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**Soil Characterization Report: York Region North Road Operations Centre at 3525
Baseline Rd, Georgina, ON.**

Prepared For:

GEC Architecture on behalf of The Regional Municipality of York

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Project Number:

ET24-1438B

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This document is the work product of Engtec Consulting Inc. If tests have been carried out, the results of these tests are valid only for the sample described in this report.

Engtec's subcontractors, who have carried out on-site or laboratory work, are duly assessed according to the purchase procedures of our quality system. For further information, contact our project manager.

EXECUTIVE SUMMARY

Engtec Consulting Inc. (Engtec) was retained by GEC Architecture on behalf of The Regional Municipality of York (the “Client”), to conduct soil sampling for York Region North Road Operations Centre at 3525 Baseline Rd, Georgina, ON (Site).

Fifty-three (53) soil samples including six (6) field duplicate were collected from thirty-five (35) boreholes advanced at the Site, on October 23, October 24 and October 27, 2024. The amount of excess soil generated on Site during work as provided by the Client is estimated to be 11,272 m³. Additionally, a surveyed stockpile with an estimated volume of 3,100 m³ will be incorporated into the future proposed berm at the Site. The results of stockpile testing will be reported separately. The excess soil sampling at the Site will be completed in general accordance with Ontario Regulation 406/19 – “On-Site and Excess Soil Management” (O. Reg 406/19). The soil analysis results were compared to the Excess Soil Quality Standards outlined in the following tables:

- Table 1: Full Depth Background Site Condition Standards for Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use, all-textured soils (Table 1 SCS);
- Table 2.1: Full Depth Excess Soil Quality Standards in Potable Ground Water Condition (Volume independent) for Industrial/Commercial/Community Property Use (Table 2.1 ICC ESQS); and,
- Table 3.1: Full Depth Excess Soil Quality Standards in Potable Ground Water Condition (Volume independent) for Industrial/Commercial/Community Property Use (Table 3.1 ICC ESQS).

The results and findings of the soil chemical testing conducted by Engtec at the Site are summarized as follows:

- The concentrations of all parameters in the soil samples submitted from the Site were either below Table 1 SCS, Table 2.1 ICC ESQS and Table 3.1 ICC ESQS except for the following:
 - Exceedance of SAR and/or EC was noted for the soil samples which are G6, G8, G8 DUP, E-1-1, E-1-2, E-4-1, E-4-2, E-4-DUP, E-28-1, E-28-2, E-28-DUP, E-5-1, E-5-2, E-6-1, E-6-2, E-7-1, E-7-2, G-3-1, G-3-2, G-4-1, G-4-2, G-7-1, G-7-2, E26, E27, E25, E24, E8, E9, E10, E11, E21, E22, E23, E-19-2, E-19-2, E-20-1, E20-2, E-18-1, E-18-2, E-17-1, E-17-2, E-16-1, E-16-2, E-15-1, E-15-2, E14-1, E-13-2, E-12-1, E-12-2 for Table 1 RPICC SQS.
 - Exceedance of SAR and/or EC was noted for the soil samples G6, G8, G8 DUP, E-4-2, E-4-DUP, E-28-1, E-28-2, E-28-DUP, E-6-1, G-3-1, G-3-2, G-7-1, G-7-2, E27, E25, E24, E8, E9, E10, E11, E21, E22, E-19-2, E-19-2, E-20-1, E20-2, E-18-1, E-17-1, E-17-2, E-16-1, E-16-2, E-15-2, E14-1, E-12-1, E-12-2 for Table 2.1 ICC ESQS and Table 3.1 ICC ESQS.
 - Exceedances for PHCs were noted from soil samples E-5-2, E27, E25, E22, and E-20-1 for Table 1 RPICC SQS. While soil sample E27 showed exceedances for Table 2.1 ICC ESQS and E25 showed exceedances for Table 2.1 ICC ESQS and Table 3.1 ICC ESQS.
 - The soil sample E25 exceeds for several PAHs for Table 1 RPICC SQS, Table 2.1 ICC ESQS and Table 3.1 ICC ESQS.
 - The soil samples E-1-2 and E-3-2 showed exceedances for Barium (Metal) for Table 1 RPICC SQS.

The results of Toxicity Characteristics Leaching Procedure (TCLP) testing for metals and inorganics, B(a)P, PCBs, and ignitability with Modified Synthetic Precipitate Leaching Procedure (MSPLP) testing for 9 of the submitted soil samples indicated the soil as non-hazardous waste as per the Leachate quality criteria from Schedule 4, O. Reg., 347 as amended, and/or O. Reg 406/19. Consequently, the excess soil from the Site can be disposed of or re-used at a property accepting soil with exceedances noted above.

1 Introduction

Engtec Consulting Inc. (Engtec) was retained by GEC Architecture on behalf of The Regional Municipality of York (the “Client”) to conduct soil Investigations and prepare a Soil Characterization Report for York Region North Road Operations Centre at 3525 Baseline Rd, Georgina, ON (“the Site” or “the Project Area”). The Site is a polygon shaped property in Georgina, Ontario, with an area of 70,221 m² under industrial use. Engtec understands that the work is being done to manage the excess soil to be generated at the Site during the potential extension of the existing Road Operation Centre building and related infrastructure, expansion of the baseline pond and the replacement of the existing gravel areas with new asphalt pavement at the Site.

Based on the estimation provided by the Client approximately 11,272 m³ of excess soil will be generated from the Site during the expansion work to be undertaken by the Client. Additionally, a surveyed stockpile with an estimated volume of 3,100 m³ will be incorporated into the future berm at the Site. The results of stockpile testing will be reported separately.

1.1 Project Team

The following table contains the contact details for the Project Leader for this Project and Engtec’s QP and the Project team.

Project Leader	The Regional Municipality of York
Project Manager	Paolo Bovolini BCom., C.Tech., PMP. The Regional Municipality of York 17250 Yonge Street Newmarket, ON L3Y 6Z1 C: 905-955-1758 paolo.bovolini@york.ca
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1.2 Areas of Potential Environmental Concern (APECs) and Contaminants of Potential Concern (CoPCs)

Based on the preliminary review of the Site and surrounding areas, the following APECs and CoPCs have been identified in the Assessment of Past Uses (APU) prepared by Engtec dated March 11, 2024:

Table 1: Areas of Potential Environmental Concern and Contaminants of Potential Concern

APEC#	PCA#	PCA no. per Table 2 O.Reg. 153	Location	Contaminants of Potential Concern (CoPC)
APEC#1	PCA#1	PCA#30 (Importation of Fill material of Unknown Quality during the construction of building on Site) - Development of building and installing underground utilities at Site	On Site	Metals and inorganics, Polycyclic Aromatic Hydrocarbons and Petroleum Hydrocarbons- Benzene, Toluene, Ethylbenzene, and Xylenes (PHCs- BTEX).
APEC#2	PCA#2	N/S (Application of de-icing agents) - Use of antifreeze chemicals or salt for winter maintenance	On Site	Electrical Conductivity (EC), and Sodium Adsorption Ratio (SAR)
APEC#3	PCA#5	PCA#28 (Gasoline and Associated Products Storage in Fixed Tanks)	On Site	PHCs/BTEX
APEC#4	PCA#7	PCA#52 (Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems)	On Site	PHCs/BTEX

2 Applicable Soil Quality Regulations

As per O.Reg. 406/19 soil that is excavated from a Project Area during site construction and is subsequently exported off-site for re-use and/or for disposal is referred to as Excess Soil. The excess soil sampling at the Site will be completed in general accordance with O.Reg. 406/19. The soil analysis results were compared to the Excess Soil Condition Standards outlined in the following tables (various tables were compared to as destination site is unknown at this stage of the project):

- Table 1: Full Depth Background Site Condition Standards for Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use, all texture soils (Table 1 SCS);
- Table 2.1: Full Depth Excess Soil Quality Standards in Potable Ground Water Condition (Volume independent) for Industrial/Commercial/Community Property Use (Table 2.1 ICC ESQS); and,
- Table 3.1: Full Depth Excess Soil Quality Standards in Potable Ground Water Condition (Volume independent) for Industrial/Commercial/Community Property Use (Table 3.1 ICC ESQS)

3 Scope of Work

The scope of work associated with this soil sampling and preparing Soil Characterization Report consisted of the following activities:

- Locating underground utilities at Site by Ontario One Call.
- Advancement of Thirty-five (35) boreholes on Site.
- Collecting fifty-three (53) soil samples and six (6) duplicate samples from the boreholes advanced at the Project Area.
- Collecting representative soil samples from each borehole for chemical analysis as per O.Reg. 153/04 to address the contaminants of potential concern (CoPCs) identified in the APU report prepared by Engtec dated March 11, 2025.
- Based on the APU the collected soil samples to be submitted for: metals/inorganics (M & I), petroleum hydrocarbons (PHCs) including benzene, toluene, ethylbenzene, and xylenes (BTEX), and polycyclic aromatic hydrocarbon (PAHs).
- Collect and submit one (1) soil sample for toxicity characteristic leaching procedure (TCLP) for metals, VOCs, PCBs, Benzo(a)pyrene and Ignitability in addition to nine (9) soil samples for Modified Synthetic Precipitate Leaching Procedure (mSPLP) ; and,
- Review the analytical data and prepare a report summarizing the findings.

A total of fifty-three (53) soil samples including six (6) field duplicates were submitted for metals/inorganics, petroleum hydrocarbons (PHCs) including benzene, toluene, ethylbenzene, and xylenes (BTEX), and polycyclic aromatic hydrocarbon (PAHs).

3.1 Deviations from Proposed Scope of Work

A Sampling and Analysis Plan (SAP) dated March 11, 2025, was prepared by Engtec for the Site and no significant deviations from the scope of work were encountered. Engtec's Sampling and Analysis Plan is attached herewith as Appendix A.

4 Site Description

The subject site (3525 Baseline Road) is a polygon shaped property in Georgina, Ontario, with an area of 70,221 m² under industrial property use with adjacent properties primarily designated for agricultural use. The Site area is approximately 7.11 ha. The Site consists of six (6) building structures on the property, including existing salt

storage stockpile, existing garage shed, refueling station, and office building. The site includes a pond located on the northern side of the Project Area and a gravel area near the central line of the Project Area.

Based on the toporama map, the existing ground surface at the site is sloped towards the northeast side towards Baseline Road with elevation mostly ranging between 260 m to 250 m. No Record of Site Condition (RSC) has been filed for the Site. Groundwater flow inferred to the northeast towards Lake Simcoe.

The Site is a property owned by The Regional Municipality of York. The co-ordinates of the Site are as follows:

- North Boundary: 17 T 626027.79 m E, 4905364.45 m N
- South Boundary: 17 T 626132.95 m E, 4904997.75 m N

5 Methodology

The following sections describe the methodology used by Engtec during the field investigation.

5.1 General

Soil conditions at the Project Area were investigated through the advancement of thirty-five (35) boreholes equally distributed along the Site. A description of this investigation is provided in the following subsections.

5.2 Drilling

On October 23, October 24 and October 27, 2024, thirty-five (35) boreholes at the Site were advanced using a Geo-probe truck-mount drill rig supplied by a drilling contractor, Sonic Soil Sampling Inc., subcontracted to Engtec. All boreholes were advanced using Direct push.

The approximate borehole locations are provided on enclosed Drawing 1 with borehole logs in Appendix B.

5.3 Soil Sampling

Soil samples were collected at regular intervals from each of the boreholes advanced at the Site. Each soil sample was retrieved by using a new pair of nitrile gloves and placed directly into laboratory-supplied glassware, then stored on ice in coolers.

Samples to be analyzed for PHC fraction F1 were collected using a soil core sampler and placed into vials containing methanol as a preservative, a portion of the sample was placed in the glass sampling jars. The jars and vials were sealed with Teflon-lined lids to minimize headspace and reduce the potential for induced volatilization during storage/transport prior to analysis. All the sample jars were stored in a dedicated cooler with ice for storage and transport to the analytical laboratory.

Soil samples were selected for laboratory analysis based on the visual and olfactory evidence of impacts, where observed. Soil samples were collected following decontamination and other protocols during sample collection and handling to minimize the potential for sample cross-contamination.

The soil samples were labeled to represent the corresponding boreholes they were sampled, and the details of the submitted sample are presented in the table below:

Borehole ID	Sample Depth (mbgs)	Sampling Date
E-1-1	0 - 1	24-Oct-24
E-1-2	1 - 2	24-Oct-24
E-2-1	0 - 1	24-Oct-24
E-2-2	1 - 2	24-Oct-24
E-2-DUP	1 - 2	24-Oct-24
E-3-1	0 - 1	24-Oct-24
E-3-2	1 - 2	24-Oct-24
E-3-DUP	1 - 2	24-Oct-24
E-4-1	0 - 1	24-Oct-24
E-4-2	1 - 2	24-Oct-24
E-4-DUP	1 - 2	24-Oct-24
E-28-1	0 - 1	24-Oct-24
E-28-2	1 - 2	24-Oct-24
E-28-DUP	1 - 2	24-Oct-24
E-5-1	0 - 1	24-Oct-24
E-5-2	1 - 2	24-Oct-24
E-6-1	0 - 1	24-Oct-24
E-6-2	1 - 2	24-Oct-24
E-7-1	0 - 1	24-Oct-24
E-7-2	1 - 2	24-Oct-24
G-3-1	0 - 1	24-Oct-24
G-3-2	1 - 2	24-Oct-24
G-4-1	0 - 1	24-Oct-24
G-4-2	1 - 2	24-Oct-24
G-7-1	0 - 1	24-Oct-24
G-7-2	1 - 2	24-Oct-24
G-1	0 - 2	28-Oct-24
G-1-DUP	0 - 2	28-Oct-24
G-5	0 - 2	28-Oct-24
G-6	0 - 2	28-Oct-24
G-8	0 - 2	28-Oct-24
G-8-DUP	0 - 2	28-Oct-24
E-26	0 - 1.5	23-Oct-24
E-27	0 - 1.5	23-Oct-24
E-25	0 - 1.5	23-Oct-24
E-24	0 - 1.5	23-Oct-24
E-8	0 - 1.5	23-Oct-24
E-9	0 - 1.5	23-Oct-24
E-10	0 - 1.5	23-Oct-24

Borehole ID	Sample Depth (mbgs)	Sampling Date
E-11	0 - 1.5	23-Oct-24
E-21	0 - 1.5	23-Oct-24
E-22	0 - 1.5	23-Oct-24
E-23	0 - 1.5	23-Oct-24
E-19-1	0 – 0.6	23-Oct-24
E-19-2	0.6 – 1.2	23-Oct-24
E-20-1	0 – 0.6	23-Oct-24
E-20-2	0.6 – 1.2	23-Oct-24
E-18-1	0 – 0.6	23-Oct-24
E-18-2	0.6 – 1.2	23-Oct-24
E-17-1	0 – 0.6	23-Oct-24
E-17-2	0.6 – 1.2	23-Oct-24
E-16-1	0 – 0.6	23-Oct-24
E-16-2	0.6 – 1.2	23-Oct-24
E-14-1	0 – 0.6	23-Oct-24
E-15-2	0.6 – 1.2	23-Oct-24
E-13-1	0 – 0.6	23-Oct-24
E-13-2	0.6 – 1.2	23-Oct-24
E-12-1	0 – 0.6	23-Oct-24
E-12-2	0.6 – 1.2	23-Oct-24

6 Analytical Results

6.1 Soil Quality

In accordance with the scope of work, chemical analyses were performed on soil samples recovered from each borehole. The selection of representative “worst case” soil samples was based on field screening for visual and/or olfactory evidence of impacts, where observed. The soil stratigraphy as observed for each borehole is described in the borehole logs in Appendix B. A detailed geotechnical investigation for the Site is included in the “Geotechnical Investigation at Road Operations Centre at 3525 Baseline Road, Georgina, ON.” prepared by Engtec Consulting Inc. dated December 6, 2024. The analytical results of the submitted soil samples are summarized in Tables 6 to 9, and the Certificates of Analysis are enclosed in Appendix C.

6.1.1 Metals and Inorganics

The concentrations of all metals and inorganics parameters in the analyzed soil samples were either below the Table 1 SCS, Table 2.1 ICC ESQS, Table 3.1 ICC ESQS or not detected above the laboratory reportable detection limits (RDLs) with the following exception:

- Exceedance of SAR and/or EC was noted for the soil samples which are G6, G8, G8 DUP, E-1-1, E-1-2, E-4-1, E-4-2, E-4-DUP, E-28-1, E-28-2, E-28-DUP, E-5-1, E-5-2, E-6-1, E-6-2, E-7-1, E-7-2, G-3-1, G-3-2, G-4-1, G-4-2, G-7-1, G-7-2, E26, E27, E25, E24, E8, E9, E10, E11, E21, E22, E23, E-19-2, E-19-2, E-20-1, E-20-2,

E-18-1, E-18-2, E-17-1, E-17-2, E-16-1, E-16-2, E-15-1, E-15-2, E14-1, E-13-2, E-12-1, E-12-2 for Table 1 RPICC SQS.

- Exceedance of SAR and/or EC was noted for the soil samples which are G6, G8, G8 DUP, E-4-2, E-4-DUP, E-28-1, E-28-2, E-28-DUP, E-6-1, G-3-1, G-3-Z, G-7-1, G-7-2, E27, E25, E24, E8, E9, E10, E11, E21, E22, E-19-2, E-19-2, E-20-1, E20-2, E-18-1, E-17-1, E-17-2, E-16-1, E-16-2, E-15-2, E14-1, E-12-1, E-12-2 for Table 2.1 ICC ESQS and Table 3.1 ICC ESQS.
- The soil samples E-1-2 and E-3-2 showed exceedances for Barium (Metal) for Table 1 RPICC SQS.

The laboratory RDLs is below Table 1 SCS. The results are presented in Table 1a to Table 1d and Appendix C.

6.1.2 Petroleum Hydrocarbons (PHCs) including Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)

The concentrations of all PHC parameters including BTEX in the analyzed soil samples were below Table 1 SCS, Table 2.1 ICC ESQS and Table 3.1 ICC ESQS or not detected above the laboratory reportable detection limits (RDLs) with the following exception:

- The exceedances for PHCs were noted from soil samples which are E-5-2, E27, E25, E22, and E-20-1 for Table 1 RPICC SQS. While soil sample E27 showed exceedances for Table 2.1 ICC ESQS and E25 showed exceedances for Table 2.1 ICC ESQS and Table 3.1 ICC ESQS.

The laboratory RDLs is below Table 1 SCS. The results are presented in Table 2a to Table 2d and Appendix C.

6.1.3 Polycyclic Aromatic Hydrocarbon (PAHs)

The concentration of all PAHs parameter in the analyzed soil samples was either below Table 1 SCS, Table 2.1 ICC ESQS and Table 3.1 ICC ESQS, or not detected above the laboratory RDLs which were below Table 1 SCS. The results are presented in Table 4 and Appendix C.

- The soil sample E25 exceeds for several PAHs for Table 1 RPICC SQS, Table 2.1 ICC ESQS and Table 3.1 ICC ESQS.

6.1.4 Toxicity Characteristic Leaching Procedure (TCLP) and Modified Synthetic Precipitation Leaching Procedure (mSPLP)

The results of Toxicity Characteristics Leaching Procedure (TCLP) testing for metals and inorganics, B(a)P, PCBs, and ignitability with Modified Synthetic Precipitate Leaching Procedure (MSPLP) testing for nine (9) of the submitted soil samples indicated the soil as non-hazardous waste as per the Leachate quality criteria from Schedule 4, Reg 347, as amended and/or O. Reg 406/19.

6.2 Quality Assurance and Quality Control

The subcontract laboratory used during this investigation, Eurofins Scientific, is accredited by the Standards Council of Canada/Canadian Association of Environmental Analytical Laboratories in accordance with ISO/IEC 17025:2017 – “General Requirements for the Competence of Testing and Calibration Laboratories” for the

analysis of all parameters for all samples in the scope of work for which SCS have been established under O.Reg. 153/04.

The “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act” (“the Analytical Protocol”), prepared by the MECP, March 2004 amended as of July 1st, 2011, establishes criteria used in assessing the performance of analytical laboratories when the data are used in support of the filing of Records of Site Condition.

The analytical program conducted by Eurofins Scientific included analytical test group-specific QA/QC measures to evaluate the accuracy and precision of the analytical results and the efficiency of analyte recovery during solute extraction procedures. The Eurofins Scientific QA/QC program consisted of the preparation and analysis of laboratory duplicate samples to assess precision and sample homogeneity, method blanks to assess analytical bias, spiked blanks, and QC standards to evaluate analyte recovery, matrix spikes to evaluate matrix interferences and surrogate compound recoveries (VOCs only) to evaluate extraction efficiency. The laboratory QA/QC results are presented in the Quality Assurance Report provided in the Certificate of Analysis prepared by Eurofins Scientific. The QA/QC results are reported as percent recoveries for matrix spikes, spike blanks, and QC standards, relative percent difference for laboratory duplicates, and analyte concentrations for method blanks.

7 Conclusions and Recommendations

The results and findings of the soil chemical testing conducted by Engtec at the Site are summarized as follows:

- The concentrations of all parameters in the soil samples submitted from the Site were either below the Table 1 SCS, and Table 2.1 ICC ESQS except for the following:
 - Exceedance of SAR and/or EC was noted for the soil samples which are G6, G8, G8 DUP, E-1-1, E-1-2, E-4-1, E-4-2, E-4-DUP, E-28-1, E-28-2, E-28-DUP, E-5-1, E-5-2, E-6-1, E-6-2, E-7-1, E-7-2, G-3-1, G-3-2, G-4-1, G-4-2, G-7-1, G-7-2, E26, E27, E25, E24, E8, E9, E10, E11, E21, E22, E23, E-19-2, E-19-2, E-20-1, E20-2, E-18-1, E-18-2, E-17-1, E-17-2, E-16-1, E-16-2, E-15-1, E-15-2, E14-1, E-13-2, E-12-1, E-12-2 for Table 1 RPICC SQS.
 - Exceedance of SAR and/or EC was noted for the soil samples which are G6, G8, G8 DUP, E-4-2, E-4-DUP, E-28-1, E-28-2, E-28-DUP, E-6-1, G-3-1, G-3-2, G-7-1, G-7-2, E27, E25, E24, E8, E9, E10, E11, E21, E22, E-19-2, E-19-2, E-20-1, E20-2, E-18-1, E-17-1, E-17-2, E-16-1, E-16-2, E-15-2, E14-1, E-12-1, E-12-2 for Table 2.1 ICC ESQS and Table 3.1 ICC ESQS.
 - The exceedances for PHCs were noted from soil samples which are E-5-2, E27, E25, E22, and E-20-1 for Table 1 RPICC SQS. While soil sample E27 showed exceedances for Table 2.1 ICC ESQS and E25 showed exceedances for Table 2.1 ICC ESQS and Table 3.1 ICC ESQS.
 - The soil sample E25 exceeds for several PAHs for Table 1 RPICC SQS, Table 2.1 ICC ESQS and Table 3.1 ICC ESQS.
 - The soil samples E-1-2 and E-3-2 showed exceedances for Barium (Metal) for Table 1 RPICC SQS.

The results of Toxicity Characteristics Leaching Procedure (TCLP) testing for metals and inorganics, B(a)P, PCBs, and ignitability with Modified Synthetic Precipitate Leaching Procedure (MSPLP) testing for 9 of the submitted soil samples indicated the soil as non-hazardous waste as per the Leachate quality criteria from Schedule 4,

O.Reg., 558, and/or O. Reg 406/19. Consequently, the excess soil from the Site can be disposed of or re-used at a property accepting soil with exceedances noted above.

Available analytical data pertaining to this material should be forwarded to the potential receiver for review. Soil receiving sites should also be following O. Reg. 406/19 and all required paperwork as the per the regulation should be obtained for the export of any excess soil.

8 Qualified Person Declaration

The Project Leader of the Project Area (The Regional Municipality of York) has provided the Qualified Person or an individual supervised by the Qualified Person with all necessary information and access to the Project Area and authorized the Qualified Person or an individual supervised by the Qualified Person to make any inquiries of the Project Leader and Operator's employees and agents, for the purpose of assisting the Qualified Person in preparing or overseeing the preparation of this document.

The documents were prepared as per O.Reg. 406/19 and the Qualified Person has prepared or overseen the preparation of the soil characterization report (SCR). To the best of QP's knowledge, this report is complete and accurate and meets the requirements of the O. Reg. 406/19 and the associated "Soil Rules".

9 General Limitations

The information presented in this report is based on a limited investigation designed to provide information to support an assessment of the current environmental conditions within the Project Area. The conclusions and recommendations presented in this report reflect Site conditions existing at the time of the investigation.

More specific information with respect to the conditions between samples, or the lateral and vertical extent of materials may become apparent during excavation operations. The interpretation of the borehole information must, therefore, be validated during any such excavation operations. Consequently, during the future development of the property, conditions not observed during this investigation may become apparent. Should this occur, Engtec Consulting Inc. should be contacted to assess the situation and the need for additional testing and reporting. Engtec has qualified personnel to assist with any future geotechnical and environmental issues related to this property.

The environmental investigation was carried out to address the intent of applicable provincial Regulations, Guidelines, Policies, Standards, Protocols, and Objectives administered by the Ministry of Environment, Conservation and Parks (MECP). It should also be noted that current environmental Regulations, Guidelines, Policies, Standards, Protocols, and Objectives are subject to change, and such changes, when put into effect, could alter the conclusions and recommendations noted throughout this report. Achieving the study objectives stated in this report has required us to arrive at conclusions based on the best information presently known to us. No investigative method can eliminate the possibility of obtaining partially imprecise or incomplete information; it can only reduce the possibility to an acceptable level. Professional judgment was exercised in gathering and analyzing the information obtained and in the formulation of the conclusions. Like all professional

persons rendering advice, we do not act as absolute insurers of the conclusions we reach, but we commit ourselves to care and competence in reaching those conclusions.

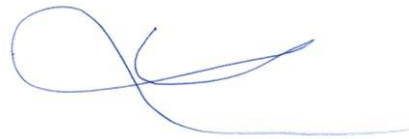
Our undertaking at Engtec, therefore, is to perform our work within limits prescribed by our clients, with the usual thoroughness and competence of the engineering profession. It is intended that the outcome of this investigation assist in reducing the client's risk associated with environmental impairment. Our work should not be considered 'risk mitigation'. No other warranty or representation, either expressed or implied, is included or intended in this report.

We trust that this information is satisfactory for your purposes. Should you have any questions or comments, please do not hesitate to contact this office.

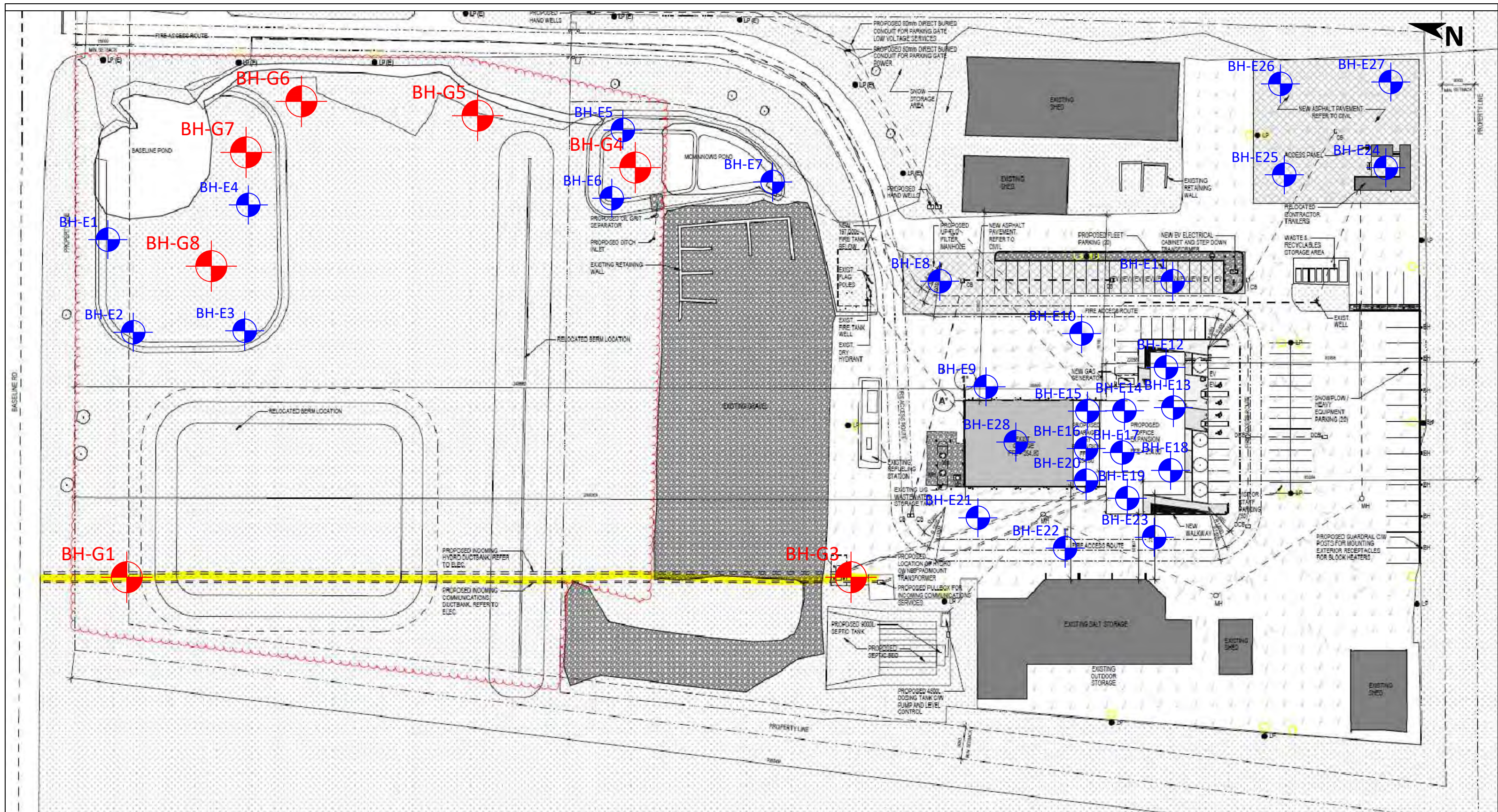
Yours truly,



Manpreet Kaur, M.Eng.,
Environmental Specialist
Engtec Consulting Inc.



Hammad Din, P. Eng.
Environmental Services Manager
Engtec Consulting Inc.



- BH-X 5 Probehole near ponds @5m depth
- BH-X 3 Probehole near aerial line @2m depth
- BH-X Environmental Boreholes

Project Name: Additional Geotechnical Investigation

Project Location: 3525 Baseline Road, Sutton West

Drawing Title: Borehole Plan

Drawing No. 01

Project No. ET24-1438B

Contract No.

Drawn By: L.W Checked By: M.M

Date: October 11, 2024 Scale: NTS

Engtec Consulting Inc.
1-2447 Anson Drive
Mississauga, ON, L5S 1G1
Tel: (905) 856-2988



Table 1.3: SOIL CHEMICAL ANALYSIS - Metals and Hydride-Forming Metals

Baseline-Georgina, Oct., 2024

October, 2024

Prepared by : PD

Checked by : FG

Guideline = O.Reg 406 - Excess Soil - Full Depth, Non-Pot GW, Vol Ind - Ind/Comm - Table 3.1



Eurofins Sample #	Units	Guideline Limit	1747700	1747702	1747703	1747705	1747706	1747707	1747708	1748114	1748115	1748116
Client Sample ID			E16-2	E15-2	E14-1	E13-1	E13-2	E12-1	E12-2	E-1-1	E-1-2	E-2-1
Sample Date			2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-24	2024-10-24	2024-10-24
Sample Matrix			Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153
Antimony	ug/g	40	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Arsenic	ug/g	18	2	2	2	2	2	2	2	2	3	2
Barium	ug/g	670	31	35	21	27	41	32	18	58	268	92
Beryllium	ug/g	8	<1	<1	<1	<1	<1	<1	<1	<1	1	<1
Boron	ug/g	120	<5	6	<5	<5	6	<5	<5	7	15	7
Boron (Hot Water Soluble)	ug/g	2	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Cadmium	ug/g	1.9	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	ug/g	160	12	13	10	12	13	12	9	19	45	21
Cobalt	ug/g	80	3	4	3	4	4	4	3	5	16	7
Copper	ug/g	230	7	9	7	8	8	7	7	15	31	13
Cyanide (Free)	ug/g	0.051	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Conductivity												
Electrical Conductivity	mS/cm	1.4	7.23	0.94	1.24	0.40	0.90	2.92	1.53	0.24	0.34	0.24
Hexavalent Chromium	ug/g	8	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.23	<0.20	0.22	<0.20
Lead	ug/g	120	3	4	2	4	4	4	3	5	10	9
Mercury	ug/g	0.27	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	ug/g	40	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Nickel	ug/g	270	7	8	5	7	8	7	5	12	31	13
Ph-CaCl2			7.96	7.97	7.96	7.92	7.94	7.99	8.01	7.78	7.75	7.75
Selenium	ug/g	5.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Silver	ug/g	40	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Sodium Absorption Ratio (SAR)		12	191	4.79	16.5	1.95	1.15	46.8	33.8	3.34	6.04	0.47
Thallium	ug/g	3.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Uranium	ug/g	33	<0.5	<0.5	1.0	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5
Vanadium	ug/g	86	23	23	21	25	20	20	20	26	59	36
Zinc	ug/g	340	18	19	17	31	18	17	17	24	70	39

NV mean "no value". NA means "not analyzed".

All results in ppm (ug/g) and based on dry weight basis.

Refer to individual Certificate of Analyses for sample-specific Reporting Detection Limit (RDL) value.

**** pH range 5.0 to 9.0 for soil depths less than 1.5 m; pH range 5.0 to 11.0 for soil depths greater than 1.5 m.

Exceedances of O.Reg 406 - Excess Soil - Full Depth, Non-Pot GW, Vol Ind - Ind/Comm - Table 3.1 used in RED CELL

Table 1.4: SOIL CHEMICAL ANALYSIS - Metals and Hydride-Forming Metals

Baseline-Georgina, Oct., 2024

October, 2024

Prepared by : PD

Checked by : FG

Guideline = O.Reg 406 - Excess Soil - Full Depth, Non-Pot GW, Vol Ind - Ind/Comm - Table 3.1



Eurofins Sample #	Units	Guideline Limit	1748117	1748118	1748119	1748120	1748121	1748122	1748123	1748124	1748125	1748126
Client Sample ID			E-2-2	E-2-DUP	E-3-1	E-3-2	E-3-DUP	E-4-1	E-4-2	E-4-DUP	E-28-1	E-28-2
Sample Date			2024-10-24	2024-10-24	2024-10-24	2024-10-24	2024-10-24	2024-10-24	2024-10-24	2024-10-24	2024-10-24	2024-10-24
Sample Matrix			Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153
Antimony	ug/g	40	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Arsenic	ug/g	18	2	2	2	3	2	3	2	2	1	1
Barium	ug/g	670	41	37	58	284	50	90	58	49	24	22
Beryllium	ug/g	8	<1	<1	<1	1	<1	<1	<1	<1	<1	<1
Boron	ug/g	120	7	6	6	14	8	8	8	8	6	5
Boron (Hot Water Soluble)	ug/g	2	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Cadmium	ug/g	1.9	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	ug/g	160	13	11	21	46	16	24	16	17	10	9
Cobalt	ug/g	80	5	4	6	17	4	8	6	5	3	3
Copper	ug/g	230	8	9	10	33	8	14	11	10	5	6
Cyanide (Free)	ug/g	0.051	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Conductivity												
Electrical Conductivity	mS/cm	1.4	0.14	0.14	0.17	0.15	0.14	0.79	0.65	0.59	1.99	1.92
Hexavalent Chromium	ug/g	8	<0.20	<0.20	<0.20	<0.20	<0.20	0.21	<0.20	<0.20	<0.20	<0.20
Lead	ug/g	120	4	4	5	9	4	10	5	4	3	2
Mercury	ug/g	0.27	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	ug/g	40	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Nickel	ug/g	270	9	8	12	33	9	14	11	10	6	6
Ph-CaCl2			7.85	7.79	7.67	7.70	7.69	7.67	7.76	7.78	7.78	7.82
Selenium	ug/g	5.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Silver	ug/g	40	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Sodium Absorption Ratio (SAR)		12	0.46	0.40	0.38	0.34	0.45	10.6	13.6	12.6	17.6	13.9
Thallium	ug/g	3.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Uranium	ug/g	33	<0.5	0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5
Vanadium	ug/g	86	22	18	34	63	28	39	27	25	20	16
Zinc	ug/g	340	22	22	33	77	19	47	24	22	19	14

NV mean "no value". NA means "not analyzed".

All results in ppm (ug/g) and based on dry weight basis.

Refer to individual Certificate of Analyses for sample-specific Reporting Detection Limit (RDL) value.

