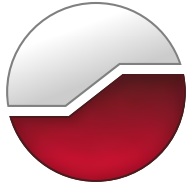




GEMTEC

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**Phase Two Environmental Site Assessment
4 Campbell Reid Court
Ottawa, Ontario**



GEMTEC

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Dr. Andrzej Olender
1405 Houston Crescent
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**Phase Two Environmental Site Assessment
4 Campbell Reid Court
Ottawa, Ontario**

July 18, 2022
Project: 65103.01

GEMTEC Consulting Engineers and Scientists Limited
32 Steacie Drive
Ottawa, ON, Canada
K2K 2A9

July 18, 2022

File: 65103.01 V01

Mr. Andrzej Olender
1405 Houston Crescent
Ottawa, Ontario
K2W 1B6

Attention: Dr. Andrzej Olender

**Re: Phase Two Environmental Site Assessment
4 Campbell Reid Court
Ottawa, ON**

Enclosed is GEMTEC Consulting Engineers and Scientists Limited's Phase Two Environmental Site Assessment (ESA) report for the above-noted project. The Phase Two ESA was completed in general accordance with Ontario Regulation (O.Reg.) 153/04 to investigate the areas of potential environmental concern (APECs) identified in the 2021 Phase One ESA report for this project. This Phase Two ESA was completed to document the environmental quality of soil and limited groundwater within the project limits. One groundwater sample was collected from the homeowner's domestic well. Additional groundwater investigation was conducted during the concurrent hydrogeological assessment, provided under a separate cover.

We trust this information is sufficient for your current needs. If you have any questions or require further information, please contact the undersigned.

Sincerely,



Ester Wilson, B.Sc., GIT
Junior Environmental Scientist



Brenda Thom, M.Sc.(Eng.), P.Eng, QP_{ESA}
Senior Environmental Engineer

EW/BT

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EXECUTIVE SUMMARY

GEMTEC Consulting Engineers and Scientist Limited (GEMTEC) was retained by Dr. Andrzej Olender to provide a limited Phase Two Environmental Site Assessment (ESA) for 4 Campbell Reid Court, the "Site", in Ottawa, Ontario. The Phase One ESA investigation was completed prior and is summarized in GEMTEC's Phase One ESA report dated September 30, 2021 (2021 Phase One ESA).

GEMTEC understands that the Phase Two ESA is required for a Site Plan Control Application (SPCA) with the City of Ottawa based on the recommendations provided in the 2021 Phase One ESA to address one area of potential environmental concern (APEC) identified across the Site. The APEC resulted from the importation of fill of unknown quality, identified as potentially contaminating activity (PCA) #30 in Ontario Regulation (O. Reg.) 153/04. This PCA was identified in the geotechnical investigation titled "Geotechnical Investigation Proposed Commercial Building 4 Campbell Reid Court Ottawa Ontario" dated July 12, 2021. The geotechnical investigation encountered a superficial layer of fill material of unknown quality across the Site.

Six boreholes were advanced as part of the environmental field investigation. A total of seven soil samples were submitted (including one duplicate sample) for the following contaminants of potential concern (COPCs) identified in the 2021 Phase One ESA: metals and inorganics (M&I), polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs) and petroleum hydrocarbon four fractions (PHC F1 to F4). One composite soil sample was collected and submitted for toxicity characteristic leaching procedure (TCLP) analysis to inform disposal options. A groundwater sample was collected from the homeowner's domestic well and was submitted for analysis of M&I, PHCs F1 to F4 and VOCs.

Soil analytical results were compared to the following Ministry of the Environment, Conservation and Parks (MECP) Site Condition Standards (SCS):

- MECP Table 1 RPI/ICC: Ontario Ministry of the Environment, "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, " March 2004, amended July 1, 2011. Full Depth Background Site Condition Standards for Soil for Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use.
- MECP Table 6 RPI SCS: Ontario Ministry of the Environment, "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, " March 2004, amended July 1, 2011. Full Depth Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition for Residential/Parkland/Institutional Property Use with Coarse Textured Soils.
- MECP Table 6 ICC SCS: Ontario Ministry of the Environment, "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, " March 2004, amended July 1, 2011. Full Depth Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition for Industrial/Commercial/Community Property Use with Coarse Textured Soils.

Groundwater analytical results were compared to:

- MECP Table 1 SCS: Ontario Ministry of the Environment, "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, " March 2004, amended July 1, 2011. Full Depth Background Site Condition Standards for Ground Water for All Types of Property Use.
- MECP Table 6 SCS: Ontario Ministry of the Environment, "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, " March 2004, amended July 1, 2011. Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition for All Types of Property Use.

Analytical results indicated that the Site does not currently meet the applicable MECP Table 1 RPI/ICC SCS and Table 6 RPI SCS for soil, and Table 1 SCS and Table 6 SCS for groundwater. The following is a summary of the exceedances by sampling location at the Site:

Soil

| Sample ID | Depth (m bgs) | MECP Table 1 RPI/ICC SCS Exceedances | MECP Table 6 RPI SCS Exceedances | MECP Table 6 ICC SCS Exceedances |
|-------------|---------------|--------------------------------------|----------------------------------|----------------------------------|
| BH22-03 SA1 | 0.00-0.91 | EC, PHC F2 | EC | -- |
| BH22-04 SA1 | 0.00-0.52 | Barium | -- | -- |

Notes:

EC – Electrical conductivity

- The TCLP analytical results indicated that the soil is classified as non-hazardous waste. In accordance with O.Reg. 347/90 *General - Waste Management*; therefore, soil may be disposed at an MECP licensed landfill.

Groundwater

| Sample ID | MECP Table 1 SCS Exceedances | MECP Table 6 SCS Exceedances |
|-----------|------------------------------|------------------------------|
| PW-4 | Barium | Barium |
| PW-4-D | Barium | Barium |

- The concentrations of M&I, PAHs, PHCs F1 to F4, and VOCs measured in the groundwater samples submitted were less than the applicable Table 1 SCS and Table 6 SCS for *except for* the following:
 - Barium concentrations in both the groundwater sample and duplicate sample were found in exceedance of the Table 1 SCS and Table 6 SCS.

However, due to the low solubility of barium in groundwater, the typical sparse vertical fracture patterns in the limestone and dolostone bedrock, and that the groundwater sample was collected from a deeper aquifer (approximately 25 meters below ground surface), it is unlikely that the barium impacts in the groundwater sampled originated from the fill material at surface.

Conclusions and Recommendations

The Phase Two ESA was completed to investigate the APEC identified in GEMTEC's 2021 Phase One ESA. Exceedances to the applicable MECP SCS Tables were identified in the soil and groundwater. In soil, EC was in exceedance of Table 1 RPI/ICC SCS and Table 6 RPI SCS, barium was in exceedance of Table 1 RPI/ICC SCS and PHC F2 was in exceedance of Table 1 RPI/ICC SCS. In groundwater, barium was in exceedance of Table 1 SCS and Table 6 SCS. GEMTEC concludes and recommends the following:

- No soils exceeded MECP Table 6 SCS for commercial use but soil from BH22-3 had electrical conductivity in exceedance of Table 6 SCS for residential use. However, this exceedance is located in an area of the Site that will be part of the commercial development, particularly, under the proposed access to the parking lot of the veterinary clinic. As such, the measure electrical conductivity does not exceed the commercial standards, which would be applicable to this portion of the property. However, the salt impacted soil must remain in the vicinity of the area where salt impacts to soil are anticipated, *i.e.*, nearby the road and/or driveway.
- Excess soil is not expected during construction, but if excess soil is generated, a soil characterization plan will be required as per O.Reg. 4016/19. The applicable Excess Soil Quality Standards (ESQS) should be selected by a Qualified Person (QP) to determine suitability of re-use at the chosen receiving site. The MECP Table 1 SCS provided in this report is intended for general soil re-use information purposes and should be verified by the QP before any soil transfer or re-use is conducted. Depending on the volume of the excess soil, further sampling may be required in addition to the analytical results in this report.
- Based on the results of the TCLP analysis, the soil is classified as non-hazardous waste. In accordance with O.Reg. 347/90 *General - Waste Management*, excess soil generated during construction may be transported to an MECP licensed landfill.
- Although barium concentrations in the groundwater sample exceeded the Table 6 SCS, no barium exceedances to Table 6 SCS were detected in the soils. Based on measured concentration of barium in soil, the low solubility of barium in groundwater, the typical sparse vertical fracture patterns in the limestone and dolostone bedrock, and that the groundwater sample was collected from a deep aquifer (approximately 25 meters below ground surface), it is unlikely that the barium concentration in the groundwater sampled originated from the fill material at surface.

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1.0 INTRODUCTION

GEMTEC Consulting Engineers and Scientist Limited (GEMTEC) was retained by Mr. Andrzej Olender (the “client”) to conduct a Phase Two Environmental Site Assessment (ESA) for 4 Campbell Reid Court in Ottawa, Ontario, herein referred to as the “Site”. The Phase One ESA investigation is summarized in GEMTEC’s Phase One ESA report dated September 30, 2022 (2021 Phase One ESA).

GEMTEC understands that this Phase Two ESA is required for a Site Plan Control Application (SPCA) with the City of Ottawa based on recommendations provided in the 2021 Phase One ESA report to address one area of potential environmental concern (APEC) identified across the Site. The APEC resulted from the importation of fill of unknown quality, identified as potentially contaminating activity (PCA) #30 in Ontario Regulation (O.Reg.) 153/04. Fill material was identified in the geotechnical investigation titled “Geotechnical Investigation Proposed Commercial Building 4 Campbell Reid Court Ottawa Ontario” dated July 12, 2021. The geotechnical investigation encountered the fill material of unknown quality across the Site.

1.1 Background

The Site currently consists of a land parcel with an approximate area of 7,900 square meters (1.95 acres) containing a two-storey residential dwelling located at the northeast corner of the Site. The Site is bound to the north by Campbell Reid Court followed by residential land; to the east by 6 Campbell Reid Court followed by residential land; to the west by Dunrobin Road followed by undeveloped land; and, to the south by March Road followed by undeveloped land. The Site Location Plan and Study Area Plan are presented in Figures A.1 and A.2, in Appendix A, respectively.

GEMTEC completed a Phase One ESA on the Site in general accordance with the CSA Group standard Z768-01 (R2016) and general industry standards including Ontario Regulation (O.Reg.) 153/04 as amended. An APEC resulting from fill of unknown quality was identified in the Phase One ESA, and is presented in Figure A.3, Appendix A. GEMTEC understands that the zoning of the Site will not be changing to a more sensitive land use and that the filing of a Record of Site Condition (RSC), as regulated by Ontario Regulation 153/04 under the Environmental Protection Act, will not be required.

Table 1.1 Phase One ESA Summary

| APEC / PCA # | Location | Description | Contaminants of Potential Concern |
|--------------|-----------------|---|-----------------------------------|
| 1 / 1 | Across the Site | <ul style="list-style-type: none">APEC resulting from PCA 30:<ul style="list-style-type: none">Importation of fill of unknown quality | M&I, PHCs/BTEX, PAHs, VOCs |

M&I – Metals and Inorganics
PHCs – Petroleum Hydrocarbons
PAHs – Polycyclic Aromatic Hydrocarbons
VOCs – Volatile Organic Compounds

A Phase Two Environmental Site Assessment (ESA) was recommended to investigate soil and groundwater quality on the Site and to characterize soil that may affect soil management and disposal related to future construction within the project limits.

1.2 Physical Setting

1.2.1 Topography

A site topography map based on Ontario Basic Mapping is illustrated on the Figure A.1, Appendix A. The Site has a relatively flat topography and is at an elevation of approximately 95 metres above sea level. Surrounding topography is relatively flat but generally slopes north and east towards the provincially significant wetland (Shirley's Bay), which is located approximately 1.5 kilometres (km) to the northeast of the Site, and the Ottawa River, located approximately 5 km east of the site.

1.2.2 Surficial Geology

Surficial soil geology maps of the Ottawa area indicate that the subsurface conditions are primarily characterized by shallow and/ or at surface bedrock conditions. A soil type/description is not provided on the surficial soil maps.

1.2.3 Bedrock Geology

According to "*Paleozoic Geology of Southern Ontario*" (Armstrong et al., 2007), the project limits are within the following formation: *Limestone, dolostone, shale, arkose, sandstone Ottawa Group; Simcoe Group; Shadow Lake Formation*.

1.3 Scope of Work

The scope of work for the Phase Two ESA was presented in GEMTEC's proposal dated February 9th, 2022. The objective of the Phase Two ESA was to confirm the presence or absence of soil contamination in areas identified in the Phase One ESA dated September 30th, 2021, in support of the proposed development activities.

To meet the objectives, the following tasks were completed as part of Phase Two ESA:

- Preparation of a sample and analysis plan (SAP) to document the rationale for the investigation, including the number of sampling points, sample frequency, analytical parameters and media to be sampled;
- Co-ordination with drilling contractors, Strata Drilling Group, in addition to private and public locators to obtain utility locates near the proposed borehole locations;
- Advancement of 6 boreholes to a maximum depth of 1.82 metres below ground surface (m bgs);

- Collection of soil samples during drilling that are representative of the ‘worst case’ conditions observed during the investigation;
- Collection, screening, and classification of soil samples at each environmental borehole location for possible laboratory analysis. Soil sample headspace vapours were monitored using a combustible gas indicator (CGI) and a photoionization detector (PID), to assess the presence of combustible and total organic vapours;
- Collection of one groundwater sample and sample duplicate from the homeowner’s domestic well;
- Selection of soil samples for submission to Paracel Laboratories (Paracel), an accredited laboratory, for chemical analysis of the contaminants of concern (COPCs), namely: metals and inorganics (M&I), polycyclic aromatic hydrocarbons (PAHs), and volatile organic compounds (VOCs) and petroleum hydrocarbons (PHCs F1-F4);
- Collection of quality assurance / quality control (QA/QC) duplicate soil samples at a frequency of 10% throughout the field program;
- Comparison of laboratory analytical results to the applicable regulatory criteria; and,
- Providing a Phase Two ESA report (this report).

2.0 INVESTIGATION METHOD

2.1 General

Boreholes were advanced across the Site at the locations shown on Figure A.4, in Appendix A to determine if the APEC identified in the Phase One ESA has impacted the Site. Investigation methods followed GEMTEC’s Standard Operating Procedures (SOPs) and the *Protocol for Analytical Methods Used in the Assessment of properties* (MOE, 2011). The investigation methodology is described in the following sections.

2.2 Drilling

GEMTEC retained Strata Drilling Group, a Ministry of the Environment, Conservation and Parks (MECP) licensed driller, to conduct the drilling activities at the Site. The drilling program was completed under the supervision of GEMTEC field staff in March 2022. Boreholes were advanced to evaluate subsurface conditions and collect soil samples. Borehole locations are presented in Figure A.4, Appendix A.

Boreholes were advanced to observe subsurface conditions and intervals, assess soil quality and to determine if there were any impacts to soil as a result of former / present operations at the Site. Soil samples were recovered from each borehole, visually inspected, and logged. Subsurface conditions observed during drilling are summarized in the borehole logs provided in Appendix B.

2.3 Soil Sampling

A geo-probe plastic geo-sleeve was used to continuously collect soil samples from boreholes during drilling.

Site geological conditions observed in the soil samples were logged in the field by a GEMTEC technician including observations of colour, odour, texture, soil type and moisture. Soil samples were collected with dedicated nitrile gloves to prevent cross-contamination between sampling locations.

Recovered soil samples were split into two portions: one portion was placed into labeled polyethylene bags for field screening of combustible vapours and the other portion was placed into the appropriate laboratory-supplied sample containers and stored in a cooler with ice for possible laboratory submission. Soil samples were screened for combustible vapours within 30 minutes of sampling. For screening purposes, a portion of each sample was maintained in an undisturbed condition and the balance of the sample was broken up to release soil vapours. The vapour readings were measured as described in Section 0.

A total of seven soil samples (including one field duplicate sample) and one composite Toxicity Characteristic Leaching Procedure (TCLP) sample were submitted to Paracel Laboratories of Ottawa, Ontario. The selected soil samples were submitted for laboratory analysis of metals and inorganics, PAHs, PHC F1 to F4 and VOCs. A summary of the soil samples submitted for chemical analysis is provided in Tables C.1 to C.3, Appendix C.

2.4 Field Screening Measurements

Soil samples were screened using an RKI Eagle 2, which operates as a PID and CGI, to measure total organic vapours and combustible vapours. Results of field screening and the soil samples submitted to the laboratory for chemical analysis are included on the borehole logs (Appendix B).

The PID was equipped with a 10.6 electron-volt (eV) lamp, which was calibrated with a known concentration of isobutylene. This instrument detects VOCs that emit below an ionization potential of 10.6 eV, which includes a wide range of chemicals such as solvents and fuels. The detection limit of the instrument ranges from 0 to 15,000 ppm, and accuracy is +/- 10% for VOCs in the range of 0 and 2,000 ppm and +/- 20% of the reading above 2,000 ppm. The resolution of this instrument is 0.1 ppm for VOCs in the range of 0 and 1,000 ppm and 1 ppm for readings above 1,000 ppm. The PID provides an indication of organic contamination in soil but does not measure concentrations of individual contaminants.

The CGI detects combustible vapours such as those associated with fuels. This instrument measures a concentration of total combustible gas, calibrated to a known concentration of hexane. The instrument operates in the methane elimination mode. The detection limit of the instrument ranges from 0 to 11,000 ppm (i.e., 100 % LEL of hexane). The CGI has an accuracy

of 25 ppm below 1,000 ppm and 5% of the lower explosive limit (LEL) between 1,000 ppm and 100% LEL. As with the PID, it provides an indication of contamination but not chemical specific concentrations.

There are no regulatory criteria for soil vapours; however, elevated vapour concentrations are generally indicative of the presence of volatile parameters. Concentrations vary with parameter type, concentration and age and the readings are only intended to be used as a field-screening tool to provide a qualitative measure of volatile chemical concentrations within the subsurface. The readings do not provide a quantitative measure of analytical results.

The RKI Eagle 2 was obtained by GEMTEC from Maxim Environmental & Safety Inc. (Maxim) for this project. Maxim calibrates instruments on a regular basis to maintain consistent results. GEMTEC field technicians completed site calibration of the field instrument each day according to the manufacturer's instructions.

2.5 Groundwater Sampling

As part of this Phase Two ESA. A groundwater quality sample was collected from the homeowner's domestic well.

- The total depth of the homeowner's domestic well is approximately 25.1 m bgs.
- Groundwater sampling was conducted via the by-pass valve to ensure an untreated groundwater sample was collected.

2.6 Analytical Testing

Soil samples were analyzed by Paracel Laboratories, an accredited CALA laboratory, in accordance with the requirements of O.Reg. 153/04.

Soil samples were submitted to Paracel Laboratories for analysis of M&I, PAHs, PHCs and VOCs. In addition, one composite TCLP sample was submitted to Paracel for analysis of M&I, VOCs, benzo[a]pyrene and flashpoint. Laboratory certificates of analysis are included in Appendix D.

2.7 Quality Assurance and Quality Control Measures

Quality assurance and quality control of the soil sampling program was maintained by adhering to the following:

- The field investigation was completed under GEMTEC SOPs for environmental intrusive investigations, including soil and groundwater sampling best practices and requirements;
- Samples were assigned unique identification numbers, as they were collected, identifying the project number, date, sample location, and depth. The sample numbers were recorded in field notes for each location;

- Sample containers provided by the analytical laboratory were used and laboratory requirements for sample size, container type, preservatives and filtering were maintained;
- Non-disposable sampling equipment was cleaned using Alconox© and distilled water following each use to avoid potential cross-contamination;
- A chain-of-custody (COC) form was filled out prior to submitting the selected samples to the laboratory. The COC documented sample movement from time of field collection to receipt at the laboratory and provided a record of sample identification, requested analysis and conditions of samples upon arrival at the laboratory (e.g. temperature, container status, etc.);
- Soil samples were selected by the GEMTEC field staff for field duplicate testing. The number of duplicate samples submitted is equivalent to a minimum of 10% of the total number of samples submitted, under accepted standard industry QA/QC practices;
- Field monitoring equipment was calibrated according to industry requirements prior to the site visit and during implementation of the field program as required (i.e., on-site calibration); and,
- Samples were randomly selected by the laboratory for Quality Assurance checks. Generally, one sample for every ten samples submitted is assessed by the laboratory internal QA/QC program. For each parameter, there is an acceptable upper and lower limit for measured concentrations. Measured concentrations of analyzed samples must fall within the upper and lower acceptable limits in order for the sample to be considered valid. If a result exceeds the upper or lower acceptable limits, the sample must be re-analyzed.

3.0 REVIEW AND RESULTS

3.1 Site Geology

The surficial geology information was observed within the project limits during the advancement of the boreholes. Detailed descriptions of the soil conditions encountered in each location during drilling are included in the borehole logs in Appendix B. A summary of the boreholes is as follows:

- Brown sand or sandy silt and sand with gravel was encountered directly beneath the ground surface to depths ranging between 0.52 and 1.52 m bgs at boreholes BH22-01, BH22-02, BH22-04, BH22-05 and BH22-06.
- Gravel and fill material consisting of grey sands and silt were encountered directly beneath the ground surface at BH22-03.
- Organic matter (peat) was encountered beneath the sand or silty sand at BH22-02 and BH22-06.
- Grey clay and silty clay were encountered beneath the sand at BH22-05.

- Bedrock auger refusal was encountered at depths ranging between 0.52 and 1.82 m bgs.

3.2 Groundwater: Elevations and Flow Direction

In order to determine groundwater flow direction, monitoring wells are required to be installed within a triangular pattern; however, due to the project limits specific to this Phase Two ESA, groundwater triangulation was not possible. As such, groundwater flow direction calculations are not included within the scope of this investigation.

Groundwater flow often reflects topographic features and typically flows toward nearby lakes, rivers, and wetland areas. Based on the topography of the area, it is expected that regionally local shallow groundwater flow may trend north/easterly towards the Shirley's Bay and the Ottawa River.

3.3 Regulatory Criteria

The Ontario MECP SCS are established under Part XV.1 of the Ontario Environmental Protection Act (EPA). Tabulated generic criteria are provided in the MECP document "Soil, Groundwater and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act", dated March 9, 2004 and amended in April, 2011. The criteria are based on site sensitivity, groundwater use (potable or non-potable), property use (residential, parkland, institutional, commercial, industrial, community and agricultural/other), soil type (coarse or medium/fine textured) and restoration depth (full or stratified restoration).

The most applicable MECP SCS for the Site were selected after considering the following site and project specific information:

- The Site is considered to have a Residential/Parkland/Institutional (RPI) property use in accordance with O.Reg. 153/04;
- The future land use of the Site is proposed to include a two-storey commercial building with an Industrial/Commercial/Community (ICC) property use in addition to the currently existing residential land use of the Site. The current zoning of the site is defined as a rural countryside zone which recognizes and permits animal care establishment land use.
- A search of the MECP water well records returned 21 results within 250 meters of the Site (locations displayed on Figure A.2). Of the 21 well records, 16 were reported for domestic use, two for livestock, two as not in use (abandoned) and one as unknown. The well depths range from 11.6 to 103.6 meters below ground surface, with an average well depth of 26.8 metres. The Site and surrounding properties are serviced by groundwater wells and are not serviced by a municipal drinking water system. Therefore, the groundwater at the Site is considered potable;
- No waterbodies are present within 30 meters of the Site;
- Surrounding properties are primarily residential;

- Soil is consistent with the definition of coarse textured as per O. Reg. 153/04 and coarse textured soil is considered to be the most stringent criteria for analytical comparison purposes;
- pH values measured in soil samples collected from the Site are within the acceptable range of 5 to 9;
- Stratified soil conditions were not present at the Site;
- Bedrock was encountered at less than 2 metres depth at every borehole advanced on-site; therefore, the Site is considered a shallow soil property as per the definition in O.Reg. 153/04; and,

Based on the above information, GEMTEC selected the following MECP SCSs:

Soil:

- MECP Table 6: Ontario Ministry of the Environment, "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, " March 2004, amended July 1, 2011. Full Depth Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition for Residential/Parkland/Institutional Property Use with Coarse Textured Soils.
- MECP Table 6: Ontario Ministry of the Environment, "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" March 2004, amended July 1, 2011. Full Depth Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition for Industrial/Commercial/Community Property Use with Coarse Textured Soils.
- To aid in selecting the potential soil disposal options, analytical results were also compared to:
 - MECP Table 1: Ontario Ministry of the Environment, "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, " March 2004, amended July 1, 2011. Full Depth Background Site Condition Standards for Soil for Residential/ Parkland/ Institutional/ Industrial/ Commercial/ Community Property Use.

Groundwater:

- MECP Table 1: Ontario Ministry of the Environment, "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, " March 2004, amended July 1, 2011. Full Depth Background Site Condition Standards for Ground Water for All Types of Property Use.
- MECP Table 6: Ontario Ministry of the Environment, "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, " March 2004,

amended July 1, 2011. Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition for All Types of Property Use.

3.4 Soil Quality

The locations, depths, and contaminants of potential concern requested for laboratory analysis of selected soil samples collected by GEMTEC are provided on the borehole logs in Appendix B. Analytical soil results are presented in Appendix C within Tables C.1 to C.3. Exceedances to the applicable MECP standards are presented in Figure A.4, Appendix A. Leachate TCLP analytical results are presented in Table C.4, Appendix C. Laboratory certificates of analysis are presented in Appendix D.

