloride	3244237		<0.20	<0.20	NA	< 0.20	97%	50%	140%	116%	60%	130%	71%	50%	140%
Benzene	3244237		<0.20	<0.20	NA	< 0.20	84%	50%	140%	75%	60%	130%	78%	50%	140%
1,2-Dichloropropane	3244237		<0.20	<0.20	NA	< 0.20	89%	50%	140%	100%	60%	130%	90%	50%	140%
Trichloroethylene	3244237		<0.20	<0.20	NA	< 0.20	106%	50%	140%	78%	60%	130%	100%	50%	140%
Bromodichloromethane	3244237		<0.20	<0.20	NA	< 0.20	84%	50%	140%	94%	60%	130%	115%	50%	140%
Methyl Isobutyl Ketone	3244237		<1.0	<1.0	NA	< 1.0	98%	50%	140%	100%	50%	140%	104%	50%	140%
1,1,2-Trichloroethane	3244237		<0.20	<0.20	NA	< 0.20	113%	50%	140%	104%	60%	130%	78%	50%	140%
Toluene	3244237		<0.20	<0.20	NA	< 0.20	105%	50%	140%	84%	60%	130%	92%	50%	140%
Dibromochloromethane	3244237		<0.10	<0.10	NA	< 0.10	104%	50%	140%	83%	60%	130%	106%	50%	140%
Ethylene Dibromide	3244237		<0.10	<0.10	NA	< 0.10	96%	50%	140%	91%	60%	130%	101%	50%	140%
Tetrachloroethylene	3244237		<0.20	<0.20	NA	< 0.20	115%	50%	140%	90%	60%	130%	109%	50%	140%
1,1,1,2-Tetrachloroethane	3244237		<0.10	<0.10	NA	< 0.10	95%	50%	140%	87%	60%	130%	106%	50%	140%
Chlorobenzene	3244237		<0.10	<0.10	NA	< 0.10	108%	50%	140%	97%	60%	130%	92%	50%	140%
Ethylbenzene	3244237		<0.10	<0.10	NA	< 0.10	99%	50%	140%	104%	60%	130%	78%	50%	140%
m & p-Xylene	3244237		<0.20	<0.20	NA	< 0.20	100%	50%	140%	104%	60%	130%	100%	50%	140%
Bromoform	3244237		<0.10	<0.10	NA	< 0.10	103%	50%	140%	95%	60%	130%	103%	50%	140%
Styrene	3244237		<0.10	<0.10	NA	< 0.10	99%	50%	140%	99%	60%	130%	75%	50%	140%
1,1,2,2-Tetrachloroethane	3244237		<0.10	<0.10	NA	< 0.10	116%	50%	140%	91%	60%	130%	114%	50%	140%
o-Xylene	3244237		<0.10	<0.10	NA	< 0.10	105%	50%	140%	116%	60%	130%	87%	50%	140%

AGAT QUALITY ASSURANCE REPORT (V1)

Page 6 of 10

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

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

Quality Assurance

CLIENT NAME: EXP SERVICES INC

PROJECT: 21020546-AO-200

SAMPLING SITE: Teston

AGAT WORK ORDER: 21T836153

ATTENTION TO: Tanya Fernandes Peters

SAMPLED BY: Sulaimaan Ali

Trace Organics Analysis (Continued)

RPT Date: Dec 01, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
1,3-Dichlorobenzene	3244237		<0.10	<0.10	NA	< 0.10	97%	50%	140%	101%	60%	130%	78%	50%	140%
1,4-Dichlorobenzene	3244237		<0.10	<0.10	NA	< 0.10	100%	50%	140%	113%	60%	130%	84%	50%	140%
1,2-Dichlorobenzene	3244237		<0.10	<0.10	NA	< 0.10	99%	50%	140%	114%	60%	130%	82%	50%	140%
n-Hexane	3244237		<0.20	<0.20	NA	< 0.20	80%	50%	140%	84%	60%	130%	107%	50%	140%

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

Certified By:


Method Summary

CLIENT NAME: EXP SERVICES INC
PROJECT: 21020546-AO-200
SAMPLING SITE: Teston
AGAT WORK ORDER: 21T836153
ATTENTION TO: Tanya Fernandes Peters
SAMPLED BY: Sulaimaan Ali