**** pH range 5.0 to 9.0 for soil depths less than 1.5 m; pH range 5.0 to 11.0 for soil depths greater than 1.5 m.

Exceedances of O.Reg 406 - Excess Soil - Full Depth, Non-Pot GW, Vol Ind - Ind/Comm - Table 3.1 used in RED CELL


Table 1.5: SOIL CHEMICAL ANALYSIS - Metals and Hydride-Forming Metals													
Baseline-Georgina, Oct., 2024 October, 2024 Prepared by : PD Checked by : FG Guideline = O.Reg 406 - Excess Soil - Full Depth, Non-Pot GW, Vol Ind - Ind/Comm - Table 3.1													
Eurofins Sample #	Units	Guideline Limit	1748127	1748128	1748129	1748130	1748131	1748132	1748133	1748134	1748135	1748136	
Client Sample ID			E-28-DUP	E-5-1	E-5-2	E-6-1	E-6-2	E-7-1	E-7-2	G-3-1	G-3-2	G-4-1	
Sample Date			2024-10-24	2024-10-24	2024-10-24	2024-10-24	2024-10-24	2024-10-24	2024-10-24	2024-10-24	2024-10-24	2024-10-24	2024-10-24
Sample Matrix			Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153
Antimony	ug/g	40	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Arsenic	ug/g	18	2	2	2	2	2	3	2	1	1	2	
Barium	ug/g	670	43	62	65	66	57	101	63	13	30	56	
Beryllium	ug/g	8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Boron	ug/g	120	9	7	7	8	8	8	6	6	5	6	
Boron (Hot Water Soluble)	ug/g	2	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	
Cadmium	ug/g	1.9	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	
Chromium	ug/g	160	16	17	17	15	16	35	19	12	10	15	
Cobalt	ug/g	80	6	6	6	5	5	10	6	2	3	5	
Copper	ug/g	230	9	11	12	13	12	14	11	6	7	11	
Cyanide (Free)	ug/g	0.051	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
Conductivity													
Electrical Conductivity	mS/cm	1.4	1.73	0.27	0.24	4.01	0.30	0.28	0.21	0.94	3.35	0.47	
Hexavalent Chromium	ug/g	8	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	
Lead	ug/g	120	4	4	4	4	5	10	5	2	2	4	
Mercury	ug/g	0.27	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Molybdenum	ug/g	40	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Nickel	ug/g	270	9	12	11	10	9	20	12	6	6	9	
Ph-CaCl2			7.94	7.86	7.78	7.90	7.88	7.86	7.83	7.80	7.85	7.92	
Selenium	ug/g	5.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Silver	ug/g	40	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Sodium Absorption Ratio (SAR)		12	37.1	3.61	2.73	77.2	3.15	4.59	4.06	12.6	57.4	5.74	
Thallium	ug/g	3.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Uranium	ug/g	33	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Vanadium	ug/g	86	24	29	27	24	27	49	27	15	19	26	
Zinc	ug/g	340	23	28	24	22	25	64	24	13	14	21	
NV mean "no value". NA means "not analyzed". All results in ppm (µg/g) and based on dry weight basis. Refer to individual Certificate of Analyses for sample-specific Reporting Detection Limit (RDL) value. **** pH range 5.0 to 9.0 for soil depths less than 1.5 m; pH range 5.0 to 11.0 for soil depths greater than 1.5 m. Exceedances of O.Reg 406 - Excess Soil - Full Depth, Non-Pot GW, Vol Ind - Ind/Comm - Table 3.1 used in RED CELL													


Table 1.6: SOIL CHEMICAL ANALYSIS - Metals and Hydride-Forming Metals											
Baseline-Georgina, Oct., 2024 October, 2024 Guideline = O.Reg 406 - Excess Soil - Full Depth, Non-Pot GW, Vol Ind - Ind/Comm - Table 3.1										Prepared by : PD Checked by : FG	
Eurofins Sample #	Units	Guideline Limit	1748137	1748138	1748139	1748452	1748453	1748454	1748455	1748456	1748457
Client Sample ID			G-4-2	G-7-1	G-7-2	G1	G1 Dup	G5	G6	G8	G8 Dup
Sample Date			2024-10-24	2024-10-24	2024-10-24	2024-10-28	2024-10-28	2024-10-28	2024-10-28	2024-10-28	2024-10-28
Sample Matrix			Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153
Antimony	ug/g	40	<1	<1	<1	<1	<1	<1	<1	1	<1
Arsenic	ug/g	18	3	3	3	2	2	3	3	3	2
Barium	ug/g	670	218	169	184	62	39	62	84	77	64
Beryllium	ug/g	8	<1	<1	<1	<1	<1	<1	<1	<1	<1
Boron	ug/g	120	12	12	13	<5	<5	6	6	6	6
Boron (Hot Water Soluble)	ug/g	2	<0.25	<0.25	<0.25	0.30	<0.25	0.27	0.32	0.40	<0.25
Cadmium	ug/g	1.9	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	ug/g	160	38	35	35	18	15	21	26	26	18
Cobalt	ug/g	80	11	12	11	6	4	6	8	8	6
Copper	ug/g	230	21	20	23	10	8	9	12	12	12
Cyanide (Free)	ug/g	0.051	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Conductivity											
Electrical Conductivity	mS/cm	1.4	0.41	1.42	1.12	0.28	0.14	0.27	1.47	0.82	0.58
Hexavalent Chromium	ug/g	8	<0.20	<0.20	<0.20	0.25	<0.20	0.26	0.28	0.39	<0.20
Lead	ug/g	120	8	8	8	9	4	7	9	8	5
Mercury	ug/g	0.27	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	ug/g	40	<1	<1	<1	<1	<1	<1	<1	<1	<1
Nickel	ug/g	270	25	23	24	11	9	12	15	14	13
Ph-CaCl2			7.89	7.89	7.81	7.52	7.51	7.49	7.51	7.23	7.75
Selenium	ug/g	5.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Silver	ug/g	40	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Sodium Absorption Ratio (SAR)		12	2.93	25.2	23.2	0.68	0.25	0.63	14.4	13.0	13.0
Thallium	ug/g	3.3	<1	<1	<1	<1	<1	<1	<1	<1	<1
Uranium	ug/g	33	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5
Vanadium	ug/g	86	49	51	50	29	22	30	38	34	26
Zinc	ug/g	340	54	55	53	38	21	36	49	50	28
NV mean "no value". NA means "not analyzed". All results in ppm (µg/g) and based on dry weight basis. Refer to individual Certificate of Analyses for sample-specific Reporting Detection Limit (RDL) value. **** pH range 5.0 to 9.0 for soil depths less than 1.5 m; pH range 5.0 to 11.0 for soil depths greater than 1.5 m. Exceedances of O.Reg 406 - Excess Soil - Full Depth, Non-Pot GW, Vol Ind - Ind/Comm - Table 3.1 used in RED CELL											


Table 2.2: SOIL CHEMICAL ANALYSIS - Petroleum Hydrocarbons													
Baseline-Georgina, Oct., 2024													
October, 2024			Prepared by : PD				Checked by : FG						
Guideline = O.Reg 406 - Excess Soil - Full Depth, Non-Pot GW, Vol Ind - Ind/Comm - Table 3.1													
Eurofins Sample #	Units	Guideline Limit	1747690	1747691	1747692	1747693	1747694	1747695	1747696	1747697	1747698	1747699	
Client Sample ID			E23	E19-1	E19-2	E20-1	E20-2	E18-1	E18-2	E17-1	E17-2	E16-1	
Sample Date			2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23
Sample Matrix			Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153
Analyte Name													
Benzene	ug/g	0.034	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068	
Ethylbenzene	ug/g	1.9	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	
F1 (C6 to C10)	ug/g	25	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
F1-BTEX	ug/g	25	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
F2 (C10 to C16)	ug/g	26	<2	<2	<2	<10	<2	6	2	3	<2	4	
F3 (C16 to C34)	ug/g	1700	<20	<20	<20	<100	<20	40	<20	20	<20	<20	
F4 (C34 to C50)		3300	<20	<20	<20	200	<20	80	<20	40	<20	<20	
F4 (Gravimetric)	ug/g	3300				500							
Toluene	ug/g	7.8	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	
Xylene (Total)	ug/g	3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Xylene, m/p-	ug/g		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Xylene, o-			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
NV mean "no value". NA means "not analyzed".													
All results in ppm (µg/g) and based on dry weight basis.													
Refer to individual Certificate of Analyses for sample-specific Reporting Detection Limit (RDL) value.													
**** pH range 5.0 to 9.0 for soil depths less than 1.5 m; pH range 5.0 to 11.0 for soil depths greater than 1.5 m.													
Exceedances of O.Reg 406 - Excess Soil - Full Depth, Non-Pot GW, Vol Ind - Ind/Comm - Table 3.1 used in RED CELL													


Table 2.5: SOIL CHEMICAL ANALYSIS - Petroleum Hydrocarbons													
Baseline-Georgina, Oct., 2024													
October, 2024			Prepared by : PD				Checked by : FG						
Guideline = O.Reg 406 - Excess Soil - Full Depth, Non-Pot GW, Vol Ind - Ind/Comm - Table 3.1													
Eurofins Sample #	Units	Guideline Limit	1748127	1748128	1748129	1748130	1748131	1748132	1748133	1748134	1748135	1748136	
Client Sample ID			E-28-DUP	E-5-1	E-5-2	E-6-1	E-6-2	E-7-1	E-7-2	G-3-1	G-3-2	G-4-1	
Sample Date			2024-10-24	2024-10-24	2024-10-24	2024-10-24	2024-10-24	2024-10-24	2024-10-24	2024-10-24	2024-10-24	2024-10-24	2024-10-24
Sample Matrix			Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153
Analyte Name													
Benzene	ug/g	0.034	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068	
Ethylbenzene	ug/g	1.9	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	
F1 (C6 to C10)	ug/g	25	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
F1-BTEX	ug/g	25	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
F2 (C10 to C16)	ug/g	26	<2	3	<2	<2	<2	2	2	<2	<2	<2	
F3 (C16 to C34)	ug/g	1700	<20	<20	120	<20	50	20	<20	<20	<20	<20	
F4 (C34 to C50)		3300	<20	<20	130	<20	20	<20	<20	<20	<20	<20	
F4 (Gravimetric)	ug/g	3300			100								
Toluene	ug/g	7.8	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	
Xylene (Total)	ug/g	3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Xylene, m/p-	ug/g		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Xylene, o-			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
NV mean "no value". NA means "not analyzed".													
All results in ppm (µg/g) and based on dry weight basis.													
Refer to individual Certificate of Analyses for sample-specific Reporting Detection Limit (RDL) value.													
**** pH range 5.0 to 9.0 for soil depths less than 1.5 m; pH range 5.0 to 11.0 for soil depths greater than 1.5 m.													
Exceedances of O.Reg 406 - Excess Soil - Full Depth, Non-Pot GW, Vol Ind - Ind/Comm - Table 3.1 used in RED CELL													

Table 4.3: SOIL CHEMICAL ANALYSIS - Polycyclic Aromatic Hydrocarbons

Baseline-Georgina, Oct., 2024

October, 2024

Prepared by : PD

Checked by : FG

Guideline = O.Reg 406 - Excess Soil - Full Depth, Non-Pot GW, Vol Ind - Ind/Comm - Table 3.1

[illegible]

NV mean "no value". NA means "not analyzed".

All results in ppm (µg/g) and based on dry weight basis.

Refer to individual Certificate of Analyses for sample-specific Reporting Detection Limit (RDL) value.

**** pH range 5.0 to 9.0 for soil depths less than 1.5 m; pH range 5.0 to 11.0 for soil depths greater than 1.5 m.

Exceedances of O.Reg 406 - Excess Soil - Full Depth, Non-Pot GW, Vol Ind - Ind/Comm - Table 3.1 used in RED CELL

Table 4.4: SOIL CHEMICAL ANALYSIS - Polycyclic Aromatic Hydrocarbons

Baseline-Georgina, Oct., 2024

October, 2024

Prepared by : PD

Checked by : FG

Guideline = O.Reg 406 - Excess Soil - Full Depth, Non-Pot GW, Vol Ind - Ind/Comm - Table 3.1

[illegible]

NV mean "no value". NA means "not analyzed".

All results in ppm (µg/g) and based on dry weight basis.

Refer to individual Certificate of Analyses for sample-specific Reporting Detection Limit (RDL) value.

**** pH range 5.0 to 9.0 for soil depths less than 1.5 m; pH range 5.0 to 11.0 for soil depths greater than 1.5 m.

Exceedances of O.Reg 406 - Excess Soil - Full Depth, Non-Pot GW, Vol Ind - Ind/Comm - Table 3.1 used in **RED CELL**

Table 4.3: SOIL CHEMICAL ANALYSIS - Polycyclic Aromatic Hydrocarbons

Baseline-Georgina, Oct., 2024

October, 2024

Prepared by : PD

Checked by : FG

Guideline = O.Reg 406 - Excess Soil - Full Depth, Non-Pot GW, Vol Ind - Ind/Comm - Table 2.1

[illegible]

NV mean "no value". NA means "not analyzed".

All results in ppm (µg/g) and based on dry weight basis.

Refer to individual Certificate of Analyses for sample-specific Reporting Detection Limit (RDL) value.

**** pH range 5.0 to 9.0 for soil depths less than 1.5 m; pH range 5.0 to 11.0 for soil depths greater than 1.5 m.

Exceedances of O.Reg 406 - Excess Soil - Full Depth, Non-Pot GW, Vol Ind - Ind/Comm - Table 2.1 used in **RED CELL**


Table 1.1: SOIL CHEMICAL ANALYSIS - Metals and Hydride-Forming Metals													
Baseline-Georgina, Oct., 2024 October, 2024 Guideline = O.Reg 406 - Excess Soil - Full Depth, Non-Pot GW, Vol Ind - Ind/Comm - Table 2.1											Prepared by : PD Checked by : FG		
Eurofins Sample #	Units	Guideline Limit	1747680	1747681	1747682	1747683	1747684	1747685	1747686	1747687	1747688	1747689	
Client Sample ID			E26	E27	E25	E24	E8	E9	E10	E11	E21	E22	
Sample Date			2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23
Sample Matrix			Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153
Antimony	ug/g	40	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Arsenic	ug/g	18	3	2	2	2	2	2	2	2	2	1	
Barium	ug/g	670	62	69	35	45	84	31	55	25	44	15	
Beryllium	ug/g	8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Boron	ug/g	120	7	6	<5	5	7	<5	5	17	<5	<5	
Boron (Hot Water Soluble)	ug/g	2	0.55	0.29	<0.25	0.29	<0.25	<0.25	<0.25	1.19	<0.25	<0.25	
Cadmium	ug/g	1.9	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	
Chromium	ug/g	160	29	29	39	21	20	17	19	33	14	5	
Cobalt	ug/g	80	6	5	4	4	6	4	5	4	4	2	
Copper	ug/g	230	23	17	9	12	12	8	10	6	9	5	
Cyanide (Free)	ug/g	0.051	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
Conductivity													
Electrical Conductivity	mS/cm	1.4	0.79	2.43	4.02	4.92	0.88	3.62	3.45	1.76	1.52	2.38	
Hexavalent Chromium	ug/g	8	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	
Lead	ug/g	120	20	17	10	10	5	4	5	13	4	2	
Mercury	ug/g	0.27	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Molybdenum	ug/g	40	2	1	1	<1	<1	2	<1	<1	<1	<1	
Nickel	ug/g	270	15	15	20	12	12	10	11	18	8	4	
Ph-CaCl2			7.52	7.82	7.83	7.74	7.81	7.88	7.84	7.92	7.80	7.95	
Selenium	ug/g	5.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Silver	ug/g	40	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Sodium Absorption Ratio (SAR)		12	9.54	33.8	49.1	44.3	13.4	79.6	63.0	27.0	215	44.0	
Thallium	ug/g	3.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Uranium	ug/g	33	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Vanadium	ug/g	86	32	30	25	26	30	21	30	8	22	13	
Zinc	ug/g	340	80	60	39	263	38	18	32	25	17	12	
NV mean "no value". NA means "not analyzed". All results in ppm (µg/g) and based on dry weight basis. Refer to individual Certificate of Analyses for sample-specific Reporting Detection Limit (RDL) value. **** pH range 5.0 to 9.0 for soil depths less than 1.5 m; pH range 5.0 to 11.0 for soil depths greater than 1.5 m. Exceedances of O.Reg 406 - Excess Soil - Full Depth, Non-Pot GW, Vol Ind - Ind/Comm - Table 2.1 used in RED CELL													


Table 1.2: SOIL CHEMICAL ANALYSIS - Metals and Hydride-Forming Metals													
Baseline-Georgina, Oct., 2024 October, 2024 Prepared by : PD Checked by : FG Guideline = O.Reg 406 - Excess Soil - Full Depth, Non-Pot GW, Vol Ind - Ind/Comm - Table 2.1													
Eurofins Sample #	Units	Guideline Limit	1747690	1747691	1747692	1747693	1747694	1747695	1747696	1747697	1747698	1747699	
Client Sample ID			E23	E19-1	E19-2	E20-1	E20-2	E18-1	E18-2	E17-1	E17-2	E16-1	
Sample Date			2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23
Sample Matrix			Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153
Antimony	ug/g	40	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Arsenic	ug/g	18	2	2	2	2	2	1	2	2	2	1	
Barium	ug/g	670	22	28	30	28	33	23	23	25	22	24	
Beryllium	ug/g	8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Boron	ug/g	120	<5	<5	<5	5	<5	<5	<5	<5	<5	5	
Boron (Hot Water Soluble)	ug/g	2	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	
Cadmium	ug/g	1.9	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	
Chromium	ug/g	160	15	13	13	13	13	11	12	30	11	15	
Cobalt	ug/g	80	4	4	4	4	4	3	4	4	4	3	
Copper	ug/g	230	8	7	7	8	7	6	8	8	7	7	
Cyanide (Free)	ug/g	0.051	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
Conductivity													
Electrical Conductivity	mS/cm	1.4	0.44	3.64	5.47	2.45	4.02	0.88	0.91	0.91	1.45	3.00	
Hexavalent Chromium	ug/g	8	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	
Lead	ug/g	120	3	3	3	3	4	3	3	3	3	3	
Mercury	ug/g	0.27	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Molybdenum	ug/g	40	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Nickel	ug/g	270	8	7	8	8	8	6	7	14	7	8	
Ph-CaCl2			7.93	7.92	8.02	8.04	7.91	7.92	7.98	8.01	7.99	8.02	
Selenium	ug/g	5.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Silver	ug/g	40	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Sodium Absorption Ratio (SAR)		12	7.50	93.6	146	82.4	76.6	13.5	11.6	15.6	6.92	76.8	
Thallium	ug/g	3.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Uranium	ug/g	33	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Vanadium	ug/g	86	23	22	25	22	22	20	22	21	22	21	
Zinc	ug/g	340	16	18	22	24	19	15	16	19	19	19	
NV mean "no value". NA means "not analyzed". All results in ppm (µg/g) and based on dry weight basis. Refer to individual Certificate of Analyses for sample-specific Reporting Detection Limit (RDL) value. **** pH range 5.0 to 9.0 for soil depths less than 1.5 m; pH range 5.0 to 11.0 for soil depths greater than 1.5 m. Exceedances of O.Reg 406 - Excess Soil - Full Depth, Non-Pot GW, Vol Ind - Ind/Comm - Table 2.1 used in RED CELL													

Table 1.3: SOIL CHEMICAL ANALYSIS - Metals and Hydride-Forming Metals

Baseline-Georgina, Oct., 2024

October, 2024

Prepared by : PD

Checked by : FG

Guideline = O.Reg 406 - Excess Soil - Full Depth, Non-Pot GW, Vol Ind - Ind/Comm - Table 2.1



Eurofins Sample #	Units	Guideline Limit	1747700	1747702	1747703	1747705	1747706	1747707	1747708	1748114	1748115	1748116
Client Sample ID			E16-2	E15-2	E14-1	E13-1	E13-2	E12-1	E12-2	E-1-1	E-1-2	E-2-1
Sample Date			2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-24	2024-10-24	2024-10-24
Sample Matrix			Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153
Antimony	ug/g	40	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Arsenic	ug/g	18	2	2	2	2	2	2	2	2	3	2
Barium	ug/g	670	31	35	21	27	41	32	18	58	268	92
Beryllium	ug/g	8	<1	<1	<1	<1	<1	<1	<1	<1	1	<1
Boron	ug/g	120	<5	6	<5	<5	6	<5	<5	7	15	7
Boron (Hot Water Soluble)	ug/g	2	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Cadmium	ug/g	1.9	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	ug/g	160	12	13	10	12	13	12	9	19	45	21
Cobalt	ug/g	80	3	4	3	4	4	4	3	5	16	7
Copper	ug/g	230	7	9	7	8	8	7	7	15	31	13
Cyanide (Free)	ug/g	0.051	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Conductivity												
Electrical Conductivity	mS/cm	1.4	7.23	0.94	1.24	0.40	0.90	2.92	1.53	0.24	0.34	0.24
Hexavalent Chromium	ug/g	8	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.23	<0.20	0.22	<0.20
Lead	ug/g	120	3	4	2	4	4	4	3	5	10	9
Mercury	ug/g	0.27	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	ug/g	40	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Nickel	ug/g	270	7	8	5	7	8	7	5	12	31	13
Ph-CaCl2			7.96	7.97	7.96	7.92	7.94	7.99	8.01	7.78	7.75	7.75
Selenium	ug/g	5.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Silver	ug/g	40	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Sodium Absorption Ratio (SAR)		12	191	4.79	16.5	1.95	1.15	46.8	33.8	3.34	6.04	0.47
Thallium	ug/g	3.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Uranium	ug/g	33	<0.5	<0.5	1.0	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5
Vanadium	ug/g	86	23	23	21	25	20	20	20	26	59	36
Zinc	ug/g	340	18	19	17	31	18	17	17	24	70	39


NV mean "no value". NA means "not analyzed".

All results in ppm (ug/g) and based on dry weight basis.

Refer to individual Certificate of Analyses for sample-specific Reporting Detection Limit (RDL) value.

**** pH range 5.0 to 9.0 for soil depths less than 1.5 m; pH range 5.0 to 11.0 for soil depths greater than 1.5 m.

Exceedances of O.Reg 406 - Excess Soil - Full Depth, Non-Pot GW, Vol Ind - Ind/Comm - Table 2.1 used in RED CELL

Table 1.5: SOIL CHEMICAL ANALYSIS - Metals and Hydride-Forming Metals													
Baseline-Georgina, Oct., 2024 October, 2024 Guideline = O.Reg 406 - Excess Soil - Full Depth, Non-Pot GW, Vol Ind - Ind/Comm - Table 2.1											Prepared by : PD Checked by : FG		
Eurofins Sample #	Units	Guideline Limit	1748127	1748128	1748129	1748130	1748131	1748132	1748133	1748134	1748135	1748136	
Client Sample ID			E-28-DUP	E-5-1	E-5-2	E-6-1	E-6-2	E-7-1	E-7-2	G-3-1	G-3-2	G-4-1	
Sample Date			2024-10-24	2024-10-24	2024-10-24	2024-10-24	2024-10-24	2024-10-24	2024-10-24	2024-10-24	2024-10-24	2024-10-24	2024-10-24
Sample Matrix			Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153	Soil153
Antimony	ug/g	40	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Arsenic	ug/g	18	2	2	2	2	2	3	2	1	1	2	
Barium	ug/g	670	43	62	65	66	57	101	63	13	30	56	
Beryllium	ug/g	8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Boron	ug/g	120	9	7	7	8	8	8	6	6	5	6	
Boron (Hot Water Soluble)	ug/g	2	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	
Cadmium	ug/g	1.9	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	
Chromium	ug/g	160	16	17	17	15	16	35	19	12	10	15	
Cobalt	ug/g	80	6	6	6	5	5	10	6	2	3	5	
Copper	ug/g	230	9	11	12	13	12	14	11	6	7	11	
Cyanide (Free)	ug/g	0.051	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
Conductivity													
Electrical Conductivity	mS/cm	1.4	1.73	0.27	0.24	4.01	0.30	0.28	0.21	0.94	3.35	0.47	
Hexavalent Chromium	ug/g	8	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	
Lead	ug/g	120	4	4	4	4	5	10	5	2	2	4	
Mercury	ug/g	0.27	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Molybdenum	ug/g	40	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Nickel	ug/g	270	9	12	11	10	9	20	12	6	6	9	
Ph-CaCl2			7.94	7.86	7.78	7.90	7.88	7.86	7.83	7.80	7.85	7.92	
Selenium	ug/g	5.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Silver	ug/g	40	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Sodium Absorption Ratio (SAR)		12	37.1	3.61	2.73	77.2	3.15	4.59	4.06	12.6	57.4	5.74	
Thallium	ug/g	3.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Uranium	ug/g	33	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Vanadium	ug/g	86	24	29	27	24	27	49	27	15	19	26	
Zinc	ug/g	340	23	28	24	22	25	64	24	13	14	21	
NV mean "no value". NA means "not analyzed". All results in ppm (µg/g) and based on dry weight basis. Refer to individual Certificate of Analyses for sample-specific Reporting Detection Limit (RDL) value. **** pH range 5.0 to 9.0 for soil depths less than 1.5 m; pH range 5.0 to 11.0 for soil depths greater than 1.5 m. Exceedances of O.Reg 406 - Excess Soil - Full Depth, Non-Pot GW, Vol Ind - Ind/Comm - Table 2.1 used in RED CELL													

Appendix A

Sampling and Analysis Plan



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Sampling and Analysis Plan: York Region North Road Operation Centre at 3525 Baseline Rd, Georgina, Ontario.

Prepared For:

**GEC Architecture
on behalf of
The Regional Municipality of York**

**430-179 John Street,
Toronto, ON
M5T 1X4**

Project Number:

ET24-1438B

Prepared By:

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Date Submitted:

March 11, 2025

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If tests have been carried out, the results of these tests are valid only for the sample described in this report.

Engtec's subcontractors who have carried out on-site or laboratory work are duly assessed according to the purchase procedures of our quality system. For further information, please contact our project manager.

EXECUTIVE SUMMARY

Engtec Consulting Inc. (Engtec) was retained by GEC Architecture on behalf of The Regional Municipality of York ("Client") to complete a sampling and analysis plan (SAP) and a soil characterization report (SCR) for York Region North Road Operations Centre at 3525 Baseline Rd, Georgina, ON referred as the "Site" or the "Project Area". The Site is a polygon-shaped property in Georgina, Ontario, with an area of 70,221 m² under industrial use. The SAP is created to facilitate the management of excess soil that will be generated during potential next extension of the existing Road Operation Centre building and related infrastructure, expansion of the baseline pond, and the replacement of the existing gravel areas with new asphalt pavements at the Site. The client estimated that approximately 11,272 m³ of excess soil will be generated. Additionally, a surveyed stockpile with an estimated volume of 3,100 m³ will be incorporated into the future proposed berm at the Site. The results of stockpile testing will be reported separately. It is Engtec's understanding that SAP and SCR are required to support excess soil management during the expansion work as per Ontario Regulation 406/19 – "On-Site and Excess Soil Management" (O.Reg.406/19) made under the Environmental Protection Act, R.S.O. 1990. C. E. 19, as amended (EPA) and to identify the environmental impacts in the areas of potential environmental concern (APECs) identified in the Assessment of Past Uses (APU).

This SAP presents the procedures and measures that will be undertaken during field investigative activities to meet the data quality objectives to provide for the collection of accurate, reproducible, and representative data to characterize the Excess Soils to be generated during expansion of the garage wash bay area.

This SAP was completed in accordance with the requirements set out in the document entitled "Rules for Soil Management and Excess Soil Quality Standards" which is referenced in O. Reg 406/19, and in accordance with generally accepted professional practices. Subject to this standard of care, Engtec makes no express or implied warranties regarding its services and no third-party beneficiaries are intended. Limitations of liability, the scope of the report, and third-party reliance are outlined in Section 5 of this report.

Based on APU prepared by Engtec dated March 11, 2025, the Site was developed in 2002 for industrial land use as defined in O.Reg. 153/04 with the surrounding land use being residential and agricultural. Four (4) APECs arising from seven (7) Potentially Contaminating Activities (PCAs) on Site were identified to be present on the Site and one (1) PCAs on the surrounding property was not identified as APECs for the related APU Study Area due to significant distance from the excavation area.

This SAP is prepared as per Engtec's proposal (ETP23-1131) dated October 3, 2023, as a supporting document for Excess Soil Management to address the environmental issues identified in the APU prepared by Engtec dated March 11, 2025.

1 Introduction

Engtec Consulting Inc. (Engtec) was retained by GEC Architecture on behalf of The Regional Municipality of York ("Client") to complete a Sampling and Analysis Plan (SAP) and a soil characterization report (SCR) for York Region North Road Operations Centre at 3525 Baseline Rd, Georgina, ON, referred to as the "Site" or the "Project Area". The Site is a polygon shaped property in Georgina, Ontario, with an area of 70,221 m² under industrial use. The SAP was conducted to facilitate the management of excess soil that will be generated during potential extension of the existing Road Operation Centre building and related infrastructure, expansion of the baseline pond and the replacement of the existing gravel areas with new asphalt pavements at the Site. The Client estimated that approximately 11,272 m³ of excess soil will be generated. Additionally, a surveyed stockpile with an estimated volume of 3,100 m³ will be incorporated into the future proposed berm at the Site. The results of stockpile testing will be reported separately. It is Engtec's understanding that the SAP is required to support excess soil management and to identify the areas of potential environmental concern during the expansion work as per Ontario Regulation 406/19 – "On-Site and Excess Soil Management" (O. Reg 406/19) made under the Environmental Protection Act, R.S.O. 1990. C. E. 19, as amended (EPA).

This SAP presents the procedures and measures that will be undertaken during field investigative activities to meet the data quality objectives to provide for the collection of accurate, reproducible, and representative data to characterize the Excess Soils to be generated during expansion of the garage wash bay area.

Based on the information provided by the Client, the volume of excess soil to be generated at the Site is anticipated to be 11,272 m³. As confirmed with Angela Ng. of GEC Architect it is to be noted that the volume of excavated soil is equal to that of the excess soil to be removed from the Site. This SAP is aimed to address the identified Contaminants of Potential Concern (CoPCs) resulting due to Potentially Contaminating Activities (PCAs) and associated Areas of Potential Environmental Concern (APECs) for the Site as identified in the APU prepared by Engtec dated March 11, 2025.

Engtec proposes advancing thirty-five (35) boreholes on the Site, during drilling, overburden material will be logged at regular intervals across the Site, and samples will be collected below the base of the pavement structures at each borehole. Engtec proposes that at least one environmental characterization sample will be submitted for analysis from each of the boreholes advanced across the Site. Samples will be selected based on olfactory and visual evidence of contamination.

This SAP is prepared as per Engtec's proposal (ETP23-1131) dated October 3, 2023, as a supporting document for Excess Soil Management to address the environmental issues identified in the APU report prepared by Engtec dated March 11, 2025.

2 Project Area Description

The Site is polygon shaped, with a plan area of 70,221 m² under industrial use, and adjacent properties primarily designated for agricultural use. The Site area is approximately 7.11 ha. The Site consists of six (6) building structures on the property, including existing salt storage stockpile, existing garage shed, refueling station, and office building.

The site includes a pond located on the northern side of the project area and a gravel area near the central line of the project area.

Based on the toporama map, existing ground surface at the site is sloped towards the northeast side towards the Baseline Road with elevation mostly ranging between 260 m to 250 m. Groundwater flow inferred to the northeast towards Lake Simcoe. The Site is a property owned by The Regional Municipality of York. The co-ordinates of the Site are as follows:

- North Boundary: 17 T 626027.79 m E, 4905364.45 m N
- South Boundary: 17 T 626132.95 m E, 4904997.75 m N

2.1 Areas of Potential Environmental Concern (APECs) and Contaminants of Potential Concern (CoPC)

Based on the preliminary review of the Site and surrounding areas, the following APECs and CoPCs have been identified in the APU prepared by Engtec dated March 11, 2025:

APEC#	PCA#	PCA no. per Table 2 O.Reg. 153	Location	Contaminants of Potential Concern (CoPC)
APEC#1	PCA#1	PCA#30 (Importation of Fill material of Unknown Quality during the construction of building on Site) - Development of building and installing	On Site	Metals and inorganics, Polycyclic Aromatic Hydrocarbons and Petroleum Hydrocarbons- Benzene, Toluene, Ethylbenzene, and Xylenes (PHCs-BTEX).
APEC#2	PCA#2	N/S (Application of de-icing agents) - Use of antifreeze chemicals or salt for winter maintenance	On Site	Electrical Conductivity (EC), and Sodium Adsorption Ratio (SAR)
APEC#3	PCA#5	PCA#28 (Gasoline and Associated Products Storage in Fixed Tanks)	On Site	PHCs/BTEX
APEC#4	PCA#7	PCA#52 (Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain	On Site	PHCs/BTEX

APEC#	PCA#	PCA no. per Table 2 O.Reg. 153	Location	Contaminants of Potential Concern (CoPC)
		transportation systems)		

N/S – not specified in Table 2, Schedule D, O. Reg. 153/04

3 Applicable Soil Quality Regulations

As per O.Reg. 406/19 soil that is excavated from a Project Area during site construction and is subsequently exported off-site for re-use and/or for disposal is referred to as Excess Soil. The excess soil sampling at the Site will be completed in general accordance with O.Reg. 406/19. The soil analysis results will be compared to the Excess Soil Quality Standards outlined in the following tables:

- Table 1: Full Depth Background Site Condition Standards for Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use (Table 1 RPIICC SCS);
- Table 2.1: Full Depth Excess Soil Quality Standards in Potable Ground Water Condition (Volume independent) for Industrial/Commercial/Community Property Use (Table 2.1 ICC ESQS);
- Table 3.1: Full Depth Excess Soil Quality Standards in Potable Ground Water Condition (Volume independent) for Industrial/Commercial/Community Property Use (Table 3.1 ICC ESQS)

4 Sampling Methodology

The following sections describe the methodology to be used by Engtec during the field investigation.

4.1 Sampling Frequency

As per O.Reg. 406/19 and Rules for Soil Management and Excess Soil Quality Standards the soil samples are to be collected using an in-situ sampling approach will follow the sampling frequency as mentioned:

- A minimum of three (3) in-situ samples shall be analyzed if less than 600 m³ of soil is to be excavated.
- If more than 600 m³ of soil is to be excavated, at least one (1) in-situ soil sample shall be analyzed for each 200 m³ of soil for the first 10,000 m³;
- At least one (1) in-situ soil sample shall be analyzed for each additional 450 m³ after the first 10,000 m³ of soil to be excavated; and
- At least one (1) in-situ soil sample shall be analyzed for each additional 2000 m³ after the first 40,000 m³ of soil to be excavated.

As per O.Reg. 406/19 a minimum of fifty-three (53) soil samples and six (6) duplicate soil samples are required for the Site based on the volume of 11,272 m³ of excess soil to be generated at the Site. Additionally, a surveyed stockpile with an estimated volume of 3,100 m³ will be incorporated into the future proposed berm at the Site. The results of stockpile testing will be reported separately.

4.2 Sampling Plan

Soil samples identified for possible laboratory analysis are to be collected in accordance with O.Reg.153/04 and placed directly into pre-cleaned, laboratory-supplied glass sample jars/vials. Samples to be analyzed for PHC fraction F1 and VOCs will be collected using a soil core sampler and placed into vials containing methanol as a preservative. The jars and vials were sealed with Teflon-lined lids to minimize headspace and reduce the potential for induced volatilization during storage/transport prior to analysis. All the sample jars are to be stored in a dedicated cooler with ice for storage and transport to the analytical laboratory.

Soil samples selected for laboratory analysis will be based on the visual and olfactory evidence of impacts, where observed. As per the discussion with the Client, the volume of excess soil to be generated at the Site is anticipated to be 11,272 m³. Based on the estimated volume of excess soil, sampling frequency as per O. Reg. 406/19, and the CoPCs identified in each respective APEC at the Project Area (as per APU) Fifty-three (53) soil samples including Six (6) field duplicate soil samples for QA/QC purpose were recommended to be collected and submitted for chemical analysis by the Engtec's QP. Nine (9) soil samples will also be collected and submitted to the laboratory for leachate analysis determined by Engtec's QP.

4.3 Sample Handling

Decontamination and other protocols will be followed during sample collection and handling to minimize the potential for sample cross-contamination. New disposable nitrile gloves shall be used for the handling of each retrieved soil sample. The non-dedicated sampling equipment shall be decontaminated between sampling locations using a potable water/phosphate-free detergent solution followed by rinses with potable water and de-ionized water.

Measures will be taken in the field and during transport to preserve sample integrity between collection and receipt by the contractual laboratory prior to chemical analysis. Recommended volumes of soil samples selected for chemical analysis will be collected into pre-cleaned, laboratory-supplied glass sample jars/vials identified for the specified analytical test group. Samples intended for PHC fractions F1 will be collected using a laboratory-supplied soil core sampler, placed into the vials containing methanol for preservation purposes, and sealed using Teflon-lined lids. Soil samples selected for laboratory analysis will be immediately placed in insulated coolers pre-chilled with ice upon collection for storage and transport to the contractual laboratory, Eurofins Scientific, North York, ON.

The samples will be transported/submitted within the acceptable holding times following Chain of Custody protocols for chemical analysis.

4.4 Analytical Testing

The soil samples collected from the Site will be analyzed for the following parameters as per O.Reg. 153/04:

Chemical Testing Parameters	No. of Soil Samples
Metals and Inorganics including sodium adsorption ratio (SAR) and electrical conductivity (EC)	59 Samples
PHCs and BTEX	59 Samples
PAHs	59 Samples
Leachate testing	9 Samples

Eurofins Scientific (Eurofins), North York, ON, is the contractual laboratory selected to perform the chemical analyses. Eurofins is an accredited laboratory under the Standards Council of Canada/Canadian Association of Environmental Analytical Laboratories in accordance with ISO/IEC 17025:2005 – “General Requirements for the Competence of Testing and Calibration Laboratories”.

Quality Control/Quality Assurance measures will be implemented during sample collection, storage, and transport to provide accurate data representative of conditions in the surficial and subsurface soils. The QA/QC measures include decontamination procedures to minimize the potential for sample cross-contamination, the execution of standard operating procedures to collect representative and unbiased samples, the collection of quality control samples to evaluate sample precision and accuracy, and the implementation of measures to preserve sample integrity.

Documentation procedures will be followed to confirm sample identification. Each sample will be assigned a unique identification ID number, which is recorded along with the date, time of sampling, and requested analyses on labels affixed to the sampling containers. Chain of Custody protocols will be followed to track sample handling and movement until receipt by the contractual laboratory. Field QA/QC samples will be collected during the sampling. Duplicate samples collected will be used to evaluate sampling precision and evaluate the potential for sample cross-contamination during handling and transport.

It is to Engtec’s understanding that no potential reuse sites for the acceptance of excess soil generated from the Site has been identified at the time of preparation of this report.

5 Qualified Person Declaration

The Project Leader of the Project Area (The Regional Municipality of York) has provided the Qualified Person or an individual supervised by the Qualified Person with all necessary information and access to the Project Area and authorized the Qualified Person or an individual supervised by the Qualified Person to make any inquiries of the Project Leader and Operator’s employees and agents, for the purpose of assisting the Qualified Person in preparing or overseeing the preparation of this document.

The documents were prepared as per O.Reg. 406/19 and the Qualified Person has prepared or overseen the preparation of the sampling and analysis plan (SAP). To the best of QP’s knowledge, this report is complete and accurate and meets the requirements of O. Reg. 406/19 and the associated “Soil Rules”.

6 References

- Ontario Regulation 153/04, made under the Environmental Protection Act, May 2004, amended.
- Ontario Regulation 406/19. On-Site and Excess Soil Management.
- Ministry of Environment [MECP] Rules for Soil Management and Excess Soil Quality Standards.
- Ministry of the Environment [MECP] (1996) Guidance on Sampling and Analytical Methods for Use at Contaminated Project Areas in Ontario. Ontario Ministry of the Environment, December 1996.
- MECP (2011a) Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. Ontario Ministry of the Environment, March 2004, amended as of July 1, 2011.
- MECP (2011) Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act. Ontario Ministry of the Environment, April 15, 2021.
- Occupational Health and Safety Act - Ministry of Labour (MOL).
- Topographic Map available at the Natural Resources Canada (NRC) website <http://atlas.gc.ca/toporama/en/index.html>
- Geotechnical Investigation for Maintenance Building Expansion at Road Operations Centre at 3525 Baseline Road, Georgina, Ontario, for The Regional Municipality of York. Engtec Consulting Inc. 2023.