A summary of the analytical results for soil samples greater than the Table 1 SCS and Table 6 SCS is provided below:

| Sample ID | Depth (m bgs) | MECP Table 1 RPI/ICC SCS Exceedances | MECP Table 6 RPI SCS Exceedances | MECP Table 6 ICC SCS Exceedances |
|-------------|---------------|--------------------------------------|----------------------------------|----------------------------------|
| BH22-03 SA1 | 0.00-0.91 | EC, PHC F2 | EC | None |
| BH22-04 SA1 | 0.00-0.52 | Barium | None | None |

Notes:

EC – Electrical conductivity

3.4.1 Soil Leachate

A composite soil sample was submitted for TCLP analysis of M&I, VOCs, benzo[a]pyrene and ignitability. The results of the TCLP analysis indicated that the soil is classified as non-hazardous waste and may be disposed off-site at an MECP licensed landfill site. The TCLP analytical results are presented in Table C.4 within Appendix C.

3.5 Groundwater Quality

The groundwater analytical results are presented in Tables C.5 and C.6 within Appendix C. Laboratory Certificates of Analysis are presented in Appendix D.

The analytical results for M&I, PAHs, PHCs F1 to F4 and VOCs concentrations in the submitted groundwater samples were less than the applicable MECP Table 1 and Table 6 SCS *except for* the following:

- Barium concentrations exceeding the MECP Table 1 SCS and Table 6 SCS were present in PW-4 and its blind duplicate, PW4-D.

3.6 Quality Assurance/Quality Control

3.6.1 Laboratory Internal QA/QC

Soil samples were submitted to Paracel during the Phase Two ESA field investigation. Paracel completed a variety of internal QA/QC measures on the soil samples submitted and is accredited

by the Standards Council of Canada (SCC) in cooperation with the Canadian Association of Laboratory Accreditation (CALA) for specific environmental tests listed in the scope of accreditation approved by the SCC and registered with the association. Parcel is accredited to the ISO/IEC 17025 standard and employ in-house quality assurance and quality control programs to govern sample analysis including the analysis of method blanks, spiked blanks, and the analysis of duplicates (10%) for each sample batch.

3.6.2 Field QA/QC Program

Blind duplicates are submitted for laboratory analysis to evaluate both laboratory precision and the implemented field sampling and handling procedures, in addition to the sample homogeneity. The relative percent difference (RPD) is defined as the absolute value of the variation between a sample and its duplicate, when compared to the average concentration of the original and the duplicate. It is used to assess the validity of the field and laboratory analytical procedures.

The following soil and groundwater duplicate samples were collected as part of the Phase Two ESA field investigation:

- BH22-06 SA1 / BH22-106 SA1 (soil)
- PW4 / PW4-D (groundwater)

Calculations of the relative percent differences (RPD) between the parent and duplicate samples were performed and compared to the acceptance limits outlined in the '*Protocol for Analytical Methods Used in the Assessment of Properties*' under Part XV.1 of the Environmental Protection Act, April 2011. The RPD calculation is only applicable when both the sample and the field duplicate concentrations are greater than five times the laboratory reported detection limit.

The RPDs of the soil and groundwater analyzed met the MECP Alert criteria which is considered acceptable, *apart from* the following:

- The calculated RPD for electrical conductivity in soil was 22.8%, which exceeds the MECP alert criteria (10%).

Trip Blank

The concentrations of VOC parameters were less than the laboratory reportable detection limits in the trip blank sample, with laboratory detection limits below the applicable Table 6 and Table 1 SCS. These results indicate that the data quality is considered reliable, with no evidence of cross-contamination during sample transport to the laboratory.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 Summary of Phase Two ESA Findings

Analytical results indicated that the Site does not currently meet the applicable MECP Table 1 RPI/ICC SCS and Table 6 RPI SCS for soil, and Table 1 SCS and Table 6 SCS for groundwater. The following is a summary of the exceedances by sampling location at the Site:

Soil

| Sample ID | Depth (m bgs) | MECP Table 1 RPI/ICC SCS Exceedances | MECP Table 6 RPI SCS Exceedances | MECP Table 6 ICC SCS Exceedances |
|-------------|---------------|--------------------------------------|----------------------------------|----------------------------------|
| BH22-03 SA1 | 0.00-0.91 | EC, PHC F2 | EC | -- |
| BH22-04 SA1 | 0.00-0.52 | Barium | -- | -- |

Notes:

EC – Electrical conductivity

- The TCLP analytical results indicated that the soil is classified as non-hazardous waste. In accordance with O.Reg. 347/90 *General - Waste Management*; therefore, soil may be disposed at an MECP licensed landfill.

- Groundwater

| Sample ID | MECP Table 1 SCS Exceedances | MECP Table 6 SCS Exceedances |
|-----------|------------------------------|------------------------------|
| PW-4 | Barium | Barium |
| PW-4-D | Barium | Barium |

- The concentrations of M&I, PAHs, PHCs F1 to F4, and VOCs measured in the groundwater samples submitted were less than the applicable Table 1 SCS and Table 6 SCS for *except for* the following:
 - Barium concentrations in both the groundwater sample and duplicate sample were found in exceedance of the Table 1 SCS and Table 6 SCS.
- However, due to the low solubility of barium in groundwater, the typical sparse vertical fracture patterns in the limestone and dolostone bedrock, and that the groundwater sample was collected from a deeper aquifer (approximately 25 meters below ground surface), it is unlikely that the barium impacts in the groundwater sampled originated from the fill material at surface.

Conclusions and Recommendations

The Phase Two ESA was completed to investigate the APEC identified in GEMTEC's 2021 Phase One ESA. Exceedances to the applicable MECP SCS Tables were identified in the soil and groundwater. In soil, EC was in exceedance of Table 1 RPI/ICC SCS and Table 6 RPI SCS,

barium was in exceedance of Table 1 RPI/ICC SCS and PHC F2 was in exceedance of Table 1 RPI/ICC SCS. In groundwater, barium was in exceedance of Table 1 SCS and Table 6 SCS.

GEMTEC concludes and recommends the following:

- No soils exceeded MECP Table 6 SCS for commercial use but soil from BH22-3 had electrical conductivity in exceedance of Table 6 SCS for residential use. However, this exceedance is located in an area of the Site that will be part of the commercial development, particularly, under the proposed access to the parking lot of the veterinary clinic. As such, the measure electrical conductivity does not exceed the commercial standards, which would be applicable to this portion of the property. However, the salt impacted soil must remain in the vicinity of the area where salt impacts to soil are anticipated, *i.e.*, nearby the road and/or driveway.
- Excess soil is not expected during construction, but if excess soil is generated, a soil characterization plan will be required as per O.Reg. 4016/19. The applicable Excess Soil Quality Standards (ESQS) should be selected by a Qualified Person (QP) to determine suitability of re-use at the chosen receiving site. The MECP Table 1 SCS provided in this report is intended for general soil re-use information purposes and should be verified by the QP before any soil transfer or re-use is conducted. Depending on the volume of the excess soil, further sampling may be required in addition to the analytical results in this report.
- Based on the results of the TCLP analysis, the soil is classified as non-hazardous waste. In accordance with O.Reg. 347/90 *General - Waste Management*, excess soil generated during construction may be transported to an MECP licensed landfill.
- Although barium concentrations in the groundwater sample exceeded the Table 6 SCS, no barium exceedances to Table 6 SCS were detected in the soils. Based on measured concentration of barium in soil, the low solubility of barium in groundwater, the typical sparse vertical fracture patterns in the limestone and dolostone bedrock, and that the groundwater sample was collected from a deep aquifer (approximately 25 meters below ground surface), it is unlikely that the barium concentration in the groundwater sampled originated from the fill material at surface.

5.0 CLOSURE

We trust this report provides sufficient information for your present purposes. If you have any questions concerning this report, please do not hesitate to contact the undersigned.

Sincerely,



Ester Wilson, BSc., GIT
Junior Environmental Scientist



Brenda Thom, M.Sc.(Eng.), P.Eng, QP_{ESA}
Senior Environmental Engineer



6.0 LIMITATION OF LIABILITY

This report and the work referred to within it has been undertaken by GEMTEC Consulting Engineers and Scientists Limited for Dr. Andrzej Olender. It is intended for the exclusive use of Dr. Andrzej Olender. This report may not be relied upon by any other person or entity without the express written consent of GEMTEC, Dr. Andrzej Olender. No part of this report is intended to provide a legal opinion.

The investigation undertaken by GEMTEC with respect to this report and any conclusions or recommendations made in this report reflect the best judgements of GEMTEC based on the site conditions observed during the investigations undertaken at the date(s) identified in the report and on the information available at the time the report was prepared. This report has been prepared for the application noted and it is based, in part, on visual observations made at the site, subsurface investigations at discrete locations and depths and laboratory analyses of specific chemical parameters and material during a specific time interval, all as described in the report. Unless otherwise stated, the findings contained in this report cannot be extrapolated or extended to previous or future site conditions, portions of the site that were unavailable for direct investigation, subsurface locations on the site that were not investigated directly, or chemical parameters, materials or analysis which were not addressed. Chemical parameters other than those addressed by the investigation described in this report may exist in soil and groundwater elsewhere on the site, the chemical parameters addressed in the report may exist in soil and groundwater at other locations at the site that were not investigated, and concentrations of the chemical parameters addressed which are different than those reported may exist at other locations on the site than those from where the samples were taken.

Should new information become available during future work, including excavations, borings or other studies, GEMTEC should be requested to review the information and, if necessary, re-assess the conclusions presented herein.

7.0 REFERENCES

GEMTEC Consulting Engineers and Scientists Limited (GEMTEC), 2021. Phase One Environmental Site Assessment, 4 Campbell Reid Court, Ottawa, Ontario.

GEMTEC Consulting Engineers and Scientists Limited (GEMTEC), 2021. Geotechnical Investigation Proposed Commercial Building 4 Campbell Reid Court Ottawa, Ontario.

Ontario Geological Survey, 2010. Surficial geology of southern Ontario; Ontario Geological Survey, Miscellaneous Release – Data 128 – Revised.

Ontario Ministry of the Environment and Energy (MOEE), 1996 (Version 1). Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario.

Ontario Ministry of the Environment (MOE), 2004. Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. Revised in 2011

Ontario Ministry of the Environment (MOE), 2011. Ontario Regulation 153/04, Made under the Environmental Protection Act, Part XV.1 – Records of Site Condition. Revised in 2019.

Ontario Ministry of the Environment (MOE), 2011. Soil, Ground Water and Sediment Standards for use Under Part XV.1 of the Environmental Protection Act. PIBS# 7382e01.

Ontario Ministry of the Environment, Conservation and Parks (MECP), 2019. Ontario Regulation 406/19, Made under the Environmental Protection Act, Part XV.1 – On-Site and Excess Soil Management.

Ontario Ministry of the Environment, Conservation and Parks (MECP), 2019. Rules for Soil Management and Excess Soil Quality Standards.

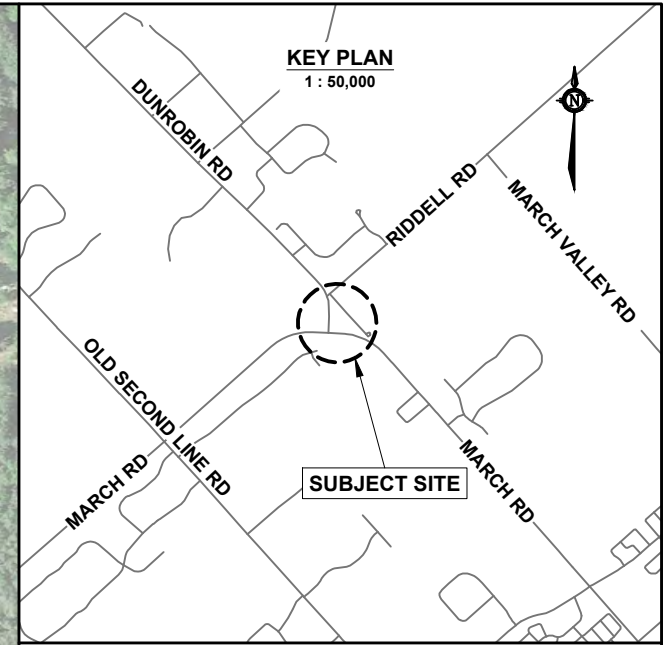
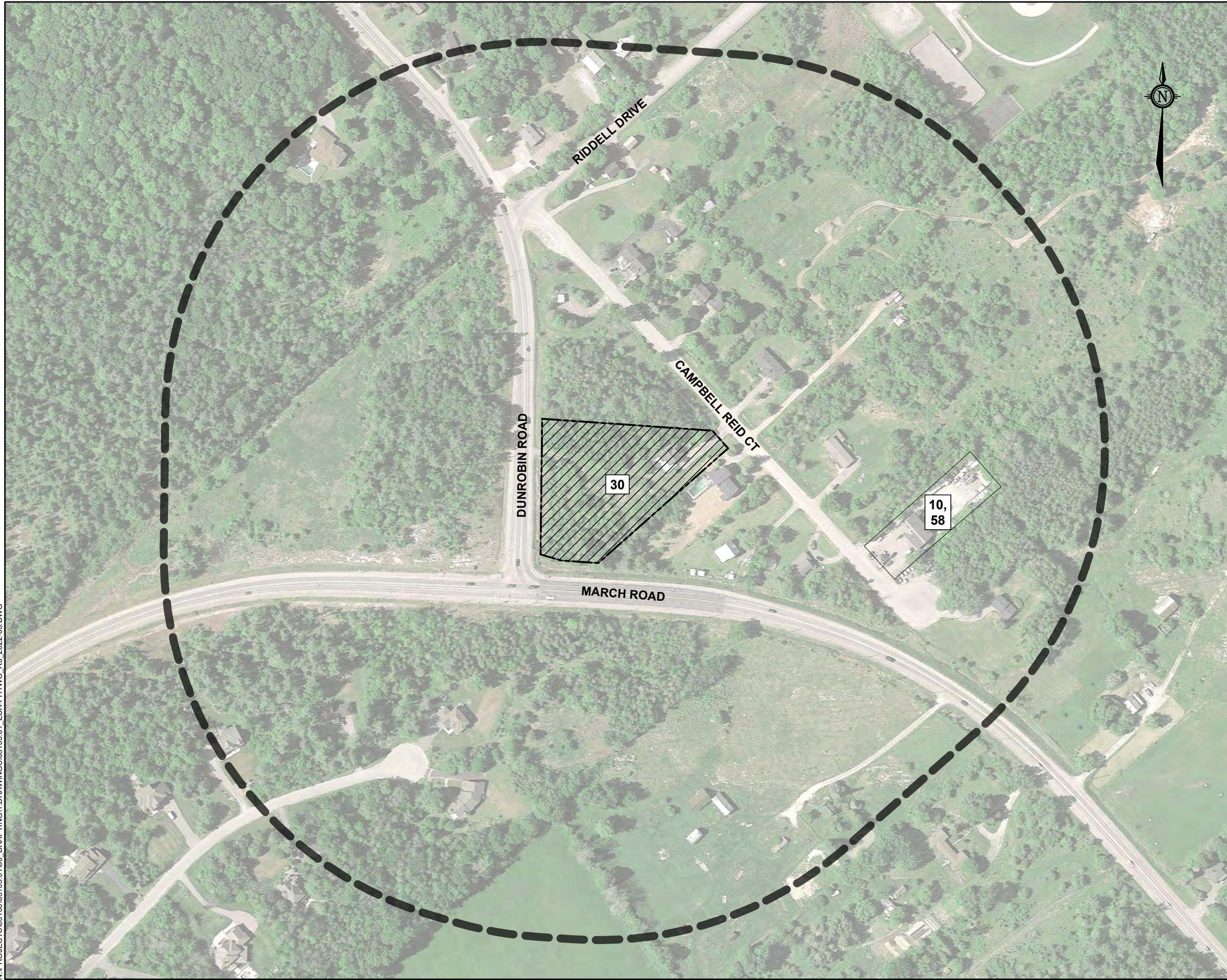
Ontario Ministry of the Environment, Conservation and Parks (MECP), 2020. Water Well Information System. Available: <https://data.ontario.ca/dataset/well-records>. Accessed on June 12, 2020



APPENDIX A

Figures

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KEY PLAN
1 : 50,000

LEGEND

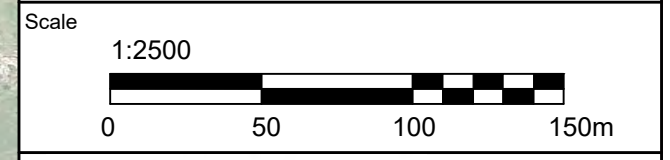
- APPROXIMATE PROPERTY BOUNDARY
- STUDY AREA
(250m RADIUS FROM THE PROPERTY BOUNDARY)

POTENTIALLY CONTAMINATING ACTIVITIES

- 10** COMMERCIAL AUTOBODY SHOPS
- 30** IMPORTATION OF FILL MATERIAL OF UNKNOWN QUALITY
- 58** WASTE DISPOSAL AND WASTE MANAGEMENT, INCLUDING THERMAL TREATMENT, LANDFILLING AND TRANSFER OF WASTE, OTHER THAN USE OF BIOSOILS AS SOIL CONDITIONERS

AREA OF POTENTIALLY CONTAMINATING ACTIVITIES

- APEC 1**
IMPORTATION OF FILL MATERIAL OF UNKNOWN QUALITY



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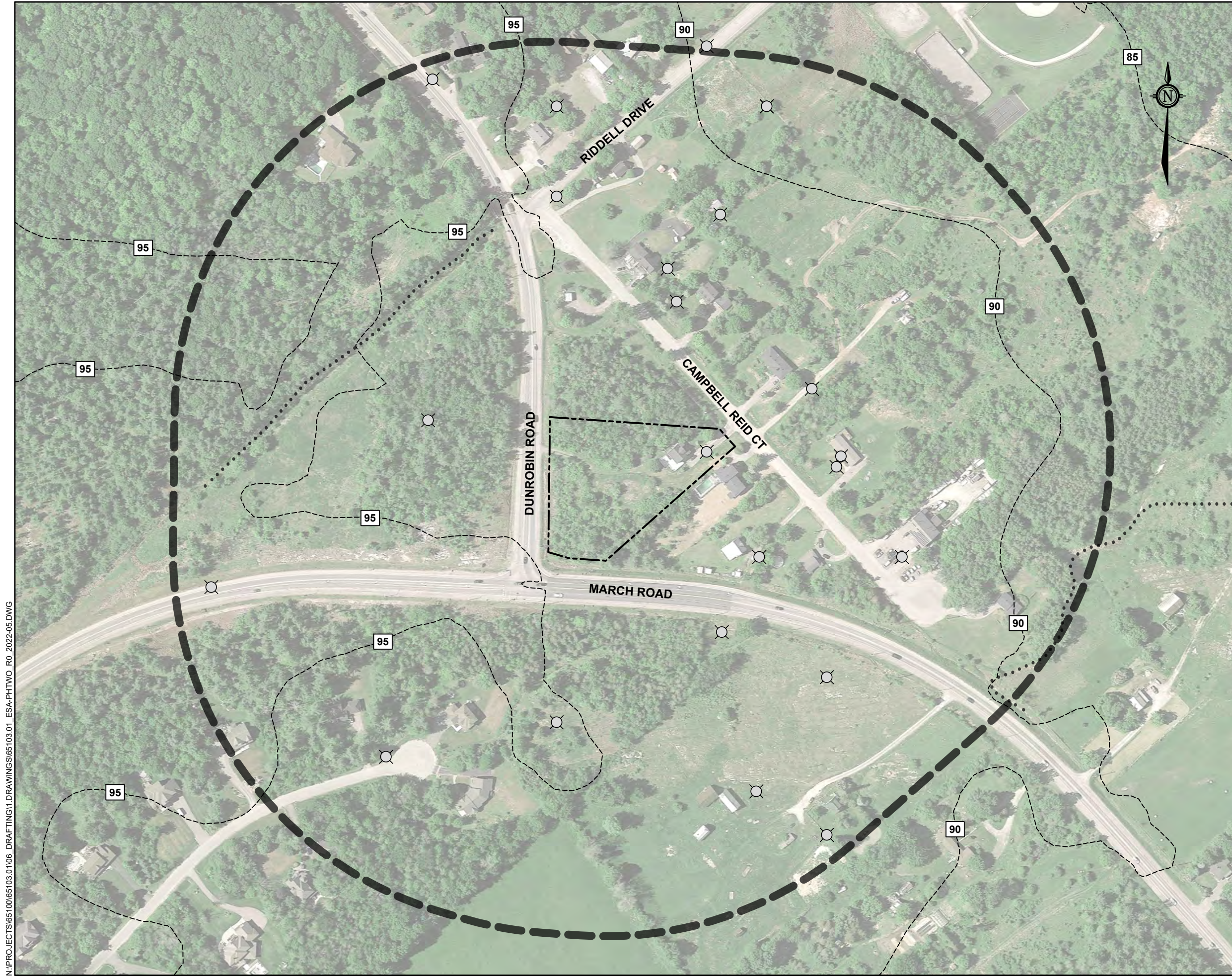
32 Steacie Drive
Ottawa, ON K2K 2A9
Tel: (613) 836-1422
www.gemtec.ca
ottawa@gemtec.ca

Drawing
STUDY AREA PLAN AND
AREAS OF POTENTIAL ENVIRONMENTAL CONCERN

Client
DR. ANDRZEJ OLENDER

| | | |
|---------------------|-----------------|--|
| Project 65103.01 | Phkd by B.T. | PHASE TWO ENVIRONMENTAL SITE ASSESSMENT 4 CAMPBELL REID COURT KANATA, OTTAWA, ONTARIO |
| Drwn by S.L. | | |

| | | |
|--------------------|-----------|-------------------|
| Date JUNE, 2022 | Rev. 0 | FIGURE A.1 |
|--------------------|-----------|-------------------|



LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- STUDY AREA
(250m RADIUS FROM THE PROPERTY BOUNDARY)
- CONTOUR INTERVAL, IN METRES
- SURFACE WATER
- MECP WELL LOCATION



Scale
1:2500

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Drawing
TOPOGRAPHY MAP

Client
DR. ANDRZEJ OLENDER

| | |
|----------------------------|--|
| Project 65103.01 | PHASE TWO ENVIRONMENTAL SITE ASSESSMENT 4 CAMPBELL REID COURT KANATA, OTTAWA, ONTARIO |
| Drwn by S.L. | |
| Chkd by B.T. | |

| | | |
|---------------------------|------------------|-------------------|
| Date JUNE, 2022 | Rev. 0 | FIGURE A.2 |
|---------------------------|------------------|-------------------|

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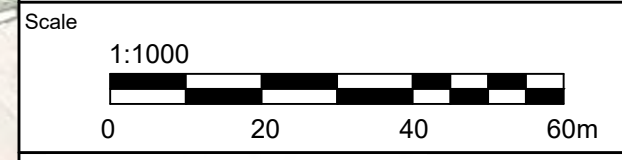
LEGEND

BH # — BOREHOLE ID

XX.XX — GROUND SURFACE ELEVATION, IN METRES
GEODETC DATUM

⊙ — SAMPLING LOCATION
(current investigation by GEMTEC)

----- APPROXIMATE PROPERTY BOUNDARY



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Drawing

SITE PLAN WITH SAMPLING LOCATIONS

Client

DR. ANDRZEJ OLENDER

| | | |
|---------|----------|--|
| Project | 65103.01 | PHASE TWO ENVIRONMENTAL SITE ASSESSMENT 4 CAMPBELL REID COURT KANATA, OTTAWA, ONTARIO |
| Drwn by | S.L. | |
| Chkd by | B.T. | |

| | | | | |
|------|------------|------|---|-------------------|
| Date | JUNE, 2022 | Rev. | 0 | FIGURE A.3 |
|------|------------|------|---|-------------------|

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| | |
|--------------------------------|------|
| Sample ID: BH22-03 SA1 | |
| Sample Depth (mbgs): 0.00-0.91 | |
| Parameters | |
| Electrical Conductivity | 1020 |
| F2 (C10-C16) | 14 |

| | |
|--------------------------------|-----|
| Sample ID: BH22-04 SA1 | |
| Sample Depth (mbgs): 0.00-0.52 | |
| Parameters | |
| Barium | 266 |

LEGEND

BH # — BOREHOLE ID

XX.XX — GROUND SURFACE ELEVATION, IN METRES GEODETIC DATUM

SAMPLING LOCATION (current investigation by GEMTEC)

----- APPROXIMATE PROPERTY BOUNDARY

| Soil Parameters | MECP Table 1 RPI/ICC | MECP Table 6 RPI |
|--|----------------------|------------------|
| Metals and Inorganics | | |
| Barium | 220 ug/g | 390 ug/g |
| Electrical Conductivity | 470 uS/cm | 700 uS/cm |
| Petroleum Hydrocarbon Compounds | | |
| F2 (C10-C16) | 10 ug/g | 98 ug/g |

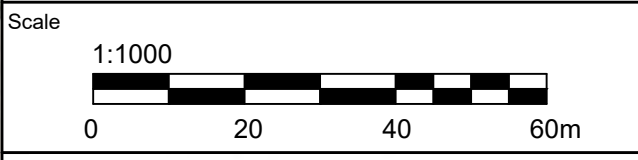
Notes:

'NV' : No Standard established

MECP Table 1 RPI/ICC SCS: Full Depth Background Site Condition Standards for Soil for Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use. July, 2011.