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Toluene-d8	VOL-91-5009	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
F1 (C6 - C10)	VOL-91- 5010	modified from MOE PHC E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	modified from MOE PHC E3421	(P&T)GC/FID
F2 (C10 to C16)	VOL-91-5010	modified from MOE PHC E3421	GC / FID
F3 (C16 to C34)	VOL-91-5010	modified from MOE PHC E3421	GC / FID
F4 (C34 to C50)	VOL-91-5010	modified from MOE PHC E3421	GC / FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	modified from MOE PHC E3421	BALANCE
Terphenyl	VOL-91-5009	modified from MOE PHC E3421	GC/FID
Sediment			
Dichlorodifluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Vinyl Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
trans- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl tert-butyl ether	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
cis- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

Method Summary

CLIENT NAME: EXP SERVICES INC

PROJECT: 21020546-AO-200

SAMPLING SITE: Teston

AGAT WORK ORDER: 21T836153

ATTENTION TO: Tanya Fernandes Peters

SAMPLED BY: Sulaimaan Ali

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



Chain of Custody Record

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

Report Information:

Company: **EXP**
Contact: **TANYA FERNANDES PETERS**
Address: **220 COMMERCIAL VALLEY DRIVE WEST**

Phone: **905-695-3217 EXT 3611** Fax: _____
Reports to be sent to: **TANYA.FERNANDES@EXP.COM**
1. Email: _____
2. Email: _____

Project Information:

Project: **21020546-AD-200**
Site Location: **TESTON**
Sampled By: **SULAIMAN ALI**
AGAT ID #: **COMPETITIVE EXP PRICING** PO: _____
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☒ No ☐

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

Regulatory Requirements:

(Please check all applicable boxes)

☒ Regulation 153/04 ☐ Excess Soils R406 ☐ Sewer Use
Table **2** Indicate One ☐ Sanitary ☐ Storm
☒ Ind/Com ☐ Region
☐ Res/Park ☐ Regulation 558 ☐ Prov. Water Quality Objectives (PWQO)
☐ Agriculture ☐ CCME ☐ Other
Soil Texture (Check One) ☒ Coarse ☐ Fine
Indicate One

Is this submission for a
Record of Site Condition?

☒ Yes ☐ No

Report Guideline on
Certificate of Analysis

☒ Yes ☐ No

Sample Matrix Legend

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Y/N	Field Filtered - Metals, Hg, CrVI, DOC	0. Reg 153	0. Reg 406	0. Reg 558	0. Reg 406	Potentially Hazardous or High Concentration (Y/N)
F. BLANK	26/11/21	2:30 AM	16		PAH, METALS, & INORGANICS			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
TRIP BLANK	26/11/21	3:00 AM	9					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
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		PM										
		PM										

Samples Relinquished By (Print Name and Sign):

SULAIMAN ALI/Sulaiman Ali

Date

26/11/21

Time

3:15

Samples Received By (Print Name and Sign):

NEAL G

Date

Time

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^o: **T117955**

CLIENT NAME: EXP SERVICES INC**220 Commerce Valley Drive West, Suite 500
Markham, ON, ON L3T0A8
(905) 695-3217****ATTENTION TO: Tanya fernandes****PROJECT: 21020546-A0-200****AGAT WORK ORDER: 21T836167****TRACE ORGANICS REVIEWED BY: Inga Kuzmina, Trace Organics Lab Manager****DATE REPORTED: Dec 02, 2021****PAGES (INCLUDING COVER): 9****VERSION*: 1**

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

Notes*Disclaimer:**

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



Certificate of Analysis

AGAT WORK ORDER: 21T836167

PROJECT: 21020546-A0-200

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

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE: Teston

ATTENTION TO: Tanya fernandes

SAMPLED BY: Sulaimaan Ali

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

DATE RECEIVED: 2021-11-26

DATE REPORTED: 2021-12-02

SAMPLE DESCRIPTION:				BH-11D	BH-2D	TH101	DUP1
SAMPLE TYPE:				Water	Water	Water	Water
DATE SAMPLED:				2021-11-26 13:00	2021-11-26 14:00	2021-11-26 15:00	2021-11-26 15:00
Parameter	Unit	G / S	RDL	3260897	3260916	3260917	3260918
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	NA	NA	NA	NA
Sediment				No	No	No	No
Surrogate	Unit	Acceptable Limits					
Toluene-d8	% Recovery	50-140		86.2	93.2	86.8	87.8
Terphenyl	%	60-140		81	77	90	88

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.