7 General Limitations

The information presented in this report is based on a limited investigation designed to provide information to support an assessment of the current environmental conditions within the subject property. The conclusions and recommendations presented in this report reflect Site conditions existing at the time of the investigation.

More specific information with respect to the conditions between samples, or the lateral and vertical extent of materials may become apparent during excavation operations. The interpretation of the borehole information must, therefore, be validated during any such excavation operations. Consequently, during the future development of the property, conditions not observed during this investigation may become apparent. Should this occur, Engtec Consulting Inc. should be contacted to assess the situation and the need for additional testing and reporting. Engtec has qualified personnel to assist with any future geotechnical and environmental issues related to this property.

The environmental investigation was carried out to address the intent of applicable provincial Regulations, Guidelines, Policies, Standards, Protocols, and Objectives administered by the Ministry of Environment, Conservation and Parks. It should also be noted that current environmental Regulations, Guidelines, Policies, Standards, Protocols, and Objectives are subject to change, and such changes, when put into effect, could alter the conclusions and recommendations noted throughout this report. Achieving the study objectives stated in this report has required us to arrive at conclusions based on the best information presently known to us. No investigative method can completely eliminate the possibility of obtaining partially imprecise or incomplete information; it can only reduce the possibility to an acceptable level. Professional judgment was exercised in gathering and analyzing the information obtained and in the formulation of the conclusions. Like all professional persons rendering advice, we do not act as absolute insurers of the conclusions we reach, but we commit ourselves to care and competence in reaching those conclusions.

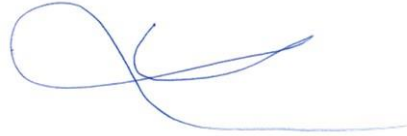
Our undertaking at Engtec, therefore, is to perform our work within limits prescribed by our clients, with the usual thoroughness and competence of the engineering profession. It is intended that the outcome of this investigation assist in reducing the client's risk associated with environmental impairment. Our work should not be considered 'risk mitigation'. No other warranty or representation, either expressed or implied, is included or intended in this report.

We trust that this information is satisfactory for your purposes. Should you have any questions or comments, please do not hesitate to contact this office.

Yours truly,

A handwritten signature in black ink that reads 'Manpreet Kaur' in a cursive script.

Manpreet Kaur, M.Eng..
Environmental Specialist
Engtec Consulting Inc.

A handwritten signature in blue ink that reads 'Hammad Din' in a cursive script.

Hammad Din, P. Eng.
Environmental Services Manager
Engtec Consulting Inc.

Appendix B

Borehole Logs

Borehole ID	Depth (mbgs)	Observed Stratigraphy
E-1	0 - 0.1	Topsoil
	0.1 – 0.7	Fill- clayed silt to sandy silt, traces of organic matter, moist, brown.
	0.7 – 2.0	Clayed Silt Till- traces of sand and gravel, stiff to very moist, brown.
E-2	0 - 0.1	Topsoil
	0.1 – 0.7	Fill- clayed silt to sandy silt, traces of organic matter, moist, brown.
	0.7 – 2.0	Clayed Silt Till- traces of sand and gravel, stiff to very moist, brown.
E-3	0 - 0.1	Topsoil
	0.1 – 0.7	Fill- clayed silt to sandy silt, traces of organic matter, moist, brown.
	0.7 – 2.0	Clayed Silt Till- traces of sand and gravel, stiff to very moist, brown.
E-4	0 - 0.1	Topsoil
	0.1 – 0.7	Fill- clayed silt to sandy silt, traces of organic matter, moist, brown.
	0.7 – 2.0	Clayed Silt Till- traces of sand and gravel, stiff to very moist, brown.
E-5	0 - 0.1	Topsoil
	0.1 – 0.7	Fill- clayed silt to sandy silt, traces of organic matter, moist, brown.
	0.7 – 2.0	Clayed Silt Till- traces of sand and gravel, stiff to very moist, brown.
E-6	0 - 0.1	Topsoil
	0.1 – 0.7	Fill- clayed silt to sandy silt, traces of organic matter, moist, brown.
	0.7 – 2.0	Clayed Silt Till- traces of sand and gravel, stiff to very moist, brown.
E-7	0 - 0.1	Topsoil
	0.1 – 0.7	Fill- clayed silt to sandy silt, traces of organic matter, moist, brown.
	0.7 – 2.0	Clayed Silt Till- traces of sand and gravel, stiff to very moist, brown.
E-8	0 - 0.1	Asphaltic Concrete
	0.1 – 0.42	Fill- Sand and Gravel (Granular)
E-9	0 - 0.1	Asphaltic Concrete
	0.1 – 0.42	Fill- Sand and Gravel (Granular)
E-10	0 - 0.1	Asphaltic Concrete

	0.1 – 0.42	Fill- Sand and Gravel (Granular)
E-11	0 - 0.1	Asphaltic Concrete
	0.1 – 0.42	Fill- Sand and Gravel (Granular)
E-12	0 - 0.1	Asphaltic Concrete
	0.1 – 0.5	Fill- Sand and Gravel (Granular)
	0.5 – 1.0	Fill- Clayed silt to sandy silt, trace gravel, moist
	1.0 – 1.2	Native Ground – Silty sand, compact to very dense, moist, grey
E-13	0 - 0.1	Asphaltic Concrete
	0.1 – 0.5	Fill- Sand and Gravel (Granular)
	0.5 – 1.0	Fill- Clayed silt to sandy silt, trace gravel, moist
	1.0 – 1.2	Native Ground – Silty sand, compact to very dense, moist, grey
E-14	0 - 0.1	Asphaltic Concrete
	0.1 – 0.5	Fill- Sand and Gravel (Granular)
	0.5 – 1.0	Fill- Clayed silt to sandy silt, trace gravel, moist
	1.0 – 1.2	Native Ground – Silty sand, compact to very dense, moist, grey
E-15	0 - 0.1	Asphaltic Concrete
	0.1 – 0.5	Fill- Sand and Gravel (Granular)
	0.5 – 1.0	Fill- Clayed silt to sandy silt, trace gravel, moist
	1.0 – 1.2	Native Ground – Silty sand, compact to very dense, moist, grey
E-16	0 - 0.1	Asphaltic Concrete
	0.1 – 0.5	Fill- Sand and Gravel (Granular)
	0.5 – 1.0	Fill- Clayed silt to sandy silt, trace gravel, moist
	1.0 – 1.2	Native Ground – Silty sand, compact to very dense, moist, grey
E-17	0 - 0.1	Asphaltic Concrete
	0.1 – 0.5	Fill- Sand and Gravel (Granular)
	0.5 – 1.0	Fill- Clayed silt to sandy silt, trace gravel, moist
	1.0 – 1.2	Native Ground – Silty sand, compact to very dense, moist, grey
E-18	0 - 0.1	Asphaltic Concrete
	0.1 – 0.5	Fill- Sand and Gravel (Granular)
	0.5 – 1.0	Fill- Clayed silt to sandy silt, trace gravel, moist
	1.0 – 1.2	Native Ground – Silty sand, compact to very dense, moist, grey
E-19	0 - 0.1	Asphaltic Concrete
	0.1 – 0.5	Fill- Sand and Gravel (Granular)
	0.5 – 1.0	Fill- Clayed silt to sandy silt, trace gravel, moist
	1.0 – 1.2	Native Ground – Silty sand, compact to very dense, moist, grey
E-20	0 - 0.1	Asphaltic Concrete
	0.1 – 0.5	Fill- Sand and Gravel (Granular)
	0.5 – 1.0	Fill- Clayed silt to sandy silt, trace gravel, moist
	1.0 – 1.2	Native Ground – Silty sand, compact to very dense, moist, grey
E-21	0 - 0.1	Asphaltic Concrete
	0.1 – 0.42	Fill- Sand and Gravel (Granular)
E-22	0 - 0.1	Asphaltic Concrete
	0.1 – 0.42	Fill- Sand and Gravel (Granular)
	0 - 0.1	Asphaltic Concrete

E-23	0.1 – 0.42	Fill- Sand and Gravel (Granular)
E-24	0.0 – 0.1	Topsoil
	0.1 – 0.42	Fill- Sand and Gravel, Asphalt traces, dry, black
E-25	0.0 – 0.1	Topsoil
	0.1 – 0.42	Fill- Sand and Gravel, Asphalt traces, dry, black
E-26	0.0 – 0.1	Topsoil
	0.1 – 0.42	Fill- Sand and Gravel, Asphalt traces, dry, black
E-27	0.0 – 0.1	Topsoil
	0.1 – 0.42	Fill- Sand and Gravel, Asphalt traces, dry, black

Log of Borehole BH101

Project No. ET24-1438A

Figure No. 1

Project: Geotechnical Investigation for Modification of SWM Ponds

Sheet No. 1 of 1

Location: 3525 Baseline Road, Sutton, Ontario

Date Drilled: October 23, 2024

Auger Sample ☒

Combustible Vapour Reading ☐

Drill Type: Geoprobe 7822DT

SPT (N) Value ☒

Natural Moisture ☒

Datum: Approximate Geodetic

Dynamic Cone Test ☐

Plastic and Liquid Limit ☐

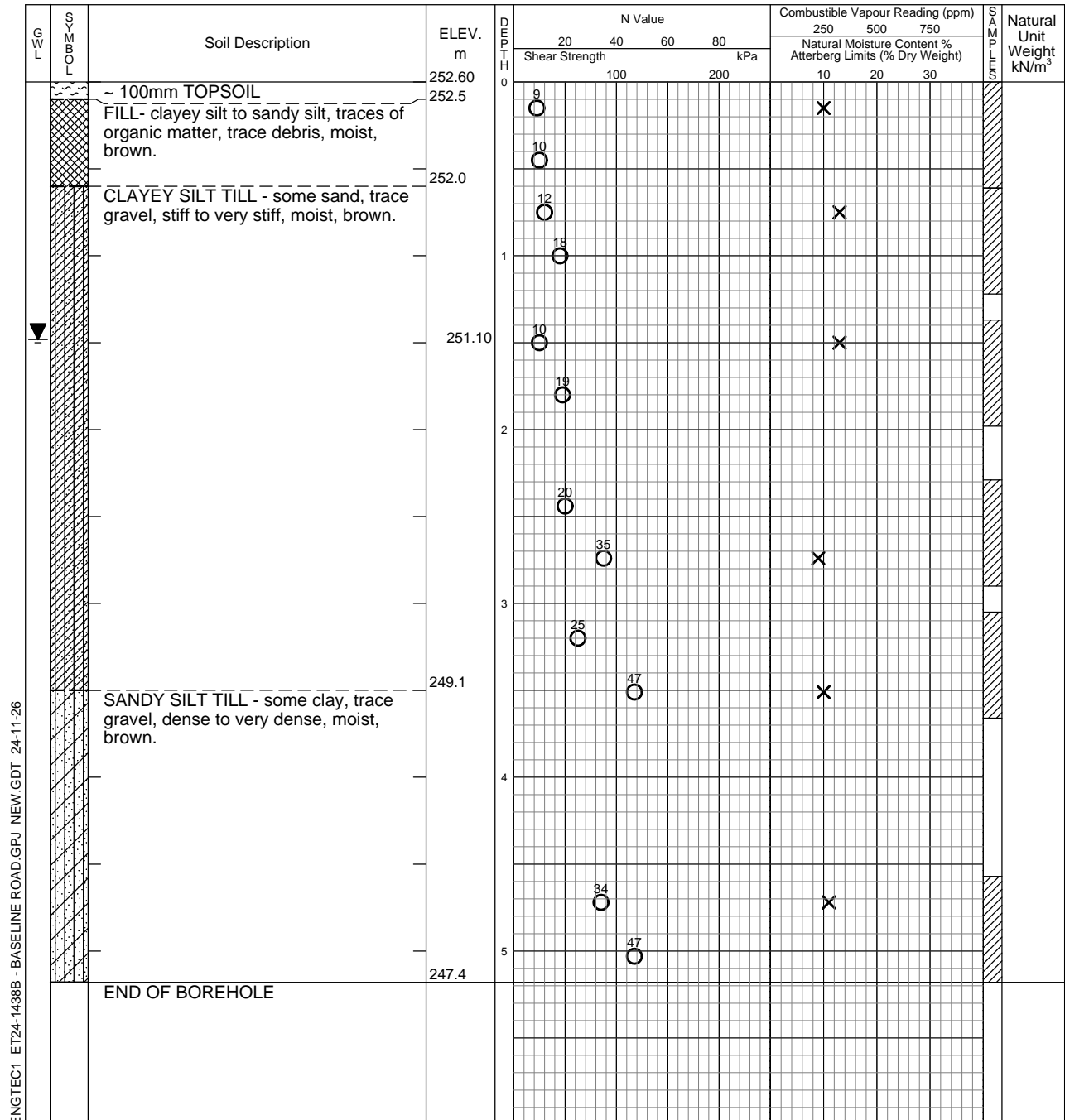
Shelby Tube ☐

Undrained Triaxial at ☐

Field Vane Test ☒

% Strain at Failure ☐

Penetrometer ☒



ENGTEC1 ET24-1438B - BASELINE ROAD.GPJ NEW.GDT 24-11-26



Engtec Consulting Inc.
1-2447 Anson Drive
Mississauga, ON, L5S 1G1
(905) 856-2988

Borehole data requires interpretation assistance from ENGTEC before use by others.
See Figures 1A and 1B for Notes on Sample Descriptions and Terminology.

Time	Water Level (m)	Depth to Cave (m)
October 23, 2024 48 Hours	3.2m 1.5m	3.5m

Log of Borehole BH102

Project No. ET24-1438A

Figure No. 2

Project: Geotechnical Investigation for Modification of SWM Ponds

Sheet No. 1 of 1

Location: 3525 Baseline Road, Sutton, Ontario

Date Drilled: October 28, 2024

Auger Sample
SPT (N) Value

Drill Type: Geoprobe 7822DT

Dynamic Cone Test

Datum: Approximate Geodetic

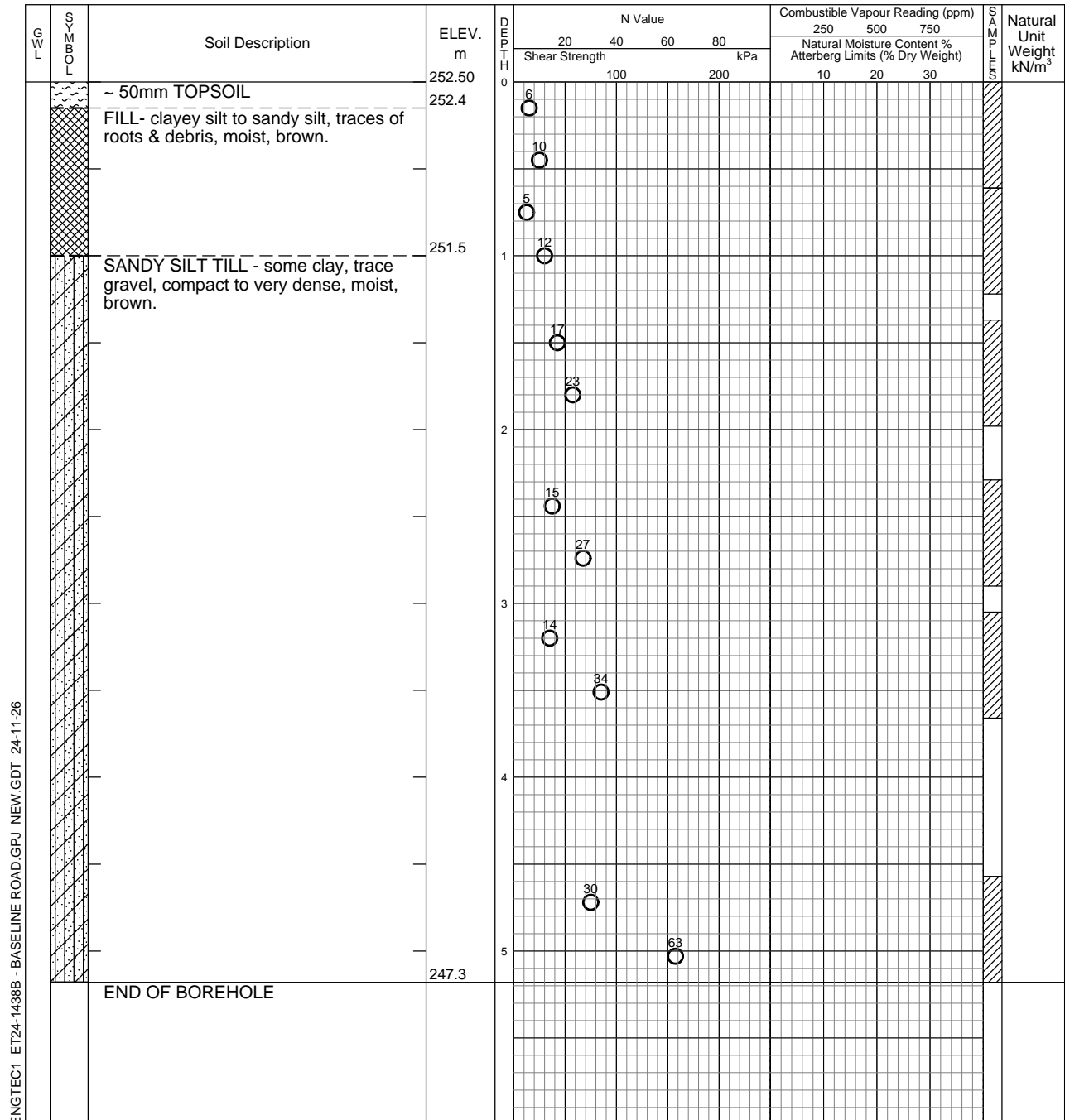
Shelby Tube
Field Vane Test

Combustible Vapour Reading ☐

Natural Moisture ✕

Plastic and Liquid Limit

Undrained Triaxial at
% Strain at Failure

Penetrometer 

Time	Water Level (m)	Depth to Cave (m)
October 28, 2024	3.5m	3.9m

Log of Borehole BH103

Project No. ET24-1438A

Figure No. 3

Project: Geotechnical Investigation for Modification of SWM Ponds

Sheet No. 1 of 1

Location: 3525 Baseline Road, Sutton, Ontario

Date Drilled: October 28, 2024

Auger Sample ☒

Combustible Vapour Reading ☐

Drill Type: Geoprobe 7822DT

SPT (N) Value ☒

Natural Moisture ☒

Datum: Approximate Geodetic

Dynamic Cone Test

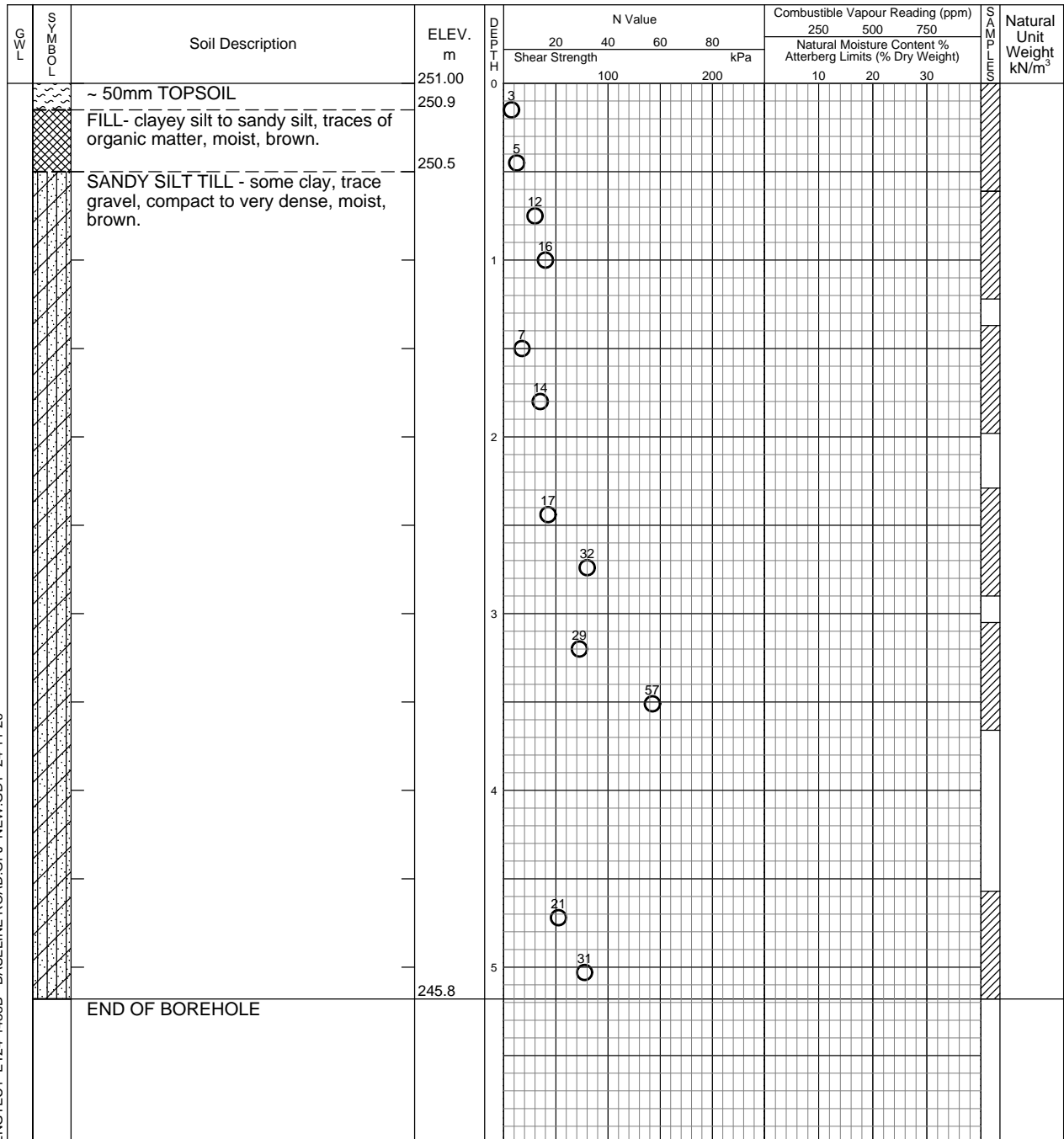
Plastic and Liquid Limit ☐

Shelby Tube

Undrained Triaxial at % Strain at Failure ☐

Field Vane Test ☒

Penetrometer ☒



ENGTEC1 ET24-1438B - BASELINE ROAD.GPJ NEW.GDT 24-11-26



Engtec Consulting Inc.
1-2447 Anson Drive
Mississauga, ON, L5S 1G1
(905) 856-2988

Borehole data requires interpretation assistance from ENGTEC before use by others.
See Figures 1A and 1B for Notes on Sample Descriptions and Terminology.

Time	Water Level (m)	Depth to Cave (m)
October 28, 2024	3.0m	3.5m

Log of Borehole BH104

Project No. ET24-1438A

Figure No. 4





Project: Geotechnical Investigation for Modification of SWM Ponds

Sheet No. 1 of 1

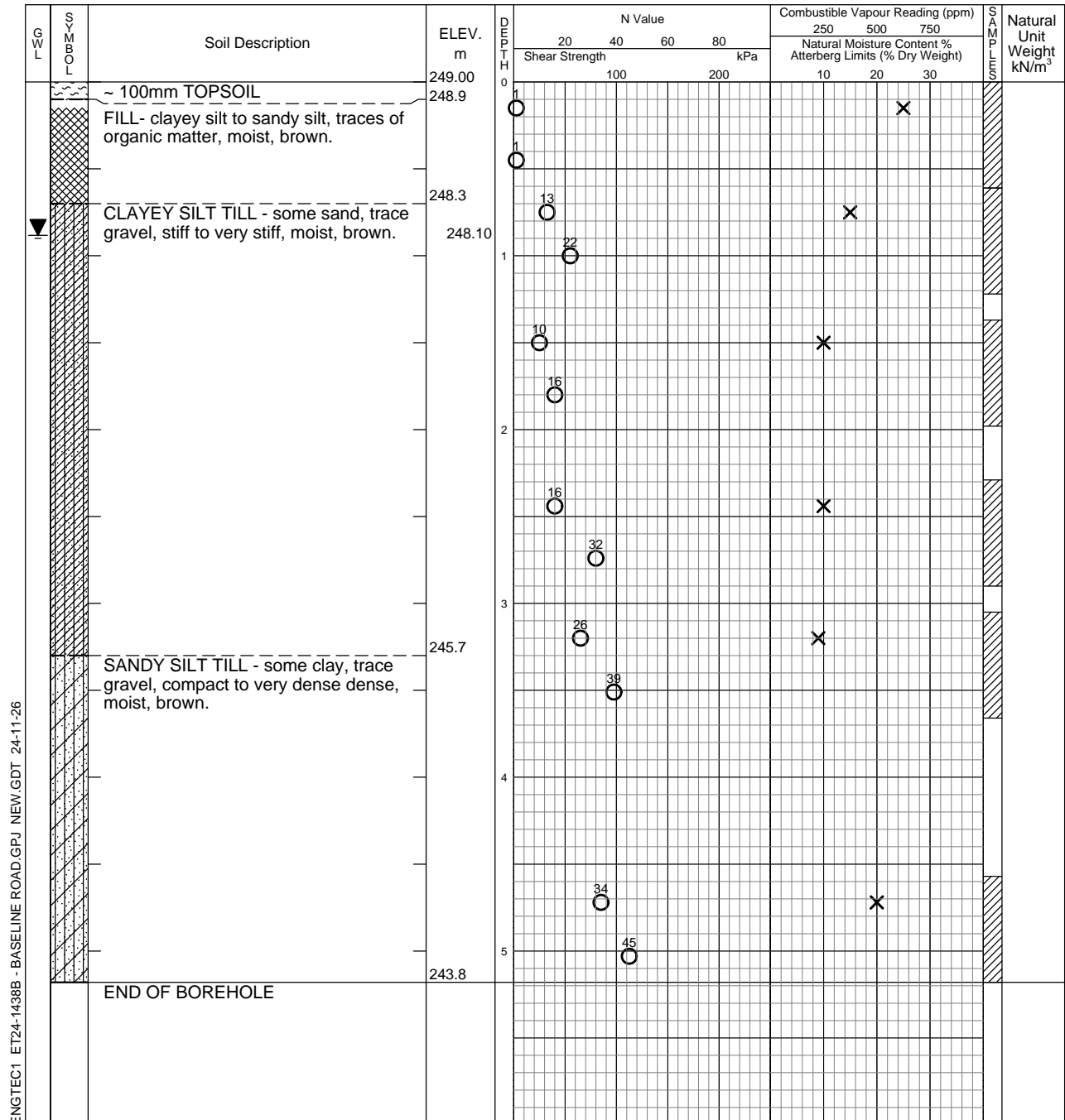
Location: 3525 Baseline Road, Sutton, Ontario

Date Drilled: October 23, 2024

Drill Type: Geoprobe 7822DTDatum: Approximate Geodetic

Auger Sample	
SPT (N) Value	
Dynamic Cone Test	
Shelby Tube	
Field Vane Test	

Combustible Vapour Reading	□
Natural Moisture	×
Plastic and Liquid Limit	├──○
Undrained Triaxial at % Strain at Failure	⊕
Penetrometer	▲



Engtec Consulting Inc.
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Borehole data requires interpretation assistance from ENGTEC before use by others.

See Figures 1A and 1B for Notes on Sample Descriptions and Terminology.

Time	Water Level (m)	Depth to Cave (m)
October 23, 2024 0.9m in 4 hrs	3.0m 0.9m	3.8m

Log of Borehole BH105

Project No. ET24-1438A

Figure No. 5

Project: Geotechnical Investigation for Modification of SWM Ponds

Sheet No. 1 of 1

Location: 3525 Baseline Road, Sutton, Ontario

Date Drilled: October 28, 2024

Auger Sample ☒

Combustible Vapour Reading ☐

Drill Type: Geoprobe 7822DT

SPT (N) Value ☒

Natural Moisture ☒

Datum: Approximate Geodetic

Dynamic Cone Test ☐

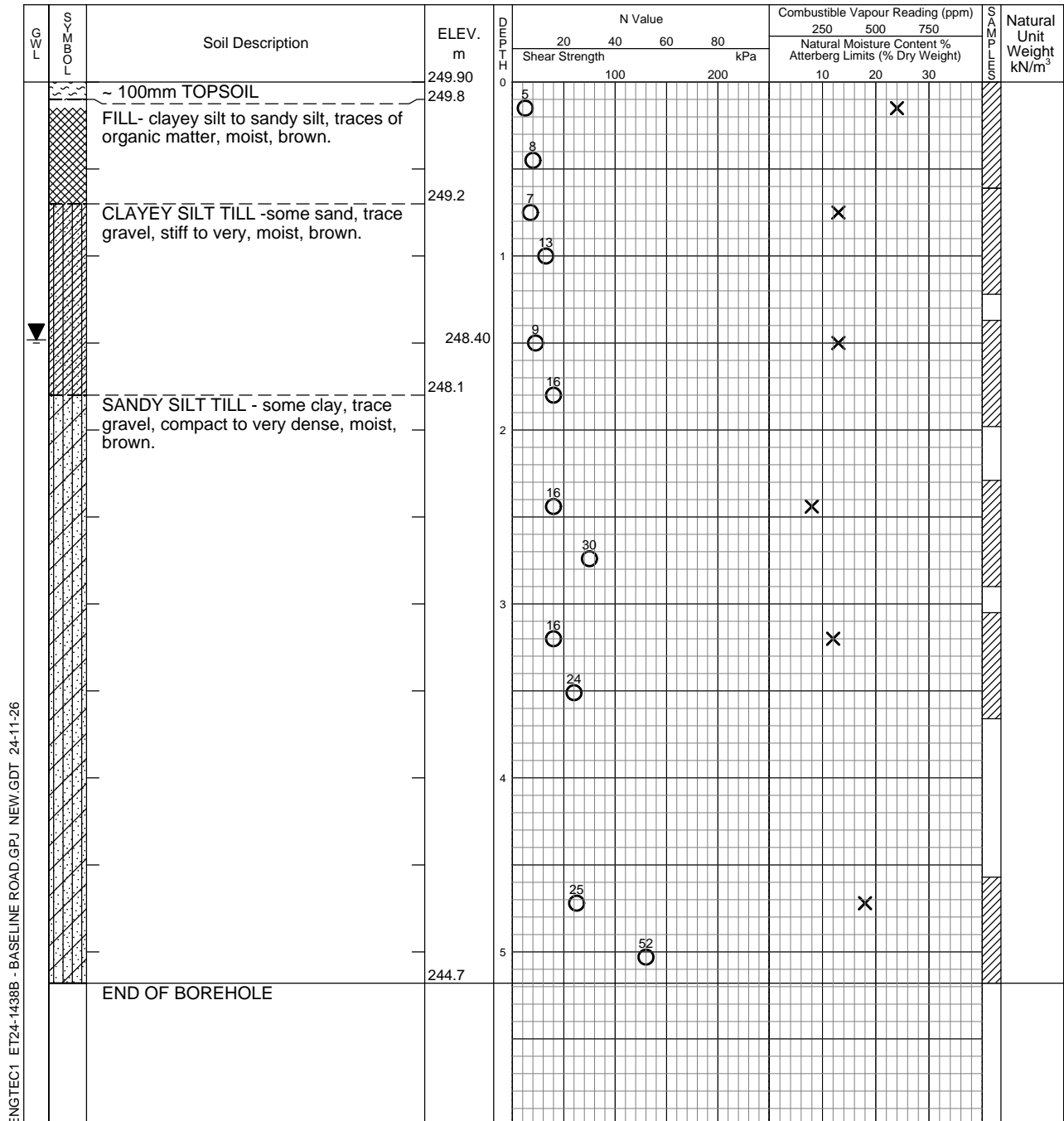
Plastic and Liquid Limit ☐

Shelby Tube ☐

Undrained Triaxial at % Strain at Failure ☐

Field Vane Test ☒

Penetrometer ☐



ENGTEC1 ET24-1438B - BASELINE ROAD.GPJ NEW.GDT 24-11-26



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See Figures 1A and 1B for Notes on Sample Descriptions and Terminology.

Time	Water Level (m)	Depth to Cave (m)
October 28, 2024	2.7m	3.0m
3 hrs 1.5m in 3 hrs	1.5m	

Log of Borehole BH106

Project No. ET24-1438A

Figure No. 7

Project: Geotechnical Investigation for Modification of SWM Ponds

Sheet No. 1 of 1

Location: 3525 Baseline Road, Sutton, Ontario

Date Drilled: October 23, 2024

Auger Sample ☒

Combustible Vapour Reading ☐

Drill Type: Geoprobe 7822DT

SPT (N) Value ☒

Natural Moisture ☒

Datum: Approximate Geodetic

Dynamic Cone Test ☐

Plastic and Liquid Limit ☐

Shelby Tube ☐

Undrained Triaxial at % Strain at Failure ☐

Field Vane Test ☐

Penetrometer ☐

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH m	N Value				Combustible Vapour Reading (ppm)			Natural Unit Weight kN/m ³
					20	40	60	80	250	500	750	
					Shear Strength kPa				Natural Moisture Content % Atterberg Limits (% Dry Weight)			
					100	200			10	20	30	
		~ 50mm TOPSOIL	250.00	0	22							
		FILL - sand and gravel.	249.9									
					24							
			249.4									
		FILL - clayey silt to sandy silt, trace gravel, moist, brown.			15							
					19							
			248.8	1								
		NATIVE GROUND - silty sand, compact, moist, grey.			27							
			248.2		43							
		END OF BOREHOLE										

ENGTEC1 ET24-1438B - BASELINE ROAD.GPJ NEW.GDT 24-11-26



Engtec Consulting Inc.
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Borehole data requires interpretation assistance from ENGTEC before use by others.
See Figures 1A and 1B for Notes on Sample Descriptions and Terminology.

Time	Water Level (m)	Depth to Cave (m)
October 23, 2024	Dry	1.0m

Log of Borehole BH107

Project No. ET24-1438A

Figure No. 6

Project: Geotechnical Investigation for Modification of SWM Ponds

Sheet No. 1 of 1

Location: 3525 Baseline Road, Sutton, Ontario

Date Drilled: October 28, 2024

Auger Sample ☒

Combustible Vapour Reading ☐

Drill Type: Geoprobe 7822DT

SPT (N) Value ☒

Natural Moisture ☒

Datum: Approximate Geodetic

Dynamic Cone Test ☐

Plastic and Liquid Limit ☐

Shelby Tube ☐

Undrained Triaxial at % Strain at Failure ☐

Field Vane Test ☐

Penetrometer ☐

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH m	N Value				Combustible Vapour Reading (ppm)			Natural Unit Weight kN/m ³
					20	40	60	80	250	500	750	
					Shear Strength kPa				Natural Moisture Content % Atterberg Limits (% Dry Weight)			
					100				10	20	30	
		~ 50mm ASPHALTIC CONCRETE	249.90	0	9							
		FILL - sand and gravel (Granular Base).	249.9									
			249.4		20							
		FILL - clayey silt to sandy silt, trace gravel, moist.										
			249.0		24							
		NATIVE GROUND - silty sand, compact to very dense, moist, grey.			25							
				1								
					31							
			248.1		30							
		END OF BOREHOLE										

ENGTEC1 ET24-1438B - BASELINE ROAD.GPJ NEW.GDT 24-11-26



Engtec Consulting Inc.
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(905) 856-2988

Borehole data requires interpretation assistance from ENGTEC before use by others.
See Figures 1A and 1B for Notes on Sample Descriptions and Terminology.

Time	Water Level (m)	Depth to Cave (m)
October 28, 2024	Dry	1.0m

Appendix C

Eurofins Scientific Certificate of Analysis

Client: Engtec Consulting Inc.
1-2447 Anson Drive
Mississauga, Ontario
L5S 1G1
Attention: Hammad Din
Invoice to: Engtec Consulting Inc.
PO#:

Report Number: 3011911
Date Submitted: 2024-10-23
Date Reported: 2024-10-30
Project: ET24-1438B
COC #: 229649
Temperature (C): 11
Custody Seal:

Dear Hammad Din:

Please find attached the analytical results for your samples. If you have any questions regarding this report, please do not hesitate to call (613-727-5692).

Sample Comment Summary

Sample ID: 1747680 E26	For all samples in this report, the metals spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.
Sample ID: 1747681 E27	F2-F4 MRL elevated due to matrix interference (dilution was done).The result for F4 (C34-C50) gravimetric must be substituted if it is greater than the result for F4 (C34-C50). Sample was cleaned with silica gel.
Sample ID: 1747682 E25	PAH and F2-F4 MRL elevated due to matrix interference (dilution was done).The result for F4 (C34-C50) gravimetric must be substituted if it is greater than the result for F4 (C34-C50). Sample was cleaned with silica gel.
Sample ID: 1747689 E22	The result for F4 (C34-C50) gravimetric must be substituted if it is greater than the result for F4 (C34-C50). Sample was cleaned with silica gel.
Sample ID: 1747693 E20-1	F2-F4 MRL elevated due to matrix interference (dilution was done).The result for F4 (C34-C50) gravimetric must be substituted if it is greater than the result for F4 (C34-C50). Sample was cleaned with silica gel.

Report Comments:

Patrick Jacques, Organics Technician

All analysis is completed at Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) unless otherwise stated

Eurofins Environment Testing Canada Inc. is accredited by CALA, Canadian Association for Laboratory Accreditation to ISO/IEC 17025 for tests which appear on the scope of accreditation. The scope is available at <https://directory.cala.ca/>

Please note: Field data, where presented on the report, has been provided by the client and is presented for informational purposes only. Guideline or regulatory limits listed on this report are provided for ease of use (informational purposes) only. Eurofins recommends consulting the official guideline or regulation as required. Unless otherwise stated, measurement uncertainty is not taken into account when determining guideline or regulatory exceedances.

EETC Reg 153 Version 19.rpt

Client: Engtec Consulting Inc.
1-2447 Anson Drive
Mississauga, Ontario
L5S 1G1
Attention: Hammad Din
PO#:
Invoice to: Engtec Consulting Inc.