MECP Table 6 RPI SCS: MECP Table 6: Full Depth Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition for Residential/Parkland/Institutional Property Use with Coarse Textured Soils. July 2011.

| | |
|-----|----------------------------------|
| 100 | Exceeds MECP Table 6 RPI SCS |
| 100 | Exceeds MECP Table 1 RPI/ICC SCS |



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Drawing

SITE PLAN WITH EXCEEDANCES

Client

DR. ANDRZEJ OLENDER

| | | |
|---------|----------|--|
| Project | 65103.01 | PHASE TWO ENVIRONMENTAL SITE ASSESSMENT 4 CAMPBELL REID COURT KANATA, OTTAWA, ONTARIO |
| Drwn by | S.L. | |
| Chkd by | B.T. | |

| | | | | |
|------|------------|------|---|-------------------|
| Date | JUNE, 2022 | Rev. | 0 | FIGURE A.4 |
|------|------------|------|---|-------------------|

N:\PROJECTS\65100\65103.01\06_DRAFTING\1.DRAWINGS\65103.01_ESA-PHTWO_R0_2022-05.DWG



| Parameters | Sample ID: PW-4 | PW-4-D |
|------------|-----------------|--------|
| Barium | 4420 | 4510 |

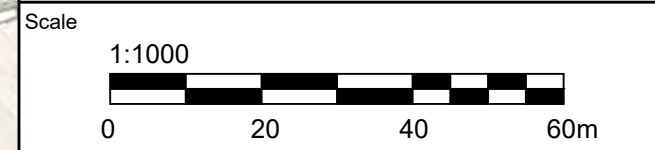
LEGEND

- BH # — BOREHOLE ID
- XX.XX — GROUND SURFACE ELEVATION, IN METRES GEODETIC DATUM
- SAMPLING LOCATION (current investigation by GEMTEC)
- APPROXIMATE PROPERTY BOUNDARY

| Groundwater Parameters | MECP Table 1 RPI/ICC | MECP Table 6 RPI/ICC |
|------------------------------|----------------------|----------------------|
| Metals and Inorganics | | |
| Barium | 610 | 1000 |

Notes:
 MECP Table 1 SCS: Full Depth Background Site Condition Standards for Ground Water for All Types of Property Use. July 1, 2011.
 MECP Table 6 SCS: Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition for All Types of Property Use. July 1, 2011.

- 100** Exceeds MECP Table 1: Standards
- 100 Exceeds MECP Table 6: Standards



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Drawing **SITE PLAN WITH GROUNDWATER EXCEEDANCES**

Client **DR. ANDRZEJ OLENDER**

Project **65103.01**
 Drwn by **S.L.** Chkd by **B.T.**
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT 4 CAMPBELL REID COURT KANATA, OTTAWA, ONTARIO

Date **JUNE, 2022** Rev. **0** **FIGURE A.5**



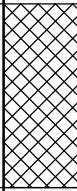

APPENDIX B

Borehole Logs

RECORD OF BOREHOLE 22-01

CLIENT: Dr. Andrzej Olender
 PROJECT: Phase Two ESA, 4 Campbell Reid Court, Kanata ON
 JOB#: 65103.01
 LOCATION: See Figure A.1, Attachment A

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Mar 28 2022

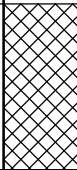


| DEPTH SCALE METRES | BORING METHOD | SOIL PROFILE | | | SAMPLE DATA | | | | COMBUSTIBLE VAPOUR CONCENTRATION (ppm) | ODOUR | TPH (mg/kg) | MONITORING WELL INSTALLATION AND NOTES |
|--------------------|---------------|-------------------------------------|---|-----------------|-------------|------|---------------|------------|---|-------------------|-------------|---|
| | | DESCRIPTION | STRATA PLOT | ELEV. DEPTH (m) | NUMBER | TYPE | RECOVERY (mm) | BLOWS/0.3m | | | | |
| 0 | Direct Push | Ground Surface | | 93.18 | | | | | | | | |
| 1 | | Brown sandy silt with gravel (FILL) |  | | 1 | | 381 | | TP22-01 SA1: M&I, PAHs, PHC F1-F4, VOCs | HEX: 5; IBL: 3 | |  Native backfill |
| | | End of borehole - auger refusal | | 91.97 1.21 | | | | | | | | |

ENV - BOREHOLE LOG - CAMPBELL COURT GINT.GPJ - GEMTEC 2018.GDT 6/27/22

RECORD OF BOREHOLE 22-02

CLIENT: Dr. Andrzej Olender
 PROJECT: Phase Two ESA, 4 Campbell Reid Court, Kanata ON
 JOB#: 65103.01
 LOCATION: See Figure A.1, Attachment A

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Mar 28 2022



| DEPTH SCALE METRES | BORING METHOD | SOIL PROFILE | | | SAMPLE DATA | | | | COMBUSTIBLE VAPOUR CONCENTRATION (ppm) | ODOUR | TPH (mg/kg) | MONITORING WELL INSTALLATION AND NOTES |
|--------------------|---------------|---------------------------------|---|-----------------|-------------|------|---------------|------------|---|-------------------|-------------|---|
| | | DESCRIPTION | STRATA PLOT | ELEV. DEPTH (m) | NUMBER | TYPE | RECOVERY (mm) | BLOWS/0.3m | | | | |
| 0 | Direct Push | Ground Surface | | 93.27 | | | | | | | | |
| | | Brown sand (FILL) |  | | 1 | | 559 | | TP22-02 SA1: M&I, PAHs, PHC F1-F4, VOCs | HEX: 0; IBL: 1 | |  Native backfill |
| 1 | | Dark organic matter (PEAT) |  | 92.18 1.09 | | | | | | | | |
| | | End of borehole - auger refusal | | 92.05 1.22 | | | | | | | | |

ENV - BOREHOLE LOG - CAMPBELL COURT GINT.GPJ - GEMTEC 2018.GDT 6/27/22

RECORD OF BOREHOLE 22-03

CLIENT: Dr. Andrzej Olender
 PROJECT: Phase Two ESA, 4 Campbell Reid Court, Kanata ON
 JOB#: 65103.01
 LOCATION: See Figure A.1, Attachment A

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Mar 28 2022

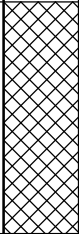

| DEPTH SCALE METRES | BORING METHOD | SOIL PROFILE | | | SAMPLE DATA | | | | COMBUSTIBLE VAPOUR CONCENTRATION (ppm) | ODOUR | TPH (mg/kg) | MONITORING WELL INSTALLATION AND NOTES |
|--------------------|---------------|-----------------------------------|---|-----------------|-------------|------|---------------|------------|--|-------------------|-------------|---|
| | | DESCRIPTION | STRATA PLOT | ELEV. DEPTH (m) | NUMBER | TYPE | RECOVERY (mm) | BLOWS/0.3m | | | | |
| 0 | Direct Push | Ground Surface | | 93.27 | | | | | | | | |
| | | Gravel, grey sand and silt (FILL) |  | | 1 | | 584 | | TP22-03 SA1:M&I, PAHs, PHC F1-F4, VOCs | HEX: 0; IBL: 0 | |  Native backfill |
| | | End of borehole - auger refusal | | 92.36 0.91 | | | | | | | | |

ENV - BOREHOLE LOG - CAMPBELL COURT GINT.GPJ - GEMTEC 2018.GDT 6/27/22

RECORD OF BOREHOLE 22-04

CLIENT: Dr. Andrzej Olender
 PROJECT: Phase Two ESA, 4 Campbell Reid Court, Kanata ON
 JOB#: 65103.01
 LOCATION: See Figure A.1, Attachment A

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Mar 28 2022




| DEPTH SCALE METRES | BORING METHOD | SOIL PROFILE | | | SAMPLE DATA | | | | COMBUSTIBLE VAPOUR CONCENTRATION (ppm) | ODOUR | TPH (mg/kg) | MONITORING WELL INSTALLATION AND NOTES |
|--------------------|---------------|--|---|-----------------|-------------|------|---------------|------------|--|--------------------|-------------|---|
| | | DESCRIPTION | STRATA PLOT | ELEV. DEPTH (m) | NUMBER | TYPE | RECOVERY (mm) | BLOWS/0.3m | | | | |
| 0 | | Ground Surface | | 93.25 | | | | | | | | |
| 1 | Direct Push | Dark grey brown sand with some gravel (FILL) |  | | 1 | CA | 445 | | | HEX:10 ; IBL: 1 | |  Native backfill |
| | | End of borehole - auger refusal | | 91.72 1.52 | | | | | | | | |

ENV - BOREHOLE LOG - CAMPBELL COURT GINT.GPJ - GEMTEC 2018.GDT 6/27/22

RECORD OF BOREHOLE 22-05

CLIENT: Dr. Andrzej Olender
 PROJECT: Phase Two ESA, 4 Campbell Reid Court, Kanata ON
 JOB#: 65103.01
 LOCATION: See Figure A.1, Attachment A

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Mar 28 2022

| DEPTH SCALE METRES | BORING METHOD | SOIL PROFILE | | | SAMPLE DATA | | | | COMBUSTIBLE VAPOUR CONCENTRATION (ppm) | ODOUR | TPH (mg/kg) | MONITORING WELL INSTALLATION AND NOTES | |
|--------------------|---------------------------------|--|---|-----------------|-------------|------|---------------|---|--|-------|-------------|---|---------------------|
| | | DESCRIPTION | STRATA PLOT | ELEV. DEPTH (m) | NUMBER | TYPE | RECOVERY (mm) | BLOWS/0.3m | | | | | LABORATORY ANALYSES |
| 0 | Direct Push | Ground Surface | | 93.64 | | | | | | | | | |
| | | Brown coarse sand with gravel (FILL) |  | 93.13 | 1 | CA | 1092 | TP22-05 SA1: M&I, PAHs, PHC F1-F4, VOCs | HEX: 0; IBL: 0 | | |  | Native backfill |
| 1 | | Grey clay and silty clay with organics |  | 0.51 | 2 | CA | | | HEX: 5; IBL: 0 | | | | |
| | End of borehole - auger refusal | | 92.11 | 1.52 | | | | | | | | | |

ENV - BOREHOLE LOG - CAMPBELL COURT GINT.GPJ - GEMTEC 2018.GDT 6/27/22

RECORD OF BOREHOLE 22-06

CLIENT: Dr. Andrzej Olender
 PROJECT: Phase Two ESA, 4 Campbell Reid Court, Kanata ON
 JOB#: 65103.01
 LOCATION: See Figure A.1, Attachment A

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Mar 28 2022

| DEPTH SCALE METRES | BORING METHOD | SOIL PROFILE | | | SAMPLE DATA | | | | COMBUSTIBLE VAPOUR CONCENTRATION (ppm) | ODOUR | TPH (mg/kg) | MONITORING WELL INSTALLATION AND NOTES |
|--------------------|---------------|--------------------------------------|-------------|------------------------|-------------|------|---------------|---|--|-------|-------------|--|
| | | DESCRIPTION | STRATA PLOT | ELEV. DEPTH (m) | NUMBER | TYPE | RECOVERY (mm) | BLOWS/0.3m | | | | |
| 0 | | Ground Surface | | 93.57 | | | | | | | | |
| 1 | Direct Push | Brown sandy silt, some gravel (FILL) | | | 1 | | 610 | TP22-06 SA1/SA101: M&I, PAHs, PHC F1-F4, VOCs | HEX: 5; IBL: 0 | | | Native backfill |
| | | Brown silt to peat (wet) | | 92.05 1.52 91.75 | 2 | | 305 | | HEX: 0; IBL: 0 | | | |
| | | End of borehole - auger refusal | | 1.82 | | | | | | | | |

ENV - BOREHOLE LOG - CAMPBELL COURT GINT.GPJ - GEMTEC 2018_GDT 6/27/22



APPENDIX C

Soil and Groundwater Analytical Summary Tables

**Table C1: Summary of Analytical Results in Soil
Metals and Inorganics
Phase Two Environmental Site Assessment
4 Campbell Reid Court
Kanata, Ontario**

| Sample ID | MECP TABLE 6 ICC SCS | MECP TABLE 6 RPI SCS | MECP TABLE 1 RPI/ICC SCS | REPORTING LIMIT | UNITS | BH22-01 SA1 0.00-1.21 2214286-01 3/28/2022 | BH22-02 SA1 0.00-1.21 2214286-02 3/28/2022 | BH22-03 SA1 0.00-0.91 2214286-03 3/28/2022 | BH22-04 SA1 0.00-0.52 2214286-04 3/28/2022 | BH22-05 SA1 0.00-0.51 2214286-05 3/28/2022 | BH22-06 SA1 0.00-1.52 2214286-06 3/28/2022 | BH22-106 SA1 0.00-1.52 2214286-07 3/28/2022 |
|---------------------------|-------------------------|-------------------------|-----------------------------|--------------------|----------|---|---|---|---|---|---|--|
| Metals | | | | | | | | | | | | |
| Antimony | 40 | 7.5 | 1.3 | 1 | µg/g | ND (1.0) | ND (1.0) | ND (1.0) | ND (1.0) | ND (1.0) | ND (1.0) | ND (1.0) |
| Arsenic | 18 | 18 | 18 | 1 | µg/g | 2.8 | 1.6 | 2 | 3.1 | 3.3 | 1.9 | 1.8 |
| Barium | 670 | 390 | 220 | 1 | µg/g | 194 | 37.3 | 219 | 266 | 143 | 72.6 | 53.7 |
| Beryllium | 8 | 4 | 2.5 | 0.5 | µg/g | 0.6 | ND (0.5) | 0.5 | 0.7 | 0.6 | ND (0.5) | ND (0.5) |
| Boron (Hot Water Soluble) | 2 | 1.5 | NV | 0.5 | µg/g | ND (0.5) | ND (0.5) | ND (0.5) | ND (0.5) | ND (0.5) | ND (0.5) | ND (0.5) |
| Boron (Total) | 120 | 120 | 36 | 5 | µg/g | 6.5 | ND (5.0) | 12.1 | 6.3 | 5.7 | ND (5.0) | ND (5.0) |
| Cadmium | 1.9 | 1.2 | 1.2 | 0.5 | µg/g | ND (0.5) | ND (0.5) | ND (0.5) | ND (0.5) | ND (0.5) | ND (0.5) | ND (0.5) |
| Chromium VI | 8 | 8 | 0.66 | 0.2 | µg/g | ND (0.2) | ND (0.2) | ND (0.2) | ND (0.2) | ND (0.2) | ND (0.2) | ND (0.2) |
| Chromium | 160 | 160 | 70 | 5 | µg/g | 25.6 | 12.1 | 37.6 | 26.8 | 29.9 | 16.6 | 15.9 |
| Cobalt | 80 | 22 | 21 | 1 | µg/g | 19.5 | 3.4 | 8.3 | 11.8 | 8.2 | 5.1 | 4.6 |
| Copper | 230 | 140 | 92 | 5 | µg/g | 28.4 | 8.5 | 11.7 | 14.4 | 15.2 | 18.4 | 13.9 |
| Lead | 120 | 120 | 120 | 1 | µg/g | 5.5 | 2.3 | 11 | 8.2 | 14.7 | 6.5 | 5.1 |
| Mercury | 3.9 | 0.27 | 0.27 | 0.1 | µg/g | ND (0.1) | ND (0.1) | ND (0.1) | ND (0.1) | ND (0.1) | ND (0.1) | ND (0.1) |
| Molybdenum | 40 | 6.9 | 2 | 1 | µg/g | ND (1.0) | ND (1.0) | ND (1.0) | ND (1.0) | ND (1.0) | ND (1.0) | ND (1.0) |
| Nickel | 270 | 100 | 82 | 5 | µg/g | 16.4 | 6.2 | 20.3 | 16 | 15.9 | 10.3 | 10.2 |
| Selenium | 5.5 | 2.4 | 1.5 | 1 | µg/g | ND (1.0) | ND (1.0) | ND (1.0) | ND (1.0) | ND (1.0) | ND (1.0) | ND (1.0) |
| Silver | 40 | 20 | 0.5 | 0.3 | µg/g | ND (0.3) | ND (0.3) | ND (0.3) | ND (0.3) | ND (0.3) | ND (0.3) | ND (0.3) |
| Thallium | 3.3 | 1 | 1 | 1 | µg/g | ND (1.0) | ND (1.0) | ND (1.0) | ND (1.0) | ND (1.0) | ND (1.0) | ND (1.0) |
| Uranium | 33 | 23 | 2.5 | 1 | µg/g | ND (1.0) | ND (1.0) | ND (1.0) | ND (1.0) | ND (1.0) | ND (1.0) | ND (1.0) |
| Vanadium | 86 | 86 | 86 | 10 | µg/g | 64.5 | 19 | 29.7 | 39.7 | 40.1 | 26.5 | 24.6 |
| Zinc | 340 | 340 | 290 | 20 | µg/g | 59.6 | ND (20.0) | 26.9 | 24.2 | 56.4 | 36.7 | 28.7 |
| Inorganics | | | | | | | | | | | | |
| SAR | 12 | 5 | 2.4 | 1 | N/A | 0.1 | 0.11 | 0.1 | 1.74 | 1.13 | 0.13 | 0.1 |
| Electrical Conductivity | 1400 | 700 | 470 | 1 | uS/cm | 117 | 90 | 1020 | 222 | 264 | 93 | 74 |
| Cyanide | 0.051 | 0.051 | 0.051 | 10 | ug/g dry | ND (0.03) | ND (0.03) | ND (0.03) | ND (0.03) | ND (0.03) | ND (0.03) | ND (0.03) |
| pH | 5 to 9 | 5 to 9 | 5 to 9 | 20 | pH Units | 7.1 | 7.49 | 7.5 | 6.82 | 7.45 | 7.45 | 7.53 |

Notes:
 'NV': No Standard established
 'ND': Non Detect
 m bgs: meters below ground surface
 MECP Table 6 RPI SCS: MECP Table 6: Full Depth Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition for Residential/Parkland/Institutional Property Use with Coarse Textured Soils. July 2011.
 MECP Table 6 ICC SCS: Full Depth Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition for Industrial/Commercial/Community Property Use with Coarse Textured Soils. July, 2011.
 MECP Table 1 RPI/ICC SCS: Full Depth Background Site Condition Standards for Soil for Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use. July, 2011.

| | |
|-----|----------------------------------|
| 100 | Exceeds MECP Table 6 ICC SCS |
| 100 | Exceeds MECP Table 6 RPI SCS |
| 100 | Exceeds MECP Table 1 RPI/ICC SCS |

**Table C2: Summary of Analytical Results in Soil
Polycyclic Aromatic Hydrocarbons (PAHs)
Phase Two Environmental Site Assessment
4 Campbell Reid Court
Kanata, Ontario**

| Sample ID | MECP TABLE 6 ICC SCS | MECP TABLE 6 RPI SCS | MECP TABLE 1 RPI/ICC SCS | REPORTING LIMIT | UNITS | BH22-01 SA1 0.00-1.21 2214286-01 3/28/2022 | BH22-02 SA1 0.00-1.21 2214286-02 3/28/2022 | BH22-03 SA1 0.00-0.91 2214286-03 3/28/2022 | BH22-04 SA1 0.00-0.52 2214286-04 3/28/2022 | BH22-05 SA1 0.00-0.51 2214286-05 3/28/2022 | BH22-06 SA1 0.00-1.52 2214286-06 3/28/2022 | BH22-106 SA1 0.00-1.52 2214286-07 3/28/2022 |
|--|-------------------------|-------------------------|-----------------------------|--------------------|-------|---|---|---|---|---|---|--|
| Polycyclic Aromatic Hydrocarbons (PAHs) | | | | | | | | | | | | |
| Acenaphthene | 21 | 7.9 | 0.072 | 0.02 | µg/g | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) |
| Acenaphthylene | 0.15 | 0.15 | 0.093 | 0.02 | µg/g | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) |
| Anthracene | 0.67 | 0.67 | 0.16 | 0.02 | µg/g | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) |
| Benzo[a]anthracene | 0.96 | 0.5 | 0.36 | 0.02 | µg/g | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) |
| Benzo[a]pyrene | 0.3 | 0.3 | 0.3 | 0.02 | µg/g | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) |
| Benzo[b]fluoranthene | 0.96 | 0.78 | 0.47 | 0.02 | µg/g | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) |
| Benzo[g,h,i]perylene | 9.6 | 6.6 | 0.68 | 0.02 | µg/g | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) |
| Benzo[k]fluoranthene | 0.96 | 0.78 | 0.48 | 0.02 | µg/g | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) |
| Chrysene | 9.6 | 7 | 2.8 | 0.02 | µg/g | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) |
| Dibenzo[a,h]anthracene | 0.1 | 0.1 | 0.1 | 0.02 | µg/g | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) |
| Fluoranthene | 9.6 | 0.69 | 0.56 | 0.02 | µg/g | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) |
| Fluorene | 62 | 62 | 0.12 | 0.02 | µg/g | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) |
| Indeno [1,2,3-cd] pyrene | 0.76 | 0.38 | 0.23 | 0.02 | µg/g | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) |
| 1-Methylnaphthalene | 30 | 0.99 | 0.59 | 0.02 | µg/g | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) |
| 2-Methylnaphthalene | 30 | 0.99 | 0.59 | 0.02 | µg/g | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) |
| Methylnaphthalene (1&2) | 30 | 0.99 | 0.59 | 0.04 | µg/g | ND (0.04) | ND (0.04) | ND (0.04) | ND (0.04) | ND (0.04) | ND (0.04) | ND (0.04) |
| Naphthalene | 9.6 | 0.6 | 0.09 | 0.01 | µg/g | ND (0.01) | ND (0.01) | ND (0.01) | ND (0.01) | ND (0.01) | ND (0.01) | ND (0.01) |
| Phenanthrene | 12 | 6.2 | 0.69 | 0.02 | µg/g | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) |
| Pyrene | 96 | 78 | 1 | 0.02 | µg/g | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) |

Notes:
 'NV': No Standard established
 'ND': Non Detect
 m bgs: meters below ground surface
 The methyl naphthalene standards are applicable to both 1-methyl naphthalene and 2-methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the standard
 MECP Table 6 RPI SCS: MECP Table 6: Full Depth Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition for Residential/Parkland/Institutional Property Use with Coarse Textured Soils. July 2011.
 MECP Table 6 ICC SCS: Full Depth Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition for Industrial/Commercial/Community Property Use with Coarse Textured Soils. July, 2011.
 MECP Table 1 RPI/ICC SCS: Full Depth Background Site Condition Standards for Soil for Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use. July, 2011.

| | |
|-----|----------------------------------|
| 100 | Exceeds MECP Table 6 ICC SCS |
| 100 | Exceeds MECP Table 6 RPI SCS |
| 100 | Exceeds MECP Table 1 RPI/ICC SCS |