3260897-3260918 The C6-C10 fraction is calculated using Toluene response factor.
C6-C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.

Gravimetric Heavy Hydrocarbons are not included in the Total C16 - C50 and are only determined if the chromatogram of the C34 - C50 Hydrocarbons indicated that hydrocarbons >C50 are present. The chromatogram has returned to baseline by the retention time of n-C50.

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.

Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21T836167

PROJECT: 21020546-A0-200

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

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE: Teston

ATTENTION TO: Tanya fernandes

SAMPLED BY: Sulaimaan Ali

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

DATE RECEIVED: 2021-11-26

DATE REPORTED: 2021-12-02

SAMPLE DESCRIPTION:				BH-11D	BH-2D	TH101	DUP1
SAMPLE TYPE:				Water	Water	Water	Water
DATE SAMPLED:				2021-11-26 13:00	2021-11-26 14:00	2021-11-26 15:00	2021-11-26 15:00
Parameter	Unit	G / S	RDL	3260897	3260916	3260917	3260918
Dichlorodifluoromethane	µg/L	590	0.20	<0.20	<0.20	<0.20	<0.20
Vinyl Chloride	µg/L	0.5	0.17	<0.17	<0.17	<0.17	<0.17
Bromomethane	µg/L	0.89	0.20	<0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L	150	0.40	<0.40	<0.40	<0.40	<0.40
Acetone	µg/L	2700	1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene	µg/L	1.6	0.30	<0.30	<0.30	<0.30	<0.30
Methylene Chloride	µg/L	50	0.30	<0.30	<0.30	<0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20	<0.20	<0.20
Methyl tert-butyl ether	µg/L	15	0.20	<0.20	<0.20	<0.20	<0.20
1,1-Dichloroethane	µg/L	5	0.30	<0.30	<0.30	<0.30	<0.30
Methyl Ethyl Ketone	µg/L	1800	1.0	<1.0	<1.0	<1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20	<0.20	<0.20
Chloroform	µg/L	2.4	0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloroethane	µg/L	1.6	0.20	<0.20	<0.20	<0.20	<0.20
1,1,1-Trichloroethane	µg/L	200	0.30	<0.30	<0.30	<0.30	<0.30
Carbon Tetrachloride	µg/L	0.79	0.20	<0.20	<0.20	<0.20	<0.20
Benzene	µg/L	5.0	0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloropropane	µg/L	5	0.20	<0.20	<0.20	<0.20	<0.20
Trichloroethylene	µg/L	1.6	0.20	<0.20	<0.20	<0.20	<0.20
Bromodichloromethane	µg/L	16	0.20	<0.20	<0.20	<0.20	<0.20
Methyl Isobutyl Ketone	µg/L	640	1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	µg/L	4.7	0.20	<0.20	<0.20	<0.20	<0.20
Toluene	µg/L	24	0.20	<0.20	<0.20	<0.20	<0.20
Dibromochloromethane	µg/L	25	0.10	<0.10	<0.10	<0.10	<0.10
Ethylene Dibromide	µg/L	0.2	0.10	<0.10	<0.10	<0.10	<0.10
Tetrachloroethylene	µg/L	1.6	0.20	<0.20	<0.20	<0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.10	<0.10	<0.10	<0.10	<0.10
Chlorobenzene	µg/L	30	0.10	<0.10	<0.10	<0.10	<0.10
Ethylbenzene	µg/L	2.4	0.10	<0.10	<0.10	<0.10	<0.10

Certified By:

Certificate of Analysis

AGAT WORK ORDER: 21T836167

PROJECT: 21020546-A0-200

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

CLIENT NAME: EXP SERVICES INC

SAMPLING SITE: Teston

ATTENTION TO: Tanya fernandes

SAMPLED BY: Sulaimaan Ali

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

DATE RECEIVED: 2021-11-26


DATE REPORTED: 2021-12-02

SAMPLE DESCRIPTION:				BH-11D	BH-2D	TH101	DUP1
SAMPLE TYPE:				Water	Water	Water	Water
DATE SAMPLED:				2021-11-26 13:00	2021-11-26 14:00	2021-11-26 15:00	2021-11-26 15:00
Parameter	Unit	G / S	RDL	3260897	3260916	3260917	3260918
m & p-Xylene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20
Bromoform	µg/L	25	0.10	<0.10	<0.10	<0.10	<0.10
Styrene	µg/L	5.4	0.10	<0.10	<0.10	<0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	1	0.10	<0.10	<0.10	<0.10	<0.10
o-Xylene	µg/L		0.10	<0.10	<0.10	<0.10	<0.10
1,3-Dichlorobenzene	µg/L	59	0.10	<0.10	<0.10	<0.10	<0.10
1,4-Dichlorobenzene	µg/L	1	0.10	<0.10	<0.10	<0.10	<0.10
1,2-Dichlorobenzene	µg/L	3	0.10	<0.10	<0.10	<0.10	<0.10
1,3-Dichloropropene	µg/L	0.5	0.30	<0.30	<0.30	<0.30	<0.30
Xylenes (Total)	µg/L	300	0.20	<0.20	<0.20	<0.20	<0.20
n-Hexane	µg/L	51	0.20	<0.20	<0.20	<0.20	<0.20
Surrogate	Unit	Acceptable Limits					
Toluene-d8	% Recovery	50-140		98	95	94	101
4-Bromofluorobenzene	% Recovery	50-140		73	102	74	75

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.

3260897-3260918 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:


Quality Assurance

CLIENT NAME: EXP SERVICES INC

PROJECT: 21020546-A0-200

SAMPLING SITE: Teston

AGAT WORK ORDER: 21T836167

ATTENTION TO: Tanya fernandes

SAMPLED BY: Sulaimaan Ali

Trace Organics Analysis

RPT Date: Dec 02, 2021			DUPLICATE			Method Blank	REFERENCE MATERIAL		METHOD BLANK SPIKE		MATRIX SPIKE				
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper

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

F1 (C6 - C10)	3259625		<25	<25	NA	< 25	93%	60%	140%	106%	60%	140%	98%	60%	140%
F2 (C10 to C16)	3260916	3260916	< 100	< 100	NA	< 100	109%	60%	140%	63%	60%	140%	80%	60%	140%
F3 (C16 to C34)	3260916	3260916	< 100	< 100	NA	< 100	106%	60%	140%	61%	60%	140%	69%	60%	140%
F4 (C34 to C50)	3260916	3260916	< 100	< 100	NA	< 100	99%	60%	140%	107%	60%	140%	87%	60%	140%