Report Number: 3011911
Date Submitted: 2024-10-23
Date Reported: 2024-10-30
Project: ET24-1438B
COC #: 229649

O.Reg 153-T1-All Other Soils

Exceedence Summary

Sample I.D.	Analyte	Result	Units	Criteria
Hydrocarbons				
E20-1	Petroleum Hydrocarbons F4	200	ug/g	STD 120
E20-1	Petroleum Hydrocarbons F4g	500	ug/g	STD 120
E22	Petroleum Hydrocarbons F4	150	ug/g	STD 120
E22	Petroleum Hydrocarbons F4g	300	ug/g	STD 120
E25	Petroleum Hydrocarbons F2	<100	ug/g	STD 10
E25	Petroleum Hydrocarbons F3	4000	ug/g	STD 240
E25	Petroleum Hydrocarbons F4	10000	ug/g	STD 120
E25	Petroleum Hydrocarbons F4g	43800	ug/g	STD 120
E27	Petroleum Hydrocarbons F3	370	ug/g	STD 240
E27	Petroleum Hydrocarbons F4	1050	ug/g	STD 120
E27	Petroleum Hydrocarbons F4g	2800	ug/g	STD 120
Inorganics				
E10	Electrical Conductivity	3.45	mS/cm	STD 0.57
E10	Sodium Adsorption Ratio	63.0		STD 2.4
E11	Electrical Conductivity	1.76	mS/cm	STD 0.57
E11	Sodium Adsorption Ratio	27.0		STD 2.4
E12-1	Electrical Conductivity	2.92	mS/cm	STD 0.57
E12-1	Sodium Adsorption Ratio	46.8		STD 2.4
E12-2	Electrical Conductivity	1.53	mS/cm	STD 0.57
E12-2	Sodium Adsorption Ratio	33.8		STD 2.4
E13-2	Electrical Conductivity	0.90	mS/cm	STD 0.57
E14-1	Electrical Conductivity	1.24	mS/cm	STD 0.57
E14-1	Sodium Adsorption Ratio	16.5		STD 2.4
E15-2	Electrical Conductivity	0.94	mS/cm	STD 0.57
E15-2	Sodium Adsorption Ratio	4.79		STD 2.4
E16-1	Electrical Conductivity	3.00	mS/cm	STD 0.57
E16-1	Sodium Adsorption Ratio	76.8		STD 2.4
E16-2	Electrical Conductivity	7.23	mS/cm	STD 0.57
E16-2	Sodium Adsorption Ratio	191		STD 2.4
E17-1	Electrical Conductivity	0.91	mS/cm	STD 0.57
E17-1	Sodium Adsorption Ratio	15.6		STD 2.4
E17-2	Electrical Conductivity	1.45	mS/cm	STD 0.57
E17-2	Sodium Adsorption Ratio	6.92		STD 2.4
E18-1	Electrical Conductivity	0.88	mS/cm	STD 0.57
E18-1	Sodium Adsorption Ratio	13.5		STD 2.4
E18-2	Electrical Conductivity	0.91	mS/cm	STD 0.57
E18-2	Sodium Adsorption Ratio	11.6		STD 2.4
E19-1	Electrical Conductivity	3.64	mS/cm	STD 0.57

Results relate only to the parameters tested on the samples submitted.
Methods references and/or additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

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Project: ET24-1438B
COC #: 229649

O.Reg 153-T1-All Other Soils

Exceedence Summary

Sample I.D.	Analyte	Result	Units	Criteria
E19-1	Sodium Adsorption Ratio	93.6		STD 2.4
E19-2	Electrical Conductivity	5.47	mS/cm	STD 0.57
E19-2	Sodium Adsorption Ratio	146		STD 2.4
E20-1	Electrical Conductivity	2.45	mS/cm	STD 0.57
E20-1	Sodium Adsorption Ratio	82.4		STD 2.4
E20-2	Electrical Conductivity	4.02	mS/cm	STD 0.57
E20-2	Sodium Adsorption Ratio	76.6		STD 2.4
E21	Electrical Conductivity	1.52	mS/cm	STD 0.57
E21	Sodium Adsorption Ratio	215		STD 2.4
E22	Electrical Conductivity	2.38	mS/cm	STD 0.57
E22	Sodium Adsorption Ratio	44.0		STD 2.4
E23	Sodium Adsorption Ratio	7.50		STD 2.4
E24	Electrical Conductivity	4.92	mS/cm	STD 0.57
E24	Sodium Adsorption Ratio	44.3		STD 2.4
E25	Electrical Conductivity	4.02	mS/cm	STD 0.57
E25	Sodium Adsorption Ratio	49.1		STD 2.4
E26	Electrical Conductivity	0.79	mS/cm	STD 0.57
E26	Sodium Adsorption Ratio	9.54		STD 2.4
E27	Electrical Conductivity	2.43	mS/cm	STD 0.57
E27	Sodium Adsorption Ratio	33.8		STD 2.4
E8	Electrical Conductivity	0.88	mS/cm	STD 0.57
E8	Sodium Adsorption Ratio	13.4		STD 2.4
E9	Electrical Conductivity	3.62	mS/cm	STD 0.57
E9	Sodium Adsorption Ratio	79.6		STD 2.4
PAH				
E25	Acenaphthene	<0.2	ug/g	STD 0.072
E25	Acenaphthylene	<0.2	ug/g	STD 0.093
E25	Anthracene	<0.2	ug/g	STD 0.16
E25	Dibenz[a h]anthracene	<0.2	ug/g	STD 0.1
E25	Fluorene	<0.2	ug/g	STD 0.12

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Client: Engtec Consulting Inc.
1-2447 Anson Drive
Mississauga, Ontario
L5S 1G1
Attention: Hammad Din
PO#:
Invoice to: Engtec Consulting Inc.

Report Number: 3011911
Date Submitted: 2024-10-23
Date Reported: 2024-10-30
Project: ET24-1438B
COC #: 229649

Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop

Hydrocarbons

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1747680	Soil153	1747681	Soil153	1747682	Soil153
PHC's F1	467650	10	ug/g	STD 25	2024-10-23	14:30	2024-10-23	14:30	2024-10-23	14:30
PHC's F1-BTEX	467760	10	ug/g		E26		E27		E25	
PHC's F2	467751	100	ug/g	STD 10						
		2	ug/g	STD 10	6					4
	467752	2	ug/g	STD 10			<10		<2	
PHC's F2-Napth	467780	100	ug/g						<100	
		2	ug/g		6		<2		<2	4
PHC's F3	467751	1000	ug/g	STD 240					4000*	
		20	ug/g	STD 240	120					<20
	467752	20	ug/g	STD 240			370*		30	
PHC's F3-PAH	467784	1.000	ug/g						4000	
		20	ug/g		120		370		30	<20
PHC's F4	467751	1000	ug/g	STD 120					10000*	
		20	ug/g	STD 120	120					<20
	467752	20	ug/g	STD 120			1050*		40	
PHC's F4g	467800	100	ug/g	STD 120			2800*		43800*	

Results relate only to the parameters tested on the samples submitted.
Methods references and/or additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

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Date Reported: 2024-10-30
Project: ET24-1438B
COC #: 229649

Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop

Hydrocarbons

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1747685	Soil153	1747686	Soil153	1747687	Soil153
					2024-10-23	14:30	2024-10-23	14:30	2024-10-23	14:30
					E9		E10		E11	E21
PHC's F1	467650	10	ug/g	STD 25	<10		<10		<10	<10
PHC's F1-BTEX	467760	10	ug/g		<10		<10		<10	<10
PHC's F2	467623	2	ug/g	STD 10	<2					
	467624	2	ug/g	STD 10					<2	2
	467752	2	ug/g	STD 10			<2	5		
PHC's F2-Naph	467780	2	ug/g		<2		<2	5	<2	2
PHC's F3	467623	20	ug/g	STD 240	<20					
	467624	20	ug/g	STD 240					<20	90
	467752	20	ug/g	STD 240			<20	30		
PHC's F3-PAH	467784	20	ug/g		<20		<20	30	<20	90
PHC's F4	467623	20	ug/g	STD 120	<20					
	467624	20	ug/g	STD 120					<20	150*
	467752	20	ug/g	STD 120			<20	<20		
PHC's F4g	467647	100	ug/g	STD 120						300*

Results relate only to the parameters tested on the samples submitted.
Methods references and/or additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

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COC #: 229649

Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop

Hydrocarbons

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1747690 Soil153	1747691 Soil153	1747692 Soil153	1747693 Soil153	1747694 Soil153
Analyte	Batch No	MRL	Units	Guideline		2024-10-23 12:00 E23	2024-10-23 12:00 E19-1	2024-10-23 12:00 E19-2	2024-10-23 12:00 E20-1	2024-10-23 12:00 E20-2
PHC's F1	467650	10	ug/g	STD 25		<10	<10	<10	<10	<10
PHC's F1-BTEX	467760	10	ug/g			<10	<10	<10	<10	<10
PHC's F2	467623	2	ug/g	STD 10		<2	<2	<2		
	467752	2	ug/g	STD 10					<10	<2
PHC's F2-Naph	467780	10	ug/g						<10	
		2	ug/g			<2	<2	<2		<2
PHC's F3	467623	20	ug/g	STD 240		<20	<20	<20		
	467752	20	ug/g	STD 240					<100	<20
PHC's F3-PAH	467784	100	ug/g						<100	
		20	ug/g			<20	<20	<20		<20
PHC's F4	467623	20	ug/g	STD 120		<20	<20	<20		
	467752	20	ug/g	STD 120					200*	<20
PHC's F4g	467800	100	ug/g	STD 120					500*	

Hydrocarbons

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1747695 Soil153	1747696 Soil153	1747697 Soil153	1747698 Soil153	1747699 Soil153
Analyte	Batch No	MRL	Units	Guideline		2024-10-23 12:00 E18-1	2024-10-23 12:00 E18-2	2024-10-23 12:00 E17-1	2024-10-23 12:00 E17-2	2024-10-23 12:00 E16-1
PHC's F1	467650	10	ug/g	STD 25		<10	<10	<10	<10	<10
PHC's F1-BTEX	467760	10	ug/g			<10	<10	<10	<10	<10
PHC's F2	467624	2	ug/g	STD 10				3		
	467751	2	ug/g	STD 10		6	2			4
	467752	2	ug/g	STD 10					<2	
PHC's F2-Naph	467780	2	ug/g			6	2	3	<2	4

Results relate only to the parameters tested on the samples submitted.
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COC #: 229649

Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop

Hydrocarbons

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1747695 Soil153	1747696 Soil153	1747697 Soil153	1747698 Soil153	1747699 Soil153
Analyte	Batch No	MRL	Units	Guideline		2024-10-23 12:00 E18-1	2024-10-23 12:00 E18-2	2024-10-23 12:00 E17-1	2024-10-23 12:00 E17-2	2024-10-23 12:00 E16-1
PHC's F3	467624	20	ug/g	STD 240				20		
	467751	20	ug/g	STD 240	40	<20				<20
	467752	20	ug/g	STD 240					<20	
PHC's F3-PAH	467784	20	ug/g		40	<20	20	<20	<20	<20
PHC's F4	467624	20	ug/g	STD 120			40			
	467751	20	ug/g	STD 120	80	<20				<20
	467752	20	ug/g	STD 120					<20	

Hydrocarbons

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1747700 Soil153	1747702 Soil153	1747703 Soil153	1747705 Soil153	1747706 Soil153
Analyte	Batch No	MRL	Units	Guideline		2024-10-23 12:00 E16-2	2024-10-23 12:00 E15-2	2024-10-23 12:00 E14-1	2024-10-23 12:00 E13-1	2024-10-23 12:00 E13-2
PHC's F1	467650	10	ug/g	STD 25	<10	<10	<10	<10	<10	<10
PHC's F1-BTEX	467760	10	ug/g		<10	<10	<10	<10	<10	<10
PHC's F2	467751	2	ug/g	STD 10	2	5			2	6
	467752	2	ug/g	STD 10				<2		
PHC's F2-Napth	467780	2	ug/g		2	5	<2	2	6	
PHC's F3	467751	20	ug/g	STD 240	<20	<20			<20	<20
	467752	20	ug/g	STD 240				<20		
PHC's F3-PAH	467784	20	ug/g		<20	<20	<20	<20	<20	<20
PHC's F4	467751	20	ug/g	STD 120	<20	<20			<20	<20
	467752	20	ug/g	STD 120				<20		

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Date Submitted: 2024-10-23
Date Reported: 2024-10-30
Project: ET24-1438B
COC #: 229649

Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop

Hydrocarbons

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	1747707	1747708
					Sample Matrix	Soil153	Soil153
					Sample Type		
					Sample Date	2024-10-23	2024-10-23
					Sampling Time	12:00	12:00
					Sample I.D.	E12-1	E12-2
PHC's F1	467650	10	ug/g	STD 25		<10	<10
PHC's F1-BTEX	467760	10	ug/g			<10	<10
PHC's F2	467751	2	ug/g	STD 10		2	
	467752	2	ug/g	STD 10			<2
PHC's F2-Naphth	467780	2	ug/g			2	<2
PHC's F3	467751	20	ug/g	STD 240		<20	
	467752	20	ug/g	STD 240			<20
PHC's F3-PAH	467784	20	ug/g			<20	<20
PHC's F4	467751	20	ug/g	STD 120		<20	
	467752	20	ug/g	STD 120			<20

Metals

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	1747680	1747681	1747682	1747683	1747684
					Sample Matrix	Soil153	Soil153	Soil153	Soil153	Soil153
					Sample Type					
					Sample Date	2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23
					Sampling Time	14:30	14:30	14:30	14:30	14:30
					Sample I.D.	E26	E27	E25	E24	E8
Antimony	467656	1	ug/g	STD 1.3		<1	<1	<1	<1	<1
Arsenic	467656	1	ug/g	STD 18		3	2	2	2	2
Barium	467656	1	ug/g	STD 220		62	69	35	45	84
Beryllium	467656	1	ug/g	STD 2.5		<1	<1	<1	<1	<1
Boron (Hot Water Soluble)	467714	0.25	ug/g			0.55	0.29	<0.25	0.29	<0.25
Boron (total)	467656	5	ug/g	STD 36		7	6	<5	5	7
Cadmium	467656	0.4	ug/g	STD 1.2		<0.4	<0.4	<0.4	<0.4	<0.4
Chromium Total	467656	1	ug/g	STD 70		29	29	39	21	20
Chromium VI	467717	0.20	ug/g	STD 0.66		<0.20	<0.20	<0.20	<0.20	<0.20

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Metals

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1747680	Soil153	1747681	Soil153	1747682	Soil153
					2024-10-23	14:30	2024-10-23	14:30	2024-10-23	14:30
					E26		E27		E25	E24
Cobalt	467656	1	ug/g	STD 21	6		5		4	4
Copper	467656	1	ug/g	STD 92	23		17		9	12
Lead	467656	1	ug/g	STD 120	20		17		10	10
Mercury	467656	0.1	ug/g	STD 0.27	<0.1		<0.1		<0.1	<0.1
Molybdenum	467656	1	ug/g	STD 2	2		1		1	<1
Nickel	467656	1	ug/g	STD 82	15		15		20	12
Selenium	467656	0.5	ug/g	STD 1.5	<0.5		<0.5		<0.5	<0.5
Silver	467656	0.2	ug/g	STD 0.5	<0.2		<0.2		<0.2	<0.2
Thallium	467656	1	ug/g	STD 1	<1		<1		<1	<1
Uranium	467656	0.5	ug/g	STD 2.5	0.5		<0.5		<0.5	<0.5
Vanadium	467656	2	ug/g	STD 86	32		30		25	26
Zinc	467656	2	ug/g	STD 290	80		60		39	263

Metals

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1747685	Soil153	1747686	Soil153	1747687	Soil153
					2024-10-23	14:30	2024-10-23	14:30	2024-10-23	14:30
					E9		E10		E11	E21
Antimony	467710	1	ug/g	STD 1.3	<1		<1		<1	<1
Arsenic	467710	1	ug/g	STD 18	2		2		2	1
Barium	467710	1	ug/g	STD 220	31		55		25	44
Beryllium	467710	1	ug/g	STD 2.5	<1		<1		<1	<1
Boron (Hot Water Soluble)	467714	0.25	ug/g		<0.25		<0.25		1.19	<0.25
Boron (total)	467710	5	ug/g	STD 36	<5		5		17	<5
Cadmium	467710	0.4	ug/g	STD 1.2	<0.4		<0.4		<0.4	<0.4

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Metals

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1747685 Soil153	1747686 Soil153	1747687 Soil153	1747688 Soil153	1747689 Soil153
Guideline					2024-10-23 14:30 E9	2024-10-23 14:30 E10	2024-10-23 14:30 E11	2024-10-23 14:30 E21	2024-10-23 14:30 E22
Analyte	Batch No	MRL	Units	Guideline					
Chromium Total	467710	1	ug/g	STD 70	17	19	33	14	5
Chromium VI	467717	0.20	ug/g	STD 0.66	<0.20	<0.20	<0.20	<0.20	<0.20
Cobalt	467710	1	ug/g	STD 21	4	5	4	4	2
Copper	467710	1	ug/g	STD 92	8	10	6	9	5
Lead	467710	1	ug/g	STD 120	4	5	13	4	2
Mercury	467710	0.1	ug/g	STD 0.27	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	467710	1	ug/g	STD 2	2	<1	<1	<1	<1
Nickel	467710	1	ug/g	STD 82	10	11	18	8	4
Selenium	467710	0.5	ug/g	STD 1.5	<0.5	<0.5	<0.5	<0.5	<0.5
Silver	467710	0.2	ug/g	STD 0.5	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	467710	1	ug/g	STD 1	<1	<1	<1	<1	<1
Uranium	467710	0.5	ug/g	STD 2.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vanadium	467710	2	ug/g	STD 86	21	30	8	22	13
Zinc	467710	2	ug/g	STD 290	18	32	25	17	12

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Metals

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1747690	Soil153	1747691	Soil153	1747692	Soil153
					2024-10-23	12:00	2024-10-23	12:00	2024-10-23	12:00
					E23		E19-1		E19-2	
Antimony	467710	1	ug/g	STD 1.3	<1		<1		<1	<1
Arsenic	467710	1	ug/g	STD 18	2		2		2	2
Barium	467710	1	ug/g	STD 220	22		28		30	33
Beryllium	467710	1	ug/g	STD 2.5	<1		<1		<1	<1
Boron (Hot Water Soluble)	467714	0.25	ug/g		<0.25		<0.25		<0.25	<0.25
Boron (total)	467710	5	ug/g	STD 36	<5		<5		5	<5
Cadmium	467710	0.4	ug/g	STD 1.2	<0.4		<0.4		<0.4	<0.4
Chromium Total	467710	1	ug/g	STD 70	15		13		13	13
Chromium VI	467717	0.20	ug/g	STD 0.66	<0.20		<0.20		<0.20	<0.20
Cobalt	467710	1	ug/g	STD 21	4		4		4	4
Copper	467710	1	ug/g	STD 92	8		7		7	7
Lead	467710	1	ug/g	STD 120	3		3		3	4
Mercury	467710	0.1	ug/g	STD 0.27	<0.1		<0.1		<0.1	<0.1
Molybdenum	467710	1	ug/g	STD 2	<1		<1		<1	<1
Nickel	467710	1	ug/g	STD 82	8		7		8	8
Selenium	467710	0.5	ug/g	STD 1.5	<0.5		<0.5		<0.5	<0.5
Silver	467710	0.2	ug/g	STD 0.5	<0.2		<0.2		<0.2	<0.2
Thallium	467710	1	ug/g	STD 1	<1		<1		<1	<1
Uranium	467710	0.5	ug/g	STD 2.5	<0.5		<0.5		<0.5	<0.5
Vanadium	467710	2	ug/g	STD 86	23		22		25	22
Zinc	467710	2	ug/g	STD 290	16		18		22	19

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Metals

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1747695	Soil153	1747696	Soil153	1747697	Soil153
					2024-10-23	12:00	2024-10-23	12:00	2024-10-23	12:00
					E18-1		E18-2		E17-1	E16-1
Antimony	467710	1	ug/g	STD 1.3	<1		<1		<1	<1
Arsenic	467710	1	ug/g	STD 18	1		2		2	1
Barium	467710	1	ug/g	STD 220	23		23		25	24
Beryllium	467710	1	ug/g	STD 2.5	<1		<1		<1	<1
Boron (Hot Water Soluble)	467714	0.25	ug/g		<0.25		<0.25		<0.25	<0.25
Boron (total)	467710	5	ug/g	STD 36	<5		<5		<5	5
Cadmium	467710	0.4	ug/g	STD 1.2	<0.4		<0.4		<0.4	<0.4
Chromium Total	467710	1	ug/g	STD 70	11		12		30	15
Chromium VI	467717	0.20	ug/g	STD 0.66	<0.20		<0.20		<0.20	<0.20
Cobalt	467710	1	ug/g	STD 21	3		4		4	3
Copper	467710	1	ug/g	STD 92	6		8		8	7
Lead	467710	1	ug/g	STD 120	3		3		3	3
Mercury	467710	0.1	ug/g	STD 0.27	<0.1		<0.1		<0.1	<0.1
Molybdenum	467710	1	ug/g	STD 2	<1		<1		<1	<1
Nickel	467710	1	ug/g	STD 82	6		7		14	7
Selenium	467710	0.5	ug/g	STD 1.5	<0.5		<0.5		<0.5	<0.5
Silver	467710	0.2	ug/g	STD 0.5	<0.2		<0.2		<0.2	<0.2
Thallium	467710	1	ug/g	STD 1	<1		<1		<1	<1
Uranium	467710	0.5	ug/g	STD 2.5	<0.5		<0.5		<0.5	<0.5
Vanadium	467710	2	ug/g	STD 86	20		22		21	22
Zinc	467710	2	ug/g	STD 290	15		16		19	19

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Metals

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1747700	Soil153	1747702	Soil153	1747703	Soil153
					2024-10-23	12:00	2024-10-23	12:00	2024-10-23	12:00
					E16-2		E15-2		E14-1	
Antimony	467710	1	ug/g	STD 1.3	<1		<1		<1	
Arsenic	467710	1	ug/g	STD 18	2		2		2	
Barium	467710	1	ug/g	STD 220	31		35		21	
Beryllium	467710	1	ug/g	STD 2.5	<1		<1		<1	
Boron (Hot Water Soluble)	467714	0.25	ug/g		<0.25		<0.25		<0.25	
Boron (total)	467710	5	ug/g	STD 36	<5		6		<5	
Cadmium	467710	0.4	ug/g	STD 1.2	<0.4		<0.4		<0.4	
Chromium Total	467710	1	ug/g	STD 70	12		13		10	
Chromium VI	467717	0.20	ug/g	STD 0.66	<0.20		<0.20		<0.20	
Cobalt	467710	1	ug/g	STD 21	3		4		3	
Copper	467710	1	ug/g	STD 92	7		9		7	
Lead	467710	1	ug/g	STD 120	3		4		2	
Mercury	467710	0.1	ug/g	STD 0.27	<0.1		<0.1		<0.1	
Molybdenum	467710	1	ug/g	STD 2	<1		<1		<1	
Nickel	467710	1	ug/g	STD 82	7		8		5	
Selenium	467710	0.5	ug/g	STD 1.5	<0.5		<0.5		<0.5	
Silver	467710	0.2	ug/g	STD 0.5	<0.2		<0.2		<0.2	
Thallium	467710	1	ug/g	STD 1	<1		<1		<1	
Uranium	467710	0.5	ug/g	STD 2.5	<0.5		<0.5		1.0	
Vanadium	467710	2	ug/g	STD 86	23		23		21	
Zinc	467710	2	ug/g	STD 290	18		19		17	

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Metals

Lab I.D.	1747707	1747708
Sample Matrix	Soil153	Soil153
Sample Type		
Sample Date	2024-10-23	2024-10-23
Sampling Time	12:00	12:00
Sample I.D.	E12-1	E12-2

Analyte	Batch No	MRL	Units	Guideline		
Antimony	467710	1	ug/g	STD 1.3	<1	<1
Arsenic	467710	1	ug/g	STD 18	2	2
Barium	467710	1	ug/g	STD 220	32	18
Beryllium	467710	1	ug/g	STD 2.5	<1	<1
Boron (Hot Water Soluble)	467714	0.25	ug/g		<0.25	<0.25
Boron (total)	467710	5	ug/g	STD 36	<5	<5
Cadmium	467710	0.4	ug/g	STD 1.2	<0.4	<0.4
Chromium Total	467710	1	ug/g	STD 70	12	9
Chromium VI	467790	0.20	ug/g	STD 0.66	<0.20	0.23
Cobalt	467710	1	ug/g	STD 21	4	3
Copper	467710	1	ug/g	STD 92	7	7
Lead	467710	1	ug/g	STD 120	4	3
Mercury	467710	0.1	ug/g	STD 0.27	<0.1	<0.1
Molybdenum	467710	1	ug/g	STD 2	<1	<1
Nickel	467710	1	ug/g	STD 82	7	5
Selenium	467710	0.5	ug/g	STD 1.5	<0.5	<0.5
Silver	467710	0.2	ug/g	STD 0.5	<0.2	<0.2
Thallium	467710	1	ug/g	STD 1	<1	<1
Uranium	467710	0.5	ug/g	STD 2.5	<0.5	0.5
Vanadium	467710	2	ug/g	STD 86	20	20
Zinc	467710	2	ug/g	STD 290	17	17

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Project: ET24-1438B
COC #: 229649

Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop

PAH

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1747680	Soil153	1747681	Soil153	1747682	Soil153
					2024-10-23	14:30	2024-10-23	14:30	2024-10-23	14:30
					E26		E27		E25	
1+2-methylnaphthalene	208523	0.5	ug/g	STD 0.59					<0.2	
	467687	0.05	ug/g	STD 0.59	<0.05	<0.05			<0.05	<0.05
Acenaphthene	467416	0.05	ug/g	STD 0.072	<0.05	<0.05			<0.05	<0.05
		0.2	ug/g	STD 0.072					<0.2*	
Acenaphthylene	467416	0.05	ug/g	STD 0.093	<0.05	<0.05			<0.05	<0.05
		0.2	ug/g	STD 0.093					<0.2*	
Anthracene	467416	0.05	ug/g	STD 0.16	<0.05	<0.05			<0.05	<0.05
		0.2	ug/g	STD 0.16					<0.2*	
Benz[a]anthracene	467416	0.05	ug/g	STD 0.36	<0.05	<0.05			<0.05	<0.05
		0.2	ug/g	STD 0.36					<0.2	
Benzo[a]pyrene	467416	0.05	ug/g	STD 0.3	<0.05	<0.05			<0.05	<0.05
		0.2	ug/g	STD 0.3					<0.2	
Benzo[b]fluoranthene	467416	0.05	ug/g	STD 0.47	<0.05	0.05			<0.05	<0.05
		0.2	ug/g	STD 0.47					0.3	
Benzo[ghi]perylene	467416	0.05	ug/g	STD 0.68	<0.05	<0.05			<0.05	<0.05
		0.2	ug/g	STD 0.68					<0.2	
Benzo[k]fluoranthene	467416	0.05	ug/g	STD 0.48	<0.05	<0.05			<0.05	<0.05
		0.2	ug/g	STD 0.48					0.4	
Chrysene	467416	0.05	ug/g	STD 2.8	<0.05	<0.05			<0.05	<0.05
		0.2	ug/g	STD 2.8					<0.2	
Dibenz[a h]anthracene	467416	0.05	ug/g	STD 0.1	<0.05	<0.05			<0.05	<0.05
		0.2	ug/g	STD 0.1					<0.2*	
Fluoranthene	467416	0.05	ug/g	STD 0.56	0.08	0.05			<0.05	<0.05

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Methods references and/or additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

Client:

Engtec Consulting Inc.

1-2447 Anson Drive

Mississauga, Ontario

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Attention: Hammad Din

PO#:

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PAH					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1747680 Soil153 2024-10-23 14:30 E26	1747681 Soil153 2024-10-23 14:30 E27	1747682 Soil153 2024-10-23 14:30 E25	1747683 Soil153 2024-10-23 14:30 E24	1747684 Soil153 2024-10-23 14:30 E8
Analyte	Batch No	MRL	Units	Guideline						
Fluoranthene	467416	0.2	ug/g	STD 0.56			<0.2			
Fluorene	467416	0.05	ug/g	STD 0.12	<0.05	<0.05		<0.05	<0.05	
		0.2	ug/g	STD 0.12			<0.2*			
Indeno[1 2 3-cd]pyrene	467416	0.05	ug/g	STD 0.23	<0.05	<0.05		<0.05	<0.05	
		0.2	ug/g	STD 0.23			<0.2			
Methlynaphthalene, 1-	467416	0.05	ug/g	STD 0.59	<0.05	<0.05		<0.05	<0.05	
		0.2	ug/g	STD 0.59			<0.2			
Methlynaphthalene, 2-	467416	0.05	ug/g	STD 0.59	<0.05	<0.05		<0.05	<0.05	
		0.2	ug/g	STD 0.59			<0.2			
Naphthalene	467416	0.013	ug/g	STD 0.09	<0.013	0.020		<0.013	<0.013	
		0.065	ug/g	STD 0.09			<0.065			
Phenanthrene	467416	0.05	ug/g	STD 0.69	<0.05	<0.05		<0.05	<0.05	
		0.2	ug/g	STD 0.69			<0.2			
Pyrene	467416	0.05	ug/g	STD 1	0.06	<0.05		<0.05	<0.05	
		0.2	ug/g	STD 1			<0.2			

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PAH

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1747685	Soil153	1747686	Soil153	1747687	Soil153
					2024-10-23	14:30	2024-10-23	14:30	2024-10-23	14:30
					E9		E10		E11	
1+2-methylnaphthalene	467687	0.05	ug/g	STD 0.59	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene	467416	0.05	ug/g	STD 0.072	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	467416	0.05	ug/g	STD 0.093	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	467416	0.05	ug/g	STD 0.16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benz[a]anthracene	467416	0.05	ug/g	STD 0.36	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[a]pyrene	467416	0.05	ug/g	STD 0.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[b]fluoranthene	467416	0.05	ug/g	STD 0.47	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[ghi]perylene	467416	0.05	ug/g	STD 0.68	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[k]fluoranthene	467416	0.05	ug/g	STD 0.48	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	467416	0.05	ug/g	STD 2.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz[a h]anthracene	467416	0.05	ug/g	STD 0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	467416	0.05	ug/g	STD 0.56	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	467416	0.05	ug/g	STD 0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno[1 2 3-cd]pyrene	467416	0.05	ug/g	STD 0.23	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylnaphthalene, 1-	467416	0.05	ug/g	STD 0.59	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylnaphthalene, 2-	467416	0.05	ug/g	STD 0.59	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Naphthalene	467416	0.013	ug/g	STD 0.09	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013
Phenanthrene	467416	0.05	ug/g	STD 0.69	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	467416	0.05	ug/g	STD 1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

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ET24-1438B

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Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop

PAH					Lab I.D.	1747690	1747691	1747692	1747693	1747694
					Sample Matrix	Soil153	Soil153	Soil153	Soil153	Soil153
					Sample Type					
					Sample Date	2024-10-23	2024-10-23	2024-10-23	2024-10-23	2024-10-23
					Sampling Time	12:00	12:00	12:00	12:00	12:00
					Sample I.D.	E23	E19-1	E19-2	E20-1	E20-2
Analyte	Batch No	MRL	Units	Guideline						
1+2-methylnaphthalene	467687	0.05	ug/g	STD 0.59	<0.05	<0.05	<0.05	<0.05	<0.05	
	467740	0.05	ug/g	STD 0.59						<0.05
Acenaphthene	467416	0.05	ug/g	STD 0.072	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	467416	0.05	ug/g	STD 0.093	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	467416	0.05	ug/g	STD 0.16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benz[a]anthracene	467416	0.05	ug/g	STD 0.36	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[a]pyrene	467416	0.05	ug/g	STD 0.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[b]fluoranthene	467416	0.05	ug/g	STD 0.47	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[ghi]perylene	467416	0.05	ug/g	STD 0.68	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[k]fluoranthene	467416	0.05	ug/g	STD 0.48	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	467416	0.05	ug/g	STD 2.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz[a h]anthracene	467416	0.05	ug/g	STD 0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	467416	0.05	ug/g	STD 0.56	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	467416	0.05	ug/g	STD 0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno[1 2 3-cd]pyrene	467416	0.05	ug/g	STD 0.23	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylnaphthalene, 1-	467416	0.05	ug/g	STD 0.59	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylnaphthalene, 2-	467416	0.05	ug/g	STD 0.59	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Naphthalene	467416	0.013	ug/g	STD 0.09	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013
Phenanthrene	467416	0.05	ug/g	STD 0.69	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	467416	0.05	ug/g	STD 1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

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COC #: 229649

Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop

PAH

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1747695	Soil153	1747696	Soil153	1747697	Soil153
					2024-10-23	12:00	2024-10-23	12:00	2024-10-23	12:00
					E18-1		E18-2		E17-1	E16-1
1+2-methylnaphthalene	467687	0.05	ug/g	STD 0.59				<0.05		
	467740	0.05	ug/g	STD 0.59	<0.05	<0.05		<0.05	<0.05	<0.05
Acenaphthene	467416	0.05	ug/g	STD 0.072	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	467416	0.05	ug/g	STD 0.093	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	467416	0.05	ug/g	STD 0.16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benz[a]anthracene	467416	0.05	ug/g	STD 0.36	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[a]pyrene	467416	0.05	ug/g	STD 0.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[b]fluoranthene	467416	0.05	ug/g	STD 0.47	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[ghi]perylene	467416	0.05	ug/g	STD 0.68	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[k]fluoranthene	467416	0.05	ug/g	STD 0.48	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	467416	0.05	ug/g	STD 2.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz[a h]anthracene	467416	0.05	ug/g	STD 0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	467416	0.05	ug/g	STD 0.56	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	467416	0.05	ug/g	STD 0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno[1 2 3-cd]pyrene	467416	0.05	ug/g	STD 0.23	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylnaphthalene, 1-	467416	0.05	ug/g	STD 0.59	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylnaphthalene, 2-	467416	0.05	ug/g	STD 0.59	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Naphthalene	467416	0.013	ug/g	STD 0.09	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013
Phenanthrene	467416	0.05	ug/g	STD 0.69	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	467416	0.05	ug/g	STD 1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

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PAH

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1747700	Soil153	1747702	Soil153	1747703	Soil153
					2024-10-23	12:00	2024-10-23	12:00	2024-10-23	12:00
					E16-2		E15-2		E14-1	
1+2-methylnaphthalene	467740	0.05	ug/g	STD 0.59	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene	467416	0.05	ug/g	STD 0.072	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	467416	0.05	ug/g	STD 0.093	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	467416	0.05	ug/g	STD 0.16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benz[a]anthracene	467416	0.05	ug/g	STD 0.36	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[a]pyrene	467416	0.05	ug/g	STD 0.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[b]fluoranthene	467416	0.05	ug/g	STD 0.47	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[ghi]perylene	467416	0.05	ug/g	STD 0.68	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[k]fluoranthene	467416	0.05	ug/g	STD 0.48	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	467416	0.05	ug/g	STD 2.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz[a h]anthracene	467416	0.05	ug/g	STD 0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	467416	0.05	ug/g	STD 0.56	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	467416	0.05	ug/g	STD 0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno[1 2 3-cd]pyrene	467416	0.05	ug/g	STD 0.23	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylnaphthalene, 1-	467416	0.05	ug/g	STD 0.59	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylnaphthalene, 2-	467416	0.05	ug/g	STD 0.59	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Naphthalene	467416	0.013	ug/g	STD 0.09	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013
Phenanthrene	467416	0.05	ug/g	STD 0.69	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	467416	0.05	ug/g	STD 1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

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PAH

Lab I.D.	1747707	1747708
Sample Matrix	Soil153	Soil153
Sample Type		
Sample Date	2024-10-23	2024-10-23
Sampling Time	12:00	12:00
Sample I.D.	E12-1	E12-2

Analyte	Batch No	MRL	Units	Guideline		
1+2-methylnaphthalene	467740	0.05	ug/g	STD 0.59	<0.05	<0.05
Acenaphthene	467416	0.05	ug/g	STD 0.072	<0.05	<0.05
Acenaphthylene	467416	0.05	ug/g	STD 0.093	<0.05	<0.05
Anthracene	467416	0.05	ug/g	STD 0.16	<0.05	<0.05
Benz[a]anthracene	467416	0.05	ug/g	STD 0.36	<0.05	<0.05
Benzo[a]pyrene	467416	0.05	ug/g	STD 0.3	<0.05	<0.05
Benzo[b]fluoranthene	467416	0.05	ug/g	STD 0.47	<0.05	<0.05
Benzo[ghi]perylene	467416	0.05	ug/g	STD 0.68	<0.05	<0.05
Benzo[k]fluoranthene	467416	0.05	ug/g	STD 0.48	<0.05	<0.05
Chrysene	467416	0.05	ug/g	STD 2.8	<0.05	<0.05
Dibenz[a h]anthracene	467416	0.05	ug/g	STD 0.1	<0.05	<0.05
Fluoranthene	467416	0.05	ug/g	STD 0.56	<0.05	<0.05
Fluorene	467416	0.05	ug/g	STD 0.12	<0.05	<0.05
Indeno[1 2 3-cd]pyrene	467416	0.05	ug/g	STD 0.23	<0.05	<0.05
Methylnaphthalene, 1-	467416	0.05	ug/g	STD 0.59	<0.05	<0.05
Methylnaphthalene, 2-	467416	0.05	ug/g	STD 0.59	<0.05	<0.05
Naphthalene	467416	0.013	ug/g	STD 0.09	<0.013	<0.013
Phenanthrene	467416	0.05	ug/g	STD 0.69	<0.05	<0.05
Pyrene	467416	0.05	ug/g	STD 1	<0.05	<0.05

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Attention: Hammad Din
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Invoice to: Engtec Consulting Inc.