Table C3: Summary of Analytical Results in Soil
Petroleum Hydrocarbons and Volatile Organic Compounds
Phase Two Environmental Site Assessment
4 Campbell Reid Court
Kanata, Ontario

| Sample ID Depth (m bgs) Lab Job # Sampling Date | MECP TABLE 6 ICC SCS | MECP TABLE 6 RPI SCS | MECP TABLE 1 RPI/ICC SCS | REPORTING LIMIT | UNITS | BH22-01 SA1 | BH22-02 SA1 | BH22-03 SA1 | BH22-04 SA1 | BH22-05 SA1 | BH22-06 SA1 | BH22-106 SA1 |
|---|-------------------------|-------------------------|-----------------------------|--------------------|-------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| | | | | | | 0.00-1.21 2214286-01 3/28/2022 | 0.00-1.21 2214286-02 3/28/2022 | 0.00-0.91 2214286-03 3/28/2022 | 0.00-0.52 2214286-04 3/28/2022 | 0.00-0.51 2214286-05 3/28/2022 | 0.00-1.52 2214286-06 3/28/2022 | 0.00-1.52 2214286-07 3/28/2022 |
| Petroleum Hydrocarbon (PHCs) | | | | | | | | | | | | |
| F1 (C6-C10) | 55 | 55 | 25 | 7 | µg/g | ND (7) | ND (7) | 21 | ND (7) | ND (7) | ND (7) | ND (7) |
| F2 (C10-C16) | 230 | 98 | 10 | 4 | µg/g | ND (4) | ND (4) | 14 | ND (4) | ND (4) | ND (4) | ND (4) |
| F3 (C16-C34) | 1700 | 300 | 240 | 8 | µg/g | 14 | ND (8) | 29 | 16 | 38 | ND (8) | ND (8) |
| F4 (C34-C50) | 3300 | 2800 | 120 | 6 | µg/g | 10 | ND (6) | 25 | 15 | 30 | ND (6) | ND (6) |
| Volatile Organic Compounds (VOCs) | | | | | | | | | | | | |
| Acetone | 16 | 16 | 0.5 | 0.50 | µg/g | ND (0.50) | ND (0.50) | ND (0.50) | ND (0.50) | ND (0.50) | ND (0.50) | ND (0.50) |
| Benzene | 0.32 | 0.21 | 0.02 | 0.02 | µg/g | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) |
| Bromodichloromethane | 1.5 | 1.5 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| Bromoform | 0.61 | 0.27 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| Bromomethane | 0.05 | 0.05 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| Carbon Tetrachloride | 0.21 | 0.05 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| Chlorobenzene | 2.4 | 2.4 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| Chloroform | 0.47 | 0.05 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| Dibromochloromethane | 2.3 | 2.3 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| Dichlorodifluoromethane | 16 | 16 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| 1,2-Dichlorobenzene | 1.2 | 1.2 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| 1,3-Dichlorobenzene | 9.6 | 4.8 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| 1,4-Dichlorobenzene | 0.2 | 0.083 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| 1,1-Dichloroethane | 0.47 | 0.47 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| 1,2-Dichloroethane | 0.05 | 0.05 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| 1,1-Dichloroethylene | 0.064 | 0.05 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| cis-1,2-Dichloroethylene | 1.9 | 1.9 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| trans-1,2-Dichloroethylene | 1.3 | 0.084 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| 1,2-Dichloropropane | 0.16 | 0.05 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| cis-1,3-Dichloropropylene | NV | NV | NV | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| trans-1,3-Dichloropropylene | NV | NV | NV | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| 1,3-Dichloropropene, total | 0.059 | 0.05 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| Ethylbenzene | 1.1 | 1.1 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| Ethylene dibromide (dibromoethane, 1,2-) | 0.05 | 0.05 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| Hexane | 46 | 2.8 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| Methyl Ethyl Ketone (2-Butanone) | 70 | 16 | 0.5 | 0.50 | µg/g | ND (0.50) | ND (0.50) | ND (0.50) | ND (0.50) | ND (0.50) | ND (0.50) | ND (0.50) |
| Methyl Isobutyl Ketone | 31 | 1.7 | 0.5 | 0.50 | µg/g | ND (0.50) | ND (0.50) | ND (0.50) | ND (0.50) | ND (0.50) | ND (0.50) | ND (0.50) |
| Methyl tert-butyl ether | 1.6 | 0.75 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| Methylene Chloride | 1.6 | 0.1 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| Styrene | 34 | 0.7 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| 1,1,1,2-Tetrachloroethane | 0.087 | 0.058 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| 1,1,2,2-Tetrachloroethane | 0.05 | 0.05 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| Tetrachloroethylene | 1.9 | 0.28 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| Toluene | 6.4 | 2.3 | 0.2 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| 1,1,1-Trichloroethane | 6.1 | 0.38 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| 1,1,2-Trichloroethane | 0.05 | 0.05 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| Trichloroethylene | 0.55 | 0.061 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| Trichlorofluoromethane | 4 | 4 | 0.25 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| Vinyl Chloride | 0.032 | 0.02 | 0.02 | 0.02 | µg/g | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) | ND (0.02) |
| m-Xylene & p-Xylene | NV | NV | NV | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| o-Xylene | NV | NV | NV | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| Total Xylenes | 26 | 3.1 | 0.05 | 0.05 | µg/g | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) | ND (0.05) |
| Notes: | | | | | | | | | | | | |
| *NV : No Standard established | | | | | | | | | | | | |
| *ND: Non Detect | | | | | | | | | | | | |
| m bgs: meters below ground surface | | | | | | | | | | | | |
| MECP Table 6 RPI SCS: Full Depth Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition for Residential/Parkland/Institutional Property Use with Coarse Textured Soils. July 2011. | | | | | | | | | | | | |
| MECP Table 6 ICC SCS: Full Depth Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition for Industrial/Commercial/Community Property Use with Coarse Textured Soils. July, 2011. | | | | | | | | | | | | |
| MECP Table 1 RPI/ICC SCS: Full Depth Background Site Condition Standards for Soil for Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use. July, 2011. | | | | | | | | | | | | |
| 100 Exceeds MECP Table 6 ICC SCS | | | | | | | | | | | | |
| 100 Exceeds MECP Table 6 RPI SCS | | | | | | | | | | | | |
| 100 Exceeds MECP Table 1 RPI/ICC SCS | | | | | | | | | | | | |

| | | | | Sample ID: TCLP-COMP |
|--|----------|--------|--|---|
| | | | | Laboratory Sample ID: 2214287-01 |
| | | | | Date Sampled: 28/03/2022 |
| Parameter | Units | MDL | O.Reg 347/558 Schedule 4 ¹ | |
| Physical Characteristics | | | | |
| Flashpoint | °C | - | NV | >70 |
| % Solids | % by Wt. | 0.1 | NV | 84.0 |
| EPA 1311 - TCLP Leachate Inorganics | | | | |
| Fluoride | mg/L | 0.05 | 150 | 0.12 |
| Nitrate as N | mg/L | 1 | 1000 | ND (1) |
| Nitrite as N | mg/L | 1 | 1000 | ND (1) |
| Cyanide, free | mg/L | 0.02 | 20 | ND (0.02) |
| EPA 1311 - TCLP Leachate Metals | | | | |
| Arsenic | mg/L | 0.05 | 2.5 | ND (0.05) |
| Barium | mg/L | 0.05 | 100 | 0.99 |
| Boron | mg/L | 0.05 | 500 | 0.18 |
| Cadmium | mg/L | 0.01 | 0.5 | ND (0.01) |
| Chromium | mg/L | 0.05 | 5 | ND (0.05) |
| Lead | mg/L | 0.05 | 5 | ND (0.05) |
| Mercury | mg/L | 0.005 | 0.1 | ND (0.005) |
| Selenium | mg/L | 0.05 | 1 | ND (0.05) |
| Silver | mg/L | 0.05 | 5 | ND (0.05) |
| Uranium | mg/L | 0.05 | 10 | ND (0.05) |
| EPA 1311 - TCLP Leachate Volatiles | | | | |
| Benzene | mg/L | 0.005 | 0.5 | ND (0.005) |
| Carbon Tetrachloride | mg/L | 0.005 | 0.5 | ND (0.005) |
| Chlorobenzene | mg/L | 0.004 | 8 | ND (0.004) |
| Chloroform | mg/L | 0.006 | 10 | ND (0.006) |
| 1,2-Dichlorobenzene | mg/L | 0.004 | 20 | ND (0.004) |
| 1,4-Dichlorobenzene | mg/L | 0.004 | 0.5 | ND (0.004) |
| 1,2-Dichloroethane | mg/L | 0.005 | 0.5 | ND (0.005) |
| 1,1-Dichloroethylene | mg/L | 0.006 | 1.4 | ND (0.006) |
| Methyl Ethyl Ketone (2-Butanone) | mg/L | 0.3 | 200 | ND (0.30) |
| Methylene Chloride | mg/L | 0.04 | 5 | ND (0.04) |
| Tetrachloroethylene | mg/L | 0.005 | 3 | ND (0.005) |
| Trichloroethylene | mg/L | 0.004 | 5 | ND (0.004) |
| Vinyl Chloride | mg/L | 0.005 | 0.2 | ND (0.005) |
| EPA 1311 - TCLP Leachate Organics | | | | |
| Benzo[a]pyrene | mg/L | 0.0001 | 0.001 | ND (0.0001) |

Notes:

'MDL': Method Detection Limit
'NV' : No Standard established
'ND' : Non Detect
1 - O.Reg. 347/558 Schedule 4: O.Reg. 347 and O. Reg. 558/00: General – Waste Management. Schedule 4: Leachate Quality Criteria. (MECP, 2011)

Bolded Exceeds O.Reg. 347/558 Schedule 4

**Table C5: Summary of Analytical Results in Groundwater
Metals and Inorganics and Polycyclic Aromatic Hydrocarbons
Phase Two Environmental Site Assessment
4 Campbell Reid Court
Kanata, Ontario**

| Sample ID Screen Interval (mbgs) Lab Job # Sampling Date | MECP TABLE 1 SCS | MECP TABLE 6 SCS | REPORTING LIMIT | UNITS | PW-4 | PW-4-D | Trip Blank |
|---|---------------------|---------------------|--------------------|----------|---------------------------|---------------------------|---------------------------|
| | | | | | 2216364-01 13-Apr-2022 | 2216364-02 13-Apr-2022 | 2216364-03 13-Apr-2022 |
| Metals and Inorganics | | | | | | | |
| Cyanide, Free | 5 | 52 | 2 | ug/L | ND (2) | ND (2) | N/A |
| pH | 5 to 9 | 5 to 9 | 0.1 | pH Units | 7.2 | 7.2 | N/A |
| Chloride | 790,000 | 790,000 | 1 | ug/L | 756 | 768 | N/A |
| Mercury | 0.1 | 0.1 | 0.1 | ug/L | ND (0.1) | ND (0.1) | N/A |
| Antimony | 1.5 | 6 | 0.5 | ug/L | ND (0.5) | ND (0.5) | N/A |
| Arsenic | 13 | 25 | 1 | ug/L | ND (1) | ND (1) | N/A |
| Barium | 610 | 1000 | 1 | ug/L | 4420 | 4510 | N/A |
| Beryllium | 0.5 | 4 | 0.5 | ug/L | ND (0.5) | ND (0.5) | N/A |
| Boron | 1700 | 5000 | 10 | ug/L | 15 | 15 | N/A |
| Cadmium | 0.5 | 2.1 | 0.1 | ug/L | ND (0.1) | ND (0.1) | N/A |
| Chromium | 11 | 50 | 1 | ug/L | ND (1) | ND (1) | N/A |
| Chromium VI | 25 | 25 | 10 | ug/L | ND (10) | ND (10) | N/A |
| Cobalt | 3.8 | 3.8 | 0.5 | ug/L | ND (0.5) | ND (0.5) | N/A |
| Copper | 5 | 69 | 0.5 | ug/L | ND (0.5) | ND (0.5) | N/A |
| Lead | 1.9 | 10 | 0.1 | ug/L | ND (0.1) | ND (0.1) | N/A |
| Molybdenum | 23 | 70 | 0.5 | ug/L | 0.6 | 0.6 | N/A |
| Nickel | 14 | 100 | 1 | ug/L | ND (1) | ND (1) | N/A |
| Selenium | 5 | 10 | 1 | ug/L | ND (1) | ND (1) | N/A |
| Silver | 0.3 | 1.2 | 0.1 | ug/L | ND (0.1) | ND (0.1) | N/A |
| Sodium | 490,000 | 490,000 | 200 | ug/L | 423000 | 422000 | N/A |
| Thallium | 0.5 | 2 | 0.1 | ug/L | ND (0.1) | ND (0.1) | N/A |
| Uranium | 8.9 | 20 | 0.1 | ug/L | 0.4 | 0.4 | N/A |
| Vanadium | 3.9 | 6.2 | 0.5 | ug/L | 1.9 | 1.9 | N/A |
| Zinc | 160 | 890 | 5 | ug/L | 20 | 23 | N/A |
| Polycyclic Aromatic Hydrocarbons (PAHs) | | | | | | | |
| Acenaphthene | 4.1 | 4.1 | 0.05 | ug/L | ND (0.05) | ND (0.05) | N/A |
| Acenaphthylene | 1 | 1 | 0.05 | ug/L | ND (0.05) | ND (0.05) | N/A |
| Anthracene | 0.1 | 1 | 0.01 | ug/L | ND (0.01) | ND (0.01) | N/A |
| Benzo(a)anthracene | 0.2 | 1 | 0.01 | ug/L | ND (0.01) | ND (0.01) | N/A |
| Benzo(a)pyrene | 0.01 | 0.01 | 0.01 | ug/L | ND (0.01) | ND (0.01) | N/A |
| Benzo(b)fluoranthene | 0.1 | 0.1 | 0.05 | ug/L | ND (0.05) | ND (0.05) | N/A |
| Benzo(ghi)perylene | 0.2 | 0.2 | 0.05 | ug/L | ND (0.05) | ND (0.05) | N/A |
| Benzo(k)fluoranthene | 0.1 | 0.1 | 0.05 | ug/L | ND (0.05) | ND (0.05) | N/A |
| Chrysene | 0.1 | 0.1 | 0.05 | ug/L | ND (0.05) | ND (0.05) | N/A |
| Dibenzo(a,h)anthracene | 0.2 | 0.2 | 0.05 | ug/L | ND (0.05) | ND (0.05) | N/A |
| Fluoranthene | 0.4 | 0.41 | 0.01 | ug/L | ND (0.01) | ND (0.01) | N/A |
| Fluorene | 120 | 120 | 0.05 | ug/L | ND (0.05) | ND (0.05) | N/A |
| Indeno(1,2,3-cd)pyrene | 0.2 | 0.2 | 0.05 | ug/L | ND (0.05) | ND (0.05) | N/A |
| 1-Methylnaphthalene | NV | NV | 0.05 | ug/L | ND (0.05) | ND (0.05) | N/A |
| 2-Methylnaphthalene | NV | NV | 0.05 | ug/L | ND (0.05) | ND (0.05) | N/A |
| 1,2-Methylnaphthalene | 2 | 3.2 | 0.10 | ug/L | ND (0.10) | ND (0.10) | N/A |
| Naphthalene | 7 | 7 | 0.05 | ug/L | ND (0.05) | ND (0.05) | N/A |
| Phenanthrene | 0.1 | 1 | 0.05 | ug/L | ND (0.05) | ND (0.05) | N/A |
| Pyrene | 0.2 | 4.1 | 0.01 | ug/L | ND (0.01) | ND (0.01) | N/A |

Notes:
 NV: No Standard established
 NA: Parameter not analyzed
 The methyl naphthalene standards are applicable to both 1-methyl naphthalene and 2-methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the standard
 MECP Table 1: Full Depth Background Site Condition Standards for Ground Water for All Types of Property Use. July, 2011.
 MECP Table 6: Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition for All

| | |
|-----|--------------------------|
| 100 | Exceeds MECP Table 6 SCS |
| 100 | Exceeds MECP Table 1 SCS |

**Table C6: Summary of Analytical Results in Groundwater
Petroleum Hydrocarbon Compounds and Volatile Organic Compounds
Phase Two Environmental Site Assessment
4 Campbell Reid Court
Kanata, Ontario**

| Sample ID Screen Interval (mbgs) Lab Job # Sampling Date | MECP TABLE 1 STANDARD | MECP TABLE 6 STANDARD | REPORTING LIMIT | UNITS | PW-4 | PW-4-D | Trip Blank |
|---|--------------------------|--------------------------|--------------------|-------|---------------------------|---------------------------|---------------------------|
| | | | | | 2216364-01 13-Apr-2022 | 2216364-02 13-Apr-2022 | 2216364-03 13-Apr-2022 |
| Petroleum Hydrocarbon Compounds (PHCs) | | | | | | | |
| F1 (C6-C10) | 420 | 420 | 25 | ug/L | ND (25) | ND (25) | ND (25) |
| F2 (C10-C16) | 150 | 150 | 25 | ug/L | ND (100) | ND (100) | N/A |
| F3 (C16-C34) | 500 | 500 | 100 | ug/L | ND (100) | ND (100) | N/A |
| F3 (C16-C34) | 500 | 500 | 100 | ug/L | ND (100) | ND (100) | N/A |
| Volatile Organic Compounds (VOCs) | | | | | | | |
| Acetone | 2700 | 2700 | 5.0 | ug/L | ND (5.0) | ND (5.0) | ND (5.0) |
| Benzene | 0.5 | 0.5 | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| Bromodichloromethane | 2 | 16 | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| Bromoform | 5 | 5 | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| Bromomethane | 0.89 | 0.89 | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| Carbon Tetrachloride | 0.2 | 0.2 | 0.2 | ug/L | ND (0.2) | ND (0.2) | ND (0.2) |
| Chlorobenzene | 0.5 | 30 | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| Chloroform | 2 | 2 | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| Dibromochloromethane | 2 | 25 | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| Dichlorodifluoromethane | 590 | 590 | 1.0 | µg/L | ND (1.0) | ND (1.0) | ND (1.0) |
| 1,2-Dichlorobenzene | 0.5 | 3 | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| 1,3-Dichlorobenzene | 0.5 | 59 | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| 1,4-Dichlorobenzene | 0.5 | 0.5 | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| 1,1-Dichloroethane | 0.5 | 5 | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| 1,2-Dichloroethane | 0.5 | 0.5 | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| 1,1-Dichloroethylene | 0.5 | 0.5 | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| Cis-1,2-Dichloroethylene | 1.6 | 1.6 | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| Trans-1,2-Dichloroethylene | 1.6 | 1.6 | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| 1,2-Dichloropropane | 0.5 | 0.58 | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| Cis-1,3-Dichloropropylene | NV | NV | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| Trans-1,3-Dichloropropylene | NV | NV | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| 1,3-Dichloropropylene | 0.5 | 0.5 | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| Ethylbenzene | 0.5 | 2.4 | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| Ethylene Dibromide (1,2-Dibromoethane) | 0.2 | 0.2 | 0.2 | ug/L | ND (0.2) | ND (0.2) | ND (0.2) |
| Hexane | 5 | 5 | 1.0 | µg/L | ND (1.0) | ND (1.0) | ND (1.0) |
| Methyl Ethyl Ketone (2-Butanone) | 400 | 470,000 | 5.0 | µg/L | ND (5.0) | ND (5.0) | ND (5.0) |
| Methyl Isobutyl Ketone | 640 | 640 | 5.0 | ug/L | ND (5.0) | ND (5.0) | ND (5.0) |
| Methyl-t-Butyl Ether | 15 | 15 | 2.0 | ug/L | ND (2.0) | ND (2.0) | ND (2.0) |
| Methylene Chloride | 5 | 26 | 5.0 | ug/L | ND (5.0) | ND (5.0) | ND (5.0) |
| Styrene | 0.5 | 5.4 | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| 1,1,1,2-Tetrachloroethane | 1.1 | 1.1 | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| 1,1,2,2-Tetrachloroethane | 0.5 | 0.5 | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| Tetrachloroethylene | 0.5 | 0.5 | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| Toluene | 0.8 | 24 | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| 1,1,1-Trichloroethane | 0.5 | 23 | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| 1,1,2-Trichloroethane | 0.5 | 0.5 | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| Trichloroethylene | 0.5 | 0.5 | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| Trichlorofluoromethane | 150 | 150 | 1.0 | ug/L | ND (1.0) | ND (1.0) | ND (1.0) |
| Vinyl Chloride | 0.5 | 0.5 | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| m-Xylene & p-Xylene | NV | NV | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| o-Xylene | NV | NV | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |
| Total Xylenes | 72 | 72 | 0.5 | ug/L | ND (0.5) | ND (0.5) | ND (0.5) |

Notes:
 NV: No Standard established
 NA: Parameter not analyzed
 MECP Table 1: Full Depth Background Site Condition Standards for Ground Water for All Types of Property Use, July, 2011.
 MECP Table 6: Generic Site Condition Standards for Shallow Soils in a Potable Ground Water Condition for All Types of Property Use, July, 2011.

| | |
|-----|--------------------------|
| 100 | Exceeds MECP Table 6 SCS |
| 100 | Exceeds MECP Table 1 SCS |



APPENDIX D

Certificates of Analysis

Certificate of Analysis

GEMTEC Consulting Engineers and Scientists Limited

32 Steacie Drive
Kanata, ON K2K 2A9
Attn: Mohit Bhargav

Client PO: 65103.01
Project: 65103.01 4 Campbell Reid Court
Custody:

Report Date: 6-Apr-2022
Order Date: 30-Mar-2022

Order #: 2214287

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

| Paracel ID | Client ID |
|------------|-----------|
| 2214287-01 | TCLP-COMP |

Approved By:



Dale Robertson, BSc
Laboratory Director

Certificate of Analysis

Report Date: 06-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 30-Mar-2022

Client PO: 65103.01

Project Description: 65103.01 4 Campbell Reid Court

Analysis Summary Table

| Analysis | Method Reference/Description | Extraction Date | Analysis Date |
|---------------------------|--------------------------------------|-----------------|---------------|
| Flashpoint | ASTM D93 - Pensky-Martens Closed Cup | 31-Mar-22 | 31-Mar-22 |
| Metals, ICP-MS | TCLP EPA 6020 - Digestion - ICP-MS | 1-Apr-22 | 1-Apr-22 |
| REG 558 - Cyanide | TCLP MOE E3015- Auto Colour | 4-Apr-22 | 4-Apr-22 |
| REG 558 - Fluoride | TCLP EPA 340.2 - ISE | 1-Apr-22 | 1-Apr-22 |
| REG 558 - Mercury by CVAA | TCLP EPA 7470A, CVAA | 4-Apr-22 | 5-Apr-22 |
| REG 558 - NO3/NO2 | TCLP EPA 300.1 - IC | 1-Apr-22 | 1-Apr-22 |
| REG 558 - PAHs | TCLP EPA 625 - GC-MS | 5-Apr-22 | 5-Apr-22 |
| REG 558 - VOCs | TCLP ZHE EPA 624 - P&T GC-MS | 1-Apr-22 | 1-Apr-22 |
| Solids, % | Gravimetric, calculation | 31-Mar-22 | 1-Apr-22 |

Certificate of Analysis

Report Date: 06-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 30-Mar-2022

Client PO: 65103.01

Project Description: 65103.01 4 Campbell Reid Court

| | | | | |
|--------------|-----------------|---|---|---|
| Client ID: | TCLP-COMP | - | - | - |
| Sample Date: | 28-Mar-22 09:00 | - | - | - |
| Sample ID: | 2214287-01 | - | - | - |
| MDL/Units | Soil | - | - | - |

Physical Characteristics

| | | | | | |
|------------|--------------|------|---|---|---|
| % Solids | 0.1 % by Wt. | 84.0 | - | - | - |
| Flashpoint | °C | >70 | - | - | - |

EPA 1311 - TCLP Leachate Inorganics

| | | | | | |
|---------------|-----------|-------|---|---|---|
| Fluoride | 0.05 mg/L | 0.12 | - | - | - |
| Nitrate as N | 1 mg/L | <1 | - | - | - |
| Nitrite as N | 1 mg/L | <1 | - | - | - |
| Cyanide, free | 0.02 mg/L | <0.02 | - | - | - |

EPA 1311 - TCLP Leachate Metals

| | | | | | |
|----------|------------|--------|---|---|---|
| Arsenic | 0.05 mg/L | <0.05 | - | - | - |
| Barium | 0.05 mg/L | 0.99 | - | - | - |
| Boron | 0.05 mg/L | 0.18 | - | - | - |
| Cadmium | 0.01 mg/L | <0.01 | - | - | - |
| Chromium | 0.05 mg/L | <0.05 | - | - | - |
| Lead | 0.05 mg/L | <0.05 | - | - | - |
| Mercury | 0.005 mg/L | <0.005 | - | - | - |
| Selenium | 0.05 mg/L | <0.05 | - | - | - |
| Silver | 0.05 mg/L | <0.05 | - | - | - |
| Uranium | 0.05 mg/L | <0.05 | - | - | - |

EPA 1311 - TCLP Leachate Volatiles

| | | | | | |
|----------------------------------|------------|--------|---|---|---|
| Benzene | 0.005 mg/L | <0.005 | - | - | - |
| Carbon Tetrachloride | 0.005 mg/L | <0.005 | - | - | - |
| Chlorobenzene | 0.004 mg/L | <0.004 | - | - | - |
| Chloroform | 0.006 mg/L | <0.006 | - | - | - |
| 1,2-Dichlorobenzene | 0.004 mg/L | <0.004 | - | - | - |
| 1,4-Dichlorobenzene | 0.004 mg/L | <0.004 | - | - | - |
| 1,2-Dichloroethane | 0.005 mg/L | <0.005 | - | - | - |
| 1,1-Dichloroethylene | 0.006 mg/L | <0.006 | - | - | - |
| Methyl Ethyl Ketone (2-Butanone) | 0.30 mg/L | <0.30 | - | - | - |
| Methylene Chloride | 0.04 mg/L | <0.04 | - | - | - |
| Tetrachloroethylene | 0.005 mg/L | <0.005 | - | - | - |
| Trichloroethylene | 0.004 mg/L | <0.004 | - | - | - |
| Vinyl chloride | 0.005 mg/L | <0.005 | - | - | - |
| 4-Bromofluorobenzene | Surrogate | 107% | - | - | - |
| Dibromofluoromethane | Surrogate | 101% | - | - | - |
| Toluene-d8 | Surrogate | 110% | - | - | - |

EPA 1311 - TCLP Leachate Organics

Certificate of Analysis

Report Date: 06-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 30-Mar-2022

Client PO: 65103.01

Project Description: 65103.01 4 Campbell Reid Court

| | | | | | |
|------------------|---------------------|-----------------|---|---|---|
| | Client ID: | TCLP-COMP | - | - | - |
| | Sample Date: | 28-Mar-22 09:00 | - | - | - |
| | Sample ID: | 2214287-01 | - | - | - |
| | MDL/Units | Soil | - | - | - |
| Benzo [a] pyrene | 0.0001 mg/L | <0.0001 | - | - | - |
| Terphenyl-d14 | Surrogate | 115% | - | - | - |

Certificate of Analysis

Report Date: 06-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 30-Mar-2022