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

Dichlorodifluoromethane	3260918	3260918	<0.20	<0.20	NA	< 0.20	101%	50%	140%	84%	50%	140%	104%	50%	140%
Vinyl Chloride	3260918	3260918	<0.17	<0.17	NA	< 0.17	84%	50%	140%	82%	50%	140%	82%	50%	140%
Bromomethane	3260918	3260918	<0.20	<0.20	NA	< 0.20	103%	50%	140%	80%	50%	140%	93%	50%	140%
Trichlorofluoromethane	3260918	3260918	<0.40	<0.40	NA	< 0.40	78%	50%	140%	85%	50%	140%	85%	50%	140%
Acetone	3260918	3260918	<1.0	<1.0	NA	< 1.0	102%	50%	140%	98%	50%	140%	102%	50%	140%
1,1-Dichloroethylene	3260918	3260918	<0.30	<0.30	NA	< 0.30	80%	50%	140%	117%	60%	130%	119%	50%	140%
Methylene Chloride	3260918	3260918	<0.30	<0.30	NA	< 0.30	95%	50%	140%	98%	60%	130%	101%	50%	140%
trans- 1,2-Dichloroethylene	3260918	3260918	<0.20	<0.20	NA	< 0.20	88%	50%	140%	83%	60%	130%	120%	50%	140%
Methyl tert-butyl ether	3260918	3260918	<0.20	<0.20	NA	< 0.20	102%	50%	140%	119%	60%	130%	105%	50%	140%
1,1-Dichloroethane	3260918	3260918	<0.30	<0.30	NA	< 0.30	96%	50%	140%	87%	60%	130%	90%	50%	140%
Methyl Ethyl Ketone	3260918	3260918	<1.0	<1.0	NA	< 1.0	99%	50%	140%	103%	50%	140%	101%	50%	140%
cis- 1,2-Dichloroethylene	3260918	3260918	<0.20	<0.20	NA	< 0.20	114%	50%	140%	95%	60%	130%	119%	50%	140%
Chloroform	3260918	3260918	<0.20	<0.20	NA	< 0.20	115%	50%	140%	113%	60%	130%	106%	50%	140%
1,2-Dichloroethane	3260918	3260918	<0.20	<0.20	NA	< 0.20	120%	50%	140%	113%	60%	130%	91%	50%	140%
1,1,1-Trichloroethane	3260918	3260918	<0.30	<0.30	NA	< 0.30	103%	50%	140%	108%	60%	130%	90%	50%	140%
Carbon Tetrachloride	3260918	3260918	<0.20	<0.20	NA	< 0.20	97%	50%	140%	75%	60%	130%	113%	50%	140%
Benzene	3260918	3260918	<0.20	<0.20	NA	< 0.20	83%	50%	140%	82%	60%	130%	103%	50%	140%
1,2-Dichloropropane	3260918	3260918	<0.20	<0.20	NA	< 0.20	112%	50%	140%	112%	60%	130%	108%	50%	140%
Trichloroethylene	3260918	3260918	<0.20	<0.20	NA	< 0.20	117%	50%	140%	104%	60%	130%	80%	50%	140%
Bromodichloromethane	3260918	3260918	<0.20	<0.20	NA	< 0.20	110%	50%	140%	87%	60%	130%	108%	50%	140%
Methyl Isobutyl Ketone	3260918	3260918	<1.0	<1.0	NA	< 1.0	103%	50%	140%	101%	50%	140%	98%	50%	140%
1,1,2-Trichloroethane	3260918	3260918	<0.20	<0.20	NA	< 0.20	118%	50%	140%	118%	60%	130%	107%	50%	140%
Toluene	3260918	3260918	<0.20	<0.20	NA	< 0.20	116%	50%	140%	85%	60%	130%	113%	50%	140%
Dibromochloromethane	3260918	3260918	<0.10	<0.10	NA	< 0.10	111%	50%	140%	77%	60%	130%	105%	50%	140%
Ethylene Dibromide	3260918	3260918	<0.10	<0.10	NA	< 0.10	114%	50%	140%	110%	60%	130%	100%	50%	140%
Tetrachloroethylene	3260918	3260918	<0.20	<0.20	NA	< 0.20	83%	50%	140%	105%	60%	130%	107%	50%	140%
1,1,1,2-Tetrachloroethane	3260918	3260918	<0.10	<0.10	NA	< 0.10	109%	50%	140%	106%	60%	130%	110%	50%	140%
Chlorobenzene	3260918	3260918	<0.10	<0.10	NA	< 0.10	88%	50%	140%	107%	60%	130%	86%	50%	140%
Ethylbenzene	3260918	3260918	<0.10	<0.10	NA	< 0.10	73%	50%	140%	84%	60%	130%	81%	50%	140%
m & p-Xylene	3260918	3260918	<0.20	<0.20	NA	< 0.20	100%	50%	140%	105%	60%	130%	96%	50%	140%
Bromoform	3260918	3260918	<0.10	<0.10	NA	< 0.10	88%	50%	140%	88%	60%	130%	90%	50%	140%
Styrene	3260918	3260918	<0.10	<0.10	NA	< 0.10	81%	50%	140%	86%	60%	130%	77%	50%	140%
1,1,2,2-Tetrachloroethane	3260918	3260918	<0.10	<0.10	NA	< 0.10	113%	50%	140%	116%	60%	130%	98%	50%	140%
o-Xylene	3260918	3260918	<0.10	<0.10	NA	< 0.10	75%	50%	140%	102%	60%	130%	77%	50%	140%

AGAT QUALITY ASSURANCE REPORT (V1)

Page 5 of 9

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

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

Quality Assurance

CLIENT NAME: EXP SERVICES INC

PROJECT: 21020546-A0-200

SAMPLING SITE: Teston

AGAT WORK ORDER: 21T836167

ATTENTION TO: Tanya fernandes

SAMPLED BY: Sulaimaan Ali

Trace Organics Analysis (Continued)

RPT Date: Dec 02, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
1,3-Dichlorobenzene	3260918	3260918	<0.10	<0.10	NA	< 0.10	72%	50%	140%	92%	60%	130%	70%	50%	140%
1,4-Dichlorobenzene	3260918	3260918	<0.10	<0.10	NA	< 0.10	86%	50%	140%	95%	60%	130%	81%	50%	140%
1,2-Dichlorobenzene	3260918	3260918	<0.10	<0.10	NA	< 0.10	83%	50%	140%	97%	60%	130%	75%	50%	140%
n-Hexane	3260918	3260918	<0.20	<0.20	NA	< 0.20	115%	50%	140%	99%	60%	130%	88%	50%	140%