Report Number: 3011911
Date Submitted: 2024-10-23
Date Reported: 2024-10-30
Project: ET24-1438B
COC #: 229649

Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop

Volatiles

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1747680	Soil153		2024-10-23	14:30	E26
Benzene	467644	0.0068	ug/g	STD 0.02	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068
Ethylbenzene	467644	0.018	ug/g	STD 0.05	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018
Toluene	467644	0.08	ug/g	STD 0.2	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Xylene Mixture	467759	0.05	ug/g	STD 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylene, m/p-	467644	0.05	ug/g		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylene, o-	467644	0.05	ug/g		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Volatiles

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1747685	Soil153		2024-10-23	14:30	E9
Benzene	467644	0.0068	ug/g	STD 0.02	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068
Ethylbenzene	467644	0.018	ug/g	STD 0.05	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018
Toluene	467644	0.08	ug/g	STD 0.2	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Xylene Mixture	467759	0.05	ug/g	STD 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylene, m/p-	467644	0.05	ug/g		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylene, o-	467644	0.05	ug/g		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

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ET24-1438B

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Volatiles					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1747690 Soil153	1747691 Soil153	1747692 Soil153	1747693 Soil153	1747694 Soil153
Analyte	Batch No	MRL	Units	Guideline		2024-10-23 12:00 E23	2024-10-23 12:00 E19-1	2024-10-23 12:00 E19-2	2024-10-23 12:00 E20-1	2024-10-23 12:00 E20-2
Benzene	467644	0.0068	ug/g	STD 0.02		<0.0068	<0.0068	<0.0068	<0.0068	<0.0068
Ethylbenzene	467644	0.018	ug/g	STD 0.05		<0.018	<0.018	<0.018	<0.018	<0.018
Toluene	467644	0.08	ug/g	STD 0.2		<0.08	<0.08	<0.08	<0.08	<0.08
Xylene Mixture	467759	0.05	ug/g	STD 0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Xylene, m/p-	467644	0.05	ug/g			<0.05	<0.05	<0.05	<0.05	<0.05
Xylene, o-	467644	0.05	ug/g			<0.05	<0.05	<0.05	<0.05	<0.05

Volatiles					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1747695 Soil153	1747696 Soil153	1747697 Soil153	1747698 Soil153	1747699 Soil153
Analyte	Batch No	MRL	Units	Guideline		2024-10-23 12:00 E18-1	2024-10-23 12:00 E18-2	2024-10-23 12:00 E17-1	2024-10-23 12:00 E17-2	2024-10-23 12:00 E16-1
Benzene	467644	0.0068	ug/g	STD 0.02		<0.0068	<0.0068	<0.0068	<0.0068	<0.0068
Ethylbenzene	467644	0.018	ug/g	STD 0.05		<0.018	<0.018	<0.018	<0.018	<0.018
Toluene	467644	0.08	ug/g	STD 0.2		<0.08	<0.08	<0.08	<0.08	<0.08
Xylene Mixture	467759	0.05	ug/g	STD 0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Xylene, m/p-	467644	0.05	ug/g			<0.05	<0.05	<0.05	<0.05	<0.05
Xylene, o-	467644	0.05	ug/g			<0.05	<0.05	<0.05	<0.05	<0.05

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Volatiles

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1747700	Soil153	1747702	Soil153	1747703	Soil153
					2024-10-23	12:00	2024-10-23	12:00	2024-10-23	12:00
					E16-2		E15-2		E14-1	E13-1
Benzene	467644	0.0068	ug/g	STD 0.02	<0.0068		<0.0068		<0.0068	<0.0068
Ethylbenzene	467644	0.018	ug/g	STD 0.05	<0.018		<0.018		<0.018	<0.018
Toluene	467644	0.08	ug/g	STD 0.2	<0.08		<0.08		<0.08	<0.08
Xylene Mixture	467759	0.05	ug/g	STD 0.05	<0.05		<0.05		<0.05	<0.05
Xylene, m/p-	467644	0.05	ug/g		<0.05		<0.05		<0.05	<0.05
Xylene, o-	467644	0.05	ug/g		<0.05		<0.05		<0.05	<0.05

Volatiles

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1747707	Soil153	1747708	Soil153	2024-10-23	12:00
					E12-1		E12-2		2024-10-23	12:00
Benzene	467644	0.0068	ug/g	STD 0.02	<0.0068		<0.0068			
Ethylbenzene	467644	0.018	ug/g	STD 0.05	<0.018		<0.018			
Toluene	467644	0.08	ug/g	STD 0.2	<0.08		<0.08			
Xylene Mixture	467759	0.05	ug/g	STD 0.05	<0.05		<0.05			
Xylene, m/p-	467644	0.05	ug/g		<0.05		<0.05			
Xylene, o-	467644	0.05	ug/g		<0.05		<0.05			

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Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop

Inorganics

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1747680	Soil153		2024-10-23	14:30	E26
Cyanide (CN-)	467641	0.005	ug/g	STD 0.051	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Electrical Conductivity	467628	0.05	mS/cm	STD 0.57	0.79*	2.43*	4.02*	4.92*	0.88*	
pH - CaCl2	467686	2.00			7.52	7.82	7.83	7.74	7.81	
Sodium Adsorption Ratio	467643	0.01		STD 2.4	9.54*	33.8*	49.1*	44.3*	13.4*	

Inorganics

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1747685	Soil153		2024-10-23	14:30	E9
Cyanide (CN-)	467641	0.005	ug/g	STD 0.051	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Electrical Conductivity	467628	0.05	mS/cm	STD 0.57	3.62*	3.45*	1.76*	1.52*	2.38*	
pH - CaCl2	467686	2.00			7.88	7.84	7.92	7.80	7.95	
Sodium Adsorption Ratio	467643	0.01		STD 2.4	79.6*	63.0*	27.0*	215*	44.0*	

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Inorganics

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1747690	Soil153		2024-10-23	12:00	E23
Cyanide (CN-)	467641	0.005	ug/g	STD 0.051	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Electrical Conductivity	467628	0.05	mS/cm	STD 0.57	0.44	3.64*	5.47*	2.45*	4.02*	
pH - CaCl2	467686	2.00			7.93	7.92	8.02	8.04	7.91	
Sodium Adsorption Ratio	467643	0.01		STD 2.4	7.50*	93.6*	146*	82.4*	76.6*	

Inorganics

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1747695	Soil153		2024-10-23	12:00	E18-1
Cyanide (CN-)	467641	0.005	ug/g	STD 0.051	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Electrical Conductivity	467628	0.05	mS/cm	STD 0.57	0.88*	0.91*	0.91*	1.45*	3.00*	
pH - CaCl2	467686	2.00			7.92	7.98	8.01	7.99	8.02	
Sodium Adsorption Ratio	467643	0.01		STD 2.4	13.5*	11.6*	15.6*	6.92*	76.8*	

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Inorganics

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1747700	Soil153		2024-10-23	12:00	E16-2
Cyanide (CN-)	467641	0.005	ug/g	STD 0.051	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Electrical Conductivity	467628	0.05	mS/cm	STD 0.57	7.23*	0.94*	1.24*	0.40	0.90*	
pH - CaCl2	467686	2.00			7.96	7.97	7.96	7.92	7.94	
Sodium Adsorption Ratio	467643	0.01		STD 2.4	191*	4.79*	16.5*	1.95	1.15	

Inorganics

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1747707	Soil153		2024-10-23	12:00	E12-1
Cyanide (CN-)	467641	0.005	ug/g	STD 0.051	<0.005	<0.005				
Electrical Conductivity	467628	0.05	mS/cm	STD 0.57	2.92*	1.53*				
pH - CaCl2	467686	2.00			7.99	8.01				
Sodium Adsorption Ratio	467643	0.01		STD 2.4	46.8*	33.8*				

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Certificate of Analysis

Environment Testing

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Moisture

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1747680 Soil153	1747681 Soil153	1747682 Soil153	1747683 Soil153	1747684 Soil153
Analyte	Batch No	MRL	Units	Guideline	2024-10-23 14:30 E26	2024-10-23 14:30 E27	2024-10-23 14:30 E25	2024-10-23 14:30 E24	2024-10-23 14:30 E8
Moisture-Humidite	467751	0.1	%		14.7		5.7		17.2
	467752	0.1	%			5.2		4.3	

Moisture

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1747685 Soil153	1747686 Soil153	1747687 Soil153	1747688 Soil153	1747689 Soil153
Analyte	Batch No	MRL	Units	Guideline	2024-10-23 14:30 E9	2024-10-23 14:30 E10	2024-10-23 14:30 E11	2024-10-23 14:30 E21	2024-10-23 14:30 E22
Moisture-Humidite	467623	0.1	%		5.3				
	467624	0.1	%					7.7	3.7
	467752	0.1	%			3.2	2.7		

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Moisture

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1747690 Soil153	1747691 Soil153	1747692 Soil153	1747693 Soil153	1747694 Soil153
Analyte	Batch No	MRL	Units	Guideline					
Moisture-Humidite	467623	0.1	%		4.9	3.4	5.6		
	467752	0.1	%					2.5	8.2

Moisture

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1747695 Soil153	1747696 Soil153	1747697 Soil153	1747698 Soil153	1747699 Soil153
Analyte	Batch No	MRL	Units	Guideline					
Moisture-Humidite	467624	0.1	%				2.2		
	467751	0.1	%		1.9	10.2			4.6
	467752	0.1	%					6.6	

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Moisture

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1747700 Soil153	1747702 Soil153	1747703 Soil153	1747705 Soil153	1747706 Soil153
Analyte	Batch No	MRL	Units	Guideline						
Moisture-Humidite	467751	0.1	%			7.3	6.4		2.9	10.9
	467752	0.1	%					3.1		

Moisture

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1747707 Soil153	1747708 Soil153
Analyte	Batch No	MRL	Units	Guideline			
Moisture-Humidite	467751	0.1	%			6.9	
	467752	0.1	%				3.6

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PHC Surrogate

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1747680 Soil153	1747681 Soil153	1747682 Soil153	1747683 Soil153	1747684 Soil153
Analyte	Batch No	MRL	Units	Guideline	2024-10-23 14:30 E26	2024-10-23 14:30 E27	2024-10-23 14:30 E25	2024-10-23 14:30 E24	2024-10-23 14:30 E8
Alpha-androstrane	467751	0	%		139		120		95
	467752	0	%			125		106	

PHC Surrogate

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1747685 Soil153	1747686 Soil153	1747687 Soil153	1747688 Soil153	1747689 Soil153
Analyte	Batch No	MRL	Units	Guideline	2024-10-23 14:30 E9	2024-10-23 14:30 E10	2024-10-23 14:30 E11	2024-10-23 14:30 E21	2024-10-23 14:30 E22
Alpha-androstrane	467623	0	%		79				
	467624	0	%					82	80
	467752	0	%			100	118		

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Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial
Water Quality Guideline, IPWQO = Interim Provincial Water Quality
Objective, TDR = Typical Desired Range



Certificate of Analysis

Environment Testing

Client: Engtec Consulting Inc.
1-2447 Anson Drive
Mississauga, Ontario
L5S 1G1
Attention: Hammad Din
PO#:
Invoice to: Engtec Consulting Inc.

Report Number: 3011911
Date Submitted: 2024-10-23
Date Reported: 2024-10-30
Project: ET24-1438B
COC #: 229649

Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop

PHC Surrogate

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1747690 Soil153	1747691 Soil153	1747692 Soil153	1747693 Soil153	1747694 Soil153
Analyte	Batch No	MRL	Units	Guideline	2024-10-23 12:00 E23	2024-10-23 12:00 E19-1	2024-10-23 12:00 E19-2	2024-10-23 12:00 E20-1	2024-10-23 12:00 E20-2
Alpha-androstrane	467623	0	%		77	73	71		
	467752	0	%					127	88

PHC Surrogate

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1747695 Soil153	1747696 Soil153	1747697 Soil153	1747698 Soil153	1747699 Soil153
Analyte	Batch No	MRL	Units	Guideline	2024-10-23 12:00 E18-1	2024-10-23 12:00 E18-2	2024-10-23 12:00 E17-1	2024-10-23 12:00 E17-2	2024-10-23 12:00 E16-1
Alpha-androstrane	467624	0	%				83		
	467751	0	%		129	87			101
	467752	0	%					98	

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PHC Surrogate

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1747700 Soil153	1747702 Soil153	1747703 Soil153	1747705 Soil153	1747706 Soil153
Analyte	Batch No	MRL	Units	Guideline						
Alpha-androstrane	467751	0	%			91	109		93	106
	467752	0	%					97		

PHC Surrogate

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1747707 Soil153	1747708 Soil153
Analyte	Batch No	MRL	Units	Guideline			
Alpha-androstrane	467751	0	%			91	
	467752	0	%				98

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VOCs Surrogates

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1747680 Soil153	1747681 Soil153	1747682 Soil153	1747683 Soil153	1747684 Soil153
Analyte	Batch No	MRL	Units	Guideline					
Toluene-d8	467644	0	%		99	92	94	87	89

VOCs Surrogates

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1747685 Soil153	1747686 Soil153	1747687 Soil153	1747688 Soil153	1747689 Soil153
Analyte	Batch No	MRL	Units	Guideline					
Toluene-d8	467644	0	%		94	97	88	98	93

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VOCs Surrogates

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1747690 Soil153	1747691 Soil153	1747692 Soil153	1747693 Soil153	1747694 Soil153
Analyte	Batch No	MRL	Units	Guideline					
Toluene-d8	467644	0	%		95	91	97	102	99

VOCs Surrogates

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1747695 Soil153	1747696 Soil153	1747697 Soil153	1747698 Soil153	1747699 Soil153
Analyte	Batch No	MRL	Units	Guideline					
Toluene-d8	467644	0	%		96	92	98	93	96

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VOCs Surrogates

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1747700 Soil153	1747702 Soil153	1747703 Soil153	1747705 Soil153	1747706 Soil153
Analyte	Batch No	MRL	Units	Guideline						
Toluene-d8	467644	0	%			94	85	96	95	93

VOCs Surrogates

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1747707 Soil153	1747708 Soil153
Analyte	Batch No	MRL	Units	Guideline			
Toluene-d8	467644	0	%			112	96

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Project: ET24-1438B
COC #: 229649

Quality Assurance Summary

Batch No	Analyte	Blank	QC % Rec	QC Limits	Spike % Rec	Spike Limits	Dup % RPD	Duplicate Limits
208523	1+2-methylnaphthalene							
467416	Methylnaphthalene, 1-	<0.05 ug/g	76	50-140	86	50-140	0	0-40
467416	Methylnaphthalene, 2-	<0.05 ug/g	53	50-140	57	50-140	0	0-40
467416	Acenaphthene	<0.05 ug/g	74	50-140	74	50-140	0	0-40
467416	Acenaphthylene	<0.05 ug/g	69	50-140	77	50-140	0	0-40
467416	Anthracene	<0.05 ug/g	71	50-140	87	50-140	0	0-40
467416	Benz[a]anthracene	<0.05 ug/g	57	50-140	94	50-140	0	0-40
467416	Benzo[a]pyrene	<0.05 ug/g	61	50-140	89	50-140	0	0-40
467416	Benzo[b]fluoranthene	<0.05 ug/g	63	50-140	102	50-140	0	0-40
467416	Benzo[ghi]perylene	<0.05 ug/g	53	50-140	60	50-140	0	0-40
467416	Benzo[k]fluoranthene	<0.05 ug/g	79	50-140	83		0	0-40
467416	Chrysene	<0.05 ug/g	83	50-140	125	50-140	0	0-40
467416	Dibenz[a h]anthracene	<0.05 ug/g	56	50-140	52	50-140	0	0-40
467416	Fluoranthene	<0.05 ug/g	66	50-140	120	50-140	0	0-40
467416	Fluorene	<0.05 ug/g	75	50-140	73	50-140	0	0-40
467416	Indeno[1 2 3-cd]pyrene	<0.05 ug/g	51	50-140	54	50-140	0	0-40
467416	Naphthalene	<0.013 ug/g	70	50-140	69	50-140	0	0-40
467416	Phenanthrene	<0.05 ug/g	69	50-140	108	50-140	0	0-40
467416	Pyrene	<0.05 ug/g	64	50-140	121	50-140	0	0-40
467623	PHC's F2	<2 ug/g	84	80-120	68	60-140	0	0-30
467623	PHC's F3	<20 ug/g	84	80-120	68	60-140	0	0-30
467623	PHC's F4	<20 ug/g	84	80-120	68	60-140	0	0-30
467623	Moisture-Humidite	<0.1 %	100	80-120			11	
467624	PHC's F2	<2 ug/g	96	80-120	96	60-140	0	0-30
467624	PHC's F3	<20 ug/g	96	80-120	96	60-140	0	0-30
467624	PHC's F4	<20 ug/g	96	80-120	96	60-140	0	0-30
467624	Moisture-Humidite	<0.1 %	100	80-120			7	
467628	Electrical Conductivity	<0.05	99	90-110			0	0-10
467641	Cyanide (CN-)	<0.005 ug/g	94	75-125	104	70-130	0	0-20
467643	Sodium Adsorption Ratio	<0.01					0	
467644	Benzene	<0.0068	110	60-130	108	50-140	0	0-50
467644	Ethylbenzene	<0.018 ug/g	89	60-130	92	50-140	0	0-50

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Project: ET24-1438B
COC #: 229649

Quality Assurance Summary

Batch No	Analyte	Blank	QC % Rec	QC Limits	Spike % Rec	Spike Limits	Dup % RPD	Duplicate Limits
467644	Xylene, m/p-	<0.05 ug/g	94	60-130	91	50-140	0	0-50
467644	Xylene, o-	<0.05 ug/g	94	60-130	86	50-140	0	0-50
467644	Toluene	<0.08 ug/g	103	60-130	112	50-140	0	0-50
467647	PHC's F4g	<100 ug/g	100	80-120	100	60-140		0-30
467650	PHC's F1	<10 ug/g	112	80-120	86	60-140	0	0-30
467656	Silver	<0.2 ug/g	93	70-130	117	70-130	0	0-20
467656	Arsenic	<1 ug/g	101	70-130	102	70-130	0	0-20
467656	Boron (total)	<5 ug/g	99	70-130	150	70-130	0	0-20
467656	Barium	<1 ug/g	109	70-130	130	70-130	1	0-20
467656	Beryllium	<1 ug/g	102	70-130	106	70-130	0	0-20
467656	Cadmium	<0.4 ug/g	114	70-130	118	70-130	0	0-20
467656	Cobalt	<1 ug/g	115	70-130	116	70-130	0	0-20
467656	Chromium Total	<1 ug/g	115	70-130	140	70-130	3	0-20
467656	Copper	<1 ug/g	117	70-130	106	70-130	4	0-20
467656	Mercury	<0.1 ug/g	100	70-130	98	70-130	0	0-20
467656	Molybdenum	<1 ug/g	105	70-130	109	70-130	0	0-20
467656	Nickel	<1 ug/g	117	70-130	108	70-130	0	0-20
467656	Lead	<1 ug/g	108	70-130	104	70-130	2	0-20
467656	Antimony	<1 ug/g	99	70-130	104	70-130	0	0-20
467656	Selenium	<0.5 ug/g	105	70-130	105	70-130	0	0-20
467656	Thallium	<1 ug/g	109	70-130	105	70-130	0	0-20
467656	Uranium	<0.5 ug/g	98	70-130	108	70-130	0	0-20
467656	Vanadium	<2 ug/g	112	70-130	157	70-130	1	0-20
467656	Zinc	<2 ug/g	110	70-130	106	70-130	3	0-20
467686	pH - CaCl2	5.30	99	90-110			0	
467687	1+2-methylnaphthalene							
467710	Silver	<0.2 ug/g	89	70-130	111	70-130	0	0-20
467710	Arsenic	<1 ug/g	99	70-130	101	70-130	0	0-20
467710	Boron (total)	<5 ug/g	93	70-130	109	70-130	0	0-20
467710	Barium	<1 ug/g	109	70-130	121	70-130	4	0-20
467710	Beryllium	<1 ug/g	95	70-130	98	70-130	0	0-20
467710	Cadmium	<0.4 ug/g	112	70-130	111	70-130	0	0-20
467710	Cobalt	<1 ug/g	114	70-130	109	70-130	0	0-20

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Quality Assurance Summary

Batch No	Analyte	Blank	QC % Rec	QC Limits	Spike % Rec	Spike Limits	Dup % RPD	Duplicate Limits
467710	Chromium Total	<1 ug/g	115	70-130	125	70-130	17	0-20
467710	Copper	<1 ug/g	115	70-130	107	70-130	8	0-20
467710	Mercury	<0.1 ug/g	90	70-130	99	70-130	0	0-20
467710	Molybdenum	<1 ug/g	106	70-130	90	70-130	0	0-20
467710	Nickel	<1 ug/g	115	70-130	105	70-130	13	0-20
467710	Lead	<1 ug/g	106	70-130	90	70-130	0	0-20
467710	Antimony	<1 ug/g	105	70-130	104	70-130	0	0-20
467710	Selenium	<0.5 ug/g	103	70-130	99	70-130	0	0-20
467710	Thallium	<1 ug/g	106	70-130	101	70-130	0	0-20
467710	Uranium	<0.5 ug/g	102	70-130	102	70-130	0	0-20
467710	Vanadium	<2 ug/g	112	70-130	138	70-130	3	0-20
467710	Zinc	<2 ug/g	108	70-130	106	70-130	22	0-20
467714	Boron (Hot Water Soluble)	<0.25 ug/g	100	70-130	114	60-140	0	0-30
467717	Chromium VI	<0.20 ug/g	100	70-130	79	70-130	0	0-35
467740	1+2-methylnaphthalene							
467751	PHC's F2	<2 ug/g	97	80-120	94	60-140	0	0-30
467751	PHC's F3	<20 ug/g	97	80-120	94	60-140	0	0-30
467751	PHC's F4	<20 ug/g	97	80-120	94	60-140	0	0-30
467751	Moisture-Humidite	<0.1 %	100	80-120			7	
467752	PHC's F2	<2 ug/g	86	80-120	63	60-140	0	0-30
467752	PHC's F3	<20 ug/g	86	80-120	63	60-140	0	0-30
467752	PHC's F4	<20 ug/g	86	80-120	63	60-140	0	0-30
467752	Moisture-Humidite	<0.1 %	100	80-120			55	
467759	Xylene Mixture							
467760	PHC's F1-BTEX							
467780	PHC's F2-Naph							
467784	PHC's F3-PAH							
467790	Chromium VI	<0.20 ug/g	100	70-130	86	70-130	0	0-35
467800	PHC's F4g	<100 ug/g	100	80-120	100	60-140		0-30

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Test Summary

Batch No	Analyte	Instrument	Preparation Date	Analysis Date	Analyst	Method
208523	1+2-methylnaphthalene	GC-MS	2024-10-29	2024-10-29	C_M	P 8270
467416	Methylnaphthalene, 1-	GC-MS	2024-10-25	2024-10-28	C_M	P 8270
467416	Methylnaphthalene, 2-	GC-MS	2024-10-25	2024-10-28	C_M	P 8270
467416	Acenaphthene	GC-MS	2024-10-25	2024-10-28	C_M	P 8270
467416	Acenaphthylene	GC-MS	2024-10-25	2024-10-28	C_M	P 8270
467416	Anthracene	GC-MS	2024-10-25	2024-10-28	C_M	P 8270
467416	Benz[a]anthracene	GC-MS	2024-10-25	2024-10-28	C_M	P 8270
467416	Benzo[a]pyrene	GC-MS	2024-10-25	2024-10-28	C_M	P 8270
467416	Benzo[b]fluoranthene	GC-MS	2024-10-25	2024-10-28	C_M	P 8270
467416	Benzo[ghi]perylene	GC-MS	2024-10-25	2024-10-28	C_M	P 8270
467416	Benzo[k]fluoranthene	GC-MS	2024-10-25	2024-10-28	C_M	P 8270
467416	Chrysene	GC-MS	2024-10-25	2024-10-28	C_M	P 8270
467416	Dibenz[a h]anthracene	GC-MS	2024-10-25	2024-10-28	C_M	P 8270
467416	Fluoranthene	GC-MS	2024-10-25	2024-10-28	C_M	P 8270
467416	Fluorene	GC-MS	2024-10-25	2024-10-28	C_M	P 8270
467416	Indeno[1 2 3-cd]pyrene	GC-MS	2024-10-25	2024-10-28	C_M	P 8270
467416	Naphthalene	GC-MS	2024-10-25	2024-10-28	C_M	P 8270
467416	Phenanthrene	GC-MS	2024-10-25	2024-10-28	C_M	P 8270
467416	Pyrene	GC-MS	2024-10-25	2024-10-28	C_M	P 8270
467623	PHC's F2	GC/FID	2024-10-25	2024-10-28	D_T	CCME
467623	PHC's F3	GC/FID	2024-10-25	2024-10-28	D_T	CCME
467623	PHC's F4	GC/FID	2024-10-25	2024-10-28	D_T	CCME
467623	Moisture-Humidite	Oven	2024-10-25	2024-10-28	D_T	ASTM 2216
467624	PHC's F2	GC/FID	2024-10-25	2024-10-28	D_T	CCME
467624	PHC's F3	GC/FID	2024-10-25	2024-10-28	D_T	CCME
467624	PHC's F4	GC/FID	2024-10-25	2024-10-28	D_T	CCME
467624	Moisture-Humidite	Oven	2024-10-25	2024-10-28	D_T	ASTM 2216
467628	Electrical Conductivity	Electrical Conductivity Mete	2024-10-28	2024-10-28	Z_S	Cond-Soil
467641	Cyanide (CN-)	Skalar CN Analyzer	2024-10-28	2024-10-28	Z_S	MOECC E3015
467643	Sodium Adsorption Ratio	iCAP OES	2024-10-28	2024-10-28	Z_S	Ag Soil
467644	Benzene	GC-MS	2024-10-24	2024-10-24	H_S	V 8260B
467644	Ethylbenzene	GC-MS	2024-10-24	2024-10-24	H_S	V 8260B

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Invoice to: Engtec Consulting Inc.

Report Number: 3011911
Date Submitted: 2024-10-23
Date Reported: 2024-10-30
Project: ET24-1438B
COC #: 229649

Test Summary

Batch No	Analyte	Instrument	Preparation Date	Analysis Date	Analyst	Method
467644	Xylene, m/p-	GC-MS	2024-10-24	2024-10-24	H_S	V 8260B
467644	Xylene, o-	GC-MS	2024-10-24	2024-10-24	H_S	V 8260B
467644	Toluene	GC-MS	2024-10-24	2024-10-24	H_S	V 8260B
467647	PHC's F4g	Gravimetric	2024-10-28	2024-10-28	D_T	CCME
467650	PHC's F1	GC/FID	2024-10-24	2024-10-28	H_S	CCME
467656	Silver	ICAPQ-MS	2024-10-28	2024-10-28	AaN	EPA 200.8/6020
467656	Arsenic	ICAPQ-MS	2024-10-28	2024-10-28	AaN	EPA 200.8/6020
467656	Boron (total)	ICAPQ-MS	2024-10-28	2024-10-28	AaN	EPA 200.8/6020
467656	Barium	ICAPQ-MS	2024-10-28	2024-10-28	AaN	EPA 200.8/6020
467656	Beryllium	ICAPQ-MS	2024-10-28	2024-10-28	AaN	EPA 200.8/6020
467656	Cadmium	ICAPQ-MS	2024-10-28	2024-10-28	AaN	EPA 200.8/6020
467656	Cobalt	ICAPQ-MS	2024-10-28	2024-10-28	AaN	EPA 200.8/6020
467656	Chromium Total	ICAPQ-MS	2024-10-28	2024-10-28	AaN	EPA 200.8/6020
467656	Copper	ICAPQ-MS	2024-10-28	2024-10-28	AaN	EPA 200.8/6020
467656	Mercury	ICAPQ-MS	2024-10-28	2024-10-28	AaN	EPA 200.8/6020
467656	Molybdenum	ICAPQ-MS	2024-10-28	2024-10-28	AaN	EPA 200.8/6020
467656	Nickel	ICAPQ-MS	2024-10-28	2024-10-28	AaN	EPA 200.8/6020
467656	Lead	ICAPQ-MS	2024-10-28	2024-10-28	AaN	EPA 200.8/6020
467656	Antimony	ICAPQ-MS	2024-10-28	2024-10-28	AaN	EPA 200.8/6020
467656	Selenium	ICAPQ-MS	2024-10-28	2024-10-28	AaN	EPA 200.8/6020
467656	Thallium	ICAPQ-MS	2024-10-28	2024-10-28	AaN	EPA 200.8/6020
467656	Uranium	ICAPQ-MS	2024-10-28	2024-10-28	AaN	EPA 200.8/6020
467656	Vanadium	ICAPQ-MS	2024-10-28	2024-10-28	AaN	EPA 200.8/6020
467656	Zinc	ICAPQ-MS	2024-10-28	2024-10-28	AaN	EPA 200.8/6020
467686	pH - CaCl2	pH Meter	2024-10-29	2024-10-29	I	AG Soil
467687	1+2-methylnaphthalene	GC-MS	2024-10-29	2024-10-29	C_M	P 8270
467710	Silver	ICAPQ-MS	2024-10-29	2024-10-29	AaN	EPA 200.8/6020
467710	Arsenic	ICAPQ-MS	2024-10-29	2024-10-29	AaN	EPA 200.8/6020
467710	Boron (total)	ICAPQ-MS	2024-10-29	2024-10-29	AaN	EPA 200.8/6020
467710	Barium	ICAPQ-MS	2024-10-29	2024-10-29	AaN	EPA 200.8/6020
467710	Beryllium	ICAPQ-MS	2024-10-29	2024-10-29	AaN	EPA 200.8/6020
467710	Cadmium	ICAPQ-MS	2024-10-29	2024-10-29	AaN	EPA 200.8/6020
467710	Cobalt	ICAPQ-MS	2024-10-29	2024-10-29	AaN	EPA 200.8/6020

Results relate only to the parameters tested on the samples submitted.
Methods references and/or additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

Client: Engtec Consulting Inc.
1-2447 Anson Drive
Mississauga, Ontario
L5S 1G1
Attention: Hammad Din
PO#:
Invoice to: Engtec Consulting Inc.

Report Number: 3011911
Date Submitted: 2024-10-23
Date Reported: 2024-10-30
Project: ET24-1438B
COC #: 229649

Test Summary

Batch No	Analyte	Instrument	Preparation Date	Analysis Date	Analyst	Method
467710	Chromium Total	ICAPQ-MS	2024-10-29	2024-10-29	AaN	EPA 200.8/6020
467710	Copper	ICAPQ-MS	2024-10-29	2024-10-29	AaN	EPA 200.8/6020
467710	Mercury	ICAPQ-MS	2024-10-29	2024-10-29	AaN	EPA 200.8/6020
467710	Molybdenum	ICAPQ-MS	2024-10-29	2024-10-29	AaN	EPA 200.8/6020
467710	Nickel	ICAPQ-MS	2024-10-29	2024-10-29	AaN	EPA 200.8/6020
467710	Lead	ICAPQ-MS	2024-10-29	2024-10-29	AaN	EPA 200.8/6020
467710	Antimony	ICAPQ-MS	2024-10-29	2024-10-29	AaN	EPA 200.8/6020
467710	Selenium	ICAPQ-MS	2024-10-29	2024-10-29	AaN	EPA 200.8/6020
467710	Thallium	ICAPQ-MS	2024-10-29	2024-10-29	AaN	EPA 200.8/6020
467710	Uranium	ICAPQ-MS	2024-10-29	2024-10-29	AaN	EPA 200.8/6020
467710	Vanadium	ICAPQ-MS	2024-10-29	2024-10-29	AaN	EPA 200.8/6020
467710	Zinc	ICAPQ-MS	2024-10-29	2024-10-29	AaN	EPA 200.8/6020
467714	Boron (Hot Water Soluble)	ICAP OES	2024-10-29	2024-10-29	Z_S	MOECC E3470
467717	Chromium VI	FAA	2024-10-28	2024-10-29	MW	M US EPA 3060A
467740	1+2-methylnaphthalene	GC-MS	2024-10-30	2024-10-30	C_M	P 8270
467751	PHC's F2	GC/FID	2024-10-29	2024-10-30	D_T	CCME
467751	PHC's F3	GC/FID	2024-10-29	2024-10-30	D_T	CCME
467751	PHC's F4	GC/FID	2024-10-29	2024-10-30	D_T	CCME
467751	Moisture-Humidite	Oven	2024-10-29	2024-10-30	D_T	ASTM 2216
467752	PHC's F2	GC/FID	2024-10-29	2024-10-30	D_T	CCME
467752	PHC's F3	GC/FID	2024-10-29	2024-10-30	D_T	CCME
467752	PHC's F4	GC/FID	2024-10-29	2024-10-30	D_T	CCME
467752	Moisture-Humidite	Oven	2024-10-29	2024-10-30	D_T	ASTM 2216
467759	Xylene Mixture	GC-MS	2024-10-30	2024-10-30	H_S	V 8260B
467760	PHC's F1-BTEX	GC/FID	2024-10-30	2024-10-30	H_S	CCME
467780	PHC's F2-Naphth	GC/FID	2024-10-30	2024-10-30	D_T	CCME
467784	PHC's F3-PAH	GC/FID	2024-10-30	2024-10-30	D_T	CCME
467790	Chromium VI	FAA	2024-10-30	2024-10-30	MW	M US EPA 3060A
467800	PHC's F4g	Gravimetric	2024-10-30	2024-10-30	D_T	CCME

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Project: ET24-1438B
COC #: 229649

CWS for Petroleum Hydrocarbons in Soil - Tier 1**Notes:**

1. The laboratory method complies with CCME Tier 1 reference method for PHC in soil. It is validated for laboratory use.
2. Where the F1 fraction (C6 to C10) and BTEX are both measured, F1-BTEX is reported.
3. Where the F2 fraction (C10 to C16) and naphthalene are both measured, F2-naphthalene is reported.
4. Where the F3 fraction (C16 to C34) and PAHs* are both measured, F3-PAH is reported.
5. F4G is analyzed if the chromatogram does not descend to baseline before C50. Where F4 (C34 to C50) and F4G are both reported, the higher result is compared to the standard.
6. Unless otherwise stated in the sample comments, the following criteria have been met where applicable:
 - nC6 and nC10 response factors within 30% of response factor for toluene;
 - nC10, nC16, and nC34 response factors within 10% of each other;
 - C50 response factors within 70% of nC10 + nC16 + nC34 average; and,
 - Linearity is within 15%.
7. Unless otherwise stated in the sample comments, sampling requirements and analytical holding times have been met.
8. Gravimetric heavy hydrocarbons (F4G) cannot be added to the C6 and C50 hydrocarbons.
9. *PAHs = phenanthrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-c,d)pyrene and pyrene.

CLIENT INFORMATION				INVOICE INFORMATION (SAME AS CLIENT INFORMATION: YES <input type="checkbox"/> NO <input type="checkbox"/>)											
Company: Engtec Consulting Inc.				Company:		Fax:									
Contact: Hammad Din				Contact:		Email: #1:									
Address: 2447 Bism Dr.				Address:		Email: #2:									
Telephone:		Cell: 6136210359		Telephone:		PO #:									
Email: #1: hammad.din@engtec.ca				REGULATION/GUIDELINE REQUIRED											
Email: #2: Pranav Dave @ engtec.ca															
Project: E124-14388 Quote #: Georgian				<input type="checkbox"/> Sanitary Sewer, City: _____ <input type="checkbox"/> Storm Sewer, City: _____ <input type="checkbox"/> ODWSOG (Use DW CoC if analyzing drinking water) <input type="checkbox"/> PWQO <input type="checkbox"/> O.Reg 347 <input type="checkbox"/> Other: _____											
TURN-AROUND TIME (Business Days)				<input checked="" type="checkbox"/> O. Reg 153											
<input type="checkbox"/> 1 Day* (100%) <input type="checkbox"/> 2 Day** (50%) <input type="checkbox"/> 3-5 Days (25%) <input checked="" type="checkbox"/> 5-7 Days (Standard)				The sample results from this submission will form part of a formal Record of Site Condition (RSC) under O.Reg. 153/04. Analysis of full parameter list only Yes <input type="checkbox"/> No <input type="checkbox"/>											
Please contact Lab in advance to determine rush availability. *For results reported after rush due date, surcharges will apply: before 12:00 - 100%, after 12:00 - 50%. **For results reported after rush due date, surcharges will apply: before 12:00 - 50%, after 12:00 - 25%.				Table # _____ Coarse / Fine, Surface / subsurface Type: Com-Ind / Res-Park / Agri / GW / All Other / Sediment											
				<input checked="" type="checkbox"/> O. Reg 406 Excess Soils											
				Table # _____ Full depth/Strat/Ceiling/mSPL Leachate Type: Com-Ind / Res-Park / Agri / All Other Category: Surface / Subsurface											
The optimal temperature conditions during transport should be less than 10°C. Sample(s) cannot be frozen, unless otherwise indicated or agreed upon with the Laboratory. Note that this COC is not to be used for drinking water samples. The COC must be complete upon submission of the samples, there will be a \$25 surcharge if required information is missing (required fields are shaded in grey).				Sample Details								RN# (Lab Use Only)			
				Field Filtered --> _____											
Sample ID		Date/Time Collected		Sample Matrix	# of Containers	O.Reg.153 parameters									
						PHC F1 - F4	BTEX	VOCs	PAHs	PCBs	Metals + Inorganic	Metals only			
E 26		23/10 2:30 PM		Soil	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	1747680
E 27					5	✓	✓	✓	✓	✓	✓	✓	✓	✓	81
E 25					5	✓	✓	✓	✓	✓	✓	✓	✓	✓	82
E 24					5	✓	✓	✓	✓	✓	✓	✓	✓	✓	83
E 8					5	✓	✓	✓	✓	✓	✓	✓	✓	✓	84
E 9					5	✓	✓	✓	✓	✓	✓	✓	✓	✓	85
E 10					5	✓	✓	✓	✓	✓	✓	✓	✓	✓	86
E 11					5	✓	✓	✓	✓	✓	✓	✓	✓	✓	87
E 21					5	✓	✓	✓	✓	✓	✓	✓	✓	✓	88
E 22					5	✓	✓	✓	✓	✓	✓	✓	✓	✓	89
PRINT				SIGN				DATE/TIME		TEMP (°C)		COMMENTS:			
Sampled By:		Pranav Dave		[Signature]				23/10 4:15 PM							
Relinquished By:		Christine Savina		[Signature]				23/10/24 4PM		10.8					
												CUSTODY SEAL: <input type="checkbox"/> YES <input type="checkbox"/> NO Ice packs submit <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			

P3 - 2 of 3

CLIENT INFORMATION						INVOICE INFORMATION (SAME AS CLIENT INFORMATION: YES <input type="checkbox"/> NO <input type="checkbox"/>)											
Company: Engtec Consulting Inc Hammad Din 2447 Anson Dr. Telephone: Cell: 6136210359						Company:				Fax:							
Contact:						Contact:				Email: #1:							
Address:						Address:				Email: #2:							
Project: FT24-1438B Quote #: Georgina						Telephone:				PO #:							
TURN-AROUND TIME (Business Days)						REGULATION/GUIDELINE REQUIRED											
<input type="checkbox"/> 1 Day* (100%) <input type="checkbox"/> 2 Day** (50%) <input type="checkbox"/> 3-5 Days (25%) <input checked="" type="checkbox"/> 5-7 Days (Standard)						<input type="checkbox"/> Sanitary Sewer, City:				<input checked="" type="checkbox"/> O. Reg 153							
Please contact Lab in advance to determine rush availability.						<input type="checkbox"/> Storm Sewer, City:				The sample results from this submission will form part of a formal Record of Site Condition (RSC) under O.Reg. 153/04. Analysis of full parameter list only Yes <input type="checkbox"/> No <input type="checkbox"/>							
*For results reported after rush due date, surcharges will apply: before 12:00 - 100%, after 12:00 - 50%.						<input type="checkbox"/> ODWSOG (Use DW CoC if analyzing drinking water)				Table # 1 Coarse / Fine, Surface / subsurface Type: Com-Ind / Res-Park / Agri / GW All Other / Sediment							
**For results reported after rush due date, surcharges will apply: before 12:00 - 50%, after 12:00 - 25%.						<input type="checkbox"/> PWQO				<input checked="" type="checkbox"/> O. Reg 406 Excess Soils							
						<input type="checkbox"/> O.Reg 347				Table # Full depth/Strat/Ceiling/mSPL Leachate Type: Com-Ind /Res-Park /Agri/All Other Category: Surface/Subsurface							
						<input type="checkbox"/> Other:											
The optimal temperature conditions during transport should be less than 10°C. Sample(s) cannot be frozen, unless otherwise indicated or agreed upon with the Laboratory. Note that this COC is not to be used for drinking water samples. The COC must be complete upon submission of the samples, there will be a \$25 surcharge if required information is missing (required fields are shaded in grey).						Sample Details										RN# (Lab Use Only)	
						Field Filtered -->											
						Sample Matrix		# of Containers	O.Reg.153 parameters						Metals only		
Sample ID		Date/Time Collected	PHC F1 - F4	BTEX	VOCs	PAHs	PCBs	Metals + Inorganic	Metals only								
E16-2		23/10 12:00 PM	✓	✓		✓		✓						1747700			
E15-1			✓	✓		✓		✓						01			
E15-2			✓	✓		✓		✓						02			
E14-1			✓	✓		✓		✓						03			
E14-2			✓	✓		✓		✓						04			
E13-1			✓	✓		✓		✓						05			
E13-2			✓	✓		✓		✓						06			
E12-1			✓	✓		✓		✓						07			
E12-2			✓	✓		✓		✓						08			
PRINT			SIGN				DATE/TIME		TEMP (°C)		COMMENTS:						
Sampled By: Pranav Dave			[Signature]				23/10 4:15 PM		10.8								
Relinquished By:																	
Received By: Christine Souding							23/Oct/24 4pm				CUSTODY SEAL: <input type="checkbox"/> YES <input type="checkbox"/> NO Ice packs submit <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						

Client: Engtec Consulting Inc.
1-2447 Anson Drive
Mississauga, Ontario
L5S 1G1
Attention: Hammad Din
Invoice to: Engtec Consulting Inc.
PO#:

Report Number: 3011975
Date Submitted: 2024-10-25
Date Reported: 2024-11-01
Project: ET24-1438B
COC #: 230995
Temperature (C): 7
Custody Seal:

Page 1 of 45

Dear Hammad Din:

Please find attached the analytical results for your samples. If you have any questions regarding this report, please do not hesitate to call (613-727-5692).