Client PO: 65103.01

Project Description: 65103.01 4 Campbell Reid Court

Method Quality Control: Blank

| Analyte | Result | Reporting Limit | Units | Source Result | %REC | %REC Limit | RPD | RPD Limit | Notes |
|--|--------|-----------------|-------|---------------|------|------------|-----|-----------|-------|
| EPA 1311 - TCLP Leachate Inorganics | | | | | | | | | |
| Fluoride | ND | 0.05 | mg/L | | | | | | |
| Nitrate as N | ND | 1 | mg/L | | | | | | |
| Nitrite as N | ND | 1 | mg/L | | | | | | |
| Cyanide, free | ND | 0.02 | mg/L | | | | | | |
| EPA 1311 - TCLP Leachate Metals | | | | | | | | | |
| Arsenic | ND | 0.05 | mg/L | | | | | | |
| Barium | ND | 0.05 | mg/L | | | | | | |
| Boron | ND | 0.05 | mg/L | | | | | | |
| Cadmium | ND | 0.01 | mg/L | | | | | | |
| Chromium | ND | 0.05 | mg/L | | | | | | |
| Lead | ND | 0.05 | mg/L | | | | | | |
| Mercury | ND | 0.005 | mg/L | | | | | | |
| Selenium | ND | 0.05 | mg/L | | | | | | |
| Silver | ND | 0.05 | mg/L | | | | | | |
| Uranium | ND | 0.05 | mg/L | | | | | | |
| EPA 1311 - TCLP Leachate Organics | | | | | | | | | |
| Benzo [a] pyrene | ND | 0.0001 | mg/L | | | | | | |
| Surrogate: Terphenyl-d14 | 0.21 | | mg/L | | 107 | 37.1-155.6 | | | |
| EPA 1311 - TCLP Leachate Volatiles | | | | | | | | | |
| Benzene | ND | 0.005 | mg/L | | | | | | |
| Carbon Tetrachloride | ND | 0.005 | mg/L | | | | | | |
| Chlorobenzene | ND | 0.004 | mg/L | | | | | | |
| Chloroform | ND | 0.006 | mg/L | | | | | | |
| 1,2-Dichlorobenzene | ND | 0.004 | mg/L | | | | | | |
| 1,4-Dichlorobenzene | ND | 0.004 | mg/L | | | | | | |
| 1,2-Dichloroethane | ND | 0.005 | mg/L | | | | | | |
| 1,1-Dichloroethylene | ND | 0.006 | mg/L | | | | | | |
| Methyl Ethyl Ketone (2-Butanone) | ND | 0.30 | mg/L | | | | | | |
| Methylene Chloride | ND | 0.04 | mg/L | | | | | | |
| Tetrachloroethylene | ND | 0.005 | mg/L | | | | | | |
| Trichloroethylene | ND | 0.004 | mg/L | | | | | | |
| Vinyl chloride | ND | 0.005 | mg/L | | | | | | |
| Surrogate: 4-Bromofluorobenzene | 0.0889 | | mg/L | | 111 | 83-134 | | | |
| Surrogate: Dibromofluoromethane | 0.0822 | | mg/L | | 103 | 78-124 | | | |
| Surrogate: Toluene-d8 | 0.0878 | | mg/L | | 110 | 76-118 | | | |

Certificate of Analysis

Report Date: 06-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 30-Mar-2022

Client PO: 65103.01

Project Description: 65103.01 4 Campbell Reid Court

Method Quality Control: Duplicate

| Analyte | Result | Reporting Limit | Units | Source Result | %REC | %REC Limit | RPD | RPD Limit | Notes |
|--|--------|-----------------|----------|---------------|------|------------|-----|-----------|-------|
| EPA 1311 - TCLP Leachate Inorganics | | | | | | | | | |
| Fluoride | 0.12 | 0.05 | mg/L | 0.12 | | | 0.9 | 20 | |
| Nitrate as N | ND | 1 | mg/L | ND | | | NC | 20 | |
| Nitrite as N | ND | 1 | mg/L | ND | | | NC | 20 | |
| Cyanide, free | ND | 0.02 | mg/L | ND | | | NC | 20 | |
| EPA 1311 - TCLP Leachate Metals | | | | | | | | | |
| Arsenic | ND | 0.05 | mg/L | ND | | | NC | 29 | |
| Barium | 1.02 | 0.05 | mg/L | 0.985 | | | 3.4 | 34 | |
| Boron | 0.188 | 0.05 | mg/L | 0.178 | | | 5.9 | 33 | |
| Cadmium | ND | 0.01 | mg/L | ND | | | NC | 33 | |
| Chromium | ND | 0.05 | mg/L | ND | | | NC | 32 | |
| Lead | ND | 0.05 | mg/L | ND | | | NC | 32 | |
| Mercury | ND | 0.005 | mg/L | ND | | | NC | 30 | |
| Selenium | ND | 0.05 | mg/L | ND | | | NC | 28 | |
| Silver | ND | 0.05 | mg/L | ND | | | NC | 28 | |
| Uranium | ND | 0.05 | mg/L | ND | | | NC | 27 | |
| EPA 1311 - TCLP Leachate Organics | | | | | | | | | |
| Benzo [a] pyrene | ND | 0.0001 | mg/L | ND | | | NC | 50 | |
| <i>Surrogate: Terphenyl-d14</i> | 0.24 | | mg/L | | 119 | 37.1-155.6 | | | |
| EPA 1311 - TCLP Leachate Volatiles | | | | | | | | | |
| Benzene | ND | 0.005 | mg/L | ND | | | NC | 25 | |
| Carbon Tetrachloride | ND | 0.005 | mg/L | ND | | | NC | 25 | |
| Chlorobenzene | ND | 0.004 | mg/L | ND | | | NC | 25 | |
| Chloroform | ND | 0.006 | mg/L | ND | | | NC | 25 | |
| 1,2-Dichlorobenzene | ND | 0.004 | mg/L | ND | | | NC | 25 | |
| 1,4-Dichlorobenzene | ND | 0.004 | mg/L | ND | | | NC | 25 | |
| 1,2-Dichloroethane | ND | 0.005 | mg/L | ND | | | NC | 25 | |
| 1,1-Dichloroethylene | ND | 0.006 | mg/L | ND | | | NC | 25 | |
| Methyl Ethyl Ketone (2-Butanone) | ND | 0.30 | mg/L | ND | | | NC | 25 | |
| Methylene Chloride | ND | 0.04 | mg/L | ND | | | NC | 25 | |
| Tetrachloroethylene | ND | 0.005 | mg/L | ND | | | NC | 25 | |
| Trichloroethylene | ND | 0.004 | mg/L | ND | | | NC | 25 | |
| Vinyl chloride | ND | 0.005 | mg/L | ND | | | NC | 25 | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.0872 | | mg/L | | 109 | 83-134 | | | |
| <i>Surrogate: Dibromofluoromethane</i> | 0.0807 | | mg/L | | 101 | 78-124 | | | |
| <i>Surrogate: Toluene-d8</i> | 0.0876 | | mg/L | | 110 | 76-118 | | | |
| Physical Characteristics | | | | | | | | | |
| % Solids | 76.7 | 0.1 | % by Wt. | 79.7 | | | 3.8 | 25 | |

Certificate of Analysis

Report Date: 06-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 30-Mar-2022

Client PO: 65103.01

Project Description: 65103.01 4 Campbell Reid Court

Method Quality Control: Spike

| Analyte | Result | Reporting Limit | Units | Source Result | %REC | %REC Limit | RPD | RPD Limit | Notes |
|--|--------|-----------------|-------|---------------|------|------------|-----|-----------|-------|
| EPA 1311 - TCLP Leachate Inorganics | | | | | | | | | |
| Fluoride | 0.72 | 0.05 | mg/L | 0.12 | 119 | 70-130 | | | |
| Nitrate as N | 9 | 1 | mg/L | ND | 91.2 | 81-112 | | | |
| Nitrite as N | 10 | 1 | mg/L | ND | 95.5 | 76-107 | | | |
| Cyanide, free | 0.048 | 0.02 | mg/L | ND | 95.9 | 52-148 | | | |
| EPA 1311 - TCLP Leachate Metals | | | | | | | | | |
| Arsenic | 49.5 | 0.05 | mg/L | 0.167 | 98.7 | 83-119 | | | |
| Barium | 144 | 0.05 | mg/L | 98.5 | 90.0 | 80-120 | | | |
| Boron | 64.4 | 0.05 | mg/L | 17.8 | 93.4 | 71-128 | | | |
| Cadmium | 46.1 | 0.01 | mg/L | 0.037 | 92.2 | 78-119 | | | |
| Chromium | 51.1 | 0.05 | mg/L | 1.01 | 100 | 80-124 | | | |
| Lead | 44.5 | 0.05 | mg/L | 0.131 | 88.6 | 77-126 | | | |
| Mercury | 0.0333 | 0.005 | mg/L | ND | 111 | 70-130 | | | |
| Selenium | 41.8 | 0.05 | mg/L | 0.171 | 83.2 | 75-125 | | | |
| Silver | 48.6 | 0.05 | mg/L | ND | 97.2 | 70-128 | | | |
| Uranium | 47.5 | 0.05 | mg/L | 0.062 | 94.9 | 70-131 | | | |
| EPA 1311 - TCLP Leachate Organics | | | | | | | | | |
| Benzo [a] pyrene | 0.0551 | 0.0001 | mg/L | ND | 110 | 39-123 | | | |
| <i>Surrogate: Terphenyl-d14</i> | 0.23 | | mg/L | | 114 | 37.1-155.6 | | | |
| EPA 1311 - TCLP Leachate Volatiles | | | | | | | | | |
| Benzene | 0.032 | 0.005 | mg/L | ND | 80.8 | 55-141 | | | |
| Carbon Tetrachloride | 0.032 | 0.005 | mg/L | ND | 79.1 | 49-149 | | | |
| Chlorobenzene | 0.038 | 0.004 | mg/L | ND | 95.1 | 64-137 | | | |
| Chloroform | 0.031 | 0.006 | mg/L | ND | 77.9 | 58-138 | | | |
| 1,2-Dichlorobenzene | 0.034 | 0.004 | mg/L | ND | 83.9 | 60-150 | | | |
| 1,4-Dichlorobenzene | 0.034 | 0.004 | mg/L | ND | 85.6 | 63-132 | | | |
| 1,2-Dichloroethane | 0.032 | 0.005 | mg/L | ND | 78.8 | 50-140 | | | |
| 1,1-Dichloroethylene | 0.034 | 0.006 | mg/L | ND | 84.3 | 43-153 | | | |
| Methyl Ethyl Ketone (2-Butanone) | 0.062 | 0.30 | mg/L | ND | 62.0 | 26-153 | | | |
| Methylene Chloride | 0.031 | 0.04 | mg/L | ND | 78.2 | 58-149 | | | |
| Tetrachloroethylene | 0.037 | 0.005 | mg/L | ND | 93.0 | 51-145 | | | |
| Trichloroethylene | 0.040 | 0.004 | mg/L | ND | 99.0 | 52-135 | | | |
| Vinyl chloride | 0.033 | 0.005 | mg/L | ND | 83.0 | 31-159 | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 0.0844 | | mg/L | | 106 | 83-134 | | | |
| <i>Surrogate: Dibromofluoromethane</i> | 0.0910 | | mg/L | | 114 | 78-124 | | | |
| <i>Surrogate: Toluene-d8</i> | 0.0794 | | mg/L | | 99.3 | 76-118 | | | |

Certificate of Analysis

Report Date: 06-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 30-Mar-2022

Client PO: 65103.01

Project Description: 65103.01 4 Campbell Reid Court

Qualifier Notes:

Sample Data Revisions

None

Work Order Revisions / Comments:

None

Other Report Notes:

n/a: not applicable

ND: Not Detected

MDL: Method Detection Limit

Source Result: Data used as source for matrix and duplicate samples

%REC: Percent recovery.

RPD: Relative percent difference.

NC: Not Calculated

Soil results are reported on a dry weight basis when the units are denoted with 'dry'.

Where %Solids is reported, moisture loss includes the loss of volatile hydrocarbons.

Certificate of Analysis

GEMTEC Consulting Engineers and Scientists Limited

32 Steacie Drive
Kanata, ON K2K 2A9
Attn: Ester Wilson

Client PO: 65103.01 4 Campbell Reid Ct
Project: 65103.01
Custody: 135704

Report Date: 21-Apr-2022
Order Date: 13-Apr-2022

Order #: 2216364

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

| Paracel ID | Client ID |
|------------|------------|
| 2216364-01 | PW-4 |
| 2216364-02 | PW-4-D |
| 2216364-03 | Trip Blank |

Approved By:



Dale Robertson, BSc
Laboratory Director

Certificate of Analysis

Report Date: 21-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 13-Apr-2022

Client PO: 65103.01 4 Campbell Reid Ct

Project Description: 65103.01

Analysis Summary Table

| Analysis | Method Reference/Description | Extraction Date | Analysis Date |
|------------------------------|---------------------------------|-----------------|---------------|
| Anions | EPA 300.1 - IC | 14-Apr-22 | 14-Apr-22 |
| Chromium, hexavalent - water | MOE E3056 - colourimetric | 18-Apr-22 | 18-Apr-22 |
| Cyanide, free | MOE E3015 - Auto Colour | 14-Apr-22 | 14-Apr-22 |
| Mercury by CVAA | EPA 245.2 - Cold Vapour AA | 14-Apr-22 | 14-Apr-22 |
| Metals, ICP-MS | EPA 200.8 - ICP-MS | 14-Apr-22 | 14-Apr-22 |
| pH | EPA 150.1 - pH probe @25 °C | 14-Apr-22 | 14-Apr-22 |
| PHC F1 | CWS Tier 1 - P&T GC-FID | 14-Apr-22 | 15-Apr-22 |
| PHCs F2 to F4 | CWS Tier 1 - GC-FID, extraction | 19-Apr-22 | 20-Apr-22 |
| REG 153: PAHs by GC-MS | EPA 625 - GC-MS, extraction | 20-Apr-22 | 20-Apr-22 |
| REG 153: VOCs by P&T GC/MS | EPA 624 - P&T GC-MS | 14-Apr-22 | 15-Apr-22 |

Certificate of Analysis

Report Date: 21-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 13-Apr-2022

Client PO: 65103.01 4 Campbell Reid Ct

Project Description: 65103.01

| | | | | |
|---------------------|-----------------|-----------------|-----------------|---|
| Client ID: | PW-4 | PW-4-D | Trip Blank | - |
| Sample Date: | 13-Apr-22 09:30 | 13-Apr-22 09:30 | 11-Apr-22 09:00 | - |
| Sample ID: | 2216364-01 | 2216364-02 | 2216364-03 | - |
| MDL/Units | Water | Water | Water | - |

General Inorganics

| | | | | | |
|---------------|--------------|-----|-----|---|---|
| Cyanide, free | 2 ug/L | <2 | <2 | - | - |
| pH | 0.1 pH Units | 7.2 | 7.2 | - | - |

Anions

| | | | | | |
|----------|--------|-----|-----|---|---|
| Chloride | 1 mg/L | 756 | 768 | - | - |
|----------|--------|-----|-----|---|---|

Metals

| | | | | | |
|---------------|----------|--------|--------|---|---|
| Mercury | 0.1 ug/L | <0.1 | <0.1 | - | - |
| Antimony | 0.5 ug/L | <0.5 | <0.5 | - | - |
| Arsenic | 1 ug/L | <1 | <1 | - | - |
| Barium | 1 ug/L | 4420 | 4510 | - | - |
| Beryllium | 0.5 ug/L | <0.5 | <0.5 | - | - |
| Boron | 10 ug/L | 15 | 15 | - | - |
| Cadmium | 0.1 ug/L | <0.1 | <0.1 | - | - |
| Chromium | 1 ug/L | <1 | <1 | - | - |
| Chromium (VI) | 10 ug/L | <10 | <10 | - | - |
| Cobalt | 0.5 ug/L | <0.5 | <0.5 | - | - |
| Copper | 0.5 ug/L | <0.5 | <0.5 | - | - |
| Lead | 0.1 ug/L | <0.1 | <0.1 | - | - |
| Molybdenum | 0.5 ug/L | 0.6 | 0.6 | - | - |
| Nickel | 1 ug/L | <1 | <1 | - | - |
| Selenium | 1 ug/L | <1 | <1 | - | - |
| Silver | 0.1 ug/L | <0.1 | <0.1 | - | - |
| Sodium | 200 ug/L | 423000 | 422000 | - | - |
| Thallium | 0.1 ug/L | <0.1 | <0.1 | - | - |
| Uranium | 0.1 ug/L | 0.4 | 0.4 | - | - |
| Vanadium | 0.5 ug/L | 1.9 | 1.9 | - | - |
| Zinc | 5 ug/L | 20 | 23 | - | - |

Volatiles

| | | | | | |
|----------------------|----------|------|------|------|---|
| Acetone | 5.0 ug/L | <5.0 | <5.0 | <5.0 | - |
| Benzene | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| Bromodichloromethane | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| Bromoform | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| Bromomethane | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| Carbon Tetrachloride | 0.2 ug/L | <0.2 | <0.2 | <0.2 | - |
| Chlorobenzene | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| Chloroform | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |

Certificate of Analysis

Report Date: 21-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 13-Apr-2022

Client PO: 65103.01 4 Campbell Reid Ct

Project Description: 65103.01

| | Client ID: | PW-4 | PW-4-D | Trip Blank | |
|--|--------------|-----------------|-----------------|-----------------|---|
| | Sample Date: | 13-Apr-22 09:30 | 13-Apr-22 09:30 | 11-Apr-22 09:00 | |
| | Sample ID: | 2216364-01 | 2216364-02 | 2216364-03 | |
| | MDL/Units | Water | Water | Water | |
| Dibromochloromethane | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| Dichlorodifluoromethane | 1.0 ug/L | <1.0 | <1.0 | <1.0 | - |
| 1,2-Dichlorobenzene | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| 1,3-Dichlorobenzene | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| 1,4-Dichlorobenzene | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| 1,1-Dichloroethane | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| 1,2-Dichloroethane | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| 1,1-Dichloroethylene | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| cis-1,2-Dichloroethylene | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| trans-1,2-Dichloroethylene | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| 1,2-Dichloropropane | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| cis-1,3-Dichloropropylene | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| trans-1,3-Dichloropropylene | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| 1,3-Dichloropropene, total | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| Ethylbenzene | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| Ethylene dibromide (dibromoethane, 1,2-) | 0.2 ug/L | <0.2 | <0.2 | <0.2 | - |
| Hexane | 1.0 ug/L | <1.0 | <1.0 | <1.0 | - |
| Methyl Ethyl Ketone (2-Butanone) | 5.0 ug/L | <5.0 | <5.0 | <5.0 | - |
| Methyl Isobutyl Ketone | 5.0 ug/L | <5.0 | <5.0 | <5.0 | - |
| Methyl tert-butyl ether | 2.0 ug/L | <2.0 | <2.0 | <2.0 | - |
| Methylene Chloride | 5.0 ug/L | <5.0 | <5.0 | <5.0 | - |
| Styrene | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| 1,1,1,2-Tetrachloroethane | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| 1,1,1,2,2-Tetrachloroethane | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| Tetrachloroethylene | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| Toluene | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| 1,1,1-Trichloroethane | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| 1,1,2-Trichloroethane | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| Trichloroethylene | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| Trichlorofluoromethane | 1.0 ug/L | <1.0 | <1.0 | <1.0 | - |
| Vinyl chloride | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| m,p-Xylenes | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| o-Xylene | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| Xylenes, total | 0.5 ug/L | <0.5 | <0.5 | <0.5 | - |
| 4-Bromofluorobenzene | Surrogate | 120% | 120% | 123% | - |
| Dibromofluoromethane | Surrogate | 101% | 101% | 112% | - |

Certificate of Analysis

Report Date: 21-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 13-Apr-2022

Client PO: 65103.01 4 Campbell Reid Ct

Project Description: 65103.01

| | Client ID: | PW-4 | PW-4-D | Trip Blank | - |
|------------|--------------|-----------------|-----------------|-----------------|---|
| | Sample Date: | 13-Apr-22 09:30 | 13-Apr-22 09:30 | 11-Apr-22 09:00 | - |
| | Sample ID: | 2216364-01 | 2216364-02 | 2216364-03 | - |
| | MDL/Units | Water | Water | Water | - |
| Toluene-d8 | Surrogate | 110% | 109% | 109% | - |

Hydrocarbons

| | | | | | |
|-------------------|----------|------|------|-----|---|
| F1 PHCs (C6-C10) | 25 ug/L | <25 | <25 | <25 | - |
| F2 PHCs (C10-C16) | 100 ug/L | <100 | <100 | - | - |
| F3 PHCs (C16-C34) | 100 ug/L | <100 | <100 | - | - |
| F4 PHCs (C34-C50) | 100 ug/L | <100 | <100 | - | - |

Semi-Volatiles

| | | | | | |
|--------------------------|-----------|-------|-------|---|---|
| Acenaphthene | 0.05 ug/L | <0.05 | <0.05 | - | - |
| Acenaphthylene | 0.05 ug/L | <0.05 | <0.05 | - | - |
| Anthracene | 0.01 ug/L | <0.01 | <0.01 | - | - |
| Benzo [a] anthracene | 0.01 ug/L | <0.01 | <0.01 | - | - |
| Benzo [a] pyrene | 0.01 ug/L | <0.01 | <0.01 | - | - |
| Benzo [b] fluoranthene | 0.05 ug/L | <0.05 | <0.05 | - | - |
| Benzo [g,h,i] perylene | 0.05 ug/L | <0.05 | <0.05 | - | - |
| Benzo [k] fluoranthene | 0.05 ug/L | <0.05 | <0.05 | - | - |
| Chrysene | 0.05 ug/L | <0.05 | <0.05 | - | - |
| Dibenzo [a,h] anthracene | 0.05 ug/L | <0.05 | <0.05 | - | - |
| Fluoranthene | 0.01 ug/L | <0.01 | <0.01 | - | - |
| Fluorene | 0.05 ug/L | <0.05 | <0.05 | - | - |
| Indeno [1,2,3-cd] pyrene | 0.05 ug/L | <0.05 | <0.05 | - | - |
| 1-Methylnaphthalene | 0.05 ug/L | <0.05 | <0.05 | - | - |
| 2-Methylnaphthalene | 0.05 ug/L | <0.05 | <0.05 | - | - |
| Methylnaphthalene (1&2) | 0.10 ug/L | <0.10 | <0.10 | - | - |
| Naphthalene | 0.05 ug/L | <0.05 | <0.05 | - | - |
| Phenanthrene | 0.05 ug/L | <0.05 | <0.05 | - | - |
| Pyrene | 0.01 ug/L | <0.01 | <0.01 | - | - |
| 2-Fluorobiphenyl | Surrogate | 106% | 106% | - | - |
| Terphenyl-d14 | Surrogate | 113% | 110% | - | - |

Certificate of Analysis

Report Date: 21-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 13-Apr-2022

Client PO: 65103.01 4 Campbell Reid Ct

Project Description: 65103.01

Method Quality Control: Blank

| Analyte | Result | Reporting Limit | Units | Source Result | %REC | %REC Limit | RPD | RPD Limit | Notes |
|-----------------------------|--------|-----------------|-------|---------------|------|------------|-----|-----------|-------|
| Anions | | | | | | | | | |
| Chloride | ND | 1 | mg/L | | | | | | |
| General Inorganics | | | | | | | | | |
| Cyanide, free | ND | 2 | ug/L | | | | | | |
| Hydrocarbons | | | | | | | | | |
| F1 PHCs (C6-C10) | ND | 25 | ug/L | | | | | | |
| F2 PHCs (C10-C16) | ND | 100 | ug/L | | | | | | |
| F3 PHCs (C16-C34) | ND | 100 | ug/L | | | | | | |
| F4 PHCs (C34-C50) | ND | 100 | ug/L | | | | | | |
| Metals | | | | | | | | | |
| Mercury | ND | 0.1 | ug/L | | | | | | |
| Antimony | ND | 0.5 | ug/L | | | | | | |
| Arsenic | ND | 1 | ug/L | | | | | | |
| Barium | ND | 1 | ug/L | | | | | | |
| Beryllium | ND | 0.5 | ug/L | | | | | | |
| Boron | ND | 10 | ug/L | | | | | | |
| Cadmium | ND | 0.1 | ug/L | | | | | | |
| Chromium (VI) | ND | 10 | ug/L | | | | | | |
| Chromium | ND | 1 | ug/L | | | | | | |
| Cobalt | ND | 0.5 | ug/L | | | | | | |
| Copper | ND | 0.5 | ug/L | | | | | | |
| Lead | ND | 0.1 | ug/L | | | | | | |
| Molybdenum | ND | 0.5 | ug/L | | | | | | |
| Nickel | ND | 1 | ug/L | | | | | | |
| Selenium | ND | 1 | ug/L | | | | | | |
| Silver | ND | 0.1 | ug/L | | | | | | |
| Sodium | ND | 200 | ug/L | | | | | | |
| Thallium | ND | 0.1 | ug/L | | | | | | |
| Uranium | ND | 0.1 | ug/L | | | | | | |
| Vanadium | ND | 0.5 | ug/L | | | | | | |
| Zinc | ND | 5 | ug/L | | | | | | |
| Semi-Volatiles | | | | | | | | | |
| Acenaphthene | ND | 0.05 | ug/L | | | | | | |
| Acenaphthylene | ND | 0.05 | ug/L | | | | | | |
| Anthracene | ND | 0.01 | ug/L | | | | | | |
| Benzo [a] anthracene | ND | 0.01 | ug/L | | | | | | |
| Benzo [a] pyrene | ND | 0.01 | ug/L | | | | | | |
| Benzo [b] fluoranthene | ND | 0.05 | ug/L | | | | | | |
| Benzo [g,h,i] perylene | ND | 0.05 | ug/L | | | | | | |
| Benzo [k] fluoranthene | ND | 0.05 | ug/L | | | | | | |
| Chrysene | ND | 0.05 | ug/L | | | | | | |
| Dibenzo [a,h] anthracene | ND | 0.05 | ug/L | | | | | | |
| Fluoranthene | ND | 0.01 | ug/L | | | | | | |
| Fluorene | ND | 0.05 | ug/L | | | | | | |
| Indeno [1,2,3-cd] pyrene | ND | 0.05 | ug/L | | | | | | |
| 1-Methylnaphthalene | ND | 0.05 | ug/L | | | | | | |
| 2-Methylnaphthalene | ND | 0.05 | ug/L | | | | | | |
| Methylnaphthalene (1&2) | ND | 0.10 | ug/L | | | | | | |
| Naphthalene | ND | 0.05 | ug/L | | | | | | |
| Phenanthrene | ND | 0.05 | ug/L | | | | | | |
| Pyrene | ND | 0.01 | ug/L | | | | | | |
| Surrogate: 2-Fluorobiphenyl | 23.8 | | ug/L | | 119 | 50-140 | | | |
| Surrogate: Terphenyl-d14 | 25.1 | | ug/L | | 126 | 50-140 | | | |
| Volatiles | | | | | | | | | |
| Acetone | ND | 5.0 | ug/L | | | | | | |
| Benzene | ND | 0.5 | ug/L | | | | | | |
| Bromodichloromethane | ND | 0.5 | ug/L | | | | | | |
| Bromoform | ND | 0.5 | ug/L | | | | | | |