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

Certified By:


Method Summary

CLIENT NAME: EXP SERVICES INC
PROJECT: 21020546-A0-200
SAMPLING SITE: Teston
AGAT WORK ORDER: 21T836167
ATTENTION TO: Tanya fernandes
SAMPLED BY: Sulaimaan Ali

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Toluene-d8	VOL-91-5009	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
F1 (C6 - C10)	VOL-91- 5010	modified from MOE PHC E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	modified from MOE PHC E3421	(P&T)GC/FID
F2 (C10 to C16)	VOL-91-5010	modified from MOE PHC E3421	GC / FID
F3 (C16 to C34)	VOL-91-5010	modified from MOE PHC E3421	GC / FID
F4 (C34 to C50)	VOL-91-5010	modified from MOE PHC E3421	GC / FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	modified from MOE PHC E3421	BALANCE
Terphenyl	VOL-91-5009	modified from MOE PHC E3421	GC/FID
Sediment			
Dichlorodifluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Vinyl Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
trans- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl tert-butyl ether	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
cis- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

Method Summary

CLIENT NAME: EXP SERVICES INC

PROJECT: 21020546-A0-200

SAMPLING SITE: Teston

AGAT WORK ORDER: 21T836167

ATTENTION TO: Tanya fernandes

SAMPLED BY: Sulaimaan Ali

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

Chain of Custody Record

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

Report Information:

Company: EXP.
Contact: TANYA FERNANDEZ-PETERSON
Address: 220 Commerce
Phone: 905-695-3217 EXT 3611 Fax: _____
Reports to be sent to: TANYA.FERNANDEZ@EXP.COM
1. Email: _____
2. Email: _____

Project Information:

Project: 21020546-A0-200
Site Location: TESTER
Sampled By: SULAIMAN ALI
AGAT Quote #: COMPENSATIVE EXP. REVIEW
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

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

Regulatory Requirements:

(Please check all applicable boxes).

☒ Regulation 153/04
Table 2 Indicate One
☒ Ind/Com
☐ Res/Park
☐ Agriculture
Soil Texture (Check One)
☒ Coarse
☐ Fine
☐ Excess Soils R406
Table _____ Indicate One
☐ Sewer Use
☐ Sanitary ☐ Storm
Region _____
☐ 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

Sample Matrix Legend

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

Laboratory Use Only

Work Order #: 21T836167
Cooler Quantity: 1 large
Arrival Temperatures: 5.6 | 5.3 | 4.2
Custody Seal Intact: ☒ Yes ☐ No ☐ N/A
Notes: Rec. JEE

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):

DECEMBER 1ST, 12:00pm

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

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

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Y/N	Field Filtered - Metals, Hg, CrVI, DOC	Metals & Inorganics (Analyzed)	Metals - CrVI, Hg, HWSB (Analyzed)	PH/PCBs (Analyzed)	PAHs (Analyzed)	PCBs	VOC	Landfill Disposal Characterization TOLP: <input type="checkbox"/> M&I <input type="checkbox"/> VOCs <input type="checkbox"/> ABNS <input type="checkbox"/> Biop <input type="checkbox"/> PCBs	Excess Soils SPLP Rainwater Leach	SPLP: <input type="checkbox"/> Metals <input type="checkbox"/> VOCs <input type="checkbox"/> SVOCs	Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	Potentially Hazardous or High Concentration (Y/N)
BH-11D	26/11/21	1:00 AM	16	GW	BSA + METALS ANALYSIS	Y		X	X	X	X	X	X						
BH-20	26/11/21	2:00 AM	16	GW	"	Y		X	X	X	X	X	X						
TH101	26/11/21	3:00 AM	16	GW	"	Y		X	X	X	X	X	X						
DUPI	26/11/21	3:00 AM	16	GW	"	Y		X	X	X	X	X	X						
		AM																	
		PM																	
		AM																	
		PM																	
		AM																	
		PM																	
		AM																	
		PM																	

Samples Relinquished By (Print Name and Sign): <u>SULAIMAN ALI / Sulaiman Ali</u>	Date: <u>26/11/21</u>	Time: <u>3:15 pm</u>	Samples Received By (Print Name and Sign): <u>NEAT</u>	Date: _____	Time: _____
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: _____

No: **T 127546**