Sample Comment Summary

Sample ID: 1748114 E-1-1	For all samples on this report, the metals spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.
Sample ID: 1748129 E-5-2	The result for F4 (C34-C50) gravimetric must be substituted if it is greater than the result for F4 (C34-C50). Sample was cleaned with silica gel.

Report Comments:

Patrick Jacques, Organics Technician

All analysis is completed at Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) unless otherwise stated

Eurofins Environment Testing Canada Inc. is accredited by CALA, Canadian Association for Laboratory Accreditation to ISO/IEC 17025 for tests which appear on the scope of accreditation. The scope is available at <https://directory.cala.ca/>

Please note: Field data, where presented on the report, has been provided by the client and is presented for informational purposes only. Guideline or regulatory limits listed on this report are provided for ease of use (informational purposes) only. Eurofins recommends consulting the official guideline or regulation as required. Unless otherwise stated, measurement uncertainty is not taken into account when determining guideline or regulatory exceedances.

EETC Reg 153 Version 19.rpt

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COC #: 230995

O.Reg 153-T1-All Other Soils

Exceedence Summary

Sample I.D.	Analyte	Result	Units	Criteria
Hydrocarbons				
E-5-2	Petroleum Hydrocarbons F4	130	ug/g	STD 120
Inorganics				
E-1-1	Sodium Adsorption Ratio	3.34		STD 2.4
E-1-2	Sodium Adsorption Ratio	6.04		STD 2.4
E-28-1	Electrical Conductivity	1.99	mS/cm	STD 0.57
E-28-1	Sodium Adsorption Ratio	17.6		STD 2.4
E-28-2	Electrical Conductivity	1.92	mS/cm	STD 0.57
E-28-2	Sodium Adsorption Ratio	13.9		STD 2.4
E-28-DUP	Electrical Conductivity	1.73	mS/cm	STD 0.57
E-28-DUP	Sodium Adsorption Ratio	37.1		STD 2.4
E-4-1	Electrical Conductivity	0.79	mS/cm	STD 0.57
E-4-1	Sodium Adsorption Ratio	10.6		STD 2.4
E-4-2	Electrical Conductivity	0.65	mS/cm	STD 0.57
E-4-2	Sodium Adsorption Ratio	13.6		STD 2.4
E-4-DUP	Electrical Conductivity	0.59	mS/cm	STD 0.57
E-4-DUP	Sodium Adsorption Ratio	12.6		STD 2.4
E-5-1	Sodium Adsorption Ratio	3.61		STD 2.4
E-5-2	Sodium Adsorption Ratio	2.73		STD 2.4
E-6-1	Electrical Conductivity	4.01	mS/cm	STD 0.57
E-6-1	Sodium Adsorption Ratio	77.2		STD 2.4
E-6-2	Sodium Adsorption Ratio	3.15		STD 2.4
E-7-1	Sodium Adsorption Ratio	4.59		STD 2.4
E-7-2	Sodium Adsorption Ratio	4.06		STD 2.4
G-3-1	Electrical Conductivity	0.94	mS/cm	STD 0.57
G-3-1	Sodium Adsorption Ratio	12.6		STD 2.4
G-3-2	Electrical Conductivity	3.35	mS/cm	STD 0.57
G-3-2	Sodium Adsorption Ratio	57.4		STD 2.4
G-4-1	Sodium Adsorption Ratio	5.74		STD 2.4
G-4-2	Sodium Adsorption Ratio	2.93		STD 2.4
G-7-1	Electrical Conductivity	1.42	mS/cm	STD 0.57
G-7-1	Sodium Adsorption Ratio	25.2		STD 2.4
G-7-2	Electrical Conductivity	1.12	mS/cm	STD 0.57
G-7-2	Sodium Adsorption Ratio	23.2		STD 2.4
Metals				
E-1-2	Barium	268	ug/g	STD 220
E-3-2	Barium	284	ug/g	STD 220

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Project: ET24-1438B
COC #: 230995

Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop

Hydrocarbons

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1748114	Soil153	1748115	Soil153	1748116	Soil153
					2024-10-24	17:00	2024-10-24	17:00	2024-10-24	17:00
					E-1-1		E-1-2		E-2-1	E-2-2
PHC's F1	467808	10	ug/g	STD 25			<10		<10	
	467867	10	ug/g	STD 25	<10					<10
PHC's F1-BTEX	467811	10	ug/g				<10		<10	
	467883	10	ug/g		<10					<10
PHC's F2	467826	2	ug/g	STD 10						<2
	467833	2	ug/g	STD 10			<2		<2	
	467837	2	ug/g	STD 10	<2					
PHC's F2-Naph	467948	2	ug/g		<2		<2		<2	<2
PHC's F3	467826	20	ug/g	STD 240						<20
	467833	20	ug/g	STD 240			<20		<20	
	467837	20	ug/g	STD 240	<20					
PHC's F3-PAH	467949	20	ug/g		<20		<20		<20	<20
PHC's F4	467826	20	ug/g	STD 120						<20
	467833	20	ug/g	STD 120			<20		<20	
	467837	20	ug/g	STD 120	<20					

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Date Reported: 2024-11-01
Project: ET24-1438B
COC #: 230995

Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop

Hydrocarbons

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1748119 Soil153	1748120 Soil153	1748121 Soil153	1748122 Soil153	1748123 Soil153
Analyte	Batch No	MRL	Units	Guideline		2024-10-24 17:00 E-3-1	2024-10-24 17:00 E-3-2	2024-10-24 17:00 E-3-DUP	2024-10-24 17:00 E-4-1	2024-10-24 17:00 E-4-2
PHC's F1	467867	10	ug/g	STD 25		<10	<10	<10	<10	<10
PHC's F1-BTEX	467883	10	ug/g			<10	<10	<10	<10	<10
PHC's F2	467826	2	ug/g	STD 10						<2
	467833	2	ug/g	STD 10		<2				
	467835	2	ug/g	STD 10					<2	
	467837	2	ug/g	STD 10			<2			
	467894	2	ug/g	STD 10				3		
PHC's F2-Naph	467948	2	ug/g			<2	<2	3	<2	<2
PHC's F3	467826	20	ug/g	STD 240						<20
	467833	20	ug/g	STD 240		20				
	467835	20	ug/g	STD 240					<20	
	467837	20	ug/g	STD 240			<20			
	467894	20	ug/g	STD 240				30		
PHC's F3-PAH	467949	20	ug/g			20	<20	30	<20	<20
PHC's F4	467826	20	ug/g	STD 120						<20
	467833	20	ug/g	STD 120		<20				
	467835	20	ug/g	STD 120					<20	
	467837	20	ug/g	STD 120			<20			
	467894	20	ug/g	STD 120				<20		

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MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

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Hydrocarbons

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1748124	Soil153	1748125	Soil153	1748126	Soil153
					2024-10-24	17:00	2024-10-24	15:00	2024-10-24	15:00
					E-4-DUP		E-28-1		E-28-2	E-28-DUP
PHC's F1	467808	10	ug/g	STD 25					<10	<10
	467867	10	ug/g	STD 25	<10	<10	<10			
PHC's F1-BTEX	467811	10	ug/g						<10	<10
	467883	10	ug/g		<10	<10	<10			
PHC's F2	467833	2	ug/g	STD 10	<2					
	467893	2	ug/g	STD 10						3
	467894	2	ug/g	STD 10			<2	<2		
	467911	2	ug/g	STD 10		<2				
PHC's F2-Naph	467948	2	ug/g		<2	<2	<2	<2		3
PHC's F3	467833	20	ug/g	STD 240	20					
	467893	20	ug/g	STD 240						<20
	467894	20	ug/g	STD 240			<20	<20		
	467911	20	ug/g	STD 240		<20				
PHC's F3-PAH	467949	20	ug/g		20	<20	<20	<20	<20	<20
PHC's F4	467833	20	ug/g	STD 120	<20					
	467893	20	ug/g	STD 120						<20
	467894	20	ug/g	STD 120			<20	<20		
	467911	20	ug/g	STD 120		<20				

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Hydrocarbons

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1748129 Soil153	1748130 Soil153	1748131 Soil153	1748132 Soil153	1748133 Soil153
Analyte	Batch No	MRL	Units	Guideline		2024-10-24 15:00 E-5-2	2024-10-24 15:00 E-6-1	2024-10-24 15:00 E-6-2	2024-10-24 15:00 E-7-1	2024-10-24 15:00 E-7-2
PHC's F1	467808	10	ug/g	STD 25		<10	<10	<10	<10	<10
PHC's F1-BTEX	467811	10	ug/g			<10	<10	<10	<10	<10
PHC's F2	467893	2	ug/g	STD 10		<2		<2	2	2
	467894	2	ug/g	STD 10			<2			
PHC's F2-Naph	467948	2	ug/g			<2	<2	<2	2	2
PHC's F3	467893	20	ug/g	STD 240		120		50	20	<20
	467894	20	ug/g	STD 240			<20			
PHC's F3-PAH	467949	20	ug/g			120	<20	50	20	<20
PHC's F4	467893	20	ug/g	STD 120		130*		20	<20	<20
	467894	20	ug/g	STD 120			<20			
PHC's F4g	467953	100	ug/g	STD 120		100				

Hydrocarbons

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1748134 Soil153	1748135 Soil153	1748136 Soil153	1748137 Soil153	1748138 Soil153
Analyte	Batch No	MRL	Units	Guideline		2024-10-24 15:00 G-3-1	2024-10-24 15:00 G-3-2	2024-10-24 15:00 G-4-1	2024-10-24 15:00 G-4-2	2024-10-24 15:00 G-7-1
PHC's F1	467808	10	ug/g	STD 25		<10	<10		<10	<10
	467867	10	ug/g	STD 25				<10		
PHC's F1-BTEX	467811	10	ug/g			<10	<10		<10	<10
	467883	10	ug/g					<10		
PHC's F2	467826	2	ug/g	STD 10					<2	
	467833	2	ug/g	STD 10						<2
	467835	2	ug/g	STD 10				<2		
	467837	2	ug/g	STD 10		<2	<2			

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Hydrocarbons

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1748134 Soil153	1748135 Soil153	1748136 Soil153	1748137 Soil153	1748138 Soil153
Analyte	Batch No	MRL	Units	Guideline	2024-10-24 15:00 G-3-1	2024-10-24 15:00 G-3-2	2024-10-24 15:00 G-4-1	2024-10-24 15:00 G-4-2	2024-10-24 15:00 G-7-1
PHC's F2-Napth	467948	2	ug/g		<2	<2	<2	<2	<2
PHC's F3	467826	20	ug/g	STD 240				<20	
	467833	20	ug/g	STD 240					<20
	467835	20	ug/g	STD 240			<20		
	467837	20	ug/g	STD 240	<20	<20			
PHC's F3-PAH	467949	20	ug/g		<20	<20	<20	<20	<20
PHC's F4	467826	20	ug/g	STD 120				<20	
	467833	20	ug/g	STD 120					<20
	467835	20	ug/g	STD 120			<20		
	467837	20	ug/g	STD 120	<20	<20			

Hydrocarbons

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1748139 Soil153
Analyte	Batch No	MRL	Units	Guideline	2024-10-24 15:00 G-7-2
PHC's F1	467808	10	ug/g	STD 25	<10
PHC's F1-BTEX	467811	10	ug/g		<10
PHC's F2	467826	2	ug/g	STD 10	<2
PHC's F2-Napth	467948	2	ug/g		<2
PHC's F3	467826	20	ug/g	STD 240	<20
PHC's F3-PAH	467949	20	ug/g		<20
PHC's F4	467826	20	ug/g	STD 120	<20

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Metals

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1748114	Soil153	1748115	Soil153	1748116	Soil153
					2024-10-24	17:00	2024-10-24	17:00	2024-10-24	17:00
					E-1-1		E-1-2		E-2-1	E-2-2
										E-2-DUP
Antimony	467802	1	ug/g	STD 1.3	<1		<1		<1	
	467870	1	ug/g	STD 1.3						<1
Arsenic	467802	1	ug/g	STD 18	2		3		2	
	467870	1	ug/g	STD 18						2
Barium	467802	1	ug/g	STD 220	58		268*		92	41
	467870	1	ug/g	STD 220						37
Beryllium	467802	1	ug/g	STD 2.5	<1		1		<1	
	467870	1	ug/g	STD 2.5						<1
Boron (Hot Water Soluble)	467791	0.25	ug/g		<0.25		<0.25		<0.25	<0.25
Boron (total)	467802	5	ug/g	STD 36	7		15		7	
	467870	5	ug/g	STD 36						6
Cadmium	467802	0.4	ug/g	STD 1.2	<0.4		<0.4		<0.4	
	467870	0.4	ug/g	STD 1.2						<0.4
Chromium Total	467802	1	ug/g	STD 70	19		45		21	13
	467870	1	ug/g	STD 70						11
Chromium VI	467790	0.20	ug/g	STD 0.66	<0.20		0.22		<0.20	<0.20
Cobalt	467802	1	ug/g	STD 21	5		16		7	5
	467870	1	ug/g	STD 21						4
Copper	467802	1	ug/g	STD 92	15		31		13	8
	467870	1	ug/g	STD 92						9
Lead	467802	1	ug/g	STD 120	5		10		9	4
	467870	1	ug/g	STD 120						4
Mercury	467802	0.1	ug/g	STD 0.27	<0.1		<0.1		<0.1	<0.1

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Metals

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1748114 Soil153	1748115 Soil153	1748116 Soil153	1748117 Soil153	1748118 Soil153
Analyte	Batch No	MRL	Units	Guideline		2024-10-24 17:00 E-1-1	2024-10-24 17:00 E-1-2	2024-10-24 17:00 E-2-1	2024-10-24 17:00 E-2-2	2024-10-24 17:00 E-2-DUP
Mercury	467870	0.1	ug/g	STD 0.27						<0.1
Molybdenum	467802	1	ug/g	STD 2		<1	<1	<1	<1	
	467870	1	ug/g	STD 2						<1
Nickel	467802	1	ug/g	STD 82		12	31	13	9	
	467870	1	ug/g	STD 82						8
Selenium	467802	0.5	ug/g	STD 1.5		<0.5	<0.5	<0.5	<0.5	
	467870	0.5	ug/g	STD 1.5						<0.5
Silver	467802	0.2	ug/g	STD 0.5		<0.2	<0.2	<0.2	<0.2	
	467870	0.2	ug/g	STD 0.5						<0.2
Thallium	467802	1	ug/g	STD 1		<1	<1	<1	<1	
	467870	1	ug/g	STD 1						<1
Uranium	467802	0.5	ug/g	STD 2.5		<0.5	<0.5	<0.5	<0.5	
	467870	0.5	ug/g	STD 2.5						0.5
Vanadium	467802	2	ug/g	STD 86		26	59	36	22	
	467870	2	ug/g	STD 86						18
Zinc	467802	2	ug/g	STD 290		24	70	39	22	
	467870	2	ug/g	STD 290						22

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Metals					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1748119 Soil153	1748120 Soil153	1748121 Soil153	1748122 Soil153	1748123 Soil153
Analyte	Batch No	MRL	Units	Guideline		2024-10-24 17:00 E-3-1	2024-10-24 17:00 E-3-2	2024-10-24 17:00 E-3-DUP	2024-10-24 17:00 E-4-1	2024-10-24 17:00 E-4-2
Antimony	467802	1	ug/g	STD 1.3		<1	<1	<1	<1	<1
Arsenic	467802	1	ug/g	STD 18		2	3	2	3	2
Barium	467802	1	ug/g	STD 220		58	284*	50	90	58
Beryllium	467802	1	ug/g	STD 2.5		<1	1	<1	<1	<1
Boron (Hot Water Soluble)	467791	0.25	ug/g			<0.25	<0.25	<0.25	<0.25	<0.25
Boron (total)	467802	5	ug/g	STD 36		6	14	8	8	8
Cadmium	467802	0.4	ug/g	STD 1.2		<0.4	<0.4	<0.4	<0.4	<0.4
Chromium Total	467802	1	ug/g	STD 70		21	46	16	24	16
Chromium VI	467790	0.20	ug/g	STD 0.66		<0.20	<0.20	<0.20	0.21	<0.20
Cobalt	467802	1	ug/g	STD 21		6	17	4	8	6
Copper	467802	1	ug/g	STD 92		10	33	8	14	11
Lead	467802	1	ug/g	STD 120		5	9	4	10	5
Mercury	467802	0.1	ug/g	STD 0.27		<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	467802	1	ug/g	STD 2		<1	<1	<1	<1	<1
Nickel	467802	1	ug/g	STD 82		12	33	9	14	11
Selenium	467802	0.5	ug/g	STD 1.5		<0.5	<0.5	<0.5	<0.5	<0.5
Silver	467802	0.2	ug/g	STD 0.5		<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	467802	1	ug/g	STD 1		<1	<1	<1	<1	<1
Uranium	467802	0.5	ug/g	STD 2.5		<0.5	<0.5	<0.5	0.5	<0.5
Vanadium	467802	2	ug/g	STD 86		34	63	28	39	27
Zinc	467802	2	ug/g	STD 290		33	77	19	47	24

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Water Quality Guideline, IPWQO = Interim Provincial Water Quality
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Metals

Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop					1748124 Soil153	1748125 Soil153	1748126 Soil153	1748127 Soil153	1748128 Soil153
<u>Metals</u>					2024-10-24 17:00 E-4-DUP	2024-10-24 15:00 E-28-1	2024-10-24 15:00 E-28-2	2024-10-24 15:00 E-28-DUP	2024-10-24 15:00 E-5-1
Analyte	Batch No	MRL	Units	Guideline					
Antimony	467802	1	ug/g	STD 1.3	<1	<1	<1	<1	<1
Arsenic	467802	1	ug/g	STD 18	2	1	1	2	2
Barium	467802	1	ug/g	STD 220	49	24	22	43	62
Beryllium	467802	1	ug/g	STD 2.5	<1	<1	<1	<1	<1
Boron (Hot Water Soluble)	467791	0.25	ug/g		<0.25	<0.25	<0.25	<0.25	<0.25
Boron (total)	467802	5	ug/g	STD 36	8	6	5	9	7
Cadmium	467802	0.4	ug/g	STD 1.2	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium Total	467802	1	ug/g	STD 70	17	10	9	16	17
Chromium VI	467790	0.20	ug/g	STD 0.66	<0.20	<0.20	<0.20	<0.20	<0.20
Cobalt	467802	1	ug/g	STD 21	5	3	3	6	6
Copper	467802	1	ug/g	STD 92	10	5	6	9	11
Lead	467802	1	ug/g	STD 120	4	3	2	4	4
Mercury	467802	0.1	ug/g	STD 0.27	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	467802	1	ug/g	STD 2	<1	<1	<1	<1	<1
Nickel	467802	1	ug/g	STD 82	10	6	6	9	12
Selenium	467802	0.5	ug/g	STD 1.5	<0.5	<0.5	<0.5	<0.5	<0.5
Silver	467802	0.2	ug/g	STD 0.5	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	467802	1	ug/g	STD 1	<1	<1	<1	<1	<1
Uranium	467802	0.5	ug/g	STD 2.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vanadium	467802	2	ug/g	STD 86	25	20	16	24	29
Zinc	467802	2	ug/g	STD 290	22	19	14	23	28

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Metals

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1748129	Soil153	1748130	Soil153	1748131	Soil153
					2024-10-24	15:00	2024-10-24	15:00	2024-10-24	15:00
					E-5-2		E-6-1		E-6-2	
Antimony	467802	1	ug/g	STD 1.3	<1		<1		<1	<1
Arsenic	467802	1	ug/g	STD 18	2		2		2	3
Barium	467802	1	ug/g	STD 220	65		66		57	101
Beryllium	467802	1	ug/g	STD 2.5	<1		<1		<1	<1
Boron (Hot Water Soluble)	467791	0.25	ug/g		<0.25		<0.25		<0.25	<0.25
Boron (total)	467802	5	ug/g	STD 36	7		8		8	8
Cadmium	467802	0.4	ug/g	STD 1.2	<0.4		<0.4		<0.4	<0.4
Chromium Total	467802	1	ug/g	STD 70	17		15		16	35
Chromium VI	467790	0.20	ug/g	STD 0.66	<0.20		<0.20		<0.20	<0.20
Cobalt	467802	1	ug/g	STD 21	6		5		5	10
Copper	467802	1	ug/g	STD 92	12		13		12	14
Lead	467802	1	ug/g	STD 120	4		4		5	10
Mercury	467802	0.1	ug/g	STD 0.27	<0.1		<0.1		<0.1	<0.1
Molybdenum	467802	1	ug/g	STD 2	<1		<1		<1	<1
Nickel	467802	1	ug/g	STD 82	11		10		9	20
Selenium	467802	0.5	ug/g	STD 1.5	<0.5		<0.5		<0.5	<0.5
Silver	467802	0.2	ug/g	STD 0.5	<0.2		<0.2		<0.2	<0.2
Thallium	467802	1	ug/g	STD 1	<1		<1		<1	<1
Uranium	467802	0.5	ug/g	STD 2.5	<0.5		<0.5		<0.5	<0.5
Vanadium	467802	2	ug/g	STD 86	27		24		27	49
Zinc	467802	2	ug/g	STD 290	24		22		25	64

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Client: Engtec Consulting Inc.
1-2447 Anson Drive
Mississauga, Ontario
L5S 1G1
Attention: Hammad Din
PO#:
Invoice to: Engtec Consulting Inc.

Report Number: 3011975
Date Submitted: 2024-10-25
Date Reported: 2024-11-01
Project: ET24-1438B
COC #: 230995

Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop

Metals

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1748134	Soil153	1748135	Soil153	1748136	Soil153
					2024-10-24	15:00	2024-10-24	15:00	2024-10-24	15:00
					G-3-1		G-3-2		G-4-1	
Antimony	467802	1	ug/g	STD 1.3	<1		<1		<1	
Arsenic	467802	1	ug/g	STD 18	1		1		2	
Barium	467802	1	ug/g	STD 220	13		30		56	
Beryllium	467802	1	ug/g	STD 2.5	<1		<1		<1	
Boron (Hot Water Soluble)	467791	0.25	ug/g		<0.25		<0.25		<0.25	
Boron (total)	467802	5	ug/g	STD 36	6		5		6	
Cadmium	467802	0.4	ug/g	STD 1.2	<0.4		<0.4		<0.4	
Chromium Total	467802	1	ug/g	STD 70	12		10		15	
Chromium VI	467790	0.20	ug/g	STD 0.66	<0.20		<0.20		<0.20	
Cobalt	467802	1	ug/g	STD 21	2		3		5	
Copper	467802	1	ug/g	STD 92	6		7		11	
Lead	467802	1	ug/g	STD 120	2		2		4	
Mercury	467802	0.1	ug/g	STD 0.27	<0.1		<0.1		<0.1	
Molybdenum	467802	1	ug/g	STD 2	<1		<1		<1	
Nickel	467802	1	ug/g	STD 82	6		6		9	
Selenium	467802	0.5	ug/g	STD 1.5	<0.5		<0.5		<0.5	
Silver	467802	0.2	ug/g	STD 0.5	<0.2		<0.2		<0.2	
Thallium	467802	1	ug/g	STD 1	<1		<1		<1	
Uranium	467802	0.5	ug/g	STD 2.5	<0.5		<0.5		<0.5	
Vanadium	467802	2	ug/g	STD 86	15		19		26	
Zinc	467802	2	ug/g	STD 290	13		14		21	

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ET24-1438B

COC #:

230995

Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop

Metals

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1748139 Soil153 2024-10-24 15:00 G-7-2
Analyte	Batch No	MRL	Units	Guideline	
Antimony	467802	1	ug/g	STD 1.3	<1
Arsenic	467802	1	ug/g	STD 18	3
Barium	467802	1	ug/g	STD 220	184
Beryllium	467802	1	ug/g	STD 2.5	<1
Boron (Hot Water Soluble)	467791	0.25	ug/g		<0.25
Boron (total)	467802	5	ug/g	STD 36	13
Cadmium	467802	0.4	ug/g	STD 1.2	<0.4
Chromium Total	467802	1	ug/g	STD 70	35
Chromium VI	467790	0.20	ug/g	STD 0.66	<0.20
Cobalt	467802	1	ug/g	STD 21	11
Copper	467802	1	ug/g	STD 92	23
Lead	467802	1	ug/g	STD 120	8
Mercury	467802	0.1	ug/g	STD 0.27	<0.1
Molybdenum	467802	1	ug/g	STD 2	<1
Nickel	467802	1	ug/g	STD 82	24
Selenium	467802	0.5	ug/g	STD 1.5	<0.5
Silver	467802	0.2	ug/g	STD 0.5	<0.2
Thallium	467802	1	ug/g	STD 1	<1
Uranium	467802	0.5	ug/g	STD 2.5	<0.5
Vanadium	467802	2	ug/g	STD 86	50
Zinc	467802	2	ug/g	STD 290	53

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PAH

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1748114	Soil153	1748115	Soil153	1748116	Soil153
					2024-10-24	17:00	2024-10-24	17:00	2024-10-24	17:00
					E-1-1		E-1-2		E-2-1	E-2-2
										E-2-DUP
1+2-methylnaphthalene	467757	0.05	ug/g	STD 0.59	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene	467416	0.05	ug/g	STD 0.072	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	467416	0.05	ug/g	STD 0.093	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	467416	0.05	ug/g	STD 0.16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benz[a]anthracene	467416	0.05	ug/g	STD 0.36	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[a]pyrene	467416	0.05	ug/g	STD 0.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[b]fluoranthene	467416	0.05	ug/g	STD 0.47	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[ghi]perylene	467416	0.05	ug/g	STD 0.68	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[k]fluoranthene	467416	0.05	ug/g	STD 0.48	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	467416	0.05	ug/g	STD 2.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz[a h]anthracene	467416	0.05	ug/g	STD 0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	467416	0.05	ug/g	STD 0.56	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	467416	0.05	ug/g	STD 0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno[1 2 3-cd]pyrene	467416	0.05	ug/g	STD 0.23	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylnaphthalene, 1-	467416	0.05	ug/g	STD 0.59	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylnaphthalene, 2-	467416	0.05	ug/g	STD 0.59	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Naphthalene	467416	0.013	ug/g	STD 0.09	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013
Phenanthrene	467416	0.05	ug/g	STD 0.69	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	467416	0.05	ug/g	STD 1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

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Date Submitted: 2024-10-25
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Project: ET24-1438B
COC #: 230995

Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop

PAH

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1748119	Soil153	1748120	Soil153	1748121	Soil153
					2024-10-24	17:00	2024-10-24	17:00	2024-10-24	17:00
					E-3-1		E-3-2		E-3-DUP	
1+2-methylnaphthalene	467757	0.05	ug/g	STD 0.59	<0.05	<0.05		<0.05	<0.05	<0.05
	467862	0.05	ug/g	STD 0.59			<0.05			
Acenaphthene	467416	0.05	ug/g	STD 0.072	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	467416	0.05	ug/g	STD 0.093	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	467416	0.05	ug/g	STD 0.16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benz[a]anthracene	467416	0.05	ug/g	STD 0.36	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[a]pyrene	467416	0.05	ug/g	STD 0.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[b]fluoranthene	467416	0.05	ug/g	STD 0.47	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[ghi]perylene	467416	0.05	ug/g	STD 0.68	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[k]fluoranthene	467416	0.05	ug/g	STD 0.48	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	467416	0.05	ug/g	STD 2.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz[a h]anthracene	467416	0.05	ug/g	STD 0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	467416	0.05	ug/g	STD 0.56	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	467416	0.05	ug/g	STD 0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno[1 2 3-cd]pyrene	467416	0.05	ug/g	STD 0.23	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylnaphthalene, 1-	467416	0.05	ug/g	STD 0.59	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylnaphthalene, 2-	467416	0.05	ug/g	STD 0.59	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Naphthalene	467416	0.013	ug/g	STD 0.09	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013
Phenanthrene	467416	0.05	ug/g	STD 0.69	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	467416	0.05	ug/g	STD 1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

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PAH

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1748124	Soil153	1748125	Soil153	1748126	Soil153
					2024-10-24	17:00	2024-10-24	15:00	2024-10-24	15:00
					E-4-DUP		E-28-1		E-28-2	E-28-DUP
1+2-methylnaphthalene	467757	0.05	ug/g	STD 0.59	<0.05					
	467862	0.05	ug/g	STD 0.59			<0.05	<0.05	<0.05	<0.05
Acenaphthene	467416	0.05	ug/g	STD 0.072	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	467416	0.05	ug/g	STD 0.093	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	467416	0.05	ug/g	STD 0.16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benz[a]anthracene	467416	0.05	ug/g	STD 0.36	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[a]pyrene	467416	0.05	ug/g	STD 0.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[b]fluoranthene	467416	0.05	ug/g	STD 0.47	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[ghi]perylene	467416	0.05	ug/g	STD 0.68	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[k]fluoranthene	467416	0.05	ug/g	STD 0.48	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	467416	0.05	ug/g	STD 2.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz[a h]anthracene	467416	0.05	ug/g	STD 0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	467416	0.05	ug/g	STD 0.56	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	467416	0.05	ug/g	STD 0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno[1 2 3-cd]pyrene	467416	0.05	ug/g	STD 0.23	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylnaphthalene, 1-	467416	0.05	ug/g	STD 0.59	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylnaphthalene, 2-	467416	0.05	ug/g	STD 0.59	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Naphthalene	467416	0.013	ug/g	STD 0.09	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013
Phenanthrene	467416	0.05	ug/g	STD 0.69	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	467416	0.05	ug/g	STD 1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

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Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop										
PAH	Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	1748129	1748130	1748131	1748132
						Sample Matrix	Soil153	Soil153	Soil153	Soil153
						Sample Type	2024-10-24	2024-10-24	2024-10-24	2024-10-24
						Sample Date	15:00	15:00	15:00	15:00
						Sampling Time	E-5-2	E-6-1	E-6-2	E-7-1
						Sample I.D.				
	1+2-methylnaphthalene	467862	0.05	ug/g	STD 0.59		<0.05	<0.05	<0.05	<0.05
	Acenaphthene	467416	0.05	ug/g	STD 0.072		<0.05	<0.05	<0.05	<0.05
	Acenaphthylene	467416	0.05	ug/g	STD 0.093		<0.05	<0.05	<0.05	<0.05
	Anthracene	467416	0.05	ug/g	STD 0.16		<0.05	<0.05	<0.05	<0.05
	Benz[a]anthracene	467416	0.05	ug/g	STD 0.36		<0.05	<0.05	<0.05	<0.05
	Benzo[a]pyrene	467416	0.05	ug/g	STD 0.3		<0.05	<0.05	<0.05	<0.05
	Benzo[b]fluoranthene	467416	0.05	ug/g	STD 0.47		<0.05	<0.05	<0.05	<0.05
	Benzo[ghi]perylene	467416	0.05	ug/g	STD 0.68		<0.05	<0.05	<0.05	<0.05
	Benzo[k]fluoranthene	467416	0.05	ug/g	STD 0.48		<0.05	<0.05	<0.05	<0.05
	Chrysene	467416	0.05	ug/g	STD 2.8		<0.05	<0.05	<0.05	<0.05
	Dibenz[a h]anthracene	467416	0.05	ug/g	STD 0.1		<0.05	<0.05	<0.05	<0.05
	Fluoranthene	467416	0.05	ug/g	STD 0.56		<0.05	<0.05	<0.05	<0.05
	Fluorene	467416	0.05	ug/g	STD 0.12		<0.05	<0.05	<0.05	<0.05
	Indeno[1 2 3-cd]pyrene	467416	0.05	ug/g	STD 0.23		<0.05	<0.05	<0.05	<0.05
	Methylnaphthalene, 1-	467416	0.05	ug/g	STD 0.59		<0.05	<0.05	<0.05	<0.05
	Methylnaphthalene, 2-	467416	0.05	ug/g	STD 0.59		<0.05	<0.05	<0.05	<0.05
	Naphthalene	467416	0.013	ug/g	STD 0.09		<0.013	<0.013	<0.013	<0.013
	Phenanthrene	467416	0.05	ug/g	STD 0.69		<0.05	<0.05	<0.05	<0.05
	Pyrene	467416	0.05	ug/g	STD 1		<0.05	<0.05	<0.05	<0.05

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Invoice to: Engtec Consulting Inc.

Report Number: 3011975
Date Submitted: 2024-10-25
Date Reported: 2024-11-01
Project: ET24-1438B
COC #: 230995

Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop

PAH

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1748134	Soil153	1748135	Soil153	1748136	Soil153
					2024-10-24	15:00	2024-10-24	15:00	2024-10-24	15:00
					G-3-1		G-3-2		G-4-1	G-4-2
1+2-methylnaphthalene	467757	0.05	ug/g	STD 0.59	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene	467416	0.05	ug/g	STD 0.072	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	467416	0.05	ug/g	STD 0.093	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	467416	0.05	ug/g	STD 0.16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benz[a]anthracene	467416	0.05	ug/g	STD 0.36	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[a]pyrene	467416	0.05	ug/g	STD 0.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[b]fluoranthene	467416	0.05	ug/g	STD 0.47	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[ghi]perylene	467416	0.05	ug/g	STD 0.68	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[k]fluoranthene	467416	0.05	ug/g	STD 0.48	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	467416	0.05	ug/g	STD 2.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz[a h]anthracene	467416	0.05	ug/g	STD 0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	467416	0.05	ug/g	STD 0.56	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	467416	0.05	ug/g	STD 0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno[1 2 3-cd]pyrene	467416	0.05	ug/g	STD 0.23	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylnaphthalene, 1-	467416	0.05	ug/g	STD 0.59	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylnaphthalene, 2-	467416	0.05	ug/g	STD 0.59	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Naphthalene	467416	0.013	ug/g	STD 0.09	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013
Phenanthrene	467416	0.05	ug/g	STD 0.69	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	467416	0.05	ug/g	STD 1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

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MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

Client: Engtec Consulting Inc.
1-2447 Anson Drive
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L5S 1G1
Attention: Hammad Din
PO#:
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Date Submitted: 2024-10-25
Date Reported: 2024-11-01
Project: ET24-1438B
COC #: 230995

Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop

PAH

Lab I.D. 1748139
Sample Matrix Soil153
Sample Type
Sample Date 2024-10-24
Sampling Time 15:00
Sample I.D. G-7-2

Analyte	Batch No	MRL	Units	Guideline	
1+2-methylnaphthalene	467757	0.05	ug/g	STD 0.59	<0.05
Acenaphthene	467416	0.05	ug/g	STD 0.072	<0.05
Acenaphthylene	467416	0.05	ug/g	STD 0.093	<0.05
Anthracene	467416	0.05	ug/g	STD 0.16	<0.05
Benz[a]anthracene	467416	0.05	ug/g	STD 0.36	<0.05
Benzo[a]pyrene	467416	0.05	ug/g	STD 0.3	<0.05
Benzo[b]fluoranthene	467416	0.05	ug/g	STD 0.47	<0.05
Benzo[ghi]perylene	467416	0.05	ug/g	STD 0.68	<0.05
Benzo[k]fluoranthene	467416	0.05	ug/g	STD 0.48	<0.05
Chrysene	467416	0.05	ug/g	STD 2.8	<0.05
Dibenz[a h]anthracene	467416	0.05	ug/g	STD 0.1	<0.05
Fluoranthene	467416	0.05	ug/g	STD 0.56	<0.05
Fluorene	467416	0.05	ug/g	STD 0.12	<0.05
Indeno[1 2 3-cd]pyrene	467416	0.05	ug/g	STD 0.23	<0.05
Methylnaphthalene, 1-	467416	0.05	ug/g	STD 0.59	<0.05
Methylnaphthalene, 2-	467416	0.05	ug/g	STD 0.59	<0.05
Naphthalene	467416	0.013	ug/g	STD 0.09	<0.013
Phenanthrene	467416	0.05	ug/g	STD 0.69	<0.05
Pyrene	467416	0.05	ug/g	STD 1	<0.05

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Volatiles

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					
Analyte	Batch No	MRL	Units	Guideline						
Benzene	467807	0.0068	ug/g	STD 0.02	1748114 Soil153	2024-10-24 17:00 E-1-1	1748115 Soil153	1748116 Soil153	1748117 Soil153	1748118 Soil153
	467909	0.0068	ug/g	STD 0.02						<0.0068
Ethylbenzene	467807	0.018	ug/g	STD 0.05						
	467909	0.018	ug/g	STD 0.05						<0.018
Toluene	467807	0.08	ug/g	STD 0.2						
	467909	0.08	ug/g	STD 0.2						<0.08
Xylene Mixture	467810	0.05	ug/g	STD 0.05						
	467923	0.05	ug/g	STD 0.05						<0.05
Xylene, m/p-	467807	0.05	ug/g							
	467909	0.05	ug/g							<0.05
Xylene, o-	467807	0.05	ug/g							
	467909	0.05	ug/g							<0.05

Volatiles

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					
Analyte	Batch No	MRL	Units	Guideline						
Benzene	467807	0.0068	ug/g	STD 0.02	1748119 Soil153	2024-10-24 17:00 E-3-1	1748120 Soil153	1748121 Soil153	1748122 Soil153	1748123 Soil153
	467871	0.0068	ug/g	STD 0.02						<0.0068
Ethylbenzene	467807	0.018	ug/g	STD 0.05						
	467871	0.018	ug/g	STD 0.05						<0.018
Toluene	467807	0.08	ug/g	STD 0.2						
	467871	0.08	ug/g	STD 0.2						<0.08
Xylene Mixture	467810	0.05	ug/g	STD 0.05						<0.05

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Volatiles

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1748119 Soil153	1748120 Soil153	1748121 Soil153	1748122 Soil153	1748123 Soil153
Analyte	Batch No	MRL	Units	Guideline	2024-10-24 17:00 E-3-1	2024-10-24 17:00 E-3-2	2024-10-24 17:00 E-3-DUP	2024-10-24 17:00 E-4-1	2024-10-24 17:00 E-4-2
Xylene Mixture	467878	0.05	ug/g	STD 0.05	<0.05	<0.05			
Xylene, m/p-	467807	0.05	ug/g				<0.05	<0.05	<0.05
	467871	0.05	ug/g		<0.05	<0.05			
Xylene, o-	467807	0.05	ug/g				<0.05	<0.05	<0.05
	467871	0.05	ug/g		<0.05	<0.05			

Volatiles

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1748124 Soil153	1748125 Soil153	1748126 Soil153	1748127 Soil153	1748128 Soil153
Analyte	Batch No	MRL	Units	Guideline	2024-10-24 17:00 E-4-DUP	2024-10-24 15:00 E-28-1	2024-10-24 15:00 E-28-2	2024-10-24 15:00 E-28-DUP	2024-10-24 15:00 E-5-1
Benzene	467807	0.0068	ug/g	STD 0.02	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068
Ethylbenzene	467807	0.018	ug/g	STD 0.05	<0.018	<0.018	<0.018	<0.018	<0.018
Toluene	467807	0.08	ug/g	STD 0.2	<0.08	<0.08	<0.08	<0.08	<0.08
Xylene Mixture	467810	0.05	ug/g	STD 0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylene, m/p-	467807	0.05	ug/g		<0.05	<0.05	<0.05	<0.05	<0.05
Xylene, o-	467807	0.05	ug/g		<0.05	<0.05	<0.05	<0.05	<0.05

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MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational
Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim
Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial
Water Quality Guideline, IPWQO = Interim Provincial Water Quality
Objective, TDR = Typical Desired Range

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Volatiles

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1748129	Soil153		2024-10-24	15:00	E-5-2
Benzene	467807	0.0068	ug/g	STD 0.02	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068
Ethylbenzene	467807	0.018	ug/g	STD 0.05	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018
Toluene	467807	0.08	ug/g	STD 0.2	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Xylene Mixture	467810	0.05	ug/g	STD 0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylene, m/p-	467807	0.05	ug/g		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylene, o-	467807	0.05	ug/g		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Volatiles

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1748134	Soil153		2024-10-24	15:00	G-3-1
Benzene	467807	0.0068	ug/g	STD 0.02	<0.0068	<0.0068		<0.0068		<0.0068
	467871	0.0068	ug/g	STD 0.02			<0.0068			
Ethylbenzene	467807	0.018	ug/g	STD 0.05	<0.018	<0.018		<0.018		<0.018
	467871	0.018	ug/g	STD 0.05			<0.018			
Toluene	467807	0.08	ug/g	STD 0.2	<0.08	<0.08		<0.08		<0.08
	467871	0.08	ug/g	STD 0.2			<0.08			
Xylene Mixture	467810	0.05	ug/g	STD 0.05	<0.05	<0.05		<0.05		<0.05
	467878	0.05	ug/g	STD 0.05			<0.05			
Xylene, m/p-	467807	0.05	ug/g		<0.05	<0.05		<0.05		<0.05
	467871	0.05	ug/g				<0.05			
Xylene, o-	467807	0.05	ug/g		<0.05	<0.05		<0.05		<0.05
	467871	0.05	ug/g				<0.05			

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Volatiles

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1748139 Soil153 2024-10-24 15:00 G-7-2
Analyte	Batch No	MRL	Units	Guideline	
Benzene	467807	0.0068	ug/g	STD 0.02	<0.0068
Ethylbenzene	467807	0.018	ug/g	STD 0.05	<0.018
Toluene	467807	0.08	ug/g	STD 0.2	<0.08
Xylene Mixture	467810	0.05	ug/g	STD 0.05	<0.05
Xylene, m/p-	467807	0.05	ug/g		<0.05
Xylene, o-	467807	0.05	ug/g		<0.05

Inorganics

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1748114 Soil153 2024-10-24 17:00 E-1-1	1748115 Soil153 2024-10-24 17:00 E-1-2	1748116 Soil153 2024-10-24 17:00 E-2-1	1748117 Soil153 2024-10-24 17:00 E-2-2	1748118 Soil153 2024-10-24 17:00 E-2-DUP
Analyte	Batch No	MRL	Units	Guideline					
Cyanide (CN-)	467860	0.005	ug/g	STD 0.051	<0.005	<0.005	<0.005	<0.005	<0.005
Electrical Conductivity	467848	0.05	mS/cm	STD 0.57	0.24	0.34	0.24	0.14	0.14
pH - CaCl2	467755	2.00			7.78	7.75	7.75	7.85	7.79
Sodium Adsorption Ratio	467855	0.01		STD 2.4	3.34*	6.04*	0.47	0.46	0.40

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Inorganics					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1748119 Soil153	1748120 Soil153	1748121 Soil153	1748122 Soil153	1748123 Soil153
Analyte	Batch No	MRL	Units	Guideline		2024-10-24 17:00 E-3-1	2024-10-24 17:00 E-3-2	2024-10-24 17:00 E-3-DUP	2024-10-24 17:00 E-4-1	2024-10-24 17:00 E-4-2
Cyanide (CN-)	467860	0.005	ug/g	STD 0.051		<0.005	<0.005	<0.005	<0.005	<0.005
Electrical Conductivity	467848	0.05	mS/cm	STD 0.57		0.17	0.15	0.14	0.79*	0.65*
pH - CaCl2	467755	2.00				7.67	7.70	7.69	7.67	7.76
Sodium Adsorption Ratio	467855	0.01		STD 2.4		0.38	0.34	0.45	10.6*	13.6*

Inorganics					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1748124 Soil153	1748125 Soil153	1748126 Soil153	1748127 Soil153	1748128 Soil153
Analyte	Batch No	MRL	Units	Guideline		2024-10-24 17:00 E-4-DUP	2024-10-24 15:00 E-28-1	2024-10-24 15:00 E-28-2	2024-10-24 15:00 E-28-DUP	2024-10-24 15:00 E-5-1
Cyanide (CN-)	467860	0.005	ug/g	STD 0.051		<0.005	<0.005	<0.005	<0.005	<0.005
Electrical Conductivity	467848	0.05	mS/cm	STD 0.57		0.59*	1.99*	1.92*	1.73*	0.27
pH - CaCl2	467755	2.00				7.78	7.78	7.82	7.94	7.86
Sodium Adsorption Ratio	467855	0.01		STD 2.4		12.6*	17.6*	13.9*	37.1*	3.61*

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Inorganics

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1748129	Soil153		2024-10-24	15:00	E-5-2
Cyanide (CN-)	467860	0.005	ug/g	STD 0.051	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Electrical Conductivity	467848	0.05	mS/cm	STD 0.57	0.24	4.01*	0.30	0.28	0.21	
pH - CaCl2	467755	2.00			7.78	7.90	7.88	7.86	7.83	
Sodium Adsorption Ratio	467855	0.01		STD 2.4	2.73*	77.2*	3.15*	4.59*	4.06*	

Inorganics

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1748134	Soil153		2024-10-24	15:00	G-3-1
Cyanide (CN-)	467860	0.005	ug/g	STD 0.051	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Electrical Conductivity	467848	0.05	mS/cm	STD 0.57	0.94*	3.35*	0.47	0.41	1.42*	
pH - CaCl2	467755	2.00			7.80	7.85	7.92	7.89	7.89	
Sodium Adsorption Ratio	467855	0.01		STD 2.4	12.6*	57.4*	5.74*	2.93*	25.2*	

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Inorganics

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1748139 Soil153 2024-10-24 15:00 G-7-2
Analyte	Batch No	MRL	Units	Guideline	
Cyanide (CN-)	467860	0.005	ug/g	STD 0.051	<0.005
Electrical Conductivity	467848	0.05	mS/cm	STD 0.57	1.12*
pH - CaCl2	467755	2.00			7.81
Sodium Adsorption Ratio	467855	0.01		STD 2.4	23.2*

Moisture

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1748114 Soil153 2024-10-24 17:00 E-1-1	1748115 Soil153 2024-10-24 17:00 E-1-2	1748116 Soil153 2024-10-24 17:00 E-2-1	1748117 Soil153 2024-10-24 17:00 E-2-2	1748118 Soil153 2024-10-24 17:00 E-2-DUP
Analyte	Batch No	MRL	Units	Guideline					
Moisture-Humidite	467826	0.1	%						8.8
	467833	0.1	%			8.1	22.5	8.3	
	467837	0.1	%		9.5				

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Attention: Hammad Din
PO#:
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Report Number: 3011975
Date Submitted: 2024-10-25
Date Reported: 2024-11-01
Project: ET24-1438B
COC #: 230995

Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop

Moisture

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1748119 Soil153	1748120 Soil153	1748121 Soil153	1748122 Soil153	1748123 Soil153
Analyte	Batch No	MRL	Units	Guideline					
Moisture-Humidite	467826	0.1	%						10.1
	467833	0.1	%		20.6				
	467835	0.1	%					15.2	
	467837	0.1	%			25.1			
	467894	0.1	%				15.2		

Moisture

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1748124 Soil153	1748125 Soil153	1748126 Soil153	1748127 Soil153	1748128 Soil153
Analyte	Batch No	MRL	Units	Guideline					
Moisture-Humidite	467833	0.1	%		20.1				
	467893	0.1	%						12.1
	467894	0.1	%				7.3	5.6	
	467911	0.1	%			9.2			

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Moisture

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1748129	Soil153	1748130	Soil153	1748131	Soil153
Moisture-Humidite	467893	0.1	%		2024-10-24	15:00	2024-10-24	15:00	2024-10-24	15:00
	467894	0.1	%		E-5-2	E-6-1	E-6-2	E-7-1	E-7-2	
					9.1		15.5	5.8	14.4	
						9.0				

Moisture

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1748134	Soil153	1748135	Soil153	1748136	Soil153
Moisture-Humidite	467826	0.1	%		2024-10-24	15:00	2024-10-24	15:00	2024-10-24	15:00
	467833	0.1	%		G-3-1	G-3-2	G-4-1	G-4-2	G-7-1	
	467835	0.1	%				11.7			
	467837	0.1	%		12.9	12.4				
								11.3		
									20.4	

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Environment Testing

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Moisture

Lab I.D. 1748139 Sample Matrix Soil153 Sample Type Sample Date 2024-10-24 Sampling Time 15:00 Sample I.D. G-7-2				
Analyte	Batch No	MRL	Units	Guideline
Moisture-Humidite	467826	0.1	%	21.3

PHC Surrogate

Lab I.D. 1748114 Sample Matrix Soil153 Sample Type Sample Date 2024-10-24 Sampling Time 17:00 Sample I.D. E-1-1					1748115 Soil153 2024-10-24 17:00 E-1-2	1748116 Soil153 2024-10-24 17:00 E-2-1	1748117 Soil153 2024-10-24 17:00 E-2-2	1748118 Soil153 2024-10-24 17:00 E-2-DUP
Analyte	Batch No	MRL	Units	Guideline				
Alpha-androstrane	467826	0	%					83
	467833	0	%		72	66	82	
	467837	0	%		72			

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PHC Surrogate

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1748119	Soil153		2024-10-24	17:00	E-3-1
Alpha-androstrane	467826	0	%							
	467833	0	%		112					
	467835	0	%							98
	467837	0	%			88				
	467894	0	%				129			

PHC Surrogate

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1748124	Soil153		2024-10-24	17:00	E-4-DUP
Alpha-androstrane	467833	0	%		102					
	467893	0	%							92
	467894	0	%				98			98
	467911	0	%			82				

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PHC Surrogate

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1748129 Soil153	1748130 Soil153	1748131 Soil153	1748132 Soil153	1748133 Soil153
Analyte	Batch No	MRL	Units	Guideline					
Alpha-androstrane	467893	0	%		116		135	102	92
	467894	0	%			102			

PHC Surrogate

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1748134 Soil153	1748135 Soil153	1748136 Soil153	1748137 Soil153	1748138 Soil153
Analyte	Batch No	MRL	Units	Guideline					
Alpha-androstrane	467826	0	%					78	
	467833	0	%						62
	467835	0	%				83		
	467837	0	%		89	87			

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PHC Surrogate

Lab I.D. 1748139
Sample Matrix Soil153
Sample Type
Sample Date 2024-10-24
Sampling Time 15:00
Sample I.D. G-7-2

Analyte	Batch No	MRL	Units	Guideline
Alpha-androstrane	467826	0	%	69

VOCs Surrogates

Lab I.D. 1748114 1748115 1748116 1748117 1748118
Sample Matrix Soil153 Soil153 Soil153 Soil153 Soil153
Sample Type
Sample Date 2024-10-24 2024-10-24 2024-10-24 2024-10-24 2024-10-24
Sampling Time 17:00 17:00 17:00 17:00 17:00
Sample I.D. E-1-1 E-1-2 E-2-1 E-2-2 E-2-DUP

Analyte	Batch No	MRL	Units	Guideline
Toluene-d8	467807	0	%	98
	467909	0	%	79

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VOCs Surrogates

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.				
					Guideline				
Analyte	Batch No	MRL	Units						
Toluene-d8	467807	0	%					118	112
	467871	0	%			122	118		115

VOCs Surrogates

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.				
					Guideline				
Analyte	Batch No	MRL	Units						
Toluene-d8	467807	0	%			114	112	111	95
									98

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VOCs Surrogates

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1748129 Soil153	1748130 Soil153	1748131 Soil153	1748132 Soil153	1748133 Soil153
Analyte	Batch No	MRL	Units	Guideline						
Toluene-d8	467807	0	%			95	88	96	99	96

VOCs Surrogates

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1748134 Soil153	1748135 Soil153	1748136 Soil153	1748137 Soil153	1748138 Soil153
Analyte	Batch No	MRL	Units	Guideline						
Toluene-d8	467807	0	%			99	100		105	97
	467871	0	%					90		

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VOCs Surrogates

Lab I.D. 1748139
Sample Matrix Soil153
Sample Type
Sample Date 2024-10-24
Sampling Time 15:00
Sample I.D. G-7-2

Analyte	Batch No	MRL	Units	Guideline
Toluene-d8	467807	0	%	89

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Quality Assurance Summary

Batch No	Analyte	Blank	QC % Rec	QC Limits	Spike % Rec	Spike Limits	Dup % RPD	Duplicate Limits
467416	Methlynaphthalene, 1-	<0.05 ug/g	76	50-140	86	50-140	0	0-40
467416	Methlynaphthalene, 2-	<0.05 ug/g	53	50-140	57	50-140	0	0-40
467416	Acenaphthene	<0.05 ug/g	74	50-140	74	50-140	0	0-40
467416	Acenaphthylene	<0.05 ug/g	69	50-140	77	50-140	0	0-40
467416	Anthracene	<0.05 ug/g	71	50-140	87	50-140	0	0-40
467416	Benz[a]anthracene	<0.05 ug/g	57	50-140	94	50-140	0	0-40
467416	Benzo[a]pyrene	<0.05 ug/g	61	50-140	89	50-140	0	0-40
467416	Benzo[b]fluoranthene	<0.05 ug/g	63	50-140	102	50-140	0	0-40
467416	Benzo[ghi]perylene	<0.05 ug/g	53	50-140	60	50-140	0	0-40
467416	Benzo[k]fluoranthene	<0.05 ug/g	79	50-140	83		0	0-40
467416	Chrysene	<0.05 ug/g	83	50-140	125	50-140	0	0-40
467416	Dibenz[a h]anthracene	<0.05 ug/g	56	50-140	52	50-140	0	0-40
467416	Fluoranthene	<0.05 ug/g	66	50-140	120	50-140	0	0-40
467416	Fluorene	<0.05 ug/g	75	50-140	73	50-140	0	0-40
467416	Indeno[1 2 3-cd]pyrene	<0.05 ug/g	51	50-140	54	50-140	0	0-40
467416	Naphthalene	<0.013 ug/g	70	50-140	69	50-140	0	0-40
467416	Phenanthrene	<0.05 ug/g	69	50-140	108	50-140	0	0-40
467416	Pyrene	<0.05 ug/g	64	50-140	121	50-140	0	0-40
467755	pH - CaCl2	5.43	101	90-110			0	
467757	1+2-methylnaphthalene							
467790	Chromium VI	<0.20 ug/g	100	70-130	86	70-130	0	0-35
467791	Boron (Hot Water Soluble)	<0.25 ug/g	102	70-130	107	60-140	0	0-30
467802	Silver	<0.2 ug/g	105	70-130	102	70-130	0	0-20
467802	Arsenic	<1 ug/g	101	70-130	102	70-130	0	0-20
467802	Boron (total)	<5 ug/g	104	70-130	142	70-130	0	0-20
467802	Barium	<1 ug/g	115	70-130	110	70-130	2	0-20
467802	Beryllium	<1 ug/g	101	70-130	100	70-130	0	0-20
467802	Cadmium	<0.4 ug/g	115	70-130	116	70-130	0	0-20
467802	Cobalt	<1 ug/g	114	70-130	110	70-130	1	0-20
467802	Chromium Total	<1 ug/g	117	70-130	155	70-130	7	0-20
467802	Copper	<1 ug/g	115	70-130	94	70-130	3	0-20
467802	Mercury	<0.1 ug/g	90	70-130	91	70-130	0	0-20

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Quality Assurance Summary

Batch No	Analyte	Blank	QC % Rec	QC Limits	Spike % Rec	Spike Limits	Dup % RPD	Duplicate Limits
467802	Molybdenum	<1 ug/g	116	70-130	109	70-130	0	0-20
467802	Nickel	<1 ug/g	114	70-130	112	70-130	7	0-20
467802	Lead	<1 ug/g	108	70-130	98	70-130	1	0-20
467802	Antimony	<1 ug/g	87	70-130	99	70-130	0	0-20
467802	Selenium	<0.5 ug/g	106	70-130	103	70-130	0	0-20
467802	Thallium	<1 ug/g	106	70-130	102	70-130	0	0-20
467802	Uranium	<0.5 ug/g	93	70-130	101	70-130	0	0-20
467802	Vanadium	<2 ug/g	112	70-130	149	70-130	3	0-20
467802	Zinc	<2 ug/g	109	70-130	93	70-130	0	0-20
467807	Benzene	<0.0068	110	60-130	108	50-140	0	0-50
467807	Ethylbenzene	<0.018 ug/g	89	60-130	92	50-140	0	0-50
467807	Xylene, m/p-	<0.05 ug/g	94	60-130	91	50-140	0	0-50
467807	Xylene, o-	<0.05 ug/g	94	60-130	86	50-140	0	0-50
467807	Toluene	<0.08 ug/g	103	60-130	112	50-140	0	0-50
467808	PHC's F1	<10 ug/g	112	80-120	86	60-140	0	0-30
467810	Xylene Mixture							
467811	PHC's F1-BTEX							
467826	PHC's F2	<2 ug/g	100	80-120	78	60-140	0	0-30
467826	PHC's F3	<20 ug/g	100	80-120	78	60-140	0	0-30
467826	PHC's F4	<20 ug/g	100	80-120	78	60-140	0	0-30
467826	Moisture-Humidite	<0.1 %	100	80-120			12	
467833	PHC's F2	<2 ug/g	99	80-120	80	60-140	0	0-30
467833	PHC's F3	<20 ug/g	99	80-120	80	60-140	0	0-30
467833	PHC's F4	<20 ug/g	99	80-120	80	60-140	0	0-30
467833	Moisture-Humidite	<0.1 %	100	80-120			51	
467835	PHC's F2	<2 ug/g	102	80-120	80	60-140	0	0-30
467835	PHC's F3	<20 ug/g	102	80-120	80	60-140	0	0-30
467835	PHC's F4	<20 ug/g	102	80-120	80	60-140	0	0-30
467835	Moisture-Humidite	<0.1 %	100	80-120			51	
467837	PHC's F2	<2 ug/g	87	80-120	70	60-140	0	0-30
467837	PHC's F3	<20 ug/g	87	80-120	70	60-140	0	0-30
467837	PHC's F4	<20 ug/g	87	80-120	70	60-140	0	0-30
467837	Moisture-Humidite	<0.1 %	100	80-120			40	

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Quality Assurance Summary

Batch No	Analyte	Blank	QC % Rec	QC Limits	Spike % Rec	Spike Limits	Dup % RPD	Duplicate Limits
467848	Electrical Conductivity	<0.05	100	90-110			1	0-10
467855	Sodium Adsorption Ratio	<0.01					5	
467860	Cyanide (CN-)	<0.005 ug/g	97	75-125	89	70-130	0	0-20
467862	1+2-methylnaphthalene							
467867	PHC's F1	<10 ug/g	112	80-120	86	60-140	0	0-30
467870	Silver	<0.2 ug/g	110	70-130	102	70-130	0	0-20
467870	Arsenic	<1 ug/g	102	70-130	107	70-130	0	0-20
467870	Boron (total)	<5 ug/g	100	70-130	122	70-130	0	0-20
467870	Barium	<1 ug/g	107	70-130	140	70-130	5	0-20
467870	Beryllium	<1 ug/g	101	70-130	106	70-130	0	0-20
467870	Cadmium	<0.4 ug/g	103	70-130	106	70-130	0	0-20
467870	Cobalt	<1 ug/g	107	70-130	112	70-130	0	0-20
467870	Chromium Total	<1 ug/g	109	70-130	143	70-130	10	0-20
467870	Copper	<1 ug/g	108	70-130	106	70-130	3	0-20
467870	Mercury	<0.1 ug/g	90	70-130	97	70-130	0	0-20
467870	Molybdenum	<1 ug/g	121	70-130	103	70-130	0	0-20
467870	Nickel	<1 ug/g	107	70-130	111	70-130	11	0-20
467870	Lead	<1 ug/g	104	70-130	99	70-130	0	0-20
467870	Antimony	<1 ug/g	98	70-130	97	70-130	0	0-20
467870	Selenium	<0.5 ug/g	106	70-130	100	70-130	0	0-20
467870	Thallium	<1 ug/g	105	70-130	98	70-130	0	0-20
467870	Uranium	<0.5 ug/g	90	70-130	98	70-130	0	0-20
467870	Vanadium	<2 ug/g	104	70-130	148	70-130	10	0-20
467870	Zinc	<2 ug/g	109	70-130	123	70-130	6	0-20
467871	Benzene	<0.0068	110	60-130	108	50-140	0	0-50
467871	Ethylbenzene	<0.018 ug/g	89	60-130	92	50-140	0	0-50
467871	Xylene, m/p-	<0.05 ug/g	94	60-130	91	50-140	0	0-50
467871	Xylene, o-	<0.05 ug/g	94	60-130	86	50-140	0	0-50
467871	Toluene	<0.08 ug/g	103	60-130	112	50-140	0	0-50
467878	Xylene Mixture							
467883	PHC's F1-BTEX							
467893	PHC's F2	<2 ug/g	88	80-120	73	60-140	0	0-30
467893	PHC's F3	<20 ug/g	88	80-120	73	60-140	0	0-30

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Report Number: 3011975
Date Submitted: 2024-10-25
Date Reported: 2024-11-01
Project: ET24-1438B
COC #: 230995

Quality Assurance Summary

Batch No	Analyte	Blank	QC % Rec	QC Limits	Spike % Rec	Spike Limits	Dup % RPD	Duplicate Limits
467893	PHC's F4	<20 ug/g	88	80-120	73	60-140	0	0-30
467893	Moisture-Humidite	<0.1 %	100	80-120			5	
467894	PHC's F2	<2 ug/g	100	80-120	86	60-140		0-30
467894	PHC's F3	<20 ug/g	100	80-120	86	60-140		0-30
467894	PHC's F4	<20 ug/g	100	80-120	86	60-140		0-30
467894	Moisture-Humidite	<0.1 %	100	80-120				
467909	Benzene	<0.0068	110	60-130	108	50-140	0	0-50
467909	Ethylbenzene	<0.018 ug/g	89	60-130	92	50-140	0	0-50
467909	Xylene, m/p-	<0.05 ug/g	94	60-130	91	50-140	0	0-50
467909	Xylene, o-	<0.05 ug/g	94	60-130	86	50-140	0	0-50
467909	Toluene	<0.08 ug/g	103	60-130	112	50-140	0	0-50
467911	PHC's F2	<2 ug/g	82	80-120	96	60-140	0	0-30
467911	PHC's F3	<20 ug/g	82	80-120	96	60-140	0	0-30
467911	PHC's F4	<20 ug/g	82	80-120	96	60-140	0	0-30
467911	Moisture-Humidite	<0.1 %	100	80-120			4	
467923	Xylene Mixture							
467948	PHC's F2-Naphth							
467949	PHC's F3-PAH							
467953	PHC's F4g	<100 ug/g	100	80-120	100	60-140		0-30

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Test Summary

Batch No	Analyte	Instrument	Preparation Date	Analysis Date	Analyst	Method
467416	Methlynaphthalene, 1-	GC-MS	2024-10-29	2024-10-29	C_M	P 8270
467416	Methlynaphthalene, 2-	GC-MS	2024-10-29	2024-10-29	C_M	P 8270
467416	Acenaphthene	GC-MS	2024-10-29	2024-10-29	C_M	P 8270
467416	Acenaphthylene	GC-MS	2024-10-29	2024-10-29	C_M	P 8270
467416	Anthracene	GC-MS	2024-10-29	2024-10-29	C_M	P 8270
467416	Benz[a]anthracene	GC-MS	2024-10-29	2024-10-29	C_M	P 8270
467416	Benzo[a]pyrene	GC-MS	2024-10-29	2024-10-29	C_M	P 8270
467416	Benzo[b]fluoranthene	GC-MS	2024-10-29	2024-10-29	C_M	P 8270
467416	Benzo[ghi]perylene	GC-MS	2024-10-29	2024-10-29	C_M	P 8270
467416	Benzo[k]fluoranthene	GC-MS	2024-10-29	2024-10-29	C_M	P 8270
467416	Chrysene	GC-MS	2024-10-29	2024-10-29	C_M	P 8270
467416	Dibenz[a h]anthracene	GC-MS	2024-10-29	2024-10-29	C_M	P 8270
467416	Fluoranthene	GC-MS	2024-10-29	2024-10-29	C_M	P 8270
467416	Fluorene	GC-MS	2024-10-29	2024-10-29	C_M	P 8270
467416	Indeno[1 2 3-cd]pyrene	GC-MS	2024-10-29	2024-10-29	C_M	P 8270
467416	Naphthalene	GC-MS	2024-10-29	2024-10-29	C_M	P 8270
467416	Phenanthrene	GC-MS	2024-10-29	2024-10-29	C_M	P 8270
467416	Pyrene	GC-MS	2024-10-29	2024-10-29	C_M	P 8270
467755	pH - CaCl2	pH Meter	2024-10-30	2024-10-30	IP	AG Soil
467757	1+2-methylnaphthalene	GC-MS	2024-10-30	2024-10-30	C_M	P 8270
467790	Chromium VI	FAA	2024-10-30	2024-10-30	MW	M US EPA 3060A
467791	Boron (Hot Water Soluble)	iCAP OES	2024-10-30	2024-10-30	Z_S	MOECC E3470
467802	Silver	ICAPQ-MS	2024-10-30	2024-10-30	AaN	EPA 200.8/6020
467802	Arsenic	ICAPQ-MS	2024-10-30	2024-10-30	AaN	EPA 200.8/6020
467802	Boron (total)	ICAPQ-MS	2024-10-30	2024-10-30	AaN	EPA 200.8/6020
467802	Barium	ICAPQ-MS	2024-10-30	2024-10-30	AaN	EPA 200.8/6020
467802	Beryllium	ICAPQ-MS	2024-10-30	2024-10-30	AaN	EPA 200.8/6020
467802	Cadmium	ICAPQ-MS	2024-10-30	2024-10-30	AaN	EPA 200.8/6020
467802	Cobalt	ICAPQ-MS	2024-10-30	2024-10-30	AaN	EPA 200.8/6020
467802	Chromium Total	ICAPQ-MS	2024-10-30	2024-10-30	AaN	EPA 200.8/6020
467802	Copper	ICAPQ-MS	2024-10-30	2024-10-30	AaN	EPA 200.8/6020
467802	Mercury	ICAPQ-MS	2024-10-30	2024-10-30	AaN	EPA 200.8/6020

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Date Reported: 2024-11-01
Project: ET24-1438B
COC #: 230995

Test Summary

Batch No	Analyte	Instrument	Preparation Date	Analysis Date	Analyst	Method
467802	Molybdenum	ICAPQ-MS	2024-10-30	2024-10-30	AaN	EPA 200.8/6020
467802	Nickel	ICAPQ-MS	2024-10-30	2024-10-30	AaN	EPA 200.8/6020
467802	Lead	ICAPQ-MS	2024-10-30	2024-10-30	AaN	EPA 200.8/6020
467802	Antimony	ICAPQ-MS	2024-10-30	2024-10-30	AaN	EPA 200.8/6020
467802	Selenium	ICAPQ-MS	2024-10-30	2024-10-30	AaN	EPA 200.8/6020
467802	Thallium	ICAPQ-MS	2024-10-30	2024-10-30	AaN	EPA 200.8/6020
467802	Uranium	ICAPQ-MS	2024-10-30	2024-10-30	AaN	EPA 200.8/6020
467802	Vanadium	ICAPQ-MS	2024-10-30	2024-10-30	AaN	EPA 200.8/6020
467802	Zinc	ICAPQ-MS	2024-10-30	2024-10-30	AaN	EPA 200.8/6020
467807	Benzene	GC-MS	2024-10-24	2024-10-26	H_S	V 8260B
467807	Ethylbenzene	GC-MS	2024-10-24	2024-10-26	H_S	V 8260B
467807	Xylene, m/p-	GC-MS	2024-10-24	2024-10-26	H_S	V 8260B
467807	Xylene, o-	GC-MS	2024-10-24	2024-10-26	H_S	V 8260B
467807	Toluene	GC-MS	2024-10-24	2024-10-26	H_S	V 8260B
467808	PHC's F1	GC/FID	2024-10-24	2024-10-30	H_S	CCME
467810	Xylene Mixture	GC-MS	2024-10-30	2024-10-30	H_S	V 8260B
467811	PHC's F1-BTEX	GC/FID	2024-10-30	2024-10-30	H_S	CCME
467826	PHC's F2	GC/FID	2024-10-30	2024-10-31	D_T	CCME
467826	PHC's F3	GC/FID	2024-10-30	2024-10-31	D_T	CCME
467826	PHC's F4	GC/FID	2024-10-30	2024-10-31	D_T	CCME
467826	Moisture-Humidite	Oven	2024-10-30	2024-10-31	D_T	ASTM 2216
467833	PHC's F2	GC/FID	2024-10-30	2024-10-31	D_T	CCME
467833	PHC's F3	GC/FID	2024-10-30	2024-10-31	D_T	CCME
467833	PHC's F4	GC/FID	2024-10-30	2024-10-31	D_T	CCME
467833	Moisture-Humidite	Oven	2024-10-30	2024-10-31	D_T	ASTM 2216
467835	PHC's F2	GC/FID	2024-10-30	2024-10-31	D_T	CCME
467835	PHC's F3	GC/FID	2024-10-30	2024-10-31	D_T	CCME
467835	PHC's F4	GC/FID	2024-10-30	2024-10-31	D_T	CCME
467835	Moisture-Humidite	Oven	2024-10-30	2024-10-31	D_T	ASTM 2216
467837	PHC's F2	GC/FID	2024-10-30	2024-10-31	D_T	CCME
467837	PHC's F3	GC/FID	2024-10-30	2024-10-31	D_T	CCME
467837	PHC's F4	GC/FID	2024-10-30	2024-10-31	D_T	CCME
467837	Moisture-Humidite	Oven	2024-10-30	2024-10-31	D_T	ASTM 2216

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Project: ET24-1438B
COC #: 230995

Test Summary

Batch No	Analyte	Instrument	Preparation Date	Analysis Date	Analyst	Method
467848	Electrical Conductivity	Electrical Conductivity Meter	2024-10-31	2024-10-31	Z_S	Cond-Soil
467855	Sodium Adsorption Ratio	iCAP OES	2024-10-31	2024-10-31	Z_S	Ag Soil
467860	Cyanide (CN-)	Skalar CN Analyzer	2024-10-31	2024-10-31	Z_S	MOECC E3015
467862	1+2-methylnaphthalene	GC-MS	2024-10-31	2024-10-31	C_M	P 8270
467867	PHC's F1	GC/FID	2024-10-31	2024-10-31	H_S	CCME
467870	Silver	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Arsenic	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Boron (total)	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Barium	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Beryllium	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Cadmium	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Cobalt	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Chromium Total	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Copper	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Mercury	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Molybdenum	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Nickel	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Lead	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Antimony	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Selenium	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Thallium	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Uranium	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Vanadium	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Zinc	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467871	Benzene	GC-MS	2024-10-27	2024-10-28	H_S	V 8260B
467871	Ethylbenzene	GC-MS	2024-10-27	2024-10-28	H_S	V 8260B
467871	Xylene, m/p-	GC-MS	2024-10-27	2024-10-28	H_S	V 8260B
467871	Xylene, o-	GC-MS	2024-10-27	2024-10-28	H_S	V 8260B
467871	Toluene	GC-MS	2024-10-27	2024-10-28	H_S	V 8260B
467878	Xylene Mixture	GC-MS	2024-10-31	2024-10-31	H_S	V 8260B
467883	PHC's F1-BTEX	GC/FID	2024-10-31	2024-10-31	H_S	CCME
467893	PHC's F2	GC/FID	2024-10-30	2024-10-31	D_T	CCME
467893	PHC's F3	GC/FID	2024-10-30	2024-10-31	D_T	CCME

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Test Summary

Batch No	Analyte	Instrument	Preparation Date	Analysis Date	Analyst	Method
467893	PHC's F4	GC/FID	2024-10-30	2024-10-31	D_T	CCME
467893	Moisture-Humidite	Oven	2024-10-30	2024-10-31	D_T	ASTM 2216
467894	PHC's F2	GC/FID	2024-10-31	2024-10-31	D_T	CCME
467894	PHC's F3	GC/FID	2024-10-31	2024-10-31	D_T	CCME
467894	PHC's F4	GC/FID	2024-10-31	2024-10-31	D_T	CCME
467894	Moisture-Humidite	Oven	2024-10-31	2024-10-31	D_T	ASTM 2216
467909	Benzene	GC-MS	2024-11-01	2024-11-01	H_S	V 8260B
467909	Ethylbenzene	GC-MS	2024-11-01	2024-11-01	H_S	V 8260B
467909	Xylene, m/p-	GC-MS	2024-11-01	2024-11-01	H_S	V 8260B
467909	Xylene, o-	GC-MS	2024-11-01	2024-11-01	H_S	V 8260B
467909	Toluene	GC-MS	2024-11-01	2024-11-01	H_S	V 8260B
467911	PHC's F2	GC/FID	2024-10-31	2024-11-01	D_T	CCME
467911	PHC's F3	GC/FID	2024-10-31	2024-11-01	D_T	CCME
467911	PHC's F4	GC/FID	2024-10-31	2024-11-01	D_T	CCME
467911	Moisture-Humidite	Oven	2024-10-31	2024-11-01	D_T	ASTM 2216
467923	Xylene Mixture	GC-MS	2024-11-01	2024-11-01	H_S	V 8260B
467948	PHC's F2-Napth	GC/FID	2024-11-01	2024-11-01	D_T	CCME
467949	PHC's F3-PAH	GC/FID	2024-11-01	2024-11-01	D_T	CCME
467953	PHC's F4g	Gravimetric	2024-11-01	2024-11-01	D_T	CCME

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CWS for Petroleum Hydrocarbons in Soil - Tier 1

Notes:

1. The laboratory method complies with CCME Tier 1 reference method for PHC in soil. It is validated for laboratory use.
2. Where the F1 fraction (C6 to C10) and BTEX are both measured, F1-BTEX is reported.
3. Where the F2 fraction (C10 to C16) and naphthalene are both measured, F2-naphthalene is reported.
4. Where the F3 fraction (C16 to C34) and PAHs* are both measured, F3-PAH is reported.
5. F4G is analyzed if the chromatogram does not descend to baseline before C50. Where F4 (C34 to C50) and F4G are both reported, the higher result is compared to the standard.
6. Unless otherwise stated in the sample comments, the following criteria have been met where applicable:
 - nC6 and nC10 response factors within 30% of response factor for toluene;
 - nC10, nC16, and nC34 response factors within 10% of each other;
 - C50 response factors within 70% of nC10 + nC16 + nC34 average; and,
 - Linearity is within 15%.
7. Unless otherwise stated in the sample comments, sampling requirements and analytical holding times have been met.
8. Gravimetric heavy hydrocarbons (F4G) cannot be added to the C6 and C50 hydrocarbons.
9. *PAHs = phenanthrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-c,d)pyrene and pyrene.

CLIENT INFORMATION					INVOICE INFORMATION (SAME AS CLIENT INFORMATION: YES <input type="checkbox"/> NO <input type="checkbox"/>)									
Company: Engtec Consulting Inc.					Company:									
Contact: Hammad Din					Contact: Email: #1:									
Address: 2447 Anson Dr					Address: Email: #2:									
Telephone: Cell: 6136210359					Telephone: PO #:									
Email: #1: hammad.din@engtec.ca					REGULATION/GUIDELINE REQUIRED									
Email: #2: pranav.dave@engtec.ca														
Project: E-24-1438B Quote #: Incorporation					<input type="checkbox"/> Sanitary Sewer, City: _____ <input type="checkbox"/> Storm Sewer, City: _____ <input type="checkbox"/> ODWSOG (Use DW COC if samples are for human consumption) <input type="checkbox"/> PWQO <input type="checkbox"/> O.Reg. 347 (TCPLP) <input type="checkbox"/> Other: _____									
TURN-AROUND TIME (Business Days)														
<input type="checkbox"/> 1 Day* (100%) <input type="checkbox"/> 2 Day** (50%) <input type="checkbox"/> 3-5 Days (25%) <input checked="" type="checkbox"/> 5-7 Days (Standard)					<input checked="" type="checkbox"/> O. Reg. 153/04 The sample results from this submission will form part of a formal Record of Site Condition (RSC) under O.Reg. 153/04. Analysis of full parameter list only Yes <input type="checkbox"/> No <input type="checkbox"/>									
Please contact Lab in advance to determine rush availability. *For results reported after rush due date, surcharges will apply: before 12:00 - 100%, after 12:00 - 50%. **For results reported after rush due date, surcharges will apply: before 12:00 - 50%, after 12:00 - 25%. TCPLP, SPLP, PFAS, and NP/NPE the rush surcharges are 100% (3 day) and 50% (4 day). For farm soils the rush surcharge is 100% (3-5 days). Regular TAT is 10 days.					<input type="checkbox"/> O. Reg 406 Excess Soils Table # _____ Full depth/Strat/Ceiling/mSPLP Leachate Type: Com-Ind / Res-Park / Agri / All Other Category: Surface / Subsurface									
The optimal temperature conditions during transport is 4 - 10°C. Sample(s) cannot be frozen, unless otherwise indicated or agreed upon with the Laboratory. This COC must not be used for drinking water samples. The COC must be complete upon submission of the samples, there will be a \$25 surcharge if required information is missing (required fields are shaded in grey).					Sample Details									
Occasionally, situations arise in which Eurofins Environment Testing Canada (Ottawa) is unable to process a sample after receipt. By signing this chain-of-custody form, the client agrees that Eurofins Environment Testing Canada (Ottawa) may subcontract samples to a laboratory that is similarly accredited. This subcontracted laboratory will perform the same analysis using the same or similar methodology. Agreements made in advance to subcontract to a specific laboratory will be honored.					Field Filtered -->									
					O.Reg.153/04 parameters									
Sample ID		Date/Time Collected		Sample Matrix	# of Containers	PHC F1 - FA	BTEX	VOCs	PAHs	PCBs	Metals + Inorganics	Metals only	RN# (Lab Use Only)	
E-1-1		24/10 5:00		soil	5	✓	✓		✓		✓		HOLD for TCPLP	1748114
E-1-2					5	✓	✓		✓		✓			15
E-2-1					5	✓	✓		✓		✓			16
E-2-2					5	✓	✓		✓		✓			17
E-2-Dup					5	✓	✓		✓		✓			18
E-3-1					5	✓	✓		✓		✓			19
E-3-2					5	✓	✓		✓		✓			20
E-3-Dup					5	✓	✓		✓		✓			21
E-4-1					5	✓	✓		✓		✓			22
E-4-2					5	✓	✓		✓		✓			23
PRINT NAME		LOCATION		SIGN		DATE/TIME		TEMP (°C)		INTERNAL LAB USE ONLY CUSTODY SEAL: <input type="checkbox"/> YES <input type="checkbox"/> NO Ice packs submit <input type="checkbox"/> Yes <input type="checkbox"/> No				
Sampled By: Pranav Dave		Greensboro		[Signature]		24/10 7:15 PM								
Relinquished By:														
Received By: Vinitha Jacob		OTT		[Signature]		25/10/24 1am		7.2°C						
COMMENTS:														

Copies: White - Laboratory, Yellow - Sampler

Copies: White - Laboratory, Yellow - Samples

Client: Engtec Consulting Inc.
1-2447 Anson Drive
Mississauga, Ontario
L5S 1G1
Attention: Hammad Din
Invoice to: Engtec Consulting Inc.
PO#:

Report Number: 3012032
Date Submitted: 2024-10-28
Date Reported: 2024-11-04
Project: ET24-143803
COC #: 230963
Temperature (C): 13
Custody Seal:

Page 1 of 20

Dear Hammad Din:

Please find attached the analytical results for your samples. If you have any questions regarding this report, please do not hesitate to call (613-727-5692).

Sample Comment Summary

Sample ID: 1748452 G1 For all samples in this report, the metals and PAH spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

Report Comments:

Patrick Jacques, Organics Technician

All analysis is completed at Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) unless otherwise stated

Eurofins Environment Testing Canada Inc. is accredited by CALA, Canadian Association for Laboratory Accreditation to ISO/IEC 17025 for tests which appear on the scope of accreditation. The scope is available at <https://directory.cala.ca/>

Please note: Field data, where presented on the report, has been provided by the client and is presented for informational purposes only. Guideline or regulatory limits listed on this report are provided for ease of use (informational purposes) only. Eurofins recommends consulting the official guideline or regulation as required. Unless otherwise stated, measurement uncertainty is not taken into account when determining guideline or regulatory exceedances.

EETC Reg 153 Version 19.rpt



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COC #: 230963

O.Reg 153-T1-All Other Soils

Exceedence Summary

Sample I.D.	Analyte	Result	Units	Criteria
Inorganics				
G6	Electrical Conductivity	1.47	mS/cm	STD 0.57
G6	Sodium Adsorption Ratio	14.4		STD 2.4
G8	Electrical Conductivity	0.82	mS/cm	STD 0.57
G8	Sodium Adsorption Ratio	13.0		STD 2.4
G8 Dup	Electrical Conductivity	0.58	mS/cm	STD 0.57
G8 Dup	Sodium Adsorption Ratio	13.0		STD 2.4

Results relate only to the parameters tested on the samples submitted.
Methods references and/or additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

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Project: ET24-143803
COC #: 230963

Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop

Hydrocarbons

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1748452 Soil153	1748453 Soil153	1748454 Soil153	1748455 Soil153	1748456 Soil153
Analyte	Batch No	MRL	Units	Guideline		2024-10-28 12:30 G1	2024-10-28 12:30 G1 Dup	2024-10-28 12:30 G5	2024-10-28 12:30 G6	2024-10-28 12:30 G8
PHC's F1	467867	10	ug/g	STD 25		<10	<10	<10	<10	<10
PHC's F1-BTEX	468013	10	ug/g			<10	<10	<10	<10	<10
PHC's F2	468000	2	ug/g	STD 10		7		3		<2
	468002	2	ug/g	STD 10			3		<2	
PHC's F2-Naph	468024	2	ug/g			7	3	3	<2	<2
PHC's F3	468000	20	ug/g	STD 240		30		20		<20
	468002	20	ug/g	STD 240			<20		<20	
PHC's F3-PAH	468026	20	ug/g			30	<20	20	<20	<20
PHC's F4	468000	20	ug/g	STD 120		<20		<20		<20
	468002	20	ug/g	STD 120			<20		<20	

Hydrocarbons

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1748457 Soil153
Analyte	Batch No	MRL	Units	Guideline		2024-10-28 12:30 G8 Dup
PHC's F1	467867	10	ug/g	STD 25		<10
PHC's F1-BTEX	468013	10	ug/g			<10
PHC's F2	468000	2	ug/g	STD 10		4
PHC's F2-Naph	468024	2	ug/g			4
PHC's F3	468000	20	ug/g	STD 240		<20
PHC's F3-PAH	468026	20	ug/g			<20
PHC's F4	468000	20	ug/g	STD 120		<20

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COC #: 230963

Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop

Metals

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1748452	Soil153	1748453	1748454	1748455	1748456
					2024-10-28	12:30	2024-10-28	2024-10-28	2024-10-28	2024-10-28
					G1	G1 Dup	G5	G6	G8	
Antimony	467870	1	ug/g	STD 1.3	<1	<1	<1	<1	<1	1
Arsenic	467870	1	ug/g	STD 18	2	2	3	3	3	3
Barium	467870	1	ug/g	STD 220	62	39	62	84	77	
Beryllium	467870	1	ug/g	STD 2.5	<1	<1	<1	<1	<1	<1
Boron (Hot Water Soluble)	468022	0.25	ug/g		0.30	<0.25	0.27	0.32	0.40	
Boron (total)	467870	5	ug/g	STD 36	<5	<5	6	6	6	6
Cadmium	467870	0.4	ug/g	STD 1.2	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium Total	467870	1	ug/g	STD 70	18	15	21	26	26	
Chromium VI	467903	0.20	ug/g	STD 0.66	0.25	<0.20	0.26	0.28	0.39	
Cobalt	467870	1	ug/g	STD 21	6	4	6	8	8	
Copper	467870	1	ug/g	STD 92	10	8	9	12	12	
Lead	467870	1	ug/g	STD 120	9	4	7	9	8	
Mercury	467870	0.1	ug/g	STD 0.27	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	467870	1	ug/g	STD 2	<1	<1	<1	<1	<1	<1
Nickel	467870	1	ug/g	STD 82	11	9	12	15	14	
Selenium	467870	0.5	ug/g	STD 1.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Silver	467870	0.2	ug/g	STD 0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	467870	1	ug/g	STD 1	<1	<1	<1	<1	<1	<1
Uranium	467870	0.5	ug/g	STD 2.5	<0.5	<0.5	<0.5	<0.5	0.6	
Vanadium	467870	2	ug/g	STD 86	29	22	30	38	34	
Zinc	467870	2	ug/g	STD 290	38	21	36	49	50	

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COC #: 230963

Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop

Metals

Lab I.D. 1748457
Sample Matrix Soil153
Sample Type
Sample Date 2024-10-28
Sampling Time 12:30
Sample I.D. G8 Dup

Analyte	Batch No	MRL	Units	Guideline	
Antimony	467870	1	ug/g	STD 1.3	<1
Arsenic	467870	1	ug/g	STD 18	2
Barium	467870	1	ug/g	STD 220	64
Beryllium	467870	1	ug/g	STD 2.5	<1
Boron (Hot Water Soluble)	468022	0.25	ug/g		<0.25
Boron (total)	467870	5	ug/g	STD 36	6
Cadmium	467870	0.4	ug/g	STD 1.2	<0.4
Chromium Total	467870	1	ug/g	STD 70	18
Chromium VI	467903	0.20	ug/g	STD 0.66	<0.20
Cobalt	467870	1	ug/g	STD 21	6
Copper	467870	1	ug/g	STD 92	12
Lead	467870	1	ug/g	STD 120	5
Mercury	467870	0.1	ug/g	STD 0.27	<0.1
Molybdenum	467870	1	ug/g	STD 2	<1
Nickel	467870	1	ug/g	STD 82	13
Selenium	467870	0.5	ug/g	STD 1.5	<0.5
Silver	467870	0.2	ug/g	STD 0.5	<0.2
Thallium	467870	1	ug/g	STD 1	<1
Uranium	467870	0.5	ug/g	STD 2.5	<0.5
Vanadium	467870	2	ug/g	STD 86	26
Zinc	467870	2	ug/g	STD 290	28

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PAH

Analyte	Batch No	MRL	Units	Guideline	Lab I.D.	Sample Matrix	Sample Type	Sample Date	Sampling Time	Sample I.D.
					1748452	Soil153	1748453	Soil153	1748454	Soil153
					2024-10-28	12:30	2024-10-28	12:30	2024-10-28	12:30
					G1		G1 Dup	G5	G6	G8
1+2-methylnaphthalene	467942	0.05	ug/g	STD 0.59						<0.05
	467982	0.05	ug/g	STD 0.59	<0.05	<0.05	<0.05	<0.05		
Acenaphthene	467937	0.05	ug/g	STD 0.072						<0.05
	467981	0.05	ug/g	STD 0.072	<0.05	<0.05	<0.05	<0.05		
Acenaphthylene	467937	0.05	ug/g	STD 0.093						<0.05
	467981	0.05	ug/g	STD 0.093	<0.05	<0.05	<0.05	<0.05		
Anthracene	467937	0.05	ug/g	STD 0.16						<0.05
	467981	0.05	ug/g	STD 0.16	<0.05	<0.05	<0.05	<0.05		
Benz[a]anthracene	467937	0.05	ug/g	STD 0.36						<0.05
	467981	0.05	ug/g	STD 0.36	<0.05	<0.05	<0.05	<0.05		
Benzo[a]pyrene	467937	0.05	ug/g	STD 0.3						<0.05
	467981	0.05	ug/g	STD 0.3	<0.05	<0.05	<0.05	<0.05		
Benzo[b]fluoranthene	467937	0.05	ug/g	STD 0.47						<0.05
	467981	0.05	ug/g	STD 0.47	<0.05	<0.05	<0.05	<0.05		
Benzo[ghi]perylene	467937	0.05	ug/g	STD 0.68						<0.05
	467981	0.05	ug/g	STD 0.68	<0.05	<0.05	<0.05	<0.05		
Benzo[k]fluoranthene	467937	0.05	ug/g	STD 0.48						<0.05
	467981	0.05	ug/g	STD 0.48	<0.05	<0.05	<0.05	<0.05		
Chrysene	467937	0.05	ug/g	STD 2.8						<0.05
	467981	0.05	ug/g	STD 2.8	<0.05	<0.05	<0.05	<0.05		
Dibenz[a h]anthracene	467937	0.05	ug/g	STD 0.1						<0.05
	467981	0.05	ug/g	STD 0.1	<0.05	<0.05	<0.05	<0.05		
Fluoranthene	467937	0.05	ug/g	STD 0.56						<0.05

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Certificate of Analysis

Environment Testing

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COC #: 230963

Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop

PAH

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1748452 Soil153	1748453 Soil153	1748454 Soil153	1748455 Soil153	1748456 Soil153
Analyte	Batch No	MRL	Units	Guideline	2024-10-28 12:30 G1	2024-10-28 12:30 G1 Dup	2024-10-28 12:30 G5	2024-10-28 12:30 G6	2024-10-28 12:30 G8
Fluoranthene	467981	0.05	ug/g	STD 0.56	<0.05	<0.05	<0.05	<0.05	
Fluorene	467937	0.05	ug/g	STD 0.12					<0.05
	467981	0.05	ug/g	STD 0.12	<0.05	<0.05	<0.05	<0.05	
Indeno[1 2 3-cd]pyrene	467937	0.05	ug/g	STD 0.23					<0.05
	467981	0.05	ug/g	STD 0.23	<0.05	<0.05	<0.05	<0.05	
Methlynaphthalene, 1-	467937	0.05	ug/g	STD 0.59					<0.05
	467981	0.05	ug/g	STD 0.59	<0.05	<0.05	<0.05	<0.05	
Methlynaphthalene, 2-	467937	0.05	ug/g	STD 0.59					<0.05
	467981	0.05	ug/g	STD 0.59	<0.05	<0.05	<0.05	<0.05	
Naphthalene	467937	0.013	ug/g	STD 0.09					<0.013
	467981	0.013	ug/g	STD 0.09	<0.013	<0.013	<0.013	<0.013	
Phenanthrene	467937	0.05	ug/g	STD 0.69					<0.05
	467981	0.05	ug/g	STD 0.69	<0.05	<0.05	<0.05	<0.05	
Pyrene	467937	0.05	ug/g	STD 1					<0.05
	467981	0.05	ug/g	STD 1	<0.05	<0.05	<0.05	<0.05	

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Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim
Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial
Water Quality Guideline, IPWQO = Interim Provincial Water Quality
Objective, TDR = Typical Desired Range

Client:

Engtec Consulting Inc.

1-2447 Anson Drive

Mississauga, Ontario

L5S 1G1

Attention: Hammad Din

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Project:

ET24-143803

COC #:

230963

Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop

PAH

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1748457 Soil153 2024-10-28 12:30 G8 Dup
Analyte	Batch No	MRL	Units	Guideline	
1+2-methylnaphthalene	467982	0.05	ug/g	STD 0.59	<0.05
Acenaphthene	467981	0.05	ug/g	STD 0.072	<0.05
Acenaphthylene	467981	0.05	ug/g	STD 0.093	<0.05
Anthracene	467981	0.05	ug/g	STD 0.16	<0.05
Benz[a]anthracene	467981	0.05	ug/g	STD 0.36	<0.05
Benzo[a]pyrene	467981	0.05	ug/g	STD 0.3	<0.05
Benzo[b]fluoranthene	467981	0.05	ug/g	STD 0.47	<0.05
Benzo[ghi]perylene	467981	0.05	ug/g	STD 0.68	<0.05
Benzo[k]fluoranthene	467981	0.05	ug/g	STD 0.48	<0.05
Chrysene	467981	0.05	ug/g	STD 2.8	<0.05
Dibenz[a h]anthracene	467981	0.05	ug/g	STD 0.1	<0.05
Fluoranthene	467981	0.05	ug/g	STD 0.56	<0.05
Fluorene	467981	0.05	ug/g	STD 0.12	<0.05
Indeno[1 2 3-cd]pyrene	467981	0.05	ug/g	STD 0.23	<0.05
Methylnaphthalene, 1-	467981	0.05	ug/g	STD 0.59	<0.05
Methylnaphthalene, 2-	467981	0.05	ug/g	STD 0.59	<0.05
Naphthalene	467981	0.013	ug/g	STD 0.09	<0.013
Phenanthrene	467981	0.05	ug/g	STD 0.69	<0.05
Pyrene	467981	0.05	ug/g	STD 1	<0.05

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Certificate of Analysis

Environment Testing

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Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop

Volatiles

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1748452 Soil153	1748453 Soil153	1748454 Soil153	1748455 Soil153	1748456 Soil153
Analyte	Batch No	MRL	Units	Guideline	2024-10-28 12:30 G1	2024-10-28 12:30 G1 Dup	2024-10-28 12:30 G5	2024-10-28 12:30 G6	2024-10-28 12:30 G8
Benzene	467871	0.0068	ug/g	STD 0.02	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068
Ethylbenzene	467871	0.018	ug/g	STD 0.05	<0.018	<0.018	<0.018	<0.018	<0.018
Toluene	467871	0.08	ug/g	STD 0.2	<0.08	<0.08	<0.08	<0.08	<0.08
Xylene Mixture	468012	0.05	ug/g	STD 0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylene, m/p-	467871	0.05	ug/g		<0.05	<0.05	<0.05	<0.05	<0.05
Xylene, o-	467871	0.05	ug/g		<0.05	<0.05	<0.05	<0.05	<0.05

Volatiles

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1748457 Soil153
Analyte	Batch No	MRL	Units	Guideline	2024-10-28 12:30 G8 Dup
Benzene	467871	0.0068	ug/g	STD 0.02	<0.0068
Ethylbenzene	467871	0.018	ug/g	STD 0.05	<0.018
Toluene	467871	0.08	ug/g	STD 0.2	<0.08
Xylene Mixture	468012	0.05	ug/g	STD 0.05	<0.05
Xylene, m/p-	467871	0.05	ug/g		<0.05
Xylene, o-	467871	0.05	ug/g		<0.05

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Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim
Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial
Water Quality Guideline, IPWQO = Interim Provincial Water Quality
Objective, TDR = Typical Desired Range



Certificate of Analysis

Environment Testing

Client: Engtec Consulting Inc.
1-2447 Anson Drive
Mississauga, Ontario
L5S 1G1
Attention: Hammad Din
PO#:
Invoice to: Engtec Consulting Inc.

Report Number: 3012032
Date Submitted: 2024-10-28
Date Reported: 2024-11-04
Project: ET24-143803
COC #: 230963

Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop

Inorganics

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1748452 Soil153	1748453 Soil153	1748454 Soil153	1748455 Soil153	1748456 Soil153
Analyte	Batch No	MRL	Units	Guideline	2024-10-28 12:30 G1	2024-10-28 12:30 G1 Dup	2024-10-28 12:30 G5	2024-10-28 12:30 G6	2024-10-28 12:30 G8
Cyanide (CN-)	467950	0.005	ug/g	STD 0.051	<0.005	<0.005	<0.005	<0.005	<0.005
Electrical Conductivity	467929	0.05	mS/cm	STD 0.57	0.28	0.14	0.27	1.47*	0.82*
pH - CaCl2	467955	2.00			7.52	7.51	7.49	7.51	7.23
Sodium Adsorption Ratio	467940	0.01		STD 2.4	0.68	0.25	0.63	14.4*	13.0*

Inorganics

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1748457 Soil153
Analyte	Batch No	MRL	Units	Guideline	2024-10-28 12:30 G8 Dup
Cyanide (CN-)	467950	0.005	ug/g	STD 0.051	<0.005
Electrical Conductivity	467929	0.05	mS/cm	STD 0.57	0.58*
pH - CaCl2	467955	2.00			7.75
Sodium Adsorption Ratio	467940	0.01		STD 2.4	13.0*

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Moisture

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1748452 Soil153	1748453 Soil153	1748454 Soil153	1748455 Soil153	1748456 Soil153
Analyte	Batch No	MRL	Units	Guideline						
Moisture-Humidite	468000	0.1	%			7.6		9.4		16.1
	468002	0.1	%				15.4		10.9	

Moisture

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.
Analyte	Batch No	MRL	Units	Guideline	
Moisture-Humidite	468000	0.1	%		1748457 Soil153 2024-10-28 12:30 G8 Dup 10.3

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PHC Surrogate

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1748452 Soil153	1748453 Soil153	1748454 Soil153	1748455 Soil153	1748456 Soil153
Analyte	Batch No	MRL	Units	Guideline	2024-10-28 12:30 G1	2024-10-28 12:30 G1 Dup	2024-10-28 12:30 G5	2024-10-28 12:30 G6	2024-10-28 12:30 G8
Alpha-androstrane	468000	0	%		120		139		83
	468002	0	%			85		80	

PHC Surrogate

Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.					1748457 Soil153
Analyte	Batch No	MRL	Units	Guideline	2024-10-28 12:30 G8 Dup
Alpha-androstrane	468000	0	%		90

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VOCs Surrogates

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.	1748452 Soil153	1748453 Soil153	1748454 Soil153	1748455 Soil153	1748456 Soil153
Analyte	Batch No	MRL	Units	Guideline		2024-10-28 12:30 G1	2024-10-28 12:30 G1 Dup	2024-10-28 12:30 G5	2024-10-28 12:30 G6	2024-10-28 12:30 G8
Toluene-d8	467871	0	%			96	97	96	98	91

VOCs Surrogates

					Lab I.D. Sample Matrix Sample Type Sample Date Sampling Time Sample I.D.
Analyte	Batch No	MRL	Units	Guideline	1748457 Soil153 2024-10-28 12:30 G8 Dup
Toluene-d8	467871	0	%		109

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Quality Assurance Summary

Batch No	Analyte	Blank	QC % Rec	QC Limits	Spike % Rec	Spike Limits	Dup % RPD	Duplicate Limits
467867	PHC's F1	<10 ug/g	112	80-120	86	60-140	0	0-30
467870	Silver	<0.2 ug/g	110	70-130	97	70-130	0	0-20
467870	Arsenic	<1 ug/g	102	70-130	97	70-130	0	0-20
467870	Boron (total)	<5 ug/g	100	70-130	118	70-130	0	0-20
467870	Barium	<1 ug/g	107	70-130	72	70-130	7	0-20
467870	Beryllium	<1 ug/g	101	70-130	97	70-130	0	0-20
467870	Cadmium	<0.4 ug/g	103	70-130	99	70-130	0	0-20
467870	Cobalt	<1 ug/g	107	70-130	94	70-130	5	0-20
467870	Chromium Total	<1 ug/g	109	70-130	70	70-130	26	0-20
467870	Copper	<1 ug/g	108	70-130	87	70-130	9	0-20
467870	Mercury	<0.1 ug/g	90	70-130	92	70-130	0	0-20
467870	Molybdenum	<1 ug/g	121	70-130	95	70-130	0	0-20
467870	Nickel	<1 ug/g	107	70-130	80	70-130	19	0-20
467870	Lead	<1 ug/g	104	70-130	88	70-130	10	0-20
467870	Antimony	<1 ug/g	98	70-130	94	70-130	0	0-20
467870	Selenium	<0.5 ug/g	106	70-130	95	70-130	0	0-20
467870	Thallium	<1 ug/g	105	70-130	94	70-130	0	0-20
467870	Uranium	<0.5 ug/g	90	70-130	97	70-130	0	0-20
467870	Vanadium	<2 ug/g	104	70-130	101	70-130	4	0-20
467870	Zinc	<2 ug/g	109	70-130	60	70-130	9	0-20
467871	Benzene	<0.0068	110	60-130	108	50-140	0	0-50
467871	Ethylbenzene	<0.018 ug/g	89	60-130	92	50-140	0	0-50
467871	Xylene, m/p-	<0.05 ug/g	94	60-130	91	50-140	0	0-50
467871	Xylene, o-	<0.05 ug/g	94	60-130	86	50-140	0	0-50
467871	Toluene	<0.08 ug/g	103	60-130	112	50-140	0	0-50
467903	Chromium VI	<0.20 ug/g	99	70-130	102	70-130	0	0-35
467929	Electrical Conductivity	<0.05	100	90-110			2	0-10
467937	Methlynaphthalene, 1-	<0.05 ug/g	72	50-140	476	50-140	18	0-40
467937	Methlynaphthalene, 2-	<0.05 ug/g	58	50-140	562	50-140	21	0-40
467937	Acenaphthene	<0.05 ug/g	68	50-140	116	50-140	0	0-40
467937	Acenaphthylene	<0.05 ug/g	64	50-140	90	50-140	0	0-40
467937	Anthracene	<0.05 ug/g	57	50-140	143	50-140	0	0-40

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COC #: 230963

Quality Assurance Summary

Batch No	Analyte	Blank	QC % Rec	QC Limits	Spike % Rec	Spike Limits	Dup % RPD	Duplicate Limits
467937	Benz[a]anthracene	<0.05 ug/g	61	50-140	294	50-140	5	0-40
467937	Benzo[a]pyrene	<0.05 ug/g	53	50-140	231	50-140	11	0-40
467937	Benzo[b]fluoranthene	<0.05 ug/g	60	50-140	254	50-140	12	0-40
467937	Benzo[ghi]perylene	<0.05 ug/g	53	50-140	142	50-140	7	0-40
467937	Benzo[k]fluoranthene	<0.05 ug/g	73	50-140	174		10	0-40
467937	Chrysene	<0.05 ug/g	72	50-140	362	50-140	5	0-40
467937	Dibenz[a h]anthracene	<0.05 ug/g	50	50-140	68	50-140	0	0-40
467937	Fluoranthene	<0.05 ug/g	67	50-140	568	50-140	3	0-40
467937	Fluorene	<0.05 ug/g	67	50-140	102	50-140	0	0-40
467937	Indeno[1 2 3-cd]pyrene	<0.05 ug/g	51	50-140	120	50-140	0	0-40
467937	Naphthalene	<0.013 ug/g	63	50-140	392	50-140	26	0-40
467937	Phenanthrene	<0.05 ug/g	66	50-140	581	50-140	6	0-40
467937	Pyrene	<0.05 ug/g	69	50-140	488	50-140	3	0-40
467940	Sodium Adsorption Ratio	<0.01					9	
467942	1+2-methylnaphthalene							
467950	Cyanide (CN-)	<0.005 ug/g	100	75-125	105	70-130	0	0-20
467955	pH - CaCl2		101	90-110			0	
467981	Methylnaphthalene, 1-	<0.05 ug/g	79	50-140	71	50-140	0	0-40
467981	Methylnaphthalene, 2-	<0.05 ug/g	76	50-140	68	50-140	0	0-40
467981	Acenaphthene	<0.05 ug/g	79	50-140	70	50-140	0	0-40
467981	Acenaphthylene	<0.05 ug/g	77	50-140	68	50-140	0	0-40
467981	Anthracene	<0.05 ug/g	80	50-140	73	50-140	0	0-40
467981	Benz[a]anthracene	<0.05 ug/g	78	50-140	71	50-140	0	0-40
467981	Benzo[a]pyrene	<0.05 ug/g	80	50-140	74	50-140	0	0-40
467981	Benzo[b]fluoranthene	<0.05 ug/g	65	50-140	65	50-140	0	0-40
467981	Benzo[ghi]perylene	<0.05 ug/g	72	50-140	69	50-140	0	0-40
467981	Benzo[k]fluoranthene	<0.05 ug/g	58	50-140	77		0	0-40
467981	Chrysene	<0.05 ug/g	83	50-140	75	50-140	0	0-40
467981	Dibenz[a h]anthracene	<0.05 ug/g	71	50-140	65	50-140	0	0-40
467981	Fluoranthene	<0.05 ug/g	81	50-140	73	50-140	0	0-40
467981	Fluorene	<0.05 ug/g	78	50-140	68	50-140	0	0-40
467981	Indeno[1 2 3-cd]pyrene	<0.05 ug/g	72	50-140	69	50-140	0	0-40
467981	Naphthalene	<0.013 ug/g	75	50-140	67	50-140	0	0-40

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Quality Assurance Summary

Batch No	Analyte	Blank	QC % Rec	QC Limits	Spike % Rec	Spike Limits	Dup % RPD	Duplicate Limits
467981	Phenanthrene	<0.05 ug/g	84	50-140	75	50-140	0	0-40
467981	Pyrene	<0.05 ug/g	80	50-140	74	50-140	0	0-40
467982	1+2-methylnaphthalene							
468000	PHC's F2	<2 ug/g	86	80-120	86	60-140	22	0-30
468000	PHC's F3	<20 ug/g	86	80-120	86	60-140	20	0-30
468000	PHC's F4	<20 ug/g	86	80-120	86	60-140	0	0-30
468000	Moisture-Humidite	<0.1 %	100	80-120			8	
468002	PHC's F2	<2 ug/g	86	80-120	87	60-140	0	0-30
468002	PHC's F3	<20 ug/g	86	80-120	87	60-140	0	0-30
468002	PHC's F4	<20 ug/g	86	80-120	87	60-140	0	0-30
468002	Moisture-Humidite	<0.1 %	100	80-120			12	
468012	Xylene Mixture							
468013	PHC's F1-BTEX							
468022	Boron (Hot Water Soluble)	<0.25 ug/g	95	70-130	107	60-140	0	0-30
468024	PHC's F2-Naph							
468026	PHC's F3-PAH							

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Test Summary

Batch No	Analyte	Instrument	Preparation Date	Analysis Date	Analyst	Method
467867	PHC's F1	GC/FID	2024-10-31	2024-10-31	H_S	CCME
467870	Silver	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Arsenic	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Boron (total)	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Barium	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Beryllium	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Cadmium	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Cobalt	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Chromium Total	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Copper	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Mercury	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Molybdenum	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Nickel	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Lead	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Antimony	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Selenium	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Thallium	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Uranium	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Vanadium	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467870	Zinc	ICAPQ-MS	2024-10-31	2024-10-31	AaN	EPA 200.8/6020
467871	Benzene	GC-MS	2024-10-27	2024-10-30	H_S	V 8260B
467871	Ethylbenzene	GC-MS	2024-10-27	2024-10-30	H_S	V 8260B
467871	Xylene, m/p-	GC-MS	2024-10-27	2024-10-30	H_S	V 8260B
467871	Xylene, o-	GC-MS	2024-10-27	2024-10-30	H_S	V 8260B
467871	Toluene	GC-MS	2024-10-27	2024-10-30	H_S	V 8260B
467903	Chromium VI	FAA	2024-10-31	2024-11-01	MW	M US EPA 3060A
467929	Electrical Conductivity	Electrical Conductivity Mete	2024-11-01	2024-11-01	Z_S	Cond-Soil
467937	Methylnaphthalene, 1-	GC-MS	2024-10-31	2024-11-01	C_M	P 8270
467937	Methylnaphthalene, 2-	GC-MS	2024-10-31	2024-11-01	C_M	P 8270
467937	Acenaphthene	GC-MS	2024-10-31	2024-11-01	C_M	P 8270
467937	Acenaphthylene	GC-MS	2024-10-31	2024-11-01	C_M	P 8270
467937	Anthracene	GC-MS	2024-10-31	2024-11-01	C_M	P 8270

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Test Summary

Batch No	Analyte	Instrument	Preparation Date	Analysis Date	Analyst	Method
467937	Benz[a]anthracene	GC-MS	2024-10-31	2024-11-01	C_M	P 8270
467937	Benzo[a]pyrene	GC-MS	2024-10-31	2024-11-01	C_M	P 8270
467937	Benzo[b]fluoranthene	GC-MS	2024-10-31	2024-11-01	C_M	P 8270
467937	Benzo[ghi]perylene	GC-MS	2024-10-31	2024-11-01	C_M	P 8270
467937	Benzo[k]fluoranthene	GC-MS	2024-10-31	2024-11-01	C_M	P 8270
467937	Chrysene	GC-MS	2024-10-31	2024-11-01	C_M	P 8270
467937	Dibenz[a h]anthracene	GC-MS	2024-10-31	2024-11-01	C_M	P 8270
467937	Fluoranthene	GC-MS	2024-10-31	2024-11-01	C_M	P 8270
467937	Fluorene	GC-MS	2024-10-31	2024-11-01	C_M	P 8270
467937	Indeno[1 2 3-cd]pyrene	GC-MS	2024-10-31	2024-11-01	C_M	P 8270
467937	Naphthalene	GC-MS	2024-10-31	2024-11-01	C_M	P 8270
467937	Phenanthrene	GC-MS	2024-10-31	2024-11-01	C_M	P 8270
467937	Pyrene	GC-MS	2024-10-31	2024-11-01	C_M	P 8270
467940	Sodium Adsorption Ratio	iCAP OES	2024-11-01	2024-11-01	Z_S	Ag Soil
467942	1+2-methylnaphthalene	GC-MS	2024-11-01	2024-11-01	C_M	P 8270
467950	Cyanide (CN-)	Skalar CN Analyzer	2024-11-01	2024-11-01	Z_S	MOECC E3015
467955	pH - CaCl2	pH Meter	2024-11-01	2024-11-01	MW	AG Soil
467981	Methylnaphthalene, 1-	GC-MS	2024-11-01	2024-11-01	C_M	P 8270
467981	Methylnaphthalene, 2-	GC-MS	2024-11-01	2024-11-01	C_M	P 8270
467981	Acenaphthene	GC-MS	2024-11-01	2024-11-01	C_M	P 8270
467981	Acenaphthylene	GC-MS	2024-11-01	2024-11-01	C_M	P 8270
467981	Anthracene	GC-MS	2024-11-01	2024-11-01	C_M	P 8270
467981	Benz[a]anthracene	GC-MS	2024-11-01	2024-11-01	C_M	P 8270
467981	Benzo[a]pyrene	GC-MS	2024-11-01	2024-11-01	C_M	P 8270
467981	Benzo[b]fluoranthene	GC-MS	2024-11-01	2024-11-01	C_M	P 8270
467981	Benzo[ghi]perylene	GC-MS	2024-11-01	2024-11-01	C_M	P 8270
467981	Benzo[k]fluoranthene	GC-MS	2024-11-01	2024-11-01	C_M	P 8270
467981	Chrysene	GC-MS	2024-11-01	2024-11-01	C_M	P 8270
467981	Dibenz[a h]anthracene	GC-MS	2024-11-01	2024-11-01	C_M	P 8270
467981	Fluoranthene	GC-MS	2024-11-01	2024-11-01	C_M	P 8270
467981	Fluorene	GC-MS	2024-11-01	2024-11-01	C_M	P 8270
467981	Indeno[1 2 3-cd]pyrene	GC-MS	2024-11-01	2024-11-01	C_M	P 8270
467981	Naphthalene	GC-MS	2024-11-01	2024-11-01	C_M	P 8270

Results relate only to the parameters tested on the samples submitted.
Methods references and/or additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

Client: Engtec Consulting Inc.
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Attention: Hammad Din
PO#:
Invoice to: Engtec Consulting Inc.

Report Number: 3012032
Date Submitted: 2024-10-28
Date Reported: 2024-11-04
Project: ET24-143803
COC #: 230963

Test Summary

Batch No	Analyte	Instrument	Preparation Date	Analysis Date	Analyst	Method
467981	Phenanthrene	GC-MS	2024-11-01	2024-11-01	C_M	P 8270
467981	Pyrene	GC-MS	2024-11-01	2024-11-01	C_M	P 8270
467982	1+2-methylnaphthalene	GC-MS	2024-11-04	2024-11-04	C_M	P 8270
468000	PHC's F2	GC/FID	2024-11-01	2024-11-04	D_T	CCME
468000	PHC's F3	GC/FID	2024-11-01	2024-11-04	D_T	CCME
468000	PHC's F4	GC/FID	2024-11-01	2024-11-04	D_T	CCME
468000	Moisture-Humidity	Oven	2024-11-01	2024-11-04	D_T	ASTM 2216
468002	PHC's F2	GC/FID	2024-11-01	2024-11-04	D_T	CCME
468002	PHC's F3	GC/FID	2024-11-01	2024-11-04	D_T	CCME
468002	PHC's F4	GC/FID	2024-11-01	2024-11-04	D_T	CCME
468002	Moisture-Humidity	Oven	2024-11-01	2024-11-04	D_T	ASTM 2216
468012	Xylene Mixture	GC-MS	2024-11-04	2024-11-04	H_S	V 8260B
468013	PHC's F1-BTEX	GC/FID	2024-11-04	2024-11-04	H_S	CCME
468022	Boron (Hot Water Soluble)	iCAP OES	2024-11-04	2024-11-04	Z_S	MOECC E3470
468024	PHC's F2-Naphth	GC/FID	2024-11-04	2024-11-04	D_T	CCME
468026	PHC's F3-PAH	GC/FID	2024-11-04	2024-11-04	D_T	CCME

Results relate only to the parameters tested on the samples submitted.
Methods references and/or additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

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CWS for Petroleum Hydrocarbons in Soil - Tier 1**Notes:**

1. The laboratory method complies with CCME Tier 1 reference method for PHC in soil. It is validated for laboratory use.
2. Where the F1 fraction (C6 to C10) and BTEX are both measured, F1-BTEX is reported.
3. Where the F2 fraction (C10 to C16) and naphthalene are both measured, F2-naphthalene is reported.
4. Where the F3 fraction (C16 to C34) and PAHs* are both measured, F3-PAH is reported.
5. F4G is analyzed if the chromatogram does not descend to baseline before C50. Where F4 (C34 to C50) and F4G are both reported, the higher result is compared to the standard.
6. Unless otherwise stated in the sample comments, the following criteria have been met where applicable:
 - nC6 and nC10 response factors within 30% of response factor for toluene;
 - nC10, nC16, and nC34 response factors within 10% of each other;
 - C50 response factors within 70% of nC10 + nC16 + nC34 average; and,
 - Linearity is within 15%.
7. Unless otherwise stated in the sample comments, sampling requirements and analytical holding times have been met.
8. Gravimetric heavy hydrocarbons (F4G) cannot be added to the C6 and C50 hydrocarbons.
9. *PAHs = phenanthrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-c,d)pyrene and pyrene.

[illegible]