Certificate of Analysis

Report Date: 21-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 13-Apr-2022

Client PO: 65103.01 4 Campbell Reid Ct

Project Description: 65103.01

Method Quality Control: Blank

| Analyte | Result | Reporting Limit | Units | Source Result | %REC | %REC Limit | RPD | RPD Limit | Notes |
|---|--------|-----------------|-------|---------------|------|------------|-----|-----------|-------|
| Bromomethane | ND | 0.5 | ug/L | | | | | | |
| Carbon Tetrachloride | ND | 0.2 | ug/L | | | | | | |
| Chlorobenzene | ND | 0.5 | ug/L | | | | | | |
| Chloroform | ND | 0.5 | ug/L | | | | | | |
| Dibromochloromethane | ND | 0.5 | ug/L | | | | | | |
| Dichlorodifluoromethane | ND | 1.0 | ug/L | | | | | | |
| 1,2-Dichlorobenzene | ND | 0.5 | ug/L | | | | | | |
| 1,3-Dichlorobenzene | ND | 0.5 | ug/L | | | | | | |
| 1,4-Dichlorobenzene | ND | 0.5 | ug/L | | | | | | |
| 1,1-Dichloroethane | ND | 0.5 | ug/L | | | | | | |
| 1,2-Dichloroethane | ND | 0.5 | ug/L | | | | | | |
| 1,1-Dichloroethylene | ND | 0.5 | ug/L | | | | | | |
| cis-1,2-Dichloroethylene | ND | 0.5 | ug/L | | | | | | |
| trans-1,2-Dichloroethylene | ND | 0.5 | ug/L | | | | | | |
| 1,2-Dichloropropane | ND | 0.5 | ug/L | | | | | | |
| cis-1,3-Dichloropropylene | ND | 0.5 | ug/L | | | | | | |
| trans-1,3-Dichloropropylene | ND | 0.5 | ug/L | | | | | | |
| 1,3-Dichloropropene, total | ND | 0.5 | ug/L | | | | | | |
| Ethylbenzene | ND | 0.5 | ug/L | | | | | | |
| Ethylene dibromide (dibromoethane, 1,2- | ND | 0.2 | ug/L | | | | | | |
| Hexane | ND | 1.0 | ug/L | | | | | | |
| Methyl Ethyl Ketone (2-Butanone) | ND | 5.0 | ug/L | | | | | | |
| Methyl Isobutyl Ketone | ND | 5.0 | ug/L | | | | | | |
| Methyl tert-butyl ether | ND | 2.0 | ug/L | | | | | | |
| Methylene Chloride | ND | 5.0 | ug/L | | | | | | |
| Styrene | ND | 0.5 | ug/L | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 0.5 | ug/L | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 0.5 | ug/L | | | | | | |
| Tetrachloroethylene | ND | 0.5 | ug/L | | | | | | |
| Toluene | ND | 0.5 | ug/L | | | | | | |
| 1,1,1-Trichloroethane | ND | 0.5 | ug/L | | | | | | |
| 1,1,2-Trichloroethane | ND | 0.5 | ug/L | | | | | | |
| Trichloroethylene | ND | 0.5 | ug/L | | | | | | |
| Trichlorofluoromethane | ND | 1.0 | ug/L | | | | | | |
| Vinyl chloride | ND | 0.5 | ug/L | | | | | | |
| m,p-Xylenes | ND | 0.5 | ug/L | | | | | | |
| o-Xylene | ND | 0.5 | ug/L | | | | | | |
| Xylenes, total | ND | 0.5 | ug/L | | | | | | |
| Surrogate: 4-Bromofluorobenzene | 101 | | ug/L | | 127 | 50-140 | | | |
| Surrogate: Dibromofluoromethane | 83.1 | | ug/L | | 104 | 50-140 | | | |
| Surrogate: Toluene-d8 | 88.0 | | ug/L | | 110 | 50-140 | | | |

Certificate of Analysis

Report Date: 21-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 13-Apr-2022

Client PO: 65103.01 4 Campbell Reid Ct

Project Description: 65103.01

Method Quality Control: Duplicate

| Analyte | Result | Reporting Limit | Units | Source Result | %REC | %REC Limit | RPD | RPD Limit | Notes |
|---|--------|-----------------|----------|---------------|------|------------|------|-----------|-------|
| Anions | | | | | | | | | |
| Chloride | 13.4 | 1 | mg/L | 13.2 | | | 1.7 | 10 | |
| General Inorganics | | | | | | | | | |
| Cyanide, free | 8.9 | 2 | ug/L | 9.1 | | | 2.2 | 20 | |
| pH | 7.6 | 0.1 | pH Units | 7.7 | | | 0.5 | 3.3 | |
| Hydrocarbons | | | | | | | | | |
| F1 PHCs (C6-C10) | ND | 25 | ug/L | ND | | | NC | 30 | |
| Metals | | | | | | | | | |
| Mercury | ND | 0.1 | ug/L | ND | | | NC | 20 | |
| Antimony | 1.25 | 0.5 | ug/L | ND | | | NC | 20 | |
| Arsenic | 1.5 | 1 | ug/L | 1.4 | | | 3.0 | 20 | |
| Barium | 80.0 | 1 | ug/L | 81.5 | | | 1.8 | 20 | |
| Beryllium | ND | 0.5 | ug/L | ND | | | NC | 20 | |
| Boron | 85 | 10 | ug/L | 85 | | | 0.5 | 20 | |
| Cadmium | ND | 0.1 | ug/L | ND | | | NC | 20 | |
| Chromium (VI) | ND | 10 | ug/L | ND | | | NC | 20 | |
| Chromium | ND | 1 | ug/L | ND | | | NC | 20 | |
| Cobalt | ND | 0.5 | ug/L | ND | | | NC | 20 | |
| Copper | 3.51 | 0.5 | ug/L | 3.59 | | | 2.2 | 20 | |
| Lead | 0.18 | 0.1 | ug/L | 0.17 | | | 3.8 | 20 | |
| Molybdenum | 6.99 | 0.5 | ug/L | 7.04 | | | 0.8 | 20 | |
| Nickel | 1.5 | 1 | ug/L | 1.6 | | | 4.8 | 20 | |
| Selenium | 2.3 | 1 | ug/L | 2.2 | | | 3.2 | 20 | |
| Silver | ND | 0.1 | ug/L | ND | | | NC | 20 | |
| Sodium | 351000 | 531 | ug/L | 352000 | | | 0.2 | 20 | |
| Thallium | ND | 0.1 | ug/L | ND | | | NC | 20 | |
| Uranium | 1.6 | 0.1 | ug/L | 1.6 | | | 5.1 | 20 | |
| Vanadium | 2.02 | 0.5 | ug/L | 2.00 | | | 0.8 | 20 | |
| Zinc | ND | 5 | ug/L | 8 | | | NC | 20 | |
| Volatiles | | | | | | | | | |
| Acetone | ND | 5.0 | ug/L | ND | | | NC | 30 | |
| Benzene | ND | 0.5 | ug/L | ND | | | NC | 30 | |
| Bromodichloromethane | 4.18 | 0.5 | ug/L | 4.36 | | | 4.2 | 30 | |
| Bromoform | ND | 0.5 | ug/L | ND | | | NC | 30 | |
| Bromomethane | ND | 0.5 | ug/L | ND | | | NC | 30 | |
| Carbon Tetrachloride | ND | 0.2 | ug/L | ND | | | NC | 30 | |
| Chlorobenzene | ND | 0.5 | ug/L | ND | | | NC | 30 | |
| Chloroform | 5.32 | 0.5 | ug/L | 5.59 | | | 5.0 | 30 | |
| Dibromochloromethane | 2.84 | 0.5 | ug/L | 2.27 | | | 22.3 | 30 | |
| Dichlorodifluoromethane | ND | 1.0 | ug/L | ND | | | NC | 30 | |
| 1,2-Dichlorobenzene | ND | 0.5 | ug/L | ND | | | NC | 30 | |
| 1,3-Dichlorobenzene | ND | 0.5 | ug/L | ND | | | NC | 30 | |
| 1,4-Dichlorobenzene | ND | 0.5 | ug/L | ND | | | NC | 30 | |
| 1,1-Dichloroethane | ND | 0.5 | ug/L | ND | | | NC | 30 | |
| 1,2-Dichloroethane | ND | 0.5 | ug/L | ND | | | NC | 30 | |
| 1,1-Dichloroethylene | ND | 0.5 | ug/L | ND | | | NC | 30 | |
| cis-1,2-Dichloroethylene | ND | 0.5 | ug/L | ND | | | NC | 30 | |
| trans-1,2-Dichloroethylene | ND | 0.5 | ug/L | ND | | | NC | 30 | |
| 1,2-Dichloropropane | ND | 0.5 | ug/L | ND | | | NC | 30 | |
| cis-1,3-Dichloropropylene | ND | 0.5 | ug/L | ND | | | NC | 30 | |
| trans-1,3-Dichloropropylene | ND | 0.5 | ug/L | ND | | | NC | 30 | |
| Ethylbenzene | ND | 0.5 | ug/L | ND | | | NC | 30 | |
| Ethylene dibromide (dibromoethane, 1,2) | ND | 0.2 | ug/L | ND | | | NC | 30 | |
| Hexane | ND | 1.0 | ug/L | ND | | | NC | 30 | |
| Methyl Ethyl Ketone (2-Butanone) | ND | 5.0 | ug/L | ND | | | NC | 30 | |
| Methyl Isobutyl Ketone | ND | 5.0 | ug/L | ND | | | NC | 30 | |
| Methyl tert-butyl ether | ND | 2.0 | ug/L | ND | | | NC | 30 | |

Certificate of Analysis

Report Date: 21-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 13-Apr-2022

Client PO: 65103.01 4 Campbell Reid Ct

Project Description: 65103.01

Method Quality Control: Duplicate

| Analyte | Result | Reporting Limit | Units | Source Result | %REC | %REC Limit | RPD | RPD Limit | Notes |
|---------------------------------|--------|-----------------|-------|---------------|------|------------|-----|-----------|-------|
| Methylene Chloride | ND | 5.0 | ug/L | ND | | | NC | 30 | |
| Styrene | ND | 0.5 | ug/L | ND | | | NC | 30 | |
| 1,1,1,2-Tetrachloroethane | ND | 0.5 | ug/L | ND | | | NC | 30 | |
| 1,1,2,2-Tetrachloroethane | ND | 0.5 | ug/L | ND | | | NC | 30 | |
| Tetrachloroethylene | ND | 0.5 | ug/L | ND | | | NC | 30 | |
| Toluene | ND | 0.5 | ug/L | ND | | | NC | 30 | |
| 1,1,1-Trichloroethane | ND | 0.5 | ug/L | ND | | | NC | 30 | |
| 1,1,2-Trichloroethane | ND | 0.5 | ug/L | ND | | | NC | 30 | |
| Trichloroethylene | ND | 0.5 | ug/L | ND | | | NC | 30 | |
| Trichlorofluoromethane | ND | 1.0 | ug/L | ND | | | NC | 30 | |
| Vinyl chloride | ND | 0.5 | ug/L | ND | | | NC | 30 | |
| m,p-Xylenes | ND | 0.5 | ug/L | ND | | | NC | 30 | |
| o-Xylene | ND | 0.5 | ug/L | ND | | | NC | 30 | |
| Surrogate: 4-Bromofluorobenzene | 96.3 | | ug/L | | 120 | 50-140 | | | |
| Surrogate: Dibromofluoromethane | 87.3 | | ug/L | | 109 | 50-140 | | | |
| Surrogate: Toluene-d8 | 87.0 | | ug/L | | 109 | 50-140 | | | |

Certificate of Analysis

Report Date: 21-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 13-Apr-2022

Client PO: 65103.01 4 Campbell Reid Ct

Project Description: 65103.01

Method Quality Control: Spike

| Analyte | Result | Reporting Limit | Units | Source Result | %REC | %REC Limit | RPD | RPD Limit | Notes |
|---------------------------|--------|-----------------|-------|---------------|------|------------|-----|-----------|-------|
| Anions | | | | | | | | | |
| Chloride | 25.4 | 1 | mg/L | 13.2 | 122 | 77-123 | | | |
| General Inorganics | | | | | | | | | |
| Cyanide, free | 60.0 | 2 | ug/L | 9.1 | 102 | 61-139 | | | |
| Hydrocarbons | | | | | | | | | |
| F1 PHCs (C6-C10) | 1610 | 25 | ug/L | ND | 80.3 | 68-117 | | | |
| F2 PHCs (C10-C16) | 1520 | 100 | ug/L | ND | 95.0 | 60-140 | | | |
| F3 PHCs (C16-C34) | 4090 | 100 | ug/L | ND | 104 | 60-140 | | | |
| F4 PHCs (C34-C50) | 3240 | 100 | ug/L | ND | 131 | 60-140 | | | |
| Metals | | | | | | | | | |
| Mercury | 3.40 | 0.1 | ug/L | ND | 113 | 70-130 | | | |
| Arsenic | 50.6 | 1 | ug/L | 1.4 | 98.2 | 80-120 | | | |
| Barium | 125 | 1 | ug/L | 81.5 | 86.3 | 80-120 | | | |
| Beryllium | 42.6 | 0.5 | ug/L | ND | 85.2 | 80-120 | | | |
| Boron | 44 | 10 | ug/L | ND | 88.3 | 80-120 | | | |
| Cadmium | 41.9 | 0.1 | ug/L | ND | 83.7 | 80-120 | | | |
| Chromium (VI) | 196 | 10 | ug/L | ND | 98.0 | 70-130 | | | |
| Chromium | 57.1 | 1 | ug/L | ND | 114 | 80-120 | | | |
| Cobalt | 51.1 | 0.5 | ug/L | ND | 102 | 80-120 | | | |
| Copper | 48.9 | 0.5 | ug/L | 3.59 | 90.6 | 80-120 | | | |
| Molybdenum | 54.3 | 0.5 | ug/L | 7.04 | 94.5 | 80-120 | | | |
| Nickel | 49.4 | 1 | ug/L | 1.6 | 95.6 | 80-120 | | | |
| Selenium | 45.3 | 1 | ug/L | 2.2 | 86.0 | 80-120 | | | |
| Silver | 40.9 | 0.1 | ug/L | ND | 81.8 | 80-120 | | | |
| Sodium | 8480 | 200 | ug/L | ND | 84.8 | 80-120 | | | |
| Thallium | 45.9 | 0.1 | ug/L | ND | 91.7 | 80-120 | | | |
| Uranium | 44.3 | 0.1 | ug/L | 1.6 | 85.5 | 80-120 | | | |
| Vanadium | 60.9 | 0.5 | ug/L | 2.00 | 118 | 80-120 | | | |
| Zinc | 46 | 5 | ug/L | ND | 92.3 | 80-120 | | | |
| Semi-Volatiles | | | | | | | | | |
| Acenaphthene | 4.77 | 0.05 | ug/L | ND | 95.5 | 50-140 | | | |
| Acenaphthylene | 4.32 | 0.05 | ug/L | ND | 86.5 | 50-140 | | | |
| Anthracene | 4.35 | 0.01 | ug/L | ND | 86.9 | 50-140 | | | |
| Benzo [a] anthracene | 4.43 | 0.01 | ug/L | ND | 88.7 | 50-140 | | | |
| Benzo [a] pyrene | 4.67 | 0.01 | ug/L | ND | 93.5 | 50-140 | | | |
| Benzo [b] fluoranthene | 6.05 | 0.05 | ug/L | ND | 121 | 50-140 | | | |
| Benzo [g,h,i] perylene | 4.71 | 0.05 | ug/L | ND | 94.2 | 50-140 | | | |
| Benzo [k] fluoranthene | 5.84 | 0.05 | ug/L | ND | 117 | 50-140 | | | |
| Chrysene | 4.74 | 0.05 | ug/L | ND | 94.7 | 50-140 | | | |
| Dibenzo [a,h] anthracene | 5.24 | 0.05 | ug/L | ND | 105 | 50-140 | | | |
| Fluoranthene | 4.50 | 0.01 | ug/L | ND | 90.0 | 50-140 | | | |
| Fluorene | 4.62 | 0.05 | ug/L | ND | 92.5 | 50-140 | | | |
| Indeno [1,2,3-cd] pyrene | 5.29 | 0.05 | ug/L | ND | 106 | 50-140 | | | |
| 1-Methylnaphthalene | 5.66 | 0.05 | ug/L | ND | 113 | 50-140 | | | |
| 2-Methylnaphthalene | 6.02 | 0.05 | ug/L | ND | 120 | 50-140 | | | |
| Naphthalene | 5.06 | 0.05 | ug/L | ND | 101 | 50-140 | | | |
| Phenanthrene | 4.30 | 0.05 | ug/L | ND | 86.0 | 50-140 | | | |
| Pyrene | 4.53 | 0.01 | ug/L | ND | 90.5 | 50-140 | | | |

Certificate of Analysis

Report Date: 21-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 13-Apr-2022

Client PO: 65103.01 4 Campbell Reid Ct

Project Description: 65103.01

Method Quality Control: Spike

| Analyte | Result | Reporting Limit | Units | Source Result | %REC | %REC Limit | RPD | RPD Limit | Notes |
|---|--------|-----------------|-------|---------------|------|------------|-----|-----------|-------|
| <i>Surrogate: 2-Fluorobiphenyl</i> | 23.6 | | ug/L | | 118 | 50-140 | | | |
| <i>Surrogate: Terphenyl-d14</i> | 24.0 | | ug/L | | 120 | 50-140 | | | |
| Volatiles | | | | | | | | | |
| Acetone | 71.6 | 5.0 | ug/L | ND | 71.6 | 50-140 | | | |
| Benzene | 30.3 | 0.5 | ug/L | ND | 75.6 | 60-130 | | | |
| Bromodichloromethane | 33.0 | 0.5 | ug/L | ND | 82.5 | 60-130 | | | |
| Bromoform | 31.0 | 0.5 | ug/L | ND | 77.4 | 60-130 | | | |
| Bromomethane | 29.0 | 0.5 | ug/L | ND | 72.6 | 50-140 | | | |
| Carbon Tetrachloride | 29.4 | 0.2 | ug/L | ND | 73.4 | 60-130 | | | |
| Chlorobenzene | 32.4 | 0.5 | ug/L | ND | 80.9 | 60-130 | | | |
| Chloroform | 35.5 | 0.5 | ug/L | ND | 88.8 | 60-130 | | | |
| Dibromochloromethane | 35.8 | 0.5 | ug/L | ND | 89.6 | 60-130 | | | |
| Dichlorodifluoromethane | 41.4 | 1.0 | ug/L | ND | 103 | 50-140 | | | |
| 1,2-Dichlorobenzene | 40.9 | 0.5 | ug/L | ND | 102 | 60-130 | | | |
| 1,3-Dichlorobenzene | 30.1 | 0.5 | ug/L | ND | 75.2 | 60-130 | | | |
| 1,4-Dichlorobenzene | 32.0 | 0.5 | ug/L | ND | 80.1 | 60-130 | | | |
| 1,1-Dichloroethane | 32.5 | 0.5 | ug/L | ND | 81.2 | 60-130 | | | |
| 1,2-Dichloroethane | 35.5 | 0.5 | ug/L | ND | 88.8 | 60-130 | | | |
| 1,1-Dichloroethylene | 29.5 | 0.5 | ug/L | ND | 73.8 | 60-130 | | | |
| cis-1,2-Dichloroethylene | 34.5 | 0.5 | ug/L | ND | 86.3 | 60-130 | | | |
| trans-1,2-Dichloroethylene | 28.2 | 0.5 | ug/L | ND | 70.6 | 60-130 | | | |
| 1,2-Dichloropropane | 35.2 | 0.5 | ug/L | ND | 88.1 | 60-130 | | | |
| cis-1,3-Dichloropropylene | 35.6 | 0.5 | ug/L | ND | 89.0 | 60-130 | | | |
| trans-1,3-Dichloropropylene | 34.0 | 0.5 | ug/L | ND | 85.0 | 60-130 | | | |
| Ethylbenzene | 32.4 | 0.5 | ug/L | ND | 81.0 | 60-130 | | | |
| Ethylene dibromide (dibromoethane, 1,2) | 33.2 | 0.2 | ug/L | ND | 83.0 | 60-130 | | | |
| Hexane | 39.0 | 1.0 | ug/L | ND | 97.5 | 60-130 | | | |
| Methyl Ethyl Ketone (2-Butanone) | 77.0 | 5.0 | ug/L | ND | 77.0 | 50-140 | | | |
| Methyl Isobutyl Ketone | 71.3 | 5.0 | ug/L | ND | 71.3 | 50-140 | | | |
| Methyl tert-butyl ether | 88.9 | 2.0 | ug/L | ND | 88.9 | 50-140 | | | |
| Methylene Chloride | 30.9 | 5.0 | ug/L | ND | 77.4 | 60-130 | | | |
| Styrene | 36.8 | 0.5 | ug/L | ND | 92.1 | 60-130 | | | |
| 1,1,1,2-Tetrachloroethane | 29.4 | 0.5 | ug/L | ND | 73.6 | 60-130 | | | |
| 1,1,2,2-Tetrachloroethane | 42.6 | 0.5 | ug/L | ND | 106 | 60-130 | | | |
| Tetrachloroethylene | 33.6 | 0.5 | ug/L | ND | 84.0 | 60-130 | | | |
| Toluene | 34.2 | 0.5 | ug/L | ND | 85.6 | 60-130 | | | |
| 1,1,1-Trichloroethane | 29.4 | 0.5 | ug/L | ND | 73.6 | 60-130 | | | |
| 1,1,2-Trichloroethane | 36.1 | 0.5 | ug/L | ND | 90.2 | 60-130 | | | |
| Trichloroethylene | 41.0 | 0.5 | ug/L | ND | 103 | 60-130 | | | |
| Trichlorofluoromethane | 30.8 | 1.0 | ug/L | ND | 76.9 | 60-130 | | | |
| Vinyl chloride | 29.3 | 0.5 | ug/L | ND | 73.2 | 50-140 | | | |
| m,p-Xylenes | 61.8 | 0.5 | ug/L | ND | 77.2 | 60-130 | | | |
| o-Xylene | 30.1 | 0.5 | ug/L | ND | 75.3 | 60-130 | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 99.9 | | ug/L | | 125 | 50-140 | | | |
| <i>Surrogate: Dibromofluoromethane</i> | 83.4 | | ug/L | | 104 | 50-140 | | | |
| <i>Surrogate: Toluene-d8</i> | 85.4 | | ug/L | | 107 | 50-140 | | | |

Certificate of Analysis

Report Date: 21-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 13-Apr-2022

Client PO: 65103.01 4 Campbell Reid Ct

Project Description: 65103.01

Qualifier Notes:

Login Qualifiers :

Sample - Mercury not submitted according to Reg. 153/04, Amended 2011 - not field filtered and preserved
Mercury sample was decanted from the general chemistry bottle and was filtered and preserved at the lab.

Applies to samples: PW-4, PW-4-D

Sample Data Revisions

None

Work Order Revisions / Comments:

None

Other Report Notes:

n/a: not applicable

ND: Not Detected

MDL: Method Detection Limit

Source Result: Data used as source for matrix and duplicate samples

%REC: Percent recovery.

RPD: Relative percent difference.

NC: Not Calculated

CCME PHC additional information:

- The method for the analysis of PHCs complies with the Reference Method for the CWS PHC and is validated for use in the laboratory. All prescribed quality criteria identified in the method has been met.
- F1 range corrected for BTEX.
- F2 to F3 ranges corrected for appropriate PAHs where available.
- The gravimetric heavy hydrocarbons (F4G) are not to be added to C6 to C50 hydrocarbons.
- In the case where F4 and F4G are both reported, the greater of the two results is to be used for comparison to CWS PHC criteria.
- When reported, data for F4G has been processed using a silica gel cleanup.



| | |
|--|---|
| Parcel Order Number (Lab Use Only) 2216364 | Chain Of Custody (Lab Use Only) No 135704 |
|--|---|

| | | |
|--|---|--|
| Client Name: GEMTEC | Project Ref: 65103.01 | Page <u>1</u> of <u>1</u> |
| Contact Name: Ester Wilson | Quote #: | Turnaround Time <input type="checkbox"/> 1 day <input type="checkbox"/> 3 day <input type="checkbox"/> 2 day <input checked="" type="checkbox"/> Regular |
| Address: 32 Steacie Dr. Kahana, OHI | PO #: 65103.01 4 Campbell Reid Ct | |
| Telephone: (613) 585-2041 | E-mail: ester.wilson@gemtec.ca brenda.thom@gemtec.ca | |
| | | Date Required: _____ |

| | | | | | | | | | | | | | | |
|---|--|---|------------|-------------------|--------------|---------|-----------------|------|------|---------------|----|------|---------|-----|
| <input checked="" type="checkbox"/> REG 153/04 <input type="checkbox"/> REG 406/19 | Other Regulation | Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other) | | Required Analysis | | | | | | | | | | |
| <input checked="" type="checkbox"/> Table 1 <input type="checkbox"/> Res/Park <input type="checkbox"/> Med/Fine | <input type="checkbox"/> REG 558 <input type="checkbox"/> PWQO | Matrix | Air Volume | # of Containers | Sample Taken | | PHCs F1-F4+BTEX | VOCs | PAHs | Metals by ICP | Hg | CrVI | B (HWS) | M&I |
| <input type="checkbox"/> Table 2 <input type="checkbox"/> Ind/Comm <input type="checkbox"/> Coarse | <input type="checkbox"/> CCME <input type="checkbox"/> MISA | | | | | | | | | | | | | |
| <input type="checkbox"/> Table 3 <input type="checkbox"/> Agri/Other | <input type="checkbox"/> SU - Sani <input type="checkbox"/> SU - Storm | | | | Date | Time | | | | | | | | |
| <input checked="" type="checkbox"/> Table <u>6</u> | Mun: _____ | | | | | | | | | | | | | |
| For RSC: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | <input type="checkbox"/> Other: _____ | | | | | | | | | | | | | |
| Sample ID/Location Name | | | | | | | | | | | | | | |
| 1 | PW-4 | GW | - | 9 | Apr.13/22 | 9:30 AM | X | X | X | X | X | X | X | |
| 2 | PW-4-D | GW | - | 9 | Apr.13/22 | 9:30 AM | X | X | X | X | X | X | X | |
| 3 | Trip Blank | - | - | 1 | Apr 11/22 | - | X | X | | | | | | |
| 4 | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | |

Comments: **Metals and Chrom VI filtered. Mercury not filtered.** Method of Delivery: **Walkin**

| | | | |
|---|---|---|---|
| Relinquished By (Sign): <i>Ester Wilson</i> | Received By Driver/Depot: <i>[Signature]</i> | Received at Lab: <i>[Signature]</i> | Verified By: <i>[Signature]</i> |
| Relinquished By (Print): Ester Wilson | Date/Time: 04/13/22 10:57 am | Date/Time: April 13, 22 16:08 | Date/Time: April 13, 2022 16:37 |
| Date/Time: April 13/2022 11:00 am | Temperature: 14.2 °C | Temperature: 8.6 °C | pH Verified: <input checked="" type="checkbox"/> By: B |

Certificate of Analysis

GEMTEC Consulting Engineers and Scientists Limited

32 Steacie Drive
Kanata, ON K2K 2A9
Attn: Mohit Bhargav

Client PO: 65103.01
Project: 65103.01 4 Campbell Reid Court
Custody:

Report Date: 5-Apr-2022
Order Date: 30-Mar-2022

Order #: 2214286

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

| Parcel ID | Client ID |
|------------|--------------|
| 2214286-01 | BH22-01 SA1 |
| 2214286-02 | BH22-02 SA1 |
| 2214286-03 | BH22-03 SA1 |
| 2214286-04 | BH22-04 SA1 |
| 2214286-05 | BH22-05 SA1 |
| 2214286-06 | BH22-06 SA1 |
| 2214286-07 | BH22-106 SA1 |

Approved By:



Dale Robertson, BSc
Laboratory Director

Certificate of Analysis

Report Date: 05-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 30-Mar-2022

Client PO: 65103.01

Project Description: 65103.01 4 Campbell Reid Court

Analysis Summary Table

| Analysis | Method Reference/Description | Extraction Date | Analysis Date |
|---------------------------------|--|-----------------|---------------|
| Boron, available | MOE (HWE), EPA 200.8 - ICP-MS | 1-Apr-22 | 1-Apr-22 |
| Chromium, hexavalent - soil | MOE E3056 - Extraction, colourimetric | 31-Mar-22 | 1-Apr-22 |
| Conductivity | MOE E3138 - probe @25 °C, water ext | 1-Apr-22 | 1-Apr-22 |
| Cyanide, free | MOE E3015 - Auto Colour, water extraction | 31-Mar-22 | 1-Apr-22 |
| Mercury by CVAA | EPA 7471B - CVAA, digestion | 1-Apr-22 | 5-Apr-22 |
| pH, soil | EPA 150.1 - pH probe @ 25 °C, CaCl buffered ext. | 30-Mar-22 | 31-Mar-22 |
| PHC F1 | CWS Tier 1 - P&T GC-FID | 1-Apr-22 | 1-Apr-22 |
| PHCs F2 to F4 | CWS Tier 1 - GC-FID, extraction | 31-Mar-22 | 31-Mar-22 |
| REG 153: Metals by ICP/MS, soil | EPA 6020 - Digestion - ICP-MS | 1-Apr-22 | 1-Apr-22 |
| REG 153: PAHs by GC-MS | EPA 8270 - GC-MS, extraction | 31-Mar-22 | 4-Apr-22 |
| REG 153: VOCs by P&T GC/MS | EPA 8260 - P&T GC-MS | 1-Apr-22 | 1-Apr-22 |
| SAR | Calculated | 1-Apr-22 | 4-Apr-22 |
| Solids, % | Gravimetric, calculation | 31-Mar-22 | 31-Mar-22 |

Certificate of Analysis

Report Date: 05-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 30-Mar-2022

Client PO: 65103.01

Project Description: 65103.01 4 Campbell Reid Court

| | | | | |
|---------------------|-----------------|-----------------|-----------------|-----------------|
| Client ID: | BH22-01 SA1 | BH22-02 SA1 | BH22-03 SA1 | BH22-04 SA1 |
| Sample Date: | 28-Mar-22 09:00 | 28-Mar-22 09:00 | 28-Mar-22 09:00 | 28-Mar-22 09:00 |
| Sample ID: | 2214286-01 | 2214286-02 | 2214286-03 | 2214286-04 |
| MDL/Units | Soil | Soil | Soil | Soil |

Physical Characteristics

| | | | | | |
|----------|--------------|------|------|------|------|
| % Solids | 0.1 % by Wt. | 90.1 | 89.1 | 92.5 | 78.0 |
|----------|--------------|------|------|------|------|

General Inorganics

| | | | | | |
|---------------|---------------|-------|-------|-------|-------|
| SAR | 0.01 N/A | 0.10 | 0.11 | 0.10 | 1.74 |
| Conductivity | 5 uS/cm | 117 | 90 | 1020 | 222 |
| Cyanide, free | 0.03 ug/g dry | <0.03 | <0.03 | <0.03 | <0.03 |
| pH | 0.05 pH Units | 7.10 | 7.49 | 7.50 | 6.82 |

Metals

| | | | | | |
|------------------|---------------|------|-------|------|------|
| Antimony | 1.0 ug/g dry | <1.0 | <1.0 | <1.0 | <1.0 |
| Arsenic | 1.0 ug/g dry | 2.8 | 1.6 | 2.0 | 3.1 |
| Barium | 1.0 ug/g dry | 194 | 37.3 | 219 | 266 |
| Beryllium | 0.5 ug/g dry | 0.6 | <0.5 | 0.5 | 0.7 |
| Boron | 5.0 ug/g dry | 6.5 | <5.0 | 12.1 | 6.3 |
| Boron, available | 0.5 ug/g dry | <0.5 | <0.5 | <0.5 | <0.5 |
| Cadmium | 0.5 ug/g dry | <0.5 | <0.5 | <0.5 | <0.5 |
| Chromium | 5.0 ug/g dry | 25.6 | 12.1 | 37.6 | 26.8 |
| Chromium (VI) | 0.2 ug/g dry | <0.2 | <0.2 | <0.2 | <0.2 |
| Cobalt | 1.0 ug/g dry | 19.5 | 3.4 | 8.3 | 11.8 |
| Copper | 5.0 ug/g dry | 28.4 | 8.5 | 11.7 | 14.4 |
| Lead | 1.0 ug/g dry | 5.5 | 2.3 | 11.0 | 8.2 |
| Mercury | 0.1 ug/g dry | <0.1 | <0.1 | <0.1 | <0.1 |
| Molybdenum | 1.0 ug/g dry | <1.0 | <1.0 | <1.0 | <1.0 |
| Nickel | 5.0 ug/g dry | 16.4 | 6.2 | 20.3 | 16.0 |
| Selenium | 1.0 ug/g dry | <1.0 | <1.0 | <1.0 | <1.0 |
| Silver | 0.3 ug/g dry | <0.3 | <0.3 | <0.3 | <0.3 |
| Thallium | 1.0 ug/g dry | <1.0 | <1.0 | <1.0 | <1.0 |
| Uranium | 1.0 ug/g dry | <1.0 | <1.0 | <1.0 | <1.0 |
| Vanadium | 10.0 ug/g dry | 64.5 | 19.0 | 29.7 | 39.7 |
| Zinc | 20.0 ug/g dry | 59.6 | <20.0 | 26.9 | 24.2 |

Volatiles

| | | | | | |
|----------------------|---------------|-------|-------|-------|-------|
| Acetone | 0.50 ug/g dry | <0.50 | <0.50 | <0.50 | <0.50 |
| Benzene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | <0.02 |
| Bromodichloromethane | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| Bromoform | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| Bromomethane | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| Carbon Tetrachloride | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |

Certificate of Analysis

Report Date: 05-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 30-Mar-2022

Client PO: 65103.01

Project Description: 65103.01 4 Campbell Reid Court

| | Client ID: | BH22-01 SA1 | BH22-02 SA1 | BH22-03 SA1 | BH22-04 SA1 |
|--|---------------|-----------------|-----------------|-----------------|-----------------|
| | Sample Date: | 28-Mar-22 09:00 | 28-Mar-22 09:00 | 28-Mar-22 09:00 | 28-Mar-22 09:00 |
| | Sample ID: | 2214286-01 | 2214286-02 | 2214286-03 | 2214286-04 |
| | MDL/Units | Soil | Soil | Soil | Soil |
| Chlorobenzene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| Chloroform | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| Dibromochloromethane | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| Dichlorodifluoromethane | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| 1,2-Dichlorobenzene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| 1,3-Dichlorobenzene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| 1,4-Dichlorobenzene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| 1,1-Dichloroethane | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| 1,2-Dichloroethane | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| 1,1-Dichloroethylene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| cis-1,2-Dichloroethylene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| trans-1,2-Dichloroethylene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| 1,2-Dichloropropane | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| cis-1,3-Dichloropropylene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| trans-1,3-Dichloropropylene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| 1,3-Dichloropropene, total | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| Ethylbenzene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| Ethylene dibromide (dibromoethane, 1,2-) | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| Hexane | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| Methyl Ethyl Ketone (2-Butanone) | 0.50 ug/g dry | <0.50 | <0.50 | <0.50 | <0.50 |
| Methyl Isobutyl Ketone | 0.50 ug/g dry | <0.50 | <0.50 | <0.50 | <0.50 |
| Methyl tert-butyl ether | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| Methylene Chloride | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| Styrene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| 1,1,1,2-Tetrachloroethane | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| 1,1,1,2-Tetrachloroethane | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| Tetrachloroethylene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| Toluene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| 1,1,1-Trichloroethane | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| 1,1,2-Trichloroethane | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| Trichloroethylene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| Trichlorofluoromethane | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| Vinyl chloride | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | <0.02 |
| m,p-Xylenes | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| o-Xylene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |

Certificate of Analysis

Report Date: 05-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 30-Mar-2022

Client PO: 65103.01

Project Description: 65103.01 4 Campbell Reid Court

| | Client ID: | BH22-01 SA1 | BH22-02 SA1 | BH22-03 SA1 | BH22-04 SA1 |
|----------------------|---------------|-----------------|-----------------|-----------------|-----------------|
| | Sample Date: | 28-Mar-22 09:00 | 28-Mar-22 09:00 | 28-Mar-22 09:00 | 28-Mar-22 09:00 |
| | Sample ID: | 2214286-01 | 2214286-02 | 2214286-03 | 2214286-04 |
| | MDL/Units | Soil | Soil | Soil | Soil |
| Xylenes, total | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | <0.05 |
| 4-Bromofluorobenzene | Surrogate | 108% | 108% | 85.4% | 103% |
| Dibromofluoromethane | Surrogate | 114% | 114% | 104% | 117% |
| Toluene-d8 | Surrogate | 100% | 99.5% | 83.5% | 106% |

Hydrocarbons

| | | | | | |
|-------------------|------------|----|----|----|----|
| F1 PHCs (C6-C10) | 7 ug/g dry | <7 | <7 | 21 | <7 |
| F2 PHCs (C10-C16) | 4 ug/g dry | <4 | <4 | 14 | <4 |
| F3 PHCs (C16-C34) | 8 ug/g dry | 14 | <8 | 29 | 16 |
| F4 PHCs (C34-C50) | 6 ug/g dry | 10 | <6 | 25 | 15 |

Semi-Volatiles

| | | | | | |
|--------------------------|---------------|-------|-------|-------|-------|
| Acenaphthene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | <0.02 |
| Acenaphthylene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | <0.02 |
| Anthracene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | <0.02 |
| Benzo [a] anthracene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | <0.02 |
| Benzo [a] pyrene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | <0.02 |
| Benzo [b] fluoranthene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | <0.02 |
| Benzo [g,h,i] perylene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | <0.02 |
| Benzo [k] fluoranthene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | <0.02 |
| Chrysene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | <0.02 |
| Dibenzo [a,h] anthracene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | <0.02 |
| Fluoranthene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | <0.02 |
| Fluorene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | <0.02 |
| Indeno [1,2,3-cd] pyrene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | <0.02 |
| 1-Methylnaphthalene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | <0.02 |
| 2-Methylnaphthalene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | <0.02 |
| Methylnaphthalene (1&2) | 0.04 ug/g dry | <0.04 | <0.04 | <0.04 | <0.04 |
| Naphthalene | 0.01 ug/g dry | <0.01 | <0.01 | <0.01 | <0.01 |
| Phenanthrene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | <0.02 |
| Pyrene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | <0.02 |
| 2-Fluorobiphenyl | Surrogate | 104% | 89.0% | 108% | 71.4% |
| Terphenyl-d14 | Surrogate | 114% | 109% | 112% | 85.2% |

Certificate of Analysis

Report Date: 05-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 30-Mar-2022

Client PO: 65103.01

Project Description: 65103.01 4 Campbell Reid Court

| | | | | |
|---------------------|-----------------|-----------------|-----------------|---|
| Client ID: | BH22-05 SA1 | BH22-06 SA1 | BH22-106 SA1 | - |
| Sample Date: | 28-Mar-22 09:00 | 28-Mar-22 09:00 | 28-Mar-22 09:00 | - |
| Sample ID: | 2214286-05 | 2214286-06 | 2214286-07 | - |
| MDL/Units | Soil | Soil | Soil | - |

Physical Characteristics

| | | | | | |
|----------|--------------|------|------|------|---|
| % Solids | 0.1 % by Wt. | 82.5 | 86.5 | 91.5 | - |
|----------|--------------|------|------|------|---|

General Inorganics

| | | | | | |
|---------------|---------------|-------|-------|-------|---|
| SAR | 0.01 N/A | 1.13 | 0.13 | 0.10 | - |
| Conductivity | 5 uS/cm | 264 | 93 | 74 | - |
| Cyanide, free | 0.03 ug/g dry | <0.03 | <0.03 | <0.03 | - |
| pH | 0.05 pH Units | 7.45 | 7.45 | 7.53 | - |

Metals

| | | | | | |
|------------------|---------------|------|------|------|---|
| Antimony | 1.0 ug/g dry | <1.0 | <1.0 | <1.0 | - |
| Arsenic | 1.0 ug/g dry | 3.3 | 1.9 | 1.8 | - |
| Barium | 1.0 ug/g dry | 143 | 72.6 | 53.7 | - |
| Beryllium | 0.5 ug/g dry | 0.6 | <0.5 | <0.5 | - |
| Boron | 5.0 ug/g dry | 5.7 | <5.0 | <5.0 | - |
| Boron, available | 0.5 ug/g dry | <0.5 | <0.5 | <0.5 | - |
| Cadmium | 0.5 ug/g dry | <0.5 | <0.5 | <0.5 | - |
| Chromium | 5.0 ug/g dry | 29.9 | 16.6 | 15.9 | - |
| Chromium (VI) | 0.2 ug/g dry | <0.2 | <0.2 | <0.2 | - |
| Cobalt | 1.0 ug/g dry | 8.2 | 5.1 | 4.6 | - |
| Copper | 5.0 ug/g dry | 15.2 | 18.4 | 13.9 | - |
| Lead | 1.0 ug/g dry | 14.7 | 6.5 | 5.1 | - |
| Mercury | 0.1 ug/g dry | <0.1 | <0.1 | <0.1 | - |
| Molybdenum | 1.0 ug/g dry | <1.0 | <1.0 | <1.0 | - |
| Nickel | 5.0 ug/g dry | 15.9 | 10.3 | 10.2 | - |
| Selenium | 1.0 ug/g dry | <1.0 | <1.0 | <1.0 | - |
| Silver | 0.3 ug/g dry | <0.3 | <0.3 | <0.3 | - |
| Thallium | 1.0 ug/g dry | <1.0 | <1.0 | <1.0 | - |
| Uranium | 1.0 ug/g dry | <1.0 | <1.0 | <1.0 | - |
| Vanadium | 10.0 ug/g dry | 40.1 | 26.5 | 24.6 | - |
| Zinc | 20.0 ug/g dry | 56.4 | 36.7 | 28.7 | - |

Volatiles

| | | | | | |
|----------------------|---------------|-------|-------|-------|---|
| Acetone | 0.50 ug/g dry | <0.50 | <0.50 | <0.50 | - |
| Benzene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | - |
| Bromodichloromethane | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| Bromoform | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| Bromomethane | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| Carbon Tetrachloride | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |

Certificate of Analysis

Report Date: 05-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 30-Mar-2022

Client PO: 65103.01

Project Description: 65103.01 4 Campbell Reid Court

| | Client ID: | BH22-05 SA1 | BH22-06 SA1 | BH22-106 SA1 | - |
|--------------------------------------|---------------|-----------------|-----------------|-----------------|---|
| | Sample Date: | 28-Mar-22 09:00 | 28-Mar-22 09:00 | 28-Mar-22 09:00 | - |
| | Sample ID: | 2214286-05 | 2214286-06 | 2214286-07 | - |
| | MDL/Units | Soil | Soil | Soil | - |
| Chlorobenzene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| Chloroform | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| Dibromochloromethane | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| Dichlorodifluoromethane | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| 1,2-Dichlorobenzene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| 1,3-Dichlorobenzene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| 1,4-Dichlorobenzene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| 1,1-Dichloroethane | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| 1,2-Dichloroethane | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| 1,1-Dichloroethylene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| cis-1,2-Dichloroethylene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| trans-1,2-Dichloroethylene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| 1,2-Dichloropropane | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| cis-1,3-Dichloropropylene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| trans-1,3-Dichloropropylene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| 1,3-Dichloropropene, total | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| Ethylbenzene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| Ethylene dibromide (dibromoethane, 1 | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| Hexane | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| Methyl Ethyl Ketone (2-Butanone) | 0.50 ug/g dry | <0.50 | <0.50 | <0.50 | - |
| Methyl Isobutyl Ketone | 0.50 ug/g dry | <0.50 | <0.50 | <0.50 | - |
| Methyl tert-butyl ether | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| Methylene Chloride | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| Styrene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| 1,1,1,2-Tetrachloroethane | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| 1,1,1,2,2-Tetrachloroethane | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| Tetrachloroethylene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| Toluene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| 1,1,1-Trichloroethane | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| 1,1,2-Trichloroethane | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| Trichloroethylene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| Trichlorofluoromethane | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| Vinyl chloride | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | - |
| m,p-Xylenes | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| o-Xylene | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |

Certificate of Analysis

Report Date: 05-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 30-Mar-2022

Client PO: 65103.01

Project Description: 65103.01 4 Campbell Reid Court

| | Client ID: | BH22-05 SA1 | BH22-06 SA1 | BH22-106 SA1 | - |
|----------------------|---------------|-----------------|-----------------|-----------------|---|
| | Sample Date: | 28-Mar-22 09:00 | 28-Mar-22 09:00 | 28-Mar-22 09:00 | - |
| | Sample ID: | 2214286-05 | 2214286-06 | 2214286-07 | - |
| | MDL/Units | Soil | Soil | Soil | - |
| Xylenes, total | 0.05 ug/g dry | <0.05 | <0.05 | <0.05 | - |
| 4-Bromofluorobenzene | Surrogate | 112% | 108% | 108% | - |
| Dibromofluoromethane | Surrogate | 106% | 108% | 111% | - |
| Toluene-d8 | Surrogate | 100% | 100% | 99.9% | - |

Hydrocarbons

| | | | | | |
|-------------------|------------|----|----|----|---|
| F1 PHCs (C6-C10) | 7 ug/g dry | <7 | <7 | <7 | - |
| F2 PHCs (C10-C16) | 4 ug/g dry | <4 | <4 | <4 | - |
| F3 PHCs (C16-C34) | 8 ug/g dry | 38 | <8 | <8 | - |
| F4 PHCs (C34-C50) | 6 ug/g dry | 30 | <6 | <6 | - |

Semi-Volatiles

| | | | | | |
|--------------------------|---------------|-------|-------|-------|---|
| Acenaphthene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | - |
| Acenaphthylene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | - |
| Anthracene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | - |
| Benzo [a] anthracene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | - |
| Benzo [a] pyrene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | - |
| Benzo [b] fluoranthene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | - |
| Benzo [g,h,i] perylene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | - |
| Benzo [k] fluoranthene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | - |
| Chrysene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | - |
| Dibenzo [a,h] anthracene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | - |
| Fluoranthene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | - |
| Fluorene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | - |
| Indeno [1,2,3-cd] pyrene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | - |
| 1-Methylnaphthalene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | - |
| 2-Methylnaphthalene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | - |
| Methylnaphthalene (1&2) | 0.04 ug/g dry | <0.04 | <0.04 | <0.04 | - |
| Naphthalene | 0.01 ug/g dry | <0.01 | <0.01 | <0.01 | - |
| Phenanthrene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | - |
| Pyrene | 0.02 ug/g dry | <0.02 | <0.02 | <0.02 | - |
| 2-Fluorobiphenyl | Surrogate | 86.7% | 89.4% | 120% | - |
| Terphenyl-d14 | Surrogate | 100% | 109% | 119% | - |

Certificate of Analysis

Report Date: 05-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 30-Mar-2022

Client PO: 65103.01

Project Description: 65103.01 4 Campbell Reid Court

Method Quality Control: Blank

| Analyte | Result | Reporting Limit | Units | Source Result | %REC | %REC Limit | RPD | RPD Limit | Notes |
|-----------------------------|--------|-----------------|-------|---------------|------|------------|-----|-----------|-------|
| General Inorganics | | | | | | | | | |
| Conductivity | ND | 5 | uS/cm | | | | | | |
| Cyanide, free | ND | 0.03 | ug/g | | | | | | |
| Hydrocarbons | | | | | | | | | |
| F1 PHCs (C6-C10) | ND | 7 | ug/g | | | | | | |
| F2 PHCs (C10-C16) | ND | 4 | ug/g | | | | | | |
| F3 PHCs (C16-C34) | ND | 8 | ug/g | | | | | | |
| F4 PHCs (C34-C50) | ND | 6 | ug/g | | | | | | |
| Metals | | | | | | | | | |
| Antimony | ND | 1.0 | ug/g | | | | | | |
| Arsenic | ND | 1.0 | ug/g | | | | | | |
| Barium | ND | 1.0 | ug/g | | | | | | |
| Beryllium | ND | 0.5 | ug/g | | | | | | |
| Boron, available | ND | 0.5 | ug/g | | | | | | |
| Boron | ND | 5.0 | ug/g | | | | | | |
| Cadmium | ND | 0.5 | ug/g | | | | | | |
| Chromium (VI) | ND | 0.2 | ug/g | | | | | | |
| Chromium | ND | 5.0 | ug/g | | | | | | |
| Cobalt | ND | 1.0 | ug/g | | | | | | |
| Copper | ND | 5.0 | ug/g | | | | | | |
| Lead | ND | 1.0 | ug/g | | | | | | |
| Mercury | ND | 0.1 | ug/g | | | | | | |
| Molybdenum | ND | 1.0 | ug/g | | | | | | |
| Nickel | ND | 5.0 | ug/g | | | | | | |
| Selenium | ND | 1.0 | ug/g | | | | | | |
| Silver | ND | 0.3 | ug/g | | | | | | |
| Thallium | ND | 1.0 | ug/g | | | | | | |
| Uranium | ND | 1.0 | ug/g | | | | | | |
| Vanadium | ND | 10.0 | ug/g | | | | | | |
| Zinc | ND | 20.0 | ug/g | | | | | | |
| Semi-Volatiles | | | | | | | | | |
| Acenaphthene | ND | 0.02 | ug/g | | | | | | |
| Acenaphthylene | ND | 0.02 | ug/g | | | | | | |
| Anthracene | ND | 0.02 | ug/g | | | | | | |
| Benzo [a] anthracene | ND | 0.02 | ug/g | | | | | | |
| Benzo [a] pyrene | ND | 0.02 | ug/g | | | | | | |
| Benzo [b] fluoranthene | ND | 0.02 | ug/g | | | | | | |
| Benzo [g,h,i] perylene | ND | 0.02 | ug/g | | | | | | |
| Benzo [k] fluoranthene | ND | 0.02 | ug/g | | | | | | |
| Chrysene | ND | 0.02 | ug/g | | | | | | |
| Dibenzo [a,h] anthracene | ND | 0.02 | ug/g | | | | | | |
| Fluoranthene | ND | 0.02 | ug/g | | | | | | |
| Fluorene | ND | 0.02 | ug/g | | | | | | |
| Indeno [1,2,3-cd] pyrene | ND | 0.02 | ug/g | | | | | | |
| 1-Methylnaphthalene | ND | 0.02 | ug/g | | | | | | |
| 2-Methylnaphthalene | ND | 0.02 | ug/g | | | | | | |
| Methylnaphthalene (1&2) | ND | 0.04 | ug/g | | | | | | |
| Naphthalene | ND | 0.01 | ug/g | | | | | | |
| Phenanthrene | ND | 0.02 | ug/g | | | | | | |
| Pyrene | ND | 0.02 | ug/g | | | | | | |
| Surrogate: 2-Fluorobiphenyl | 1.33 | | ug/g | | 99.8 | 50-140 | | | |
| Surrogate: Terphenyl-d14 | 1.44 | | ug/g | | 108 | 50-140 | | | |
| Volatiles | | | | | | | | | |
| Acetone | ND | 0.50 | ug/g | | | | | | |
| Benzene | ND | 0.02 | ug/g | | | | | | |
| Bromodichloromethane | ND | 0.05 | ug/g | | | | | | |
| Bromoform | ND | 0.05 | ug/g | | | | | | |
| Bromomethane | ND | 0.05 | ug/g | | | | | | |

Certificate of Analysis

Report Date: 05-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 30-Mar-2022

Client PO: 65103.01

Project Description: 65103.01 4 Campbell Reid Court

Method Quality Control: Blank

| Analyte | Result | Reporting Limit | Units | Source Result | %REC | %REC Limit | RPD | RPD Limit | Notes |
|---|--------|-----------------|-------|---------------|------|------------|-----|-----------|-------|
| Carbon Tetrachloride | ND | 0.05 | ug/g | | | | | | |
| Chlorobenzene | ND | 0.05 | ug/g | | | | | | |
| Chloroform | ND | 0.05 | ug/g | | | | | | |
| Dibromochloromethane | ND | 0.05 | ug/g | | | | | | |
| Dichlorodifluoromethane | ND | 0.05 | ug/g | | | | | | |
| 1,2-Dichlorobenzene | ND | 0.05 | ug/g | | | | | | |
| 1,3-Dichlorobenzene | ND | 0.05 | ug/g | | | | | | |
| 1,4-Dichlorobenzene | ND | 0.05 | ug/g | | | | | | |
| 1,1-Dichloroethane | ND | 0.05 | ug/g | | | | | | |
| 1,2-Dichloroethane | ND | 0.05 | ug/g | | | | | | |
| 1,1-Dichloroethylene | ND | 0.05 | ug/g | | | | | | |
| cis-1,2-Dichloroethylene | ND | 0.05 | ug/g | | | | | | |
| trans-1,2-Dichloroethylene | ND | 0.05 | ug/g | | | | | | |
| 1,2-Dichloropropane | ND | 0.05 | ug/g | | | | | | |
| cis-1,3-Dichloropropylene | ND | 0.05 | ug/g | | | | | | |
| trans-1,3-Dichloropropylene | ND | 0.05 | ug/g | | | | | | |
| 1,3-Dichloropropene, total | ND | 0.05 | ug/g | | | | | | |
| Ethylbenzene | ND | 0.05 | ug/g | | | | | | |
| Ethylene dibromide (dibromoethane, 1,2- | ND | 0.05 | ug/g | | | | | | |
| Hexane | ND | 0.05 | ug/g | | | | | | |
| Methyl Ethyl Ketone (2-Butanone) | ND | 0.50 | ug/g | | | | | | |
| Methyl Isobutyl Ketone | ND | 0.50 | ug/g | | | | | | |
| Methyl tert-butyl ether | ND | 0.05 | ug/g | | | | | | |
| Methylene Chloride | ND | 0.05 | ug/g | | | | | | |
| Styrene | ND | 0.05 | ug/g | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 0.05 | ug/g | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 0.05 | ug/g | | | | | | |
| Tetrachloroethylene | ND | 0.05 | ug/g | | | | | | |
| Toluene | ND | 0.05 | ug/g | | | | | | |
| 1,1,1-Trichloroethane | ND | 0.05 | ug/g | | | | | | |
| 1,1,2-Trichloroethane | ND | 0.05 | ug/g | | | | | | |
| Trichloroethylene | ND | 0.05 | ug/g | | | | | | |
| Trichlorofluoromethane | ND | 0.05 | ug/g | | | | | | |
| Vinyl chloride | ND | 0.02 | ug/g | | | | | | |
| m,p-Xylenes | ND | 0.05 | ug/g | | | | | | |
| o-Xylene | ND | 0.05 | ug/g | | | | | | |
| Xylenes, total | ND | 0.05 | ug/g | | | | | | |
| Surrogate: 4-Bromofluorobenzene | 3.26 | | ug/g | | 102 | 50-140 | | | |
| Surrogate: Dibromofluoromethane | 4.01 | | ug/g | | 125 | 50-140 | | | |
| Surrogate: Toluene-d8 | 2.79 | | ug/g | | 87.1 | 50-140 | | | |

Certificate of Analysis

Report Date: 05-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 30-Mar-2022

Client PO: 65103.01

Project Description: 65103.01 4 Campbell Reid Court

Method Quality Control: Duplicate

| Analyte | Result | Reporting Limit | Units | Source Result | %REC | %REC Limit | RPD | RPD Limit | Notes |
|---------------------------------|--------|-----------------|----------|---------------|------|------------|------|-----------|-------|
| General Inorganics | | | | | | | | | |
| SAR | 0.29 | 0.01 | N/A | 0.25 | | | 14.8 | 30 | |
| Conductivity | 163 | 5 | uS/cm | 163 | | | 0.0 | 5 | |
| Cyanide, free | ND | 0.03 | ug/g | ND | | | NC | 35 | |
| pH | 6.26 | 0.05 | pH Units | 6.27 | | | 0.2 | 2.3 | |
| Hydrocarbons | | | | | | | | | |
| F1 PHCs (C6-C10) | ND | 7 | ug/g | ND | | | NC | 40 | |
| F2 PHCs (C10-C16) | ND | 4 | ug/g | ND | | | NC | 30 | |
| F3 PHCs (C16-C34) | 18 | 8 | ug/g | 14 | | | 20.4 | 30 | |
| F4 PHCs (C34-C50) | 9 | 6 | ug/g | 10 | | | 5.9 | 30 | |
| Metals | | | | | | | | | |
| Antimony | 1.8 | 1.0 | ug/g | ND | | | NC | 30 | |
| Arsenic | 3.0 | 1.0 | ug/g | 2.8 | | | 6.6 | 30 | |
| Barium | 199 | 1.0 | ug/g | 194 | | | 2.7 | 30 | |
| Beryllium | 0.6 | 0.5 | ug/g | 0.6 | | | 3.7 | 30 | |
| Boron, available | ND | 0.5 | ug/g | ND | | | NC | 35 | |
| Boron | 6.4 | 5.0 | ug/g | 6.5 | | | 1.8 | 30 | |
| Cadmium | ND | 0.5 | ug/g | ND | | | NC | 30 | |
| Chromium (VI) | ND | 0.2 | ug/g | ND | | | NC | 35 | |
| Chromium | 25.5 | 5.0 | ug/g | 25.6 | | | 0.1 | 30 | |
| Cobalt | 18.1 | 1.0 | ug/g | 19.5 | | | 7.6 | 30 | |
| Copper | 28.2 | 5.0 | ug/g | 28.4 | | | 0.7 | 30 | |
| Lead | 5.7 | 1.0 | ug/g | 5.5 | | | 4.0 | 30 | |
| Mercury | ND | 0.1 | ug/g | ND | | | NC | 30 | |
| Molybdenum | ND | 1.0 | ug/g | ND | | | NC | 30 | |
| Nickel | 16.0 | 5.0 | ug/g | 16.4 | | | 2.1 | 30 | |
| Selenium | ND | 1.0 | ug/g | ND | | | NC | 30 | |
| Silver | ND | 0.3 | ug/g | ND | | | NC | 30 | |
| Thallium | ND | 1.0 | ug/g | ND | | | NC | 30 | |
| Uranium | ND | 1.0 | ug/g | ND | | | NC | 30 | |
| Vanadium | 62.7 | 10.0 | ug/g | 64.5 | | | 2.7 | 30 | |
| Zinc | 58.8 | 20.0 | ug/g | 59.6 | | | 1.4 | 30 | |
| Physical Characteristics | | | | | | | | | |
| % Solids | 88.1 | 0.1 | % by Wt. | 90.1 | | | 2.3 | 25 | |
| Semi-Volatiles | | | | | | | | | |
| Acenaphthene | ND | 0.02 | ug/g | ND | | | NC | 40 | |
| Acenaphthylene | ND | 0.02 | ug/g | ND | | | NC | 40 | |
| Anthracene | ND | 0.02 | ug/g | ND | | | NC | 40 | |
| Benzo [a] anthracene | ND | 0.02 | ug/g | ND | | | NC | 40 | |
| Benzo [a] pyrene | ND | 0.02 | ug/g | ND | | | NC | 40 | |
| Benzo [b] fluoranthene | ND | 0.02 | ug/g | ND | | | NC | 40 | |
| Benzo [g,h,i] perylene | ND | 0.02 | ug/g | ND | | | NC | 40 | |
| Benzo [k] fluoranthene | ND | 0.02 | ug/g | ND | | | NC | 40 | |
| Chrysene | ND | 0.02 | ug/g | ND | | | NC | 40 | |
| Dibenzo [a,h] anthracene | ND | 0.02 | ug/g | ND | | | NC | 40 | |
| Fluoranthene | ND | 0.02 | ug/g | ND | | | NC | 40 | |
| Fluorene | ND | 0.02 | ug/g | ND | | | NC | 40 | |
| Indeno [1,2,3-cd] pyrene | ND | 0.02 | ug/g | ND | | | NC | 40 | |
| 1-Methylnaphthalene | ND | 0.02 | ug/g | ND | | | NC | 40 | |
| 2-Methylnaphthalene | ND | 0.02 | ug/g | ND | | | NC | 40 | |
| Naphthalene | ND | 0.01 | ug/g | ND | | | NC | 40 | |
| Phenanthrene | ND | 0.02 | ug/g | ND | | | NC | 40 | |
| Pyrene | ND | 0.02 | ug/g | ND | | | NC | 40 | |
| Surrogate: 2-Fluorobiphenyl | 1.52 | | ug/g | | 103 | 50-140 | | | |
| Surrogate: Terphenyl-d14 | 1.68 | | ug/g | | 114 | 50-140 | | | |
| Volatiles | | | | | | | | | |

Certificate of Analysis

Report Date: 05-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 30-Mar-2022

Client PO: 65103.01

Project Description: 65103.01 4 Campbell Reid Court

Method Quality Control: Duplicate

| Analyte | Result | Reporting Limit | Units | Source Result | %REC | %REC Limit | RPD | RPD Limit | Notes |
|--|--------|-----------------|-------|---------------|------|------------|-----|-----------|-------|
| Acetone | ND | 0.50 | ug/g | ND | | | NC | 50 | |
| Benzene | ND | 0.02 | ug/g | ND | | | NC | 50 | |
| Bromodichloromethane | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| Bromoform | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| Bromomethane | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| Carbon Tetrachloride | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| Chlorobenzene | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| Chloroform | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| Dibromochloromethane | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| Dichlorodifluoromethane | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| 1,2-Dichlorobenzene | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| 1,3-Dichlorobenzene | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| 1,4-Dichlorobenzene | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| 1,1-Dichloroethane | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| 1,2-Dichloroethane | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| 1,1-Dichloroethylene | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| cis-1,2-Dichloroethylene | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| trans-1,2-Dichloroethylene | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| 1,2-Dichloropropane | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| cis-1,3-Dichloropropylene | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| trans-1,3-Dichloropropylene | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| Ethylbenzene | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| Ethylene dibromide (dibromoethane, 1,2-) | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| Hexane | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| Methyl Ethyl Ketone (2-Butanone) | ND | 0.50 | ug/g | ND | | | NC | 50 | |
| Methyl Isobutyl Ketone | ND | 0.50 | ug/g | ND | | | NC | 50 | |
| Methyl tert-butyl ether | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| Methylene Chloride | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| Styrene | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| 1,1,1,2-Tetrachloroethane | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| 1,1,2,2-Tetrachloroethane | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| Tetrachloroethylene | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| Toluene | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| 1,1,1-Trichloroethane | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| 1,1,2-Trichloroethane | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| Trichloroethylene | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| Trichlorofluoromethane | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| Vinyl chloride | ND | 0.02 | ug/g | ND | | | NC | 50 | |
| m,p-Xylenes | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| o-Xylene | ND | 0.05 | ug/g | ND | | | NC | 50 | |
| Surrogate: 4-Bromofluorobenzene | 3.90 | | ug/g | | 109 | 50-140 | | | |
| Surrogate: Dibromofluoromethane | 2.54 | | ug/g | | 71.0 | 50-140 | | | |
| Surrogate: Toluene-d8 | 3.63 | | ug/g | | 101 | 50-140 | | | |

Certificate of Analysis

Report Date: 05-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 30-Mar-2022

Client PO: 65103.01

Project Description: 65103.01 4 Campbell Reid Court

Method Quality Control: Spike

| Analyte | Result | Reporting Limit | Units | Source Result | %REC | %REC Limit | RPD | RPD Limit | Notes |
|-----------------------------|--------|-----------------|-------|---------------|------|------------|-----|-----------|-------|
| General Inorganics | | | | | | | | | |
| Cyanide, free | 0.227 | 0.03 | ug/g | ND | 68.4 | 50-150 | | | |
| Hydrocarbons | | | | | | | | | |
| F1 PHCs (C6-C10) | 210 | 7 | ug/g | ND | 105 | 80-120 | | | |
| F2 PHCs (C10-C16) | 89 | 4 | ug/g | ND | 100 | 60-140 | | | |
| F3 PHCs (C16-C34) | 227 | 8 | ug/g | 14 | 97.8 | 60-140 | | | |
| F4 PHCs (C34-C50) | 153 | 6 | ug/g | 10 | 104 | 60-140 | | | |
| Metals | | | | | | | | | |
| Antimony | 43.1 | 1.0 | ug/g | ND | 85.5 | 70-130 | | | |
| Arsenic | 53.9 | 1.0 | ug/g | 1.1 | 105 | 70-130 | | | |
| Barium | 141 | 1.0 | ug/g | 77.6 | 127 | 70-130 | | | |
| Beryllium | 52.6 | 0.5 | ug/g | ND | 105 | 70-130 | | | |
| Boron, available | 4.34 | 0.5 | ug/g | ND | 86.7 | 70-122 | | | |
| Boron | 52.8 | 5.0 | ug/g | ND | 100 | 70-130 | | | |
| Cadmium | 50.5 | 0.5 | ug/g | ND | 101 | 70-130 | | | |
| Chromium (VI) | 2.0 | 0.2 | ug/g | ND | 35.5 | 70-130 | | | QM-05 |
| Chromium | 64.1 | 5.0 | ug/g | 10.2 | 108 | 70-130 | | | |
| Cobalt | 59.3 | 1.0 | ug/g | 7.8 | 103 | 70-130 | | | |
| Copper | 61.6 | 5.0 | ug/g | 11.4 | 100 | 70-130 | | | |
| Lead | 49.9 | 1.0 | ug/g | 2.2 | 95.4 | 70-130 | | | |
| Mercury | 1.50 | 0.1 | ug/g | ND | 100 | 70-130 | | | |
| Molybdenum | 52.7 | 1.0 | ug/g | ND | 105 | 70-130 | | | |
| Nickel | 56.9 | 5.0 | ug/g | 6.5 | 101 | 70-130 | | | |
| Selenium | 49.2 | 1.0 | ug/g | ND | 98.1 | 70-130 | | | |
| Silver | 49.5 | 0.3 | ug/g | ND | 99.0 | 70-130 | | | |
| Thallium | 50.0 | 1.0 | ug/g | ND | 99.8 | 70-130 | | | |
| Uranium | 53.0 | 1.0 | ug/g | ND | 105 | 70-130 | | | |
| Vanadium | 81.2 | 10.0 | ug/g | 25.8 | 111 | 70-130 | | | |
| Zinc | 73.9 | 20.0 | ug/g | 23.9 | 100 | 70-130 | | | |
| Semi-Volatiles | | | | | | | | | |
| Acenaphthene | 0.208 | 0.02 | ug/g | ND | 112 | 50-140 | | | |
| Acenaphthylene | 0.170 | 0.02 | ug/g | ND | 91.9 | 50-140 | | | |
| Anthracene | 0.178 | 0.02 | ug/g | ND | 96.0 | 50-140 | | | |
| Benzo [a] anthracene | 0.159 | 0.02 | ug/g | ND | 86.0 | 50-140 | | | |
| Benzo [a] pyrene | 0.200 | 0.02 | ug/g | ND | 108 | 50-140 | | | |
| Benzo [b] fluoranthene | 0.186 | 0.02 | ug/g | ND | 100 | 50-140 | | | |
| Benzo [g,h,i] perylene | 0.176 | 0.02 | ug/g | ND | 94.9 | 50-140 | | | |
| Benzo [k] fluoranthene | 0.145 | 0.02 | ug/g | ND | 78.1 | 50-140 | | | |
| Chrysene | 0.201 | 0.02 | ug/g | ND | 109 | 50-140 | | | |
| Dibenzo [a,h] anthracene | 0.177 | 0.02 | ug/g | ND | 95.6 | 50-140 | | | |
| Fluoranthene | 0.180 | 0.02 | ug/g | ND | 97.1 | 50-140 | | | |
| Fluorene | 0.182 | 0.02 | ug/g | ND | 98.4 | 50-140 | | | |
| Indeno [1,2,3-cd] pyrene | 0.151 | 0.02 | ug/g | ND | 81.4 | 50-140 | | | |
| 1-Methylnaphthalene | 0.206 | 0.02 | ug/g | ND | 111 | 50-140 | | | |
| 2-Methylnaphthalene | 0.220 | 0.02 | ug/g | ND | 119 | 50-140 | | | |
| Naphthalene | 0.233 | 0.01 | ug/g | ND | 126 | 50-140 | | | |
| Phenanthrene | 0.187 | 0.02 | ug/g | ND | 101 | 50-140 | | | |
| Pyrene | 0.212 | 0.02 | ug/g | ND | 115 | 50-140 | | | |
| Surrogate: 2-Fluorobiphenyl | 1.54 | | ug/g | | 104 | 50-140 | | | |

Certificate of Analysis

Report Date: 05-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 30-Mar-2022

Client PO: 65103.01

Project Description: 65103.01 4 Campbell Reid Court

Method Quality Control: Spike

| Analyte | Result | Reporting Limit | Units | Source Result | %REC | %REC Limit | RPD | RPD Limit | Notes |
|---|--------|-----------------|-------|---------------|------|------------|-----|-----------|-------|
| <i>Surrogate: Terphenyl-d14</i> | 1.73 | | ug/g | | 117 | 50-140 | | | |
| Volatiles | | | | | | | | | |
| Acetone | 10.2 | 0.50 | ug/g | ND | 102 | 50-140 | | | |
| Benzene | 3.56 | 0.02 | ug/g | ND | 89.0 | 60-130 | | | |
| Bromodichloromethane | 3.78 | 0.05 | ug/g | ND | 94.4 | 60-130 | | | |
| Bromoform | 3.37 | 0.05 | ug/g | ND | 84.3 | 60-130 | | | |
| Bromomethane | 4.96 | 0.05 | ug/g | ND | 124 | 50-140 | | | |
| Carbon Tetrachloride | 4.43 | 0.05 | ug/g | ND | 111 | 60-130 | | | |
| Chlorobenzene | 3.28 | 0.05 | ug/g | ND | 82.0 | 60-130 | | | |
| Chloroform | 4.19 | 0.05 | ug/g | ND | 105 | 60-130 | | | |
| Dibromochloromethane | 3.09 | 0.05 | ug/g | ND | 77.2 | 60-130 | | | |
| Dichlorodifluoromethane | 5.06 | 0.05 | ug/g | ND | 126 | 50-140 | | | |
| 1,2-Dichlorobenzene | 3.34 | 0.05 | ug/g | ND | 83.5 | 60-130 | | | |
| 1,3-Dichlorobenzene | 3.33 | 0.05 | ug/g | ND | 83.2 | 60-130 | | | |
| 1,4-Dichlorobenzene | 3.53 | 0.05 | ug/g | ND | 88.3 | 60-130 | | | |
| 1,1-Dichloroethane | 4.24 | 0.05 | ug/g | ND | 106 | 60-130 | | | |
| 1,2-Dichloroethane | 4.11 | 0.05 | ug/g | ND | 103 | 60-130 | | | |
| 1,1-Dichloroethylene | 4.72 | 0.05 | ug/g | ND | 118 | 60-130 | | | |
| cis-1,2-Dichloroethylene | 3.92 | 0.05 | ug/g | ND | 97.9 | 60-130 | | | |
| trans-1,2-Dichloroethylene | 4.29 | 0.05 | ug/g | ND | 107 | 60-130 | | | |
| 1,2-Dichloropropane | 3.83 | 0.05 | ug/g | ND | 95.7 | 60-130 | | | |
| cis-1,3-Dichloropropylene | 3.56 | 0.05 | ug/g | ND | 89.1 | 60-130 | | | |
| trans-1,3-Dichloropropylene | 4.40 | 0.05 | ug/g | ND | 110 | 60-130 | | | |
| Ethylbenzene | 2.81 | 0.05 | ug/g | ND | 70.3 | 60-130 | | | |
| Ethylene dibromide (dibromoethane, 1,2- | 3.20 | 0.05 | ug/g | ND | 80.0 | 60-130 | | | |
| Hexane | 3.88 | 0.05 | ug/g | ND | 96.9 | 60-130 | | | |
| Methyl Ethyl Ketone (2-Butanone) | 8.64 | 0.50 | ug/g | ND | 86.4 | 50-140 | | | |
| Methyl Isobutyl Ketone | 7.73 | 0.50 | ug/g | ND | 77.3 | 50-140 | | | |
| Methyl tert-butyl ether | 12.1 | 0.05 | ug/g | ND | 121 | 50-140 | | | |
| Methylene Chloride | 4.14 | 0.05 | ug/g | ND | 104 | 60-130 | | | |
| Styrene | 2.69 | 0.05 | ug/g | ND | 67.2 | 60-130 | | | |
| 1,1,1,2-Tetrachloroethane | 3.45 | 0.05 | ug/g | ND | 86.3 | 60-130 | | | |
| 1,1,2,2-Tetrachloroethane | 3.06 | 0.05 | ug/g | ND | 76.5 | 60-130 | | | |
| Tetrachloroethylene | 3.35 | 0.05 | ug/g | ND | 83.8 | 60-130 | | | |
| Toluene | 3.20 | 0.05 | ug/g | ND | 80.0 | 60-130 | | | |
| 1,1,1-Trichloroethane | 4.06 | 0.05 | ug/g | ND | 102 | 60-130 | | | |
| 1,1,2-Trichloroethane | 3.59 | 0.05 | ug/g | ND | 89.8 | 60-130 | | | |
| Trichloroethylene | 3.53 | 0.05 | ug/g | ND | 88.2 | 60-130 | | | |
| Trichlorofluoromethane | 4.57 | 0.05 | ug/g | ND | 114 | 50-140 | | | |
| Vinyl chloride | 4.73 | 0.02 | ug/g | ND | 118 | 50-140 | | | |
| m,p-Xylenes | 7.25 | 0.05 | ug/g | ND | 90.7 | 60-130 | | | |
| o-Xylene | 2.98 | 0.05 | ug/g | ND | 74.6 | 60-130 | | | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | 2.28 | | ug/g | | 71.3 | 50-140 | | | |
| <i>Surrogate: Dibromofluoromethane</i> | 3.98 | | ug/g | | 124 | 50-140 | | | |
| <i>Surrogate: Toluene-d8</i> | 3.10 | | ug/g | | 96.8 | 50-140 | | | |

Certificate of Analysis

Report Date: 05-Apr-2022

Client: GEMTEC Consulting Engineers and Scientists Limited

Order Date: 30-Mar-2022

Client PO: 65103.01

Project Description: 65103.01 4 Campbell Reid Court

Qualifier Notes:

QC Qualifiers :

QM-05 : The spike recovery was outside acceptance limits for the matrix spike due to matrix interference.

Sample Data Revisions

None

Work Order Revisions / Comments:

None

Other Report Notes:

n/a: not applicable

ND: Not Detected

MDL: Method Detection Limit

Source Result: Data used as source for matrix and duplicate samples

%REC: Percent recovery.

RPD: Relative percent difference.

NC: Not Calculated

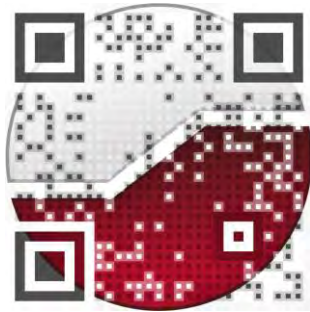
Soil results are reported on a dry weight basis when the units are denoted with 'dry'.

Where %Solids is reported, moisture loss includes the loss of volatile hydrocarbons.

CCME PHC additional information:

- The method for the analysis of PHCs complies with the Reference Method for the CWS PHC and is validated for use in the laboratory. All prescribed quality criteria identified in the method has been met.
- F1 range corrected for BTEX.
- F2 to F3 ranges corrected for appropriate PAHs where available.
- The gravimetric heavy hydrocarbons (F4G) are not to be added to C6 to C50 hydrocarbons.
- In the case where F4 and F4G are both reported, the greater of the two results is to be used for comparison to CWS PHC criteria.
- When reported, data for F4G has been processed using a silica gel cleanup.

experience • knowledge • integrity